



ESCWA
for Regional Integration

Information & Communication Technology Division

Information Society Measurement

P o l i c i e s & I n d i c a t o r s

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Outline

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 - ICTs for Growth and Poverty Reduction
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 - Measuring-Targeting Poverty
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Partnership on Measuring ICT for Development

PARTNERSHIP ON
MEASURING ICT
FOR DEVELOPMENT



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Partnership Objectives

- The Partnership has three basic objectives, namely:
 - Develop core sets of common ICT indicators and indices relevant to various stakeholders. These core indicators would be harmonized and agreed upon internationally and will constitute the basis for a database on ICT statistics;
 - Enhance the capacities of national statistics offices in developing countries and build competence to develop statistical compilation programs on the information society; and
 - Develop a global database on ICT indicators and to make it available on the Internet.

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Partnership List of Core ICT Indicators

- Forty-two indicators under 4 categories:

Category	Basic Core	Extended Core	Reference Indicator
ICT Infrastructure and Access	10	2	
Access to, and Use of, ICT by Households and Individuals	10	3	1
Use of ICT by Businesses	8	4	
ICT Sector and Trade in ICT Goods	4		
	32	9	1

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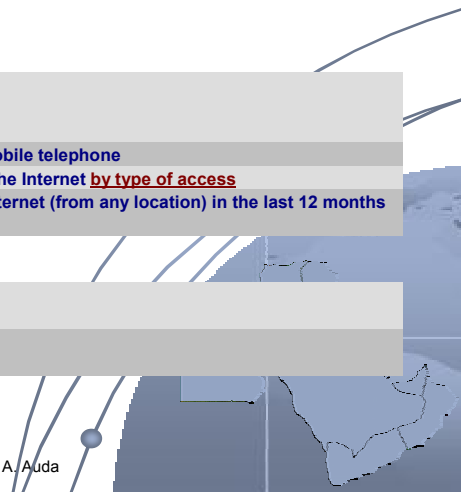

■ Access to, and Use of, ICT by Households and Individuals

Basic Core

- Proportion of Households with a radio
- Proportion of Households with a TV
- Proportion of Households with a fixed line telephone
- Proportion of Households with a mobile cellular telephone
- Proportion of Households with a computer
- Proportion of individuals who used a computer (from any location) in the last 12 months
- Proportion of Households with Internet access at home
- Proportion of individuals who used the Internet (from any location) in the last 12 months
- Location of individual use of the Internet in the last 12 months **by location**
- Internet activities undertaken by individuals in the last 12 months **by activity**

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Extended Core

- Proportion of individuals with use of a mobile telephone
- Proportion of individuals with access to the Internet **by type of access**
- Frequency of individuals access to the Internet (from any location) in the last 12 months

Reference Indicator

- Proportion of households with electricity

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Policies and Indicators

- National ICT Policies
- Evidence-Based Policy Making
- Policies and Indicators
- Indicators NOT Indices

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National ICT Policies

- The purpose of a national ICT policy is to create an environment in which:

- Economic and social benefits may be achieved **Impact**
- Utilization of resources may be optimized **Strategy**
- Domestic technological capabilities may be built or enhanced **Objective**
- Decisions can be taken rationally **Mechanism**

Source: M. Odedra & S. Madon, Information Technology Policies and Applications..., The Commonwealth Secretariat, 1997

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- National ICT policies can be classified into three generic categories:

- Nonexistent
Governments elect to remain **indifferent** to the need, if any, for the formation of mechanisms and strategies for the introduction and enhancement of ICTs.
- Implicit
Governments are **active participants** in developing and promoting ICTs, but elect to work under the auspices of combined informal coordination mechanisms and implementation strategies.
- Explicit
Governments are an **active driving force** in developing and promoting ICTs, and have elected to put in place mechanisms for policy formulation, strategies for policy implementation, and programs for ICT popularization and assimilation

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Evidence-Based Policy Making

- The concept of evidence-based policy making has an intuitive, common sense logic. Its meaning is considered self-explanatory, but can act to mean scientific, scholarly, or rationality.

The range of evidence typically includes, but not limited to, statistics, research output, economic modeling, policy evaluation, expert knowledge, stakeholder consultations, etc.

- Soundness of evidence is usually examined through long-term impact evaluations of policies and programmes.

