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TITLE: ICT Indicators for Households: Egypt's experience

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ICT Indicators for Households: Egypt's experience

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Content

1. Introduction.
2. Measuring the information Society in Egypt.
3. ICT usage by households and individuals .. MCIT efforts along with CAPMAS since 2006:
   1. Achieved Progress (2006-2009).
   2. Lessons learned.
   3. Main challenges.
4. Conclusion.

Introduction

- During the World Summit on the Information society (WSIS) (Geneva 2003 – Tunis 2005) “Measuring the Information Society” – It was called upon all countries and regions to develop tools to provide statistical information on the information society.
- Therefore, the United Nations in cooperation with many international organizations developed “core ICT indicators” to measure both ICT infrastructure and usage in different sectors.

Introduction

- The Ministry of Communication and Information Technology (MCIT) launched national ICT indicators project in 2005 "Information and Communication Technology Indicators Project" in cooperation with the Central Agency for Public Mobilization and Statistics (CAPMAS) with the aim of “measuring the information society in Egypt".

Measuring the Information Society in Egypt

Measuring the Information Society in Egypt .. Vision

Positioning Egypt in the rank that it deserves regionally and internationally in the area of ICT indicators

Measuring the Information Society in Egypt.. Goals

- Building a database for ICT indicators within MCIT to measure and analyze the information society in Egypt according to international standards.
- Monitoring ICT usage in Egypt within different sectors and across the country; targeting lagging regions behind in order to bridge the digital divide between urban and rural areas.
- Providing decision makers with up-to-date and accurate ICT indicators to help them in setting the policies and strategies pertaining to ICT sector.
- Providing international organizations with data on the required indicators reflecting the image of the information society in Egypt.

Measuring the Information Society in Egypt .. Partners

- Ministry Of Communications and Information Technology.
- Central Agency for Public Mobilization And Statistics (CAPMAS).
- National Telecommunication Regularity Authority (NTRA).
- Information Technology Industry Development Agency (ITIDA).
- Microsoft.

Measuring the Information Society in Egypt .. References

- Partnership on Measuring ICT for Development (10 Int' Org).
- United Nations Conference on Trade and Development (UNCATD).
- Organization for Economic Co-operation and Development (OECD).
- World Bank (WB).
- European Commission (Eurostat).
- United Nations Economic and Social Commission for Western Asia (ESCWA).

Measuring the Information Society in Egypt .. Scope

- This project positioned Egypt as a PIONEER among Arab countries in terms of its scope.
- The project has the largest scope in the region, measuring ICT usage in the following fields:
  - ICT infrastructure and access.
  - ICT usage by households and individuals.
  - ICT usage by businesses.
  - ICT usage in government sector.
  - ICT usage in public access points.
  - ICT usage in the Education sector.

ICT usage by households and individuals

ICT usage by households and individuals .. Workflow

ICT usage by households and individuals .. Questionnaire

- This questionnaire has been formulated in light of international ICT core indicators recommended by partnership on measuring ICT on development project adopted by many international organizations.
- The questionnaire mainly includes 5 sections:
  - HH basic indicators.
  - ICT usage by individuals (Fixed lines, Mobile, Internet, Computer).
  - ICT usage by households (Fixed lines, Mobile, Internet, Computer).
  - ICT expenditure.
  - Security and Privacy.

ICT usage by households and individuals.. Methodology

- 2 surveys annually (January and June).
- A multi-stage cluster and self-weighted representative sample.
- The sample is drawn from the sample of Family Income, Expenditure and Consumption survey (FIECS) .
- The survey involved a total of 21,000 households (300 areas × 70 households); covering 24 governorates representing the urban areas and rural areas.
- Rotation technique has been adopted; which is more efficient in capturing the dynamic changes in ICT usage variables across the surveyed households.

ICT usage by households and individuals Conducting the surveys and extracting the results

- The written questionnaire are distributed and collected hand by hand, under the supervision of CAPMAS.
- The results are classified into two main groups:
  - National Aggregates: for the republic as a whole.
  - Localities Aggregates: for both governorates, and urban & rural areas.

