State of Palestine
Palestinian Central Bureau of Statistics

Household Survey on Information and Communications Technology, 2014
User Guide

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Table of Contents

Introduction

Within the framework of PCBS's mission to provide official statistics on Palestine, and in the context of the prevalent use of information and communications technology (ICT) by Palestinians, primarily the computer, Internet, and mobile phone and the vital role they play in conveying information and culture and influencing public opinion, PCBS conducted this Household Survey on Information and Communications Technology in 2014.

The main objective of this survey is to provide statistical data on Information and Communications Technology for Palestinian households in Palestine, including ownership of a computer, forms of telecommunications, a satellite dish and access and use of the Internet.

PCBS hopes that this report will enable planners and decision makers to fulfill their responsibilities of promoting and supervising the ICT sector in Palestine and will assist them in planning for comprehensive national development.

<div align="center">**Concepts and Definitions**</div>

Information and Communications Technology (ICT):
The tools and the process to access, retrieve, store, organize, manipulate, produce, present, and exchange information by electronic and other manual automated means.

Website:
location on the World Wide Web identified by a web address. Collection of web files on   a particular subject that includes a beginning file called a home page. Information is encoded with specific languages (Hypertext mark-up language (HTML), XML, Java) readable with a Web browser like Netscape's Navigator or Microsoft's Internet Explorer.

Internet:
A worldwide public computer network. Organizations and individuals can connect their computers to this network and exchange information across a country and/or across the world. The Internet provides access to a number of communication services, including the World Wide Web and carries email, news, entertainment and data files.

E-mail:
A means for the exchange of messages, texts and attached files by Internet or intranet users.

Internet Use:
For the purposes of this survey, defined as the basic uses of the Internet (during the previous twelve months), such as access to sites, reading newsletters, and downloading files or programs from the Web.

Computer Use:
For the purposes of this survey, defined as basic use of a computer (during the previous twelve months), such as opening the computer and files, creating, copying, pasting and saving files.

E-Commerce:
The conducting of business communications and transactions over computer networks and through individual computers linked to the Word Wide Web. Strictly defined, e-commerce is the purchase and sale of goods and services and the transfer of funds through digital communications.

Satellite:
A satellite stationed in geosynchronous orbit that acts as a microwave relay station, receiving signals sent from a ground-based station, amplifying them, and retransmitting them on a different frequency to another ground-based station. Satellites can be used for high-speed transmission of computer data.

Main Telephone Lines:
A telephone line connecting the subscriber's terminal to the public network and which has a dedicated port in the telephone exchange equipment.

Integrated Services Digital Network (ISDN):
A digital access technique for both voice and data. This is a digital alternative to an analog public switched telephone service and carries data or voltages consisting of discrete steps or

levels, as opposed to continuously variable analog data. ISDN enables digital transmission over the PSTN.

Asymmetric Digital Subscriber Line (ADSL):
A form of DSL, a data communications technology tool, that enables data transmission over copper telephone lines faster than a conventional modem.

Dial-up Internet Access:
A form of Internet access via a telephone line. The client uses a modem connected to a computer and a telephone line to dial into an Internet service provider's (ISP) node to establish a modem-to-modem link, which is then routed to the Internet.

Digital Subscriber Line DSL):
An Internet connection via modem and dial-up software utilizing the Public Switch Telecommunications Network (PSTN).

Wireless:
Includes fixed wireless, mobile wireless, and satellite Internet connections.

Household:
One person or a group of persons with or without a family relationship who live in the same dwelling unit, share meals, and make joint provisions for food and other essentials of living.

Household Membership:
Persons staying in the dwelling unit are considered members of the household if the dwelling unit is their usual or only place of residence.

Survey Questionnaire

2.2 Questionnaire

The survey questionnaire consists of identification data, quality controls and three main sections:

Section I: Data on household members that include identification fields, the characteristics of household members (demographic and social) such as the relationship of individuals to the head of household, sex, date of birth and age.

Section II: Household data include information regarding computer processing, access to the Internet, and possession of various media and computer equipment. This section includes information on topics related to the use of computer and Internet, as well as supervision by households of their children (5-17 years old) while using the computer and Internet, and protective measures taken by the household in the home.

Section III: Data on persons (aged 10 years and over) about computer use, access to the Internet and possession of a mobile phone.

Data Set Linkage

The data set consists of three files , so to merge files into one data file there is need for key variables that were shown in the following table:

File Name	Content	Key Variables
Roster	Data about household members	ID00: Questionnaire's serial number in the sample.
Household	Household data	ID00: Questionnaire's serial number in the sample
Persons10+	Data on persons (aged 10 years or more)	ID00: Questionnaire's serial number in the sample

Frame and Coverage

All Palestinian households and individuals whose usual place of residence in Palestine with focus on persons aged 10 years and over in year 2014.

Sample and Sampling Frame

Sample frame

The sampling frame consists of a list of enumeration areas adopted in the Population, Housing and Establishments Census of 2007. Each enumeration area has an average size of about 124 households. These were used in the first phase as Preliminary Sampling Units in the process of selecting the survey sample.

Sample size

The total sample size of the survey was 7,268 households, of which 6,000 responded.

Sample Design

The sample is a stratified clustered systematic random sample. The design comprised three phases:

Phase I: Random sample of 240 enumeration areas.
Phase II: Selection of 25 households from each enumeration area selected in phase one using systematic random selection.
Phase III: Selection of an individual (10 years or more) in the field from the selected households; KISH TABLES were used to ensure indiscriminate selection.

Sample Strata
Distribution of the sample was stratified by:
1- Governorate (16 governorates, J1).
2- Type of locality (urban, rural and camps).

Calculation of Weights
The weight of the statistical units (sampling units) in the sample is defined as the mathematical inverse of the selection probability where the sample of the survey is a three stage stratified clustered systematic random sample. In the first stage, the weight of the enumeration areas was calculated based on the probability of each enumeration area (a systematic random sample). In the second stage, the weight of households in each enumeration area was calculated. Initial household weights resulted from the product of the weight of the first stage and the weight of the second stage. The final household weights were obtained after adjustment of the initial weights with the household estimates of mid-2014 by design strata (governorate, locality type).

Initial weights of individuals resulted from adding the final household weights to the roster. The final weights of individuals were obtained after adjustment of the individuals' estimates of 15 June 2014 by region (West Bank, Gaza Strip), sex (male, female), and five-year age group. For individuals (10 years and over), the final weight of individuals was added. These weights were adjusted with the estimates for individuals of 15 June 2014 based on the previous adjustment level (region, sex and five-year age groups).

Variance Estimation

The following table shows the variance of the most important indicators by Region:

Variable	Estimate	Standard Error	95% Confidence Interval		C.V%
			Lower%	Upper%	
Palestine					
Percentage of Households that Own a Desktop	45.0	0.9	43.1	46.8	2.1
Percentage of Individuals (10 years and over) Who Use Computer and Internet	60.2	0.9	58.4	61.9	1.5
Percentage of Individuals (10 years and over) Who Use the Internet	53.7	1.1	51.5	55.8	2.0
Percentage of Individuals (10 years and over) Who Have a Mobile Phone	73.7	0.8	72.1	75.1	1.0
Percentage of Individuals (10 Years and Over) Who Use Internet and Have an E-mail Account	72.6	1.3	70.0	75.1	1.8
Bank West					
Percentage of Households that Own a Desktop	48.4	1.2	46.1	50.8	2.5
Percentage of Individuals (10 years and over) Who Use Computer and Internet	59.5	1.1	57.3	61.7	1.9
Percentage of Individuals (10 years and over) Who Use the Internet	54.5	1.3	51.9	57.1	2.4
Percentage of Individuals (10 years and over) Who Have a Mobile Phone	77.5	0.8	75.9	79.1	1.0
Percentage of Individuals (10 Years and Over) Who Use Internet and Have an E-mail Account	74.1	1.7	70.6	77.2	2.3
Strip Gaza					
Percentage of Households that Own a Desktop	38.2	1.5	35.3	41.2	3.9
Percentage of Individuals (10 years and over) Who Use Computer and Internet	61.2	1.5	58.3	64.1	2.4
Percentage of Individuals (10 years and over) Who Use the Internet	52.2	1.9	48.5	55.9	3.6
Percentage of Individuals (10 years and over) Who Have a Mobile Phone	67.2	1.5	64.2	70.0	2.2
Percentage of Individuals (10 Years and Over) Who Use Internet and Have an E-mail Account	70.1	2.1	65.8	74.0	3.0

Reference Date

The date referred to in the calculation of all sets of indicators in this survey is the data collection time. Fieldwork activities had started on 04/05/2014 till 10/06/2014.

Data Collection

Instructions and Training manual

The training manual covered all aspects of field work and filling in of questionnaires. It covered the tasks of each field worker, interviewing and the completion of questionnaires. Training manuals for supervisors and editors were prepared to ensure team training and the success of the project. A training course was held in the West Bank and Gaza Strip simultaneously, using video-conference.

More than 80 field workers attended the field work training in accordance with the survey plan. The duration of the training was five consecutive days from 20/04/2014 to 24/04/2014. Each section of the questionnaire was explained and discussed thoroughly, along with practical exercises in class, in the field and home assignments. An evaluation test was conducted to ensure trainees understood all sections of the survey questionnaire.

Main Field Work

The Field Work and Surveys Directorate at PCBS prepared the plan for the survey's field work activities. Preparations relating to logistics were ready in advance, including field workers and survey tools (questionnaires, sample lists). The organizational structure of the field work was designed according to the requirements and nature of the survey itself. Field workers were assigned to work in the governorate where they resided and some small governorates were merged with adjacent large ones to facilitate the management of field work. Field work activities lasted from 04/05/2014 to 10/06/2014.

Data Editing in the Field

The project management developed clear procedures for data editing and trained a team of editors as follows:

- Receipt of completed questionnaires on a daily basis.
- Each questionnaire checked to ensure that they had been completed and that the data covered all eligible household members.
- Incomplete questionnaires and those with errors returned to the field for completion.

Response Rates

The survey sample consists of 7,268 households, of which 6,000 households completed the interview: 3,925 households from the West Bank and 2,075 households from the Gaza Strip. Weights were modified to account for the non-response rate.

Household Response Rates:

Interview result	No. of cases
Completed	5,999
Partially completed	1
Traveling households	94
No one at home	606
Refused to cooperate	158
Dwelling is vacant	258
No available information	25
Other	127
Total	**7,268**

Percentage of overcoverage errors = $\dfrac{\text{Total cases of overcoverage}}{\text{Number of cases in original sample}}$ * 100%

= 3.5%

Net Sample = Number of cases in original sample - Total cases of overcoverage = 7010

Non response rate = $\dfrac{\text{Total cases of non-response}}{\text{Net Sample}}$ * 100%

= 14.4%

Response rate = 100% - non-response rate
= 85.6%

Data Processing
Data processing consists of the following stages:

Programming Stage
This stage included preparation of the data entry programs using ACCESS package, setting up the data entry control rules to avoid data entry errors, and validation inquiries to examine the data after its being electronically captured.

Delivery and Check-in of Questionnaires
The receipt and check-in of questionnaires was supervised by fieldwork coordinators, and documentation the receiving process according to the specific form.

Data Entry Stage
The data entry process started on 08/05/2014 and ended on 23/06/2014. The data entry was implemented at PCBS main office as well as in field offices using 28 data clerks.

Data Verification
This is to ensure that data was correctly captured electronically.
Computer Editing
Computer editing routines were used to ensure data files have no consistency errors.

Data tabulation
After the data is captured and cleaned, preliminary tables are produced using SPSS to ensure consistency of data. Then, data tabulation is implemented according to predefined tables specified in the dissemination plan of the survey.

Data Quality
There are many aspects to the concept of data quality that includes the initial planning of the survey to the dissemination of the results and how well users understand and use the data. There are three components to the quality of statistics: accuracy, possibility of comparison, quality control procedures.

Data of this survey may be affected by sampling errors due to use of a sample and not a complete enumeration. Non-sampling errors are possible at all stages of the project, during data collection or processing. These are referred to as non-response errors, response errors, interviewing errors and data entry errors.

To avoid errors and reduce their effects, strenuous efforts were made to train the field workers intensively. They were trained on how to carry out the interview, what to discuss and what to avoid, holding practical and theoretical training during the training course, as well as providing training manuals which discuss each section of the questionnaire along with practical exercises in class and the way to ask respondents to reduce refused cases. Furthermore, data entry staff were trained on the data entry program, which was tested before starting the data entry process.

Concerning to office work, several measures had been taken to avoid non-sampling errors, such as: editing of questionnaires before data entry to check in field errors, using data entry application that does not allow any mistakes during the process of data entry, and then examining the data by using frequency and cross tables. This was done to ensure that data is

error free; while cleaning and inspection of the anomalous values have been made to ensure harmony between the different questions on the questionnaire.

Derived Variables

Variable Name	Description	Variable values
Region	Region	1. West Bank 2. Gaza Strip
localitytype	Type of Locality	1. Urban 2. Rural 3. Camps
Pr06r	Occupation	1. Legislators, Senior Officials & Managers. 2. Professionals, Technicians, Associates and Clerks. 3. Service and Sales Workers. 4. Skilled Agricultural & Fishery Workers. 5. Craft and Related Trade Workers. 6. Plant & Machine Operators & Assemblers. 7. Elementary Occupations.