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Policies and Indicators


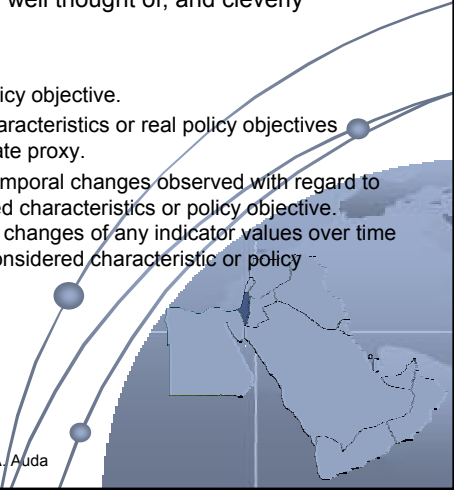
- Indicators are based on the idea that statistical data provides evidence for the evaluation of current policies and the making of future ones.
- The effectiveness of the system of indicators developed lies in the way it supports the policy making process, both by providing impulse for, and evaluation of, policies.

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- Indicators must be judiciously relevant, well thought of, and cleverly constructed:

- Be relevant to the characteristics or policy objective.
 - Allow for measurement of important characteristics or real policy objectives directly, or indirectly through an adequate proxy.
 - Help straightforward interpretation of temporal changes observed with regard to the essential dimensions of the specified characteristics or policy objective. Inversely, unambiguous and significant changes of any indicator values over time should be meaningful in terms of the considered characteristic or policy objective.
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- Indicators must also exhibit certain statistical characteristics, the same characteristics sought while collecting statistics:

- Conform to international standards, if they exist, or, otherwise, be simplified alternatives to internationally agreed-upon indicators, so countries with less well-developed statistical capacity can still carry out the required measurements.
- Exhibit temporal change that would support monitoring.
- Be robust to systemic and cultural differences between countries over time.
- Have sufficient coverage to ensure that the indicator values are unlikely to mislead policy makers or uses in case they do not fully cover the target population.

"Measuring and Monitoring the Information and Knowledge Societies: a Statistical Challenge," UNESCO Institute of Statistics (UIS), 2003.

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Indicators NOT Indices

- An index expresses a quantity or a position on a scale of qualitative multi-faceted aspects, for example the ITU Digital Access Index. It is formed as a combination of independent indicators.
- Indices can be useful representing a specific concept, for example, readiness, or highlighting an issue in a specific sector, namely, government or education.
- Although more robust than indicators, indices are unlikely to provide the necessary depth of understanding, which is a prerequisite for measuring tools related to the IS, for policy decision-making. This is due to the fact that they rarely comprise comprehensive and uncorrelated indicators that permit the interpretation of observed temporal changes with respect to relevant variables of a policy.

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ICT Policy Perspective on Growth and Poverty Reduction

- ICTs for Growth and Poverty Reduction
- Growth versus Poverty Reduction
- The ICT Sector
- ESCWA Social ICT Policy Paradigm
- Application

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ICTs for Growth and Poverty Reduction

- ICTs are commonly connected with economic growth and poverty reduction, as it is believed that ICTs may be used to create employment and combat poverty. This is generally true, but only with further qualification.

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Growth versus Poverty Reduction

- Empirical evidence shows that in the vast majority of cases, economic growth raises the income of those households at the bottom of the distribution. In this sense, **growth is good for the poor**.

J. E. Stiglitz, Nobel Laureate in Economics (2002)

“Trickle-down economies became discredited for an obvious reason: it was not true. Sometimes growth helps poor people, but sometimes it does not... The debate is not about whether growth is good or bad, but whether certain policies - including policies that may lead to closer global integration - lead to growth, and whether those policies lead to the kind of growth that improves the welfare of poor people.” [Human Development Report 2003, UNDP.](#)

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- Economic growth is **pro-poor** when the income of the poor rise proportionately more than the incomes of the non-poor.

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The ICT Sector

- The ICT sector exhibits all the prerequisites of a labor market characterized with job growth in many Western Asia and Arab countries:
 - It is a flexible, high-wage, export-oriented market;
 - It attracts considerable foreign direct investment that usually neither crowds out domestic investment nor replaces domestic output; and
 - It is often the recipient of large direct and indirect public investment.
- However, the associated economic growth is not always **pro-poor**, in the sense that there may not exist periods in which growth offers advantages to those below the poverty line.

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ESCWA Social ICT Policy Paradigm

- Sustained economic growth is an essential development driver. To ensure that growth is pro-poor, efficient pro-poor fiscal and social policies must encase ICTs.
- The ESCWA social ICT policy paradigm integrates three layers of policies:
 - ICT policies to extend basic infrastructure and services to rural and impoverished communities,
 - Fiscal and economic policies to empower those communities to utilize the services provided, and
 - Social policies to leverage the benefits of access and use of ICT technology to the benefit of the society.