ICT usage by households and individuals Conducting the surveys and extracting the results .. Cont.

- The results of HH survey are analyzed using both descriptive and comparative analysis techniques:
  - Descriptive Analysis: Using tables, graphs and simple statistical operations to reflect major characteristics of ICT usage within the Egyptian households.
  - Comparative Analysis: Comparing different time intervals' results to trace the development of ICT usage across time and link it with different government initiatives; aiming at increasing usage among households and individuals.

ICT usage by households and individuals .. Dissemination of information

- Egypt's ICT Indicators Portal
- The Future of internet in Egypt .. Statistical profile.
- International organizations reports.

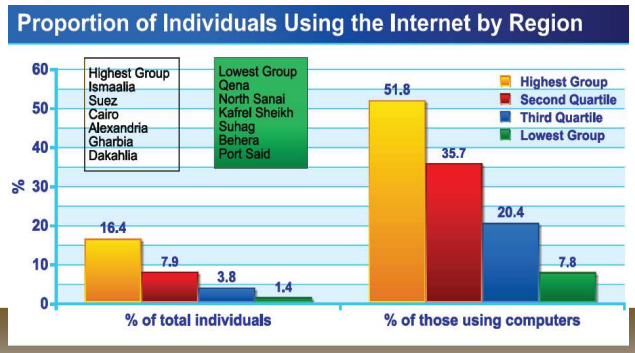
ICT usage by households and individuals .. Achieved Progress

ICT usage by households and individuals .. .. Achieved Progress

1. Measuring digital divide by:
    1. Geographic location.
    2. Gender.
    3. Income level.
    4. Education level.
    5. Age group.
    6. Employment status.
2. Measuring Households expenditure on ICTs.
3. Measuring Security and privacy aspects.
4. Measuring broadband indicators.
5. Measuring ICT usage by disabled.
6. Measuring E-Content

Achieved Progress 1. Measuring Digital Divide

By Geographic location

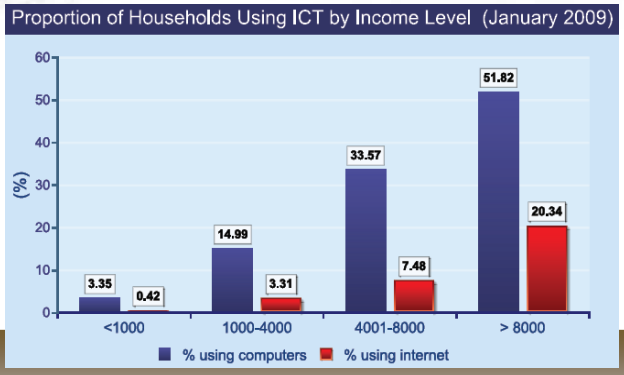


Achieved Progress
1. Measuring Digital Divide

By Gender

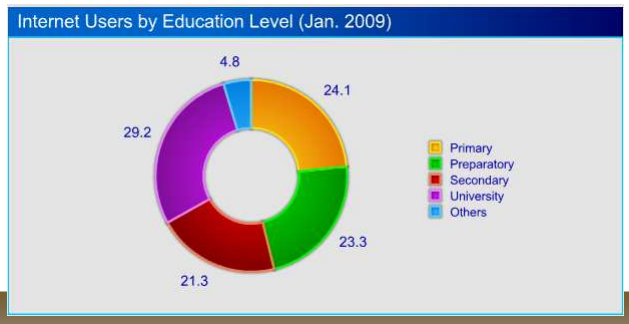
Achieved Progress
1. Measuring Digital Divide

By Income level



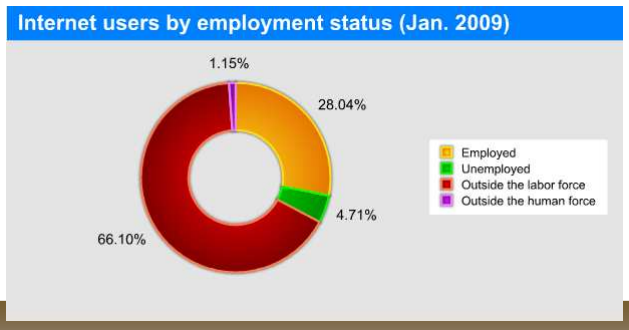
Achieved Progress
1. Measuring Digital Divide

