



**Palestinian National Authority
Palestinian Central Bureau of Statistics**

Jerusalem Household Social Survey ,2010

User Guide

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1. Introduction

The Jerusalem Household Social Survey 2010 is one of the most important statistical activities that have been conducted by PCBS. Although PCBS covers the governorate in its regular statistical program, the Household Social Survey is the most detailed and comprehensive statistical activity that PCBS has conducted in Jerusalem.. The survey is based on a relatively large scale sample, which provides researchers with a good opportunity for more in-depth analysis. The survey provides up-to-date statistical data on demography, economics, living levels and housing conditions of the population in Jerusalem governorate.

2. Concepts and Definitions

Area J1:

Includes that part of Jerusalem which was annexed forcefully by Israel following its occupation of the West Bank in 1967. This part includes the following localities: (Beit Hanina, Shu'fat Refugee Camp, Shu'fat, Al' Isawiya, Jerusalem "Al-Quds"(Sheikh Jarrah, Wadi Al-Joz, Bab Al-Sahira, As Suwwana, At-Tur, Ash-Shayyah, Ras Al- Amud), Silwan, Ath-Thuri, Jabal Al- Mukabbir, As-Sawahira Al-Gharbiya, Beit Safafa, Sharafat, Sur Baher, and Um Tuba, Kufr A'qab).

Area J2:

Includes the remaining parts of Jerusalem governorate, namely: Rafat, Mikhmas, Qalandya Refugee Camp, the Bedouin Community-Jaba', Qalandya, Beit Duqqu, Jaba', Al-Judeira, Beit Anan, Al-Ram, Dahiat Al-Bareed, Al Al-Jib, Bir Nabala, Beit Ijza, Al-Qubeiba, Khirbet Um Al- Lahem, Biddu, An-Nabi Samu'eil, Hizma, Beit Hanina Al Tehta, Qatanna, Beit Surik, Beit Iksa, A'nata, The Bedouin Community – Al-Khan Al-Ahmar, Az Za'eem, Al-Sawahreh Al- Sharqiyeh, Ash- Sheikh Sa'd, The Bedouin Communities. Al-Eizariya, Abu Dis.

Age:

The completed age in years of the enumerated person, which is the difference between the date of birth and the survey reference period.

Assault:

Refers to physical attack against another person, including beating. Some criminal or penal codes distinguish between aggravated and simple assault depending on the degree of the resulting injury. For instance, aggravated assault involves attack with intentions to commit other crimes; attack under serious and inhuman conditions; the use of destructive weapons; attack on children; and any other dissolute attack. Simple assault involves attack not associated with criminal intentions, i.e. raising of a hand as a threat or unsuccessful attempt to beat.

Average of Household Size:

It is the average number of private household members calculated through dividing the total number of members for a certain category by the number of households for that particular category.

Age at First Marriage:

refers to the age (completed years) of the person in the actual marriage date.

Average of Housing Density

It refers to the average number of persons living in the room. This average calculated through dividing the total number of individuals for a certain category by the total number of rooms for that particular category.

Composite Household:

Refers to family consisting of at least one nuclear family with other non-relatives.

Chronic Disease:

A disorder or impairment of the normal state of well-being which need continuous treatment, diagnosed by a specialist.

Crime:

Any act involving a violation of the law or public rights and duties towards the state or society in general.

Date of Birth:

It refers to the date in which the person was born. It is normally comprised of three parts: day, month and year according to the official identification documents such as the birth of certificate, passport, ..etc.

Disability:

The disabled is defined as the person suffering from a clear and evident weakness in performing certain activities due to continuous Difficulties emanating from a physical, mental or health state that lasted for more than six months.

Drop-Out Student:

A student who left school during the last scholastic year and who did not transfer to another school.

Drain:

It is an indirect confiscation type of land or property or estates. It is used by Israeli authorities to buy Palestinian property through third party, when Palestinian people refuse to sell Israeli side.

Extended Household:

A family of at least one nuclear family together with other relatives.

Educational Attendance:

Attendance means registering the person in any formal education stage irrespective of whether it took the form of continuous attendance or distant learning. Formal education stages include the elementary stage, preparatory stage (both of which are referred to as the basic stage), secondary stage, and higher education stage

Employed:

Persons aged 15 years and over who were work at least one hour during the reference period, or who were not at work during the reference period, but held a job or owned business from which they were temporarily absent (because of illness, vacation, temporarily stoppage, or any other reason) he\ she was employer, self employed, wage employed, unpaid family member or other. The employed person is normally classified in one of two categories according to the number of weekly work hours, i.e. 1–14 work hours and 15 work hours and above. Also the absence due to sick leave, vacation, temporarily stoppage, or any other reason considered employed from 1-14 hours.