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Project Proposal

Wireless - Satellite VillagePhone for Rural Development in Yemen

Project Title:	Wireless / Satellite VillagePhone for Rural Development in Yemen		
Lead Organization:	UNESCWA, Beirut, Lebanon		
Potential Partners:	1- UNESCWA 2- Local partner/NGO Local microfinance agency 3- Yemeni telecommunications operator International/regional technology or satellite provider (e.g. Al-Thuraya)		
Primary Objective:	To harness the potential of ICTs to empower rural, geographically challenged communities of Yemen by making available low cost connectivity based on sustainable financing mechanisms, with a view to promote the United Nations Millennium Development Goals [UNMDGs], in particular rural poverty reduction.		
Beneficiaries:	Yemeni rural, geographically challenged communities, with the possibility of subsequent replication in other Western Asia and Arab countries.		
Budget Estimate:	USD <\$xxx'000.00>		
Potential Funding Agency:			
Starting Date:	xx/200x mm/yyyy	Duration: 12	Months

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45% of the population in the rural areas are under the national poverty line, compared to 30.8% in urban areas (1998). [2004 World Development Indicators, The World Bank.](#)

Executive Summary

The objective of this project is to harness the potential of ICTs to empower rural, geographically challenged communities of Yemen by making available low cost connectivity based on sustainable financing mechanisms, with a view to promote the United Nations Millennium Development Goals [UNMDGs], in particular rural poverty reduction.

A major development is currently underway in Yemen, based on using advanced ICTs, and fueled by national policies that aim to enhance the proliferation of modern affordable computers and free Internet access. The ICT sector has made great progress in linking the governorates to each other with telecommunications services. Utilization of ICTs is an essential element of the poverty reduction strategy of Yemen.

Yet, Yemen is severely challenged with its geography. Natural divisions, communities and population distribution, and density are the greatest problems facing the ICT sector in Yemen, and hence present a major obstacle to its efforts in reducing poverty, in particular in rural areas where an estimated 75% of the population lives.

The scope of this project lies in the multi-tier ESCWA Social ICT Policy Paradigm. As stipulated in the ESCWA ICT Strategy, the Social ICT Policy Paradigm integrates three layers of policies: (a) ICT policies to extend basic infrastructure and services to rural and impoverished communities; (b) Fiscal and economic policies to empower those communities to utilize the services provided; (c) Social policies to leverage the benefits of access and use of ICT technology to the benefit of the society.

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The implementation of the project is phased accordingly:

Phase 1:

If not available, provide low cost connectivity for selected rural areas in Yemen.

Phase 2:

Establish a financially-sustainable public-private partnership involving local partners/NGOs, wireless operators, and/or international/regional technology or satellite providers (e.g., Al-Thuraya). The objective of the partnership is to make telephony, and possibly data, services available to the locals, particularly women and other marginalized segments of the community. The UN-sponsored VillagePhone modality has shown great promise in similar settings in Bangladesh and Uganda in creating a profitable partnership and a channel to market to bring telecommunications services to the rural areas of these two countries. Another possibility is a Multi-purpose Technology Community Center (MTCC).

Implementation of Phases 1 and 2, including the selection of the rural area, partnership mechanism, and financially viable methods of access extensions will be carried out in coordination with the donors, and after careful examination of the prevailing technological and socioeconomic conditions in the area.

Phase 3:

Establish market-based, local project[s] to take advantage of the access and ICT services available, such as, for instance, a Market Information System-based Partnership for marketing local crops and produce, similar to the Alcatel-Manobi Partnership in Senegal.

The overall budget for the project is estimated at <-\$xxx'000.00>.

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ICTs for Poverty Reduction

- Poverty in ESCWA
- Measuring-Targeting Poverty
- ICT Poverty Profile
- GlobalCensus2010: ICT Topics in Population and Housing Censuses

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Poverty in ESCWA

	Men	Women
Bahrain	7.20	12.40
Egypt	23.40	29.10
Iraq
Jordan	6.40	11.10
Kuwait	11.10	14.00
Lebanon	7.60	14.00
Palestine
Oman	22.10	31.70
Qatar
Saudi Arabia	14.60	23.40
Syrian Arab Republic	10.20	27.60
United Arab Emirates	17.50	14.50
Yemen	32.10	54.80

Source: Human Development Report 2004, UNDP

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Measuring-Targeting Poverty

■ Absolute measures:

Poverty measures are based on income and consumption data of households.

National poverty rate

Proportion of population living under the national poverty line.

\$1 (Extreme) and \$2-per-day poverty rates

Proportion of population living under \$1 and \$2 per day.

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■ Subjective measures:

Poverty measures are based on:

■ **Quality of life**.

Human Poverty Index:

HPI measures poverty in terms of deprivation of three basic dimensions of human development:

A long and healthy life, measured by vulnerability to death before the age of 40,

Knowledge, measured by adult literacy, and

Decent standard of living, measured by the un-weighted average of two indicators:

- Proportion of population without sustainable access to improved water source..
- Proportion of underweight children.

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▪ **Household ownership of consumer durables..**

- Bicycle, motorbike, car,
- Household electric generator,
- Household water pump,
- Cooking stove (electric/gas),
- Microwave oven,
- Refrigerator/freezer,
- Dishwasher,
- Washing machine.
- Cellular/mobile, fixed line telephone,
- Personal computer,
- Radio, TV, cassette tape/CD player, video cassette/DVD player.

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▪ **Household characteristics..**

- Size,
- Gender, age, marital status, and level of education of the head of the household,
- Proportion of expenditure on children.

▪ **Housing characteristics..**

- Type,
- Ownership,
- Access to clean water sources,
- Toilets (private/shared),
- Connection to municipal sewage systems,
- Location (urban-rural).

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ICT Poverty Profile

- ICT policies targeting poverty must account for the ICT profile of poverty.
- There are certain issues in identifying poverty with ICTs:
 - Dramatic decrease of ICT prices for entry level types of products, and the increase of prices for top range products, posing serious comparability problems to dedicated and general time series of prices.
 - Wide variations of the quality and prices of ICT assets that for the most part provide the same basic services.
 - Ownership versus access of ICTs.

Insight into living standards and the socio-economic status may not be restricted to ownerships. In fact with regard to the information society such restriction could be misleading.

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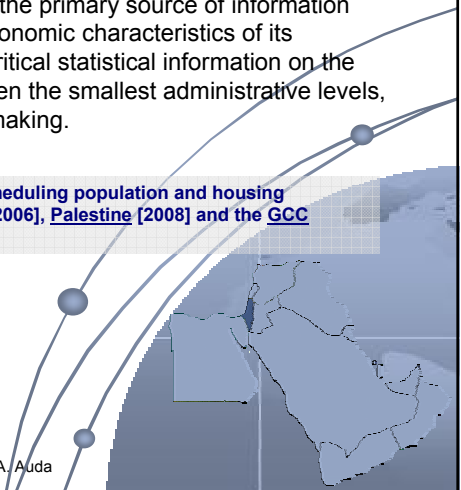
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GlobalCensus2010: ICT Topics in Population and Housing Censuses

- The United Nations Statistical Commission, at its 36th session in March 2005, approved the 2010 World Programme on Population and Housing Censuses and established the Expert Group on the 2010 World Programme on Population and Housing Censuses. This Expert Group proposed the formation of working groups and technical subgroups to carry out its mandate in regard to the revision and update of the global United Nations Principles and Recommendations for Population and Housing Censuses.

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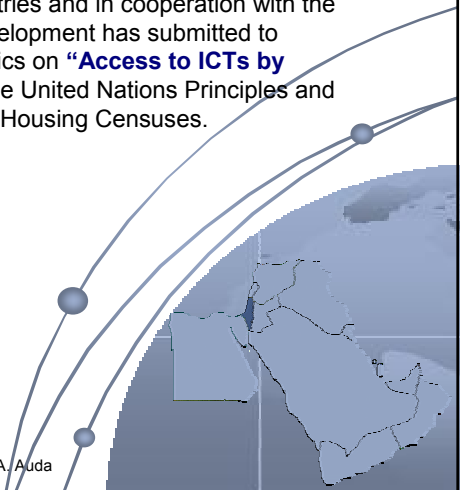
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- Population and housing censuses are the primary source of information about the social, demographic, and economic characteristics of its population. These censuses provide critical statistical information on the population and housing situation at even the smallest administrative levels, thus enabling evidence-based policy making.

Eight ESCWA member countries are scheduling population and housing censuses in the next five years: [Egypt \[2006\]](#), [Palestine \[2008\]](#) and the [GCC countries \[2010\]](#).

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- ESCWA on behalf of its member countries and in cooperation with the Partnership on Measuring ICT for Development has submitted to GlobalCensus2010 to include new topics on **“Access to ICTs by Households”** in the new revision of the United Nations Principles and Recommendations for Population and Housing Censuses.

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	<u>Topic</u>	<u>Derived Topic</u>
A	Fixed Line Telephone	Proportion of households with a fixed line telephone
B	Mobile Cellular Telephone	Proportion of households with a mobile cellular telephone
C	Personal Computer	Proportion of households with a personal computer
D	Access to Internet	Proportion of households with Internet access at home Proportion of households with broadband Internet access at home
E	Radio and Television	Proportion of households with radio sets Proportion of households with television sets

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الأجهزة المنزلية / المستخدمين (بالعدد)			
حاسب شخصي	٢	تلفزيون	١
خط تليفون ثابت	١	راديو	٤
مستخدم التليفون المحمول	٢		
مستخدم الإنترنت العادي	٣		
مستخدم الإنترنت عريض النطاق	٤		

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Case Study: PC for Every Home

- Due to overwhelming accumulated evidence the Egyptian Government has enacted a policy that aims at increasing the proportion of households with a computer.
- The policy initiative offers locally assembled quality PCs to citizens to be paid for in affordable installments that are secured by their fixed line telephones.

A pro-growth but not pro-poor strategy

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■ **Possible policy objectives:**

- Focus on, or emphasize, gender, certain age groups, income categories, and/or geographic distribution.
- Be connected to other development goals and/or policy initiatives:
 - Development of the local computer manufacturing and services industries.
 - The "Free Internet" initiative.

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■ **Operational Detail:**

The Egyptian government has chosen to act as a facilitator.

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Buzz/Key Words

■ **Evidence**

- Studies
- Data
- Conjectured

■ **Impact**

- Socioeconomic benefits

■ **Objectives**

- Outputs


■ **Mechanism**

- Implementation

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What To Do!?

- **Verify the evidence**
 - Establish a true picture of the current status as relates to the evidence that promoted the policy initiative:
 - The proportion/distribution of households/individuals with a PC, in relation to other socioeconomic or classificatory variables: gender, age, income, and/or geographic distribution.
 - Number and prices of locally manufactured PCs.
 - Others.




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Monitor the progress of implementation

- **Monitor the progress of implementation**
 - Number of locally manufactured PCs sold through POSs.
 - Others



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- **Measure the output**

- Direct output**

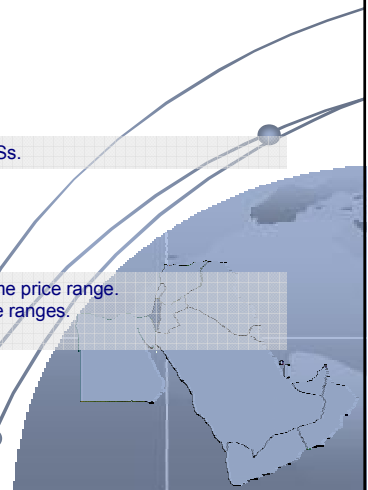
Number of locally manufactured PCs sold through POSs.

- Indirect Output**

Number of PCs sold by other manufacturers in the same price range.
Number of PCs sold by all manufacturers in other price ranges.
Others

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- **Assess the impact**

- Economic Growth**

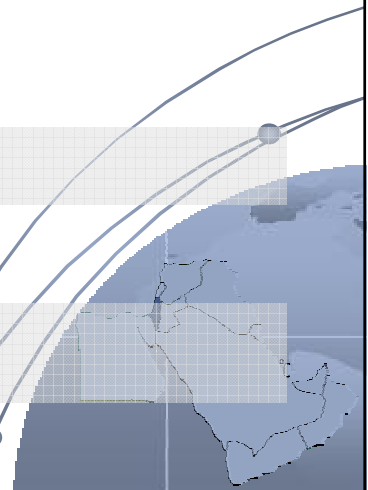
Value added.
Employment/job creation.
Others.

- Societal benefits**

Rural development.
Empowerment of women.
Enlightened population.
Others.

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How To Go About It!?

■ The way to go is statistics..

Number of PCs.

- At POSs
- Proportion of households with a PCs
- Number of PCs per 100 populations
- Cost of PC relative to average household income
- Impact measurements

Administrative Records

Household/Individual Surveys

Specialized Surveys/Census

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The Truth About Policies and Indicators

ICT Policies are socioeconomic policies

ICT data is socioeconomic data

~~P~~olicies ↔ ~~I~~ndicators

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**Thank you for
the attention**

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