By Education Level



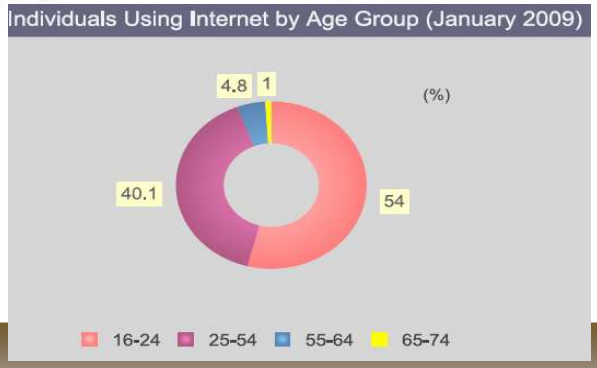
Achieved Progress
1. Measuring Digital Divide

By Employment Status



Achieved Progress
1. Measuring Digital Divide

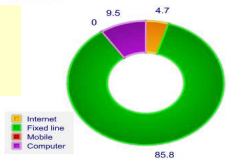
By Age groups



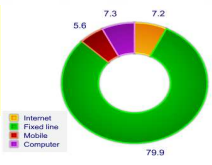
Achieved Progress
2. Measuring Household expenditure on ICTs

As % of total spending on ICTs (Jan. 2009)

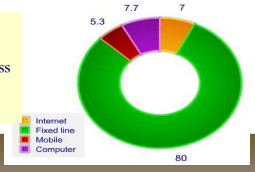
Annual Income less than 1000 EGP



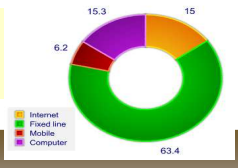
Annual Income 1000- to less than 4000 EGP



Annual Income 4000 to less than 8000 EGP



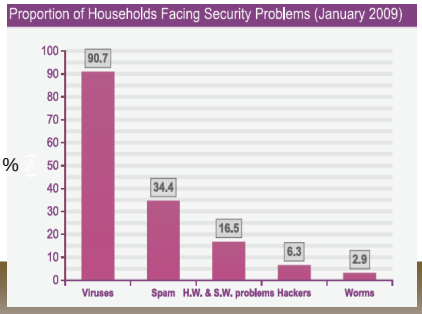
Annual Income more than 8000 EGP

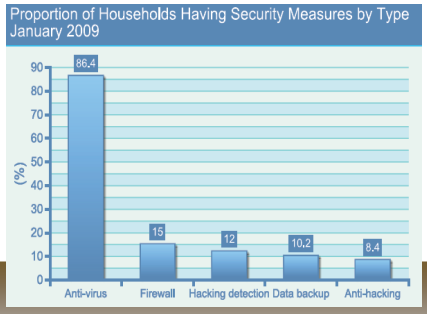


Egyptian household spends around 15% of its monthly income on ICTs on average

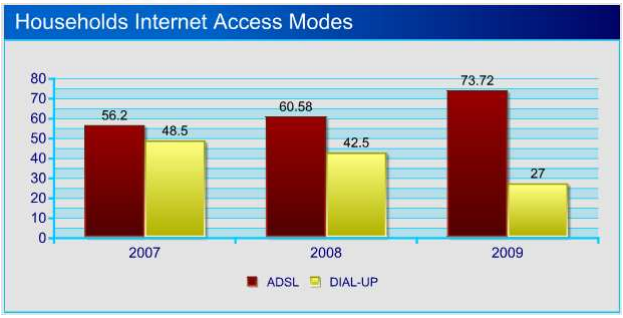
Achieved Progress
3. Measuring Security and privacy aspects

Viruses are considered the most common security problems faced by households





Achieved Progress
4. Measuring broadband indicators



Multiple selections were allowed

Achieved Progress
5. Measuring ICT usage by disabled persons

- The proliferation of different ICT techniques have raised the hope among the disabled persons and have enabled them to reap the benefits of ICT.
- In Egypt; MCIT started in 2007 to collect data about disabled persons in the surveyed households and their patterns of ICT usage.

Patterns of ICT usage of disabled persons included in HH survey Jan. 2009

Surveyed disabled persons.	Gender	Age	Education	using computer	Main computer activities	Owning Mobile	Average mobile monthly expenditure (EGP)	Main internet activities
1.	Female	13	Pre - university	Yes	Education	Yes	10	Learning
2.	Female	29	University	Yes	Entertainment	Yes	20	Downloading videos

Achieved Progress
6. Measuring E-Content

- Egypt has started in 2009 to collect indictors related to the e-content that the households usually deal with. HH survey include many E-content indicators like:
  - Languages used to navigate the internet.
  - Arabic content as a percentage of e-content.
- Another set of e-content indicators will be extracted and collected from a field survey targeting ISPs and measuring the characteristics of e-content in different segments of the society including households.
- The results of this survey will be available by the mid of 2009.

ICT usage by households and individuals .. Lessons Learned

ICT usage by households and individuals .. Lessons Learned

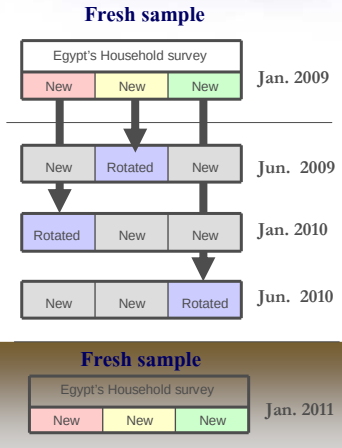
1. The importance of hard indicators as control variables to assess the reliability of Soft indicators.
2. Rotating Sample design as a crucial tool to reflect the historical trend of ICT indicators.
3. The importance of mapping ICT indicators from individuals to households and vice versa.
4. The importance of documented papers to ensure the accuracy of some indicators (e.g phone bill,..).
5. Avoiding seasonal times during the process of collecting data from the field.
6. The importance of limiting sampling error to the minimum level.

Lessons Learned
1. The importance of hard indicators as control variables to assess the reliability of Soft indicators

Variables	Hard indicators (Dec. 2008)	Soft indicators)(Jan. 2009
Internet Penetration (%)	16.7	15
Mobile penetration (%)	57	57.47

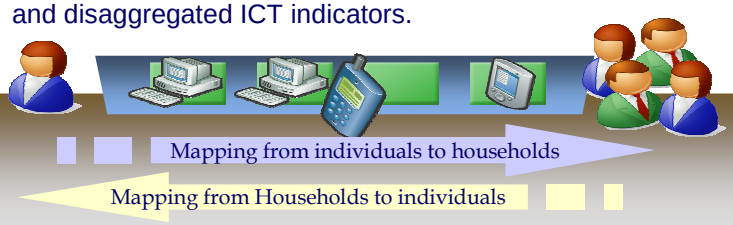
Lessons Learned
2. Rotating Sample design as a crucial tool to reflect the historical trend of ICT indicators

- Rotating sample design is a procedure for combining the advantages of the regular cross-sectional survey with the panel study, in national statistical surveys measuring trends over time.
- A proportion of the initial survey sample is dropped from each subsequent interview sweep and replaced with a fresh sample of equal size.
- The complete sample is replaced gradually over a period of months or years according to the used rotation technique.



Lessons Learned
3. The importance of mapping ICT indicators from individuals to households and vice-versa

- Egypt's HH household survey measures many important indicators at the individuals level. It includes for instance:
  - No. of Individuals using computer, internet, mobile.
  - Individual expenditure on ICTs.
  - The pattern of mobile, computer and internet usage by individuals.
- Mapping indicators from individuals to households and vice-versa enables Egypt to have a diversified set of aggregated and disaggregated ICT indicators.



Lessons Learned
4. The importance of documented papers to ensure the accuracy of some indicators

- Documented papers ensure the accurate measurement of some ICT indicators.
- For instance surveyed households could use the phone bills to answer some questions regarding the average monthly expenditure on ICTs.

الاشتراك : من 2008/10/01 الى 2008/12/31								الاستهلاك : من 2008/06/01 الى 2008/08/31			
الاشتراك	مكالمات زائدة	محافظات	نرنك-100	الخدمة الصوتية	تلمعراف-124	خدمة الرقم المحاكي	تأمين	رصيد سابق	دمغة	إنترنت بسعر المكالمات المحلية
36.00	124.18	0.00	0.00	0.00	محمول	مصروفات إدارية	0.00	0.00	0.00	190.30
خصم باقات مخصصة	حوافز	إنترنت مميز	محمول	تلمعراف-124	خدمة الرقم المحاكي	مصروفات إدارية	0.00	0.00	متأخرات	ضريبة مبيعات
0.00	0.00	0.00	73.86	0.00	0.00	0.00	0.00	0.00	0.00	39.89
إجمالي الفاتورة				424.36	الإجمالي بالجنيه					

Lessons Learned
5. Avoiding seasonal times during the process of collecting data from the field

- ICT usage indicators vary dramatically form one season to another.
- Here in Egypt; internet usage witnesses a dramatic increase in the months of June and July of each year as a result of households rushing to the internet to inquire about the final results of their enrolled children in the General Secondary Certificate. On the other hand; internet usage decreases in the month of Ramadan.
- Practical experience ensures the importance of avoiding seasonal times during the process of collecting data from the field.
- Avoiding such peaks and troughs will lead to an accurate figures and trends about ICT usage.

Lessons Learned
6. The importance of limiting sampling error to the minimum level.

- Egypt is keen to limit the sample error in household survey to the minimum levels.
- The HH sampling error, the coefficients of variation and the design effect have been derived using the ultimate cluster method with 95% confidence interval.

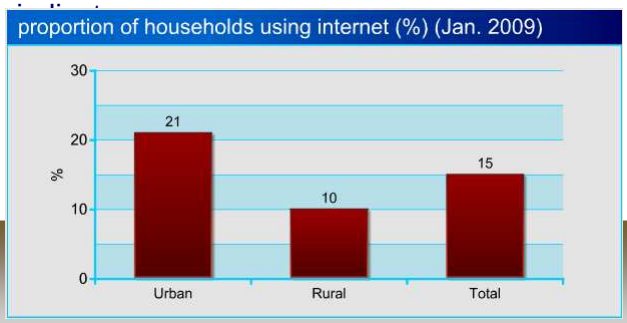
Current Challenges

Current Challenges

1. The negative impact of rural areas on nation's aggregate ICT indicators.
2. Adopting the appropriate rotation technique.

Current Challenges
1. The negative impact of rural areas on nation's aggregate ICT indicators

- When the rural areas are represented in the HH sample with their natural weights in the society; they adversely affect the nation's aggregate ICT



Current Challenges
2. Adopting the appropriate rotation technique

- A variety of rotation designs are in use, some of them complex. For example, the USA Current Population Survey uses a 4–8–4 rotation system, ensuring that 75 per cent of the sample is common from month to month, and 50 per cent of the sample is common from year to year.
- Countries need to address the most appropriate rotation techniques and how they are differ form one country to another.

Conclusion

- Egypt has exerted continuous efforts during the past four years to measure a diversified set of soft indicators related to ICT usage by households and individuals (95 indicators).
- In addition to the basic core ICT indicators; Egypt was keen to measure another set of indicators reflecting the great contribution of ICT sector in both social and economic development within HH survey.
- We still have many challenges with regard to reviewing the current methodologies, developing a new set of indicators measuring various dimensions of the information society as well as reviewing the existing indicators to ensure its credibility and reliability.
- We know the journey is still long ahead of us; but we are sure that we are on the right track, believing that our sincere cooperation with all the international organizations and hard work will lead us to achieve our goals.

Thanks