



Workshop on ICT Policy Making
in ESCWA Member Countries

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Benchmarking Plan of Action

Abdulilah Dewachi
Regional Advisor on ICT
dewachi@un.org

Views expressed are those of the regional advisor and do not necessarily represent those of UN-ESCWA



Agenda

- The narrative
- The structure
- Benchmarking
- Example
- Discussion

The narrative



Articulating Policy and Strategy

- **Vision** – long term implications of the diffusion of ICTs
 - Outcome: outline short and long term scenarios for ICT development, including measurable outcomes over a given timeframe
- **Strategies** – Directing the body of policy and provide a framework for policy implementation
 - Strategic framework to explain policy decisions and choices



Coverage of an ICT plan of action*

- Fight against poverty (MDGs, etc..)
- Application in local and community development
- Greater access to information about livelihoods
- Better government for the people
- Crises prevention and recovery
- Research, environmental observation and management
- Health and the fight against disease
- ICT as an industry

*UNDP – APDIP ICT4D Series

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Plan of Action - National Profile

- Policies and strategies;
- Legal and regulatory frameworks;
- ICT capacity building;
- ICT applications;
- ICT core indicators;
- ICT and Millennium Development Goals (MDG)

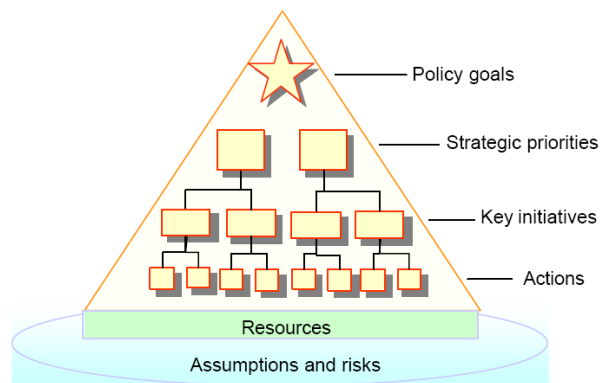
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The structure



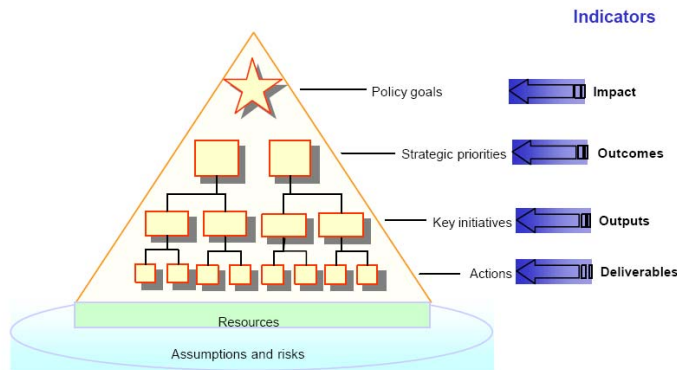
The World Bank Model

The Logical Framework Pyramid



Where do we need indicators

From LogFrame to M&E



Defining indicators

| Output | Quantitative indicator | Qualitative indicator |
|--|--|---|
| <p>Capacity of ICT-focused learning institutions improved, e.g.:</p> <ul style="list-style-type: none"> - a measurable improvement of teachers' qualification in such institutions, - quantified support to teachers responsible for introducing computers in classes and curricula, - similar output for the business sector (on-the-job training) | <ul style="list-style-type: none"> • Teachers of general and vocational schools trained in basic ICT skills and use ICT in teaching increases by X% • In-service training of managers in the use of ICT in educational settings increases by X% • Training programs and materials for in-service training staff designed and applied increases by X% • Funding provisions to institutions increases by X% • Number of professional teaching staff increases by X% • Number of students graduating increases by X% • % of graduates that are women | <ul style="list-style-type: none"> • Rating of graduates' capabilities by private sector increases by X points • Rating of institutions by standards agency increases by X points |
| <p>Demand for ICT education/training increased</p> | <ul style="list-style-type: none"> • Number of students applying to technical institutions increases by X% | <ul style="list-style-type: none"> • Secondary curricula places greater emphasis on ICT-focused subjects |
| <p>Quality of ICT education improved at tertiary/vocational level</p> | <ul style="list-style-type: none"> • X number of partnerships formed with private sector • X number of partnerships formed with foreign institutions • Distance education services, extend access to X number of students to a full curriculum • X number of students graduating with recognized certification from accredited ICT-training institutions | <ul style="list-style-type: none"> • Tertiary/vocational curricula includes market-leading techniques and knowledge • An established information environment that provides a range of support system through use of ICT. • Hot-line services established to support teachers and advisors in their use of hardware and software. |

Traversing the pyramid layers

| Pyramid Layer | Objective | Indicator | Responsibility for gathering and analyzing M&E data |
|----------------------|---|---|---|
| Policy goals | Grow the country's ICT industry | <ul style="list-style-type: none"> Total sector revenues % contribution to GDP growth | NSO or Ministry of Trade & Industry |
| Strategic priorities | Increase stock of locally trained ICT professionals | <ul style="list-style-type: none"> Number of people graduating with ICT-related qualifications Number of people employed in ICT sector | Ministry of Education |
| Key initiatives | Improve capacity of ICT-focused learning institutions | <ul style="list-style-type: none"> Funding provisions to institutions increased by X% Number of professional teaching staff increased by X% Number of students graduating increased by X% | Ministry of Education or Project Team |
| Actions | <ul style="list-style-type: none"> Conduct capacity needs assessment Create grant program Establish staff recruitment criteria | <ul style="list-style-type: none"> Assessments completed in X% of institutions by month A. Established by month B. X% of grant facility funds disbursed to eligible institutions by month C. Staffing needs for X% of institutions completed by month D. | Project Team |

Benchmarking





Benchmarking steps

- Identification of base values for performance indicators
- Fixing timeline for the targeted values as related to plan of action
- Determining the targeted value for each indicator
- Estimating unit costs per item in the selected indicators

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Benchmarking assumptions

- Performance Index P = Collection of indicators i 's
- Plan start time t_0
- End of plan time t_n
- Planned change in indicator $\Delta i = i_n - i_0$
- $P = \{i_1, i_2, i_3, i_4, \dots\}$
- Performance Index at $t_0 = P_0$
- Performance Index at $t_n = P_n$

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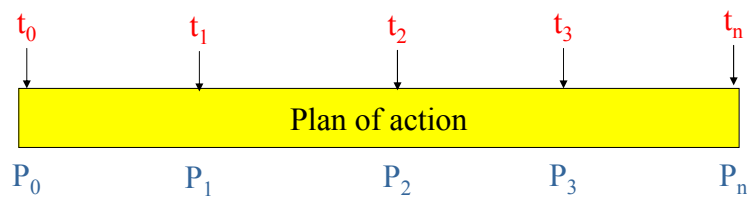
Cost calculations

- Planned outcome $\Delta P = P_n - P_0$
- Cost of planned outcome $\Delta C = \sum i * c$
- $\{i_1 * C_1 + i_2 * C_2 + i_3 * C_3 + i_4 * C_4 + \dots\}$

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Benchmarking for monitoring



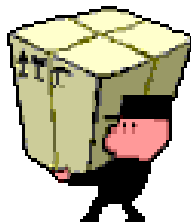
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Metrics for monitoring and evaluation

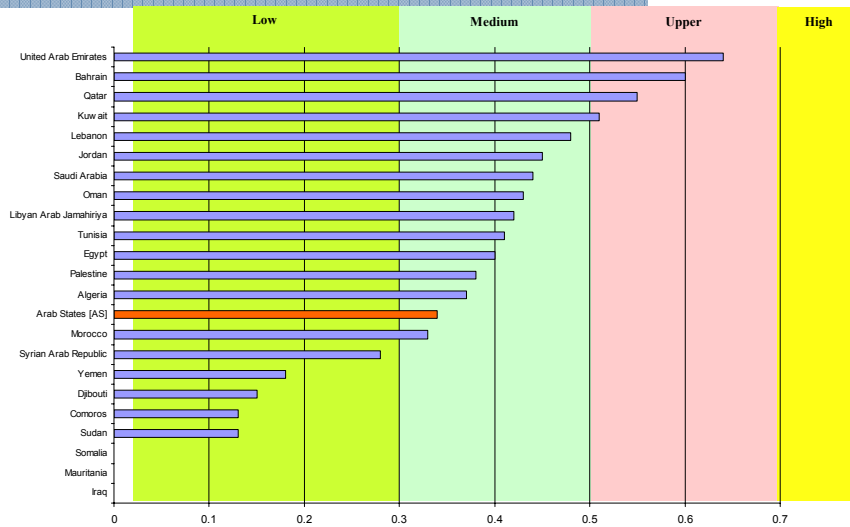
Possible ICT benchmarks:

- Technology Achievement Index (TAI)
- Millennium Development Goals (MDGs)
- Digital Access Index (DAI)
- The partnership set of ICT core indicators

Example



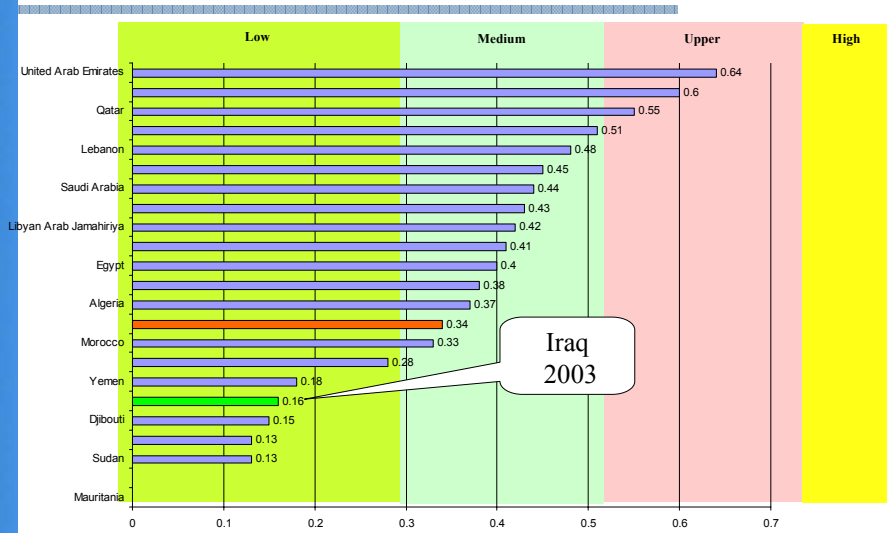
ITU Digital Access Index (2002)



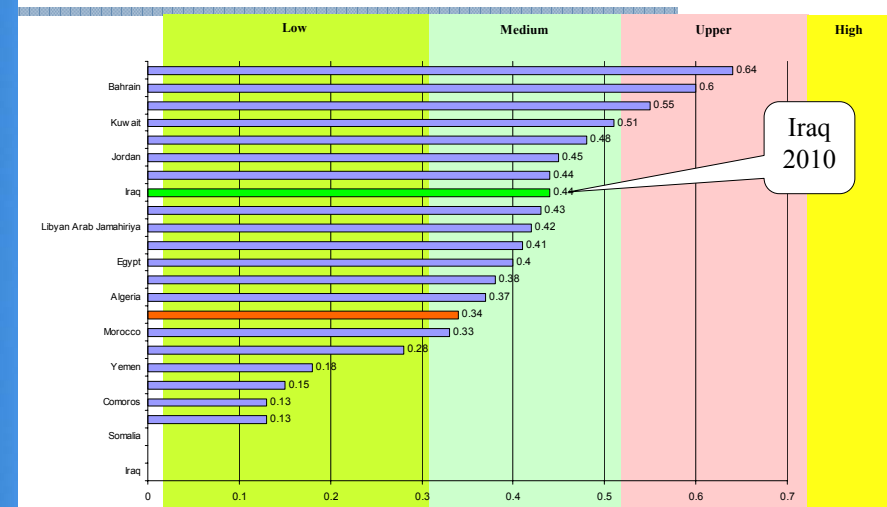
Iraq 2003 and 2010

| Category | Variable | Iraq 2003 Values | Iraq 2010 values |
|-------------------|---|------------------|------------------|
| 1. Infrastructure | 1. Fixed per 100 | 3 | 30 |
| | 2. Mobile per 100 | 0.3 | 30 |
| 2. Affordability | 3. Internet access price as % of GNI per capita x 100 | 50 | 100 |
| 3. Knowledge | 4. Adult literacy | 40 | 60 |
| | 5. School enrolment | 58 | 70 |
| 4. Quality | 6. Internet bandwidth per capita | 1.5 | 50 |
| | 7. Broadband subscribers | Almost 0 | 2 |
| 5. Usage | 8. Internet users per 100 | 1.0 | 10 |

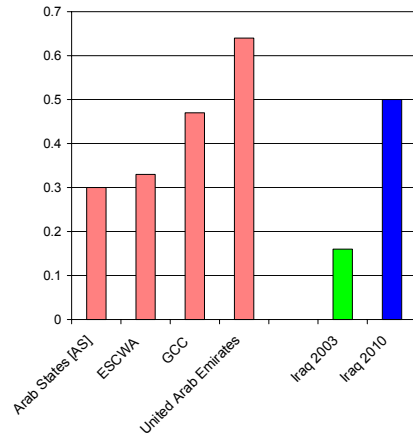
ITU Digital Access Index (2002) Iraq 2002 added



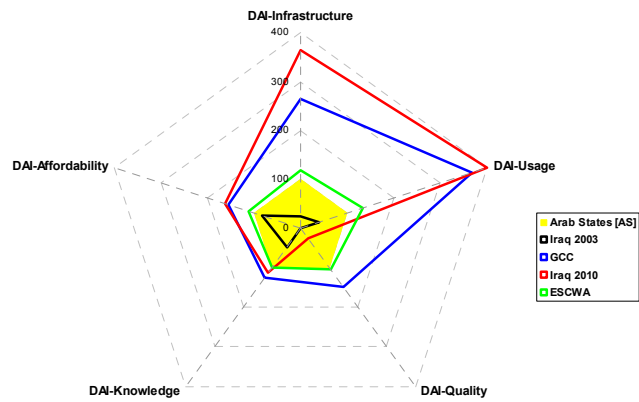
ITU Digital Access Index (2002) Iraq 2010 w.r.t. 2002 aggregates



Digital Access Index



Iraq 2003 and 2010 with respect to present day regional averages





Estimated cost of the basic ICT infrastructure

| | Year 2010 subscribers (000) | Unit cost \$ | Total cost M\$ | Yearly cost M\$ |
|------------------|-----------------------------|--------------|----------------|-----------------|
| Fixed | 8000 | 600 | 4800 | 400 |
| Mobile | 8000 | 350 | 2800 | 234 |
| Broadband (ADSL) | 36 | 1000 | 36 | 3 |
| Internet | 280 | 100 | 28 | 3 |
| PC's | 250 | 500 | 125 | 11 |
| TOTAL | | | ≈\$7800 | ≈655 |

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Thank you

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