Main Economic Activity:

Is the main work of the enterprise based on the (ISIC, rev3) and that contribute by the large proportion of the value added, whenever more than one activity exist in the enterprise.

Government School:

Any educational institution run by MoE or any other ministry or governmental instrument.

Household:

The household was defined as one person or a group of persons with or without a family relationship, who live in the same housing unit or part of a housing unit, share meals and make joint provision of food and other essentials of living.

Household Membership:

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

Head of Household:

The person who usually lives with the household and is recognized as head of household by its other members. Often he/she is the main decision-maker or responsible for financial support and welfare of the household.

Housing Unit:

A building or part of a building constructed for one household only, with one or more independent entrance leading to the public road without passing through another housing unit. The unit might not be constructed for living purposes but found occupied with a household during the enumeration. Likewise, the unit might be utilized for habitation or for work purposes or both purposes. Also, it might be closed, vacant or occupied by one or more households during the survey.

Health Insurance:

Indemnity coverage against financial losses associated with occurrence or treatment of health problems.

Jerusalem Municipality and the Israeli Ministry of Education School:

Any school run or supervised by the Jerusalem municipality and the Israeli Ministry of Education.

Kindergarten:

Any educational institution licensed by MoE offering education to four or five year olds. Kindergarten Consists of the first and second grades.

Location from Expansion and Annexation Wall:

Refers to the location place of the locality or land of the locality, or household from the wall:

1. Inside the wall: Includes all the Location Located between the Green Line and the wall.
2. Outside the wall: Includes all the Localities Located outside the wall.

Labor Force:

All persons aged 15 years and over who are either employed or unemployed.

Marital Status:

The status of those 12 years old and over in terms of marriage traditions and laws in the country.

- Never married: It applies if the person aged 12 years has not been married or. Legally engaged (according to customs and traditions applicable in the country).
- Legally married: It applies if the person-aged 12 years has an official marriage document (issued by a competent court) but has not been actually married yet according to customs and traditions applicable in the country. The divorced, widowed, and married twice do not belong to this category.
- Married: It applies if the person aged 12 years is actually and officially married (according to customs and traditions applicable in the country) irrespective of his \ her past marital status as well as of whether the couple were together during the reference period or not. The person married to more than one wife is classified married.
- Divorced: The person aged 12 years who previously married and legally divorced but was not married again.
- Widowed: The married person aged 12 years whose marriage was split by the death of the spouse and was not married again.
- Separated: The individual 12 years old and over who was married, but his/her marriage was revoked for some reason without any legal or official registration, and he/she did not marry again.

Nuclear household:

It is the living household comprised of a couple only; a couple and a son or a daughter (own not adopted son or daughter) or more; or a male head of a household with a son or a daughter or more; or a female head of a household with a son or a daughter or more. It is worthy to note that no other relatives or non – relatives live with this household.

Occupation:

Occupation refers to the kind of work done during the reference period by the employed person, or the kind of work done previously if unemployed, irrespective of the Economic Activity or the employment status of the person. Occupations are grouped together mainly on the basis of the similarity of skills required to fulfill the tasks and duties of the job.

Properties:

All movable and fixed assets belonging to the individuals (household's members) regardless of whether they were inside or outside the house. Normally, the owner of a property is entitled to use it the way he/she deems appropriate, provided in accordance with the provisions of the effective law. A property applies to physical, nonphysical, tangible and intangible assets as well as any item that has a market value.

Persons Outside Labor force:

The population not economically active comprises all persons 15 years and over, who were neither employed nor unemployed because they don't have any desire to work or because of the availability of another source of income.

Private School:

Any licensed local or foreign nongovernmental educational institution.

Room:

The housing unit or part of the housing unit surrounded with walls and has a ceiling, provided that its area is not less than 4 squared meter. If the area of the glassy balcony equals or surpasses more than 4 squared meter and is used for living purposes, it is considered a room. Likewise, the salon or living room is considered a room. The kitchen, bathroom, paths and toilet are not considered rooms. Areas allocated for animals and poultry along with those used for work purposes only, are not considered rooms.

Refugee Status:

This status relates to the Palestinians who were forced to leave their land in the Palestinian Territory occupied by Israel in 1948. It applies to their sons and male grandchildren and it can be one of the following categories:

1. Refugee: It applies to registered refugees holding refugee registration cards issued by UNRWA.
2. It applies to unregistered refugees who do not hold refugee registration cards issued by UNRWA.
3. Non-Refugee: It applies to any Palestinian not categorized under any of the two aforementioned statuses.

Relatives First level:

Mother, Father, son, Husband, wife

Relatives Second level:

Uncle, Aunt , Grand son, Grand daughter

Regular Remittances:

Palestinian household receiving regular remittances but not for one time.

Sex Ratio:

The ratio of males to females, usually expressed as the number of males per 100 females.

Tenure of Housing Unit:

It refers to the household's tenure of the housing unit that could be one of the following categories: Owned, rented and other which includes for work or without payment.

Theft:

The removal of property without the property owner's consent. Theft includes burglary and house breaking; it includes the theft of motor vehicles, shoplifting and other minor offenses, e.g. pilfering and petty theft considered as thefts.

UNRWA School:

Any school run or supervised by UNRWA.

Unemployed:

It refers to all persons who did not work at all during the reference period, (not engaged in a certain work) although they are able to work, were available for work and actively seeking work during the reference period. The unemployed persons are normally divided into two categories: Unemployed ever worked and unemployed never worked.

Victim:

The person affected by an offense or loss or is prey to catastrophic, criminal or brutal events. Any person subject to an offense or whose properties were partially or totally affected by a criminal act or incident is classified as victim.

Years of Schooling Completed:

For persons currently attending, attended and left, or successfully graduated, reference shall be made to the successfully completed formal educational years (completed years.) It neither includes drop out years, failure years nor on – going educational year. Educational training courses are not included among the years of regular study.

3. Survey Questionnaire**The Survey Questionnaire**

In addition to the identification information, quality control, interviewing schedule, and interview results, the Household Social Survey of Jerusalem 2010 questionnaire contains the following parts:

- 1. Household roster:** This part contains the household roster, demographic and social characteristics for all household members, including refugee status, availability of health insurance, marital status, age at first marriage. This part included also labor force data which refers to previous week before visiting household, occupation, economic activity, place of work, employment status and wages. It included also items about educational enrollment, type of educational institution, completed years of schooling, educational attainment, and drop out from schools.
- 2. Housing questionnaire:** This includes questions on housing conditions, such as type of housing unit, tenure, area, number of rooms, connection to the public networks (water, electricity, sewage). This part also contains questions about the main source of energy used in the housing unit, environmental problems affect the housing unit (noise, odor, dust, smoke) including source and time of these problems, solid waste collection methods, availability of durable goods, and the number of units the household can build in the next decade.
- 3. Living levels and allowances questionnaire:** includes living levels for the household, main and secondary sources of income, average monthly consumption, in addition to food modules, and assistance received during last 12 months by type, value and the source of the assistance. Also included are the household's allowances and taxes, the impact of Israeli measures on Palestinian households in Jerusalem governorate, including confiscation of ID's, real estates and demolishing or closing houses and other properties.
- 3. Security and justice questionnaire:** includes questions about criminal offenses that the households or any of its members have been exposed to during previous 12 months by type of criminal offense, number of times, perpetrator, place of occurrence, whether reported, and type damage caused by criminal offenses.

4.Data Set Linkage

File Name	Content	Key variable
Roster File	Roster Data	ID00: Questionnaire Serial Number in Sample
Main File	Main file data	ID00: Questionnaire Serial Number in Sample
Main2 File	Complete the main file data	ID00: Questionnaire Serial Number in Sample
Main SI20	The Household Assistance	ID00: Questionnaire Serial Number in Sample

4. Target Population

It consists of all Palestinian households and persons who are staying normally in the Jerusalem governorate during 2010.

5. Sample and Frame

Sample Design

The sample is two stage stratified cluster sample with two stages:

First stage: selection of a systematic random sample of 75 enumeration areas (40 EAs in J1 and 35 EAs in J2).

Second stage: A random area sample of 30 households from each enumeration area selected in the first stage in J1, and systematic random sample of 25 household from each enumeration area selected in the first stage in J2, providing that 20 household are selected at minimum from each enumeration area.

Sample Frame

The sampling frame for Jerusalem (J1 and J2) was based census data which was collected by PCBS in 2007, and the frame consists from enumeration areas. These enumeration areas are used as primary sampling units (PSUs) in the first stage of the sampling selection.

Sample strata:

The population was divided by:

1- Governorate(J1, J2)

2- Type of Locality

(Urban in J2, rural in J2, refugee camps in J2), (urban in J1, refugee camps in J1)

It means that the sample has 5 strata. Stratification

6. Estimations Procedure

Weights Calculation of households

The weight of statistical units (sampling unit) in the sample is defined as the mathematical inverse of the selection probability where the sample of the survey is two stage stratified cluster sample. Thus, the weights are calculated for each stage and the final household's weights is the multiplication of the two weights.

First stage weight:

The sample of enumeration areas is selected and the weight is called enumeration areas weight (the sampling unit is enumeration areas).

The weight for enumeration areas from stratum h by the design of sample is calculated by dividing the # of enumeration areas in stratum h on the sample size of enumeration areas in stratum h by the following equation (1):

$$1. \quad W_{ih} = \frac{M_h}{n_h}$$

Where

- h The code of stratum h by Governorate and locality type
- W_{ih} The weight of enumeration area i in stratum h
- M_h The # of enumeration areas in the stratum h from 2007 census frame
- n_h The sample size of enumeration areas in stratum h

Second stage weight:

The sample of households is selected and the weight is called household weight (the sampling unit is household).

Household's weight is calculated from enumeration area (cluster) k by dividing number of households in each cluster with the sample size of households within the cluster k, using the following formula equation (2):

$$2. \quad W_{ik} = \frac{M_k}{n_k}$$

Where

- k Cluster code for the household i
- W_{ik} Weight of household i in the cluster k
- M_k Number of households in the cluster k from the population census in 2007
- n_k The sample households from cluster k

The primary weight of households before modification is the multiplication of the weights of the first and second stages.

primary weights for the households are then adjusted to compensate for the non response of households and to be compatible with population size by calculate calculating the adjustment factor for households' weights by adjustment levels (Governorate and locality type) using households' estimates of households for 2010 by the following equation (3) :

$$3. \quad f_h = \frac{m_h}{\sum_{i=1}^{nh} w_i}$$

- f_h The adjustment factor for the adjustment levels h
- m_h The # of households in adjustment level h from households projections in 2009
- $\sum_{i=1}^{nh} w_i$

The sum of the primary households weights in adjustment level h

Then the final weight for the households (FHW) is a multiplication of the adjustment factor (fh) by the primary weights for the household by the following equation (4):

4.
$$FHW = w_h * f_h$$

Weights Calculation of persons:

Based on the information about all the persons of the household, the primary person's weight was calculated as follows: :

- 1-In the roster file, the household weights (wh) is added for each person in the household.
- 2- In the roster file, a variable is made to adjust the primary weights of persons to be compatible with the population persons size by these **adjusted levels (region** (west bank, Gaza strip), **gender** (male, female), **five-year age group** (0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80 and above), and then we calculate the sum of the primary persons weights by these **adjusted levels**.
- 3- The distribution of the population by these adjusted levels for the same year of the survey was then calculated.
- 4- The adjusted factor (fg) is computed according to the adjusted levels by dividing the result from step 3 over the result from step 2.
- 5- The final person weight is the multiplication of the primary person weights and the adjusted factor (fg) for the adjusted level which the person belong to.

Relative Weights Calculations:

- 1- We compute the average for the final household weights, then we divide the final weight for each household by the previous computed average , and the result is the relative household weight (RHW) for the survey sample.
- 2- The sum of the relative households weights must equal the household's sample size (1,709 household).

We apply the previous steps for the roster file (persons) and the sum of the relative persons weights must equal the person sample size (8,189 persons).

7. Calculation of Variances

Data of this survey can be affected by statistical errors due to use of the sample. Therefore, certain differences are expected in comparison with the real values obtained through censuses. Variations were calculated for the most important indicators and that shows the ability to disseminate results at the Jerusalem Governorate. However, dissemination of data at the (J1, J2) level indicates values with high variations as explained in the following

Statistical Tables:

Variable	Estimate	Standard Error	C.V %	95% confidence Interval	
				Lower	Upper
Percent of males who suffer difficulty in seeing in Jerusalem governorate	5.15	0.7	<u>0.143</u>	3.8	6.8
Percent of females who suffer difficulty in seeing in Jerusalem governorate	4.5	0.6	<u>0.142</u>	3.4	6
Percent of males who suffer difficulty in seeing in Jerusalem (J1)	5.9	1.2	<u>0.195</u>	4.0	8.7
Percent of households who suffer difficulty in seeing in Jerusalem (J1)	4.4	0.9	<u>0.2</u>	2.9	6.6
Percent of unemployment males in Jerusalem (J1)	8.2	2.3	<u>0.27</u>	4.7	14.1
Percent of unemployment males in Jerusalem (J2)	18.4	2.1	<u>0.11</u>	14.6	23
Percent of males attending school in Jerusalem governorate	96.6	0.5	<u>0.005</u>	95.6	97.4
Percent of females attending school in Jerusalem governorate	94.2	0.7	<u>0.007</u>	92.6	95.5
Percent of males 18 year and over who drop-out of education in Jerusalem (J1)	32.5	3.7	<u>0.11</u>	25.7	40.2
Percent of unemployment males who have bachelor level and over in Jerusalem governorate	3.6	1.2	<u>0.32</u>	1.9	6.8
Percent of households that see the Lack of employment opportunities as the main reason for their poverty in Jerusalem governorate	63.2	7.0	<u>0.11</u>	48.6	75.8
Variable	Estimate	Standard Error	C.V %	95% confidence Interval	
				Lower	Upper
Percent of households that own housing unit in Jerusalem (J1)	78.5	3.6	<u>0.04</u>	70.4	84.8
Percent of households which the (Wages and Salaries from The Private Sector) is the main source of their income in Jerusalem (J1)	28.3	3.8	<u>0.13</u>	21.4	36.4
Percent of households for whom the Wages and Salaries from The Private Sector is the main source of her income in Jerusalem (J2)	36.4	2.5	<u>0.07</u>	31.5	41.6
Percent of households for which the distance between their housing unit and the Public Transportation is Less Than 1 Kilometer in Jerusalem (J1)	82.5	6.2	<u>0.075</u>	66.7	91.8
Percent of households for which the distance between her house and the Public Transportation is Less Than 1 Kilometer in Jerusalem (J2)	89.1	2.8	<u>0.03</u>	82.1	93.6

8. Reference Period

Implementation of the survey was in 2010 where he was to assign all the survey data for that year by 2010 except for the following indicators

Data to work during the week preceding the survey

Data concerning the prisoners, the editors during the five years preceding the survey

Data on the number of housing units needed by the family during the next ten years of the survey

Data, which specializes in the agricultural year by 2008/2009

Data on monthly family income and expenditure on various goods and services during the last month

Data security and justice, loans, aid, family expenses and the average monthly household income from various sources during the past 12 months

Data on tourism during the first half of the year 2010

9. Data Collection

Data collection began on July 8, 2010 for both J1 and J2 areas. Fieldwork was completed in Area J2 on August 30, 2010, while in Area J1 it was completed on September 26, 2010 because of the Israeli closure, which imposed a number of field difficulties.

10. Response Rates

The survey sample consists of about 2,374 households representing the Jerusalem governorate which contain the original sample size (2,075 HH) as well as another 299 HH as an additional sample in (J2). The additional sample households were in Al 'Eizariya and al Ram localities. The number of households that completed the interview reached 1709 households of which 683 households from J2 and 1026 households in J1. Weights were modified to account for non-response rate. The response rate in the Jerusalem outside walls was 61.8%. and this is acceptable percentage compared with other surveys conducted in Jerusalem. The non-response is distributed randomly on the strata of the sample.

Remark:

The sample size of J1 was 1,200 households based on the selection of a random area sample of 30 households from each of the 40 enumeration area selected in the first stage. Because of the difficulties to work at localities of J1 due to the Israeli measures and the inability to reach the household and due to frequent refusal cases specially in Bet –Elmaqdes locality and Beit-Hanena locality, PCBS decreased the sample size in J1 from 40 enumeration area to be 36 enumeration area and another enumeration area was added in Kufar-Aqab locality. Accordingly, the 37 enumeration and the expected final sample size must yield 1,110 households at the end of the fieldwork. PCBS managed to collect 1,026 completed questionnaire. For the previous mentioned reasons, the non response rate for (J1) sample could not be calculated

Total sample size(J2): 1,174 Households			
Household completed	683	Refused to cooperate	98
Traveling households	81	Vacant Housing unit	59
Unit does not exist	10	No available information	6
No one at home	155	Other	67
unable to reach household J2 Because of the field circumstances: 15 households			

Response and non-response formulas:

Response and non-response rates

$$\begin{aligned}\text{Percentage of over coverage errors} &= \frac{\text{Total cases of over coverage}}{\text{Number of cases in original sample}} * 100\% \\ &= 5.8\%\end{aligned}$$

$$\begin{aligned}\text{Non response rate} &= \frac{\text{Total cases of non response}}{\text{Net Sample size}} * 100\% \\ &= 38.2\%\end{aligned}$$

Net sample = Original sample – cases of over coverage

$$\begin{aligned}\text{Response rate} &= 100\% - \text{non-response rate} \\ &= 61.8\%\end{aligned}$$

Treatment of non-response cases using adjustment groups:

$$fg = \frac{\sum_{ng} wi - \sum_{o.c} wi}{\sum_{rg} wi}$$

Where

$\sum_{ng} wi$ Total weights in group g
 $\sum_{o.c} wi$ Total weights considered over coverage
 $\sum_{rg} wi$ Total weights responded in the survey
Each unit is given the value fg to the group that belongs to it, then $w'i$ is calculated using the following formula:

$$w'gi = wi * fgi$$

11. 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: relevancy, reliability, and credibility. Relevancy includes demographic variables, reference period, statistical measures, details of data, and comparability of results.

Accuracy of the Data

Statistical Errors

Since the study is based on a sample survey and not on a complete enumeration, the data is subject to sampling errors as well as non-sampling errors.

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Percent of households for whom the Wages and Salaries from The Private Sector is the main source of her income in Jerusalem (J2)	36.4	2.5	0.07	31.5	41.6
Percent of households for which the distance between their housing unit and the Public Transportation is Less Than 1 Kilometer in Jerusalem (J1)	82.5	6.2	0.075	66.7	91.8

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Non-Statistical Errors

Non-statistical errors in general referred to the nature of Social Survey of Jerusalem, which can be summarized as follows:

- Many households considered the specific details of the survey as intervention into their own life.
- Israeli impact on the Palestinian Territory (curfew and closure).
- Some households thought the survey is related to social assistance or to taxes.
- Hesitation of households in the Jerusalem area to give data because they were afraid of the Israeli procedures against them if they participate in any Palestinian survey or activity. The fieldwork methodology in J1 is based on area sample so the fieldworker visits more than one household to collect completed questionnaire. From every two households visited by fieldworker, one household agree to participate with the survey.
- Non-statistical errors in the survey: Reasons such as households were away from home or refused to participate or the housing unit is vacant, accounted for 13.2% of the non-responses. The overall non response rate reached 38.2% in (J2) which is high once compared to other household survey conducted by PCBS including the previous social Jerusalem survey - 2005.

The overall refusal rate reached to 8.3 % only.

The non completed questionnaires (travelling household, no one in house, non-exist house housing unit, on inhabited housing unit, no information, other) reached 32.2%, and these percentages are more than previous years due to the difficult field circumstances in Jerusalem localities.

12. Data Processing

The statistical package Access was used in data entry, which was organized in a number of files corresponding to the main parts of the questionnaire. A data entry template was designed to reflect an exact image of the questionnaire. It included various electronic checks such as logical checks, consistency checks, and cross-validation. Continuous thorough checks on the overall consistency of the data files and sample allocation were made and questionnaires sent back to the field for corrections.

Data Quality

The concept of data quality consists of many aspects starting from the planning to the survey and on to the publishing method and data analysis. The main principles of statistical quality are accuracy, comparability, and data quality assurance procedures.

1. Accuracy

It includes many aspects of the survey, mainly statistical errors due to the sample, and also non statistical errors refers to the workers and survey tools, and includes also the response rates in this survey and their effect on the assumptions. This section includes:

Sampling Errors

These types of errors evolved as a result of studying a part of the society and not all of it, and because this survey is sample based, the data of this survey will be affected by sampling errors due to using a sample and not the whole frame of the society, and therefore differences appear compared with the actual values that could be obtained through a census. For this survey, variance calculations were made for amounts of water consumed in the economic establishments by region and activity, and the main source of obtaining water in the economic establishments by region and activity.

Table of Variance for Environmental Economic Survey 2009

Variable	Estimate		Standard Error	C.V %	%95Confidence Interval	
	Unit	Value				
Main source of water in the north of West Bank– Public Water Network	%	93.9	1.11	0.011	91.4	95.8
Consumed water - in the north of West Bank	M ³	498,124	71,673	0.236	357,603	638,645
Main source of water in the Industrial activities – Public Water Network	%	90.6	1.02	0.026	88.4	92.4
Consumed water in the industrial activities	M ³	830,260	77,067	0.092	679,164	981,355

Non Sampling Errors

Several measures were adopted to minimize the effects of these errors. The interviewers, editors and coders underwent intensive training and were provided with fieldwork manuals to consult when facing any problem.

The data entry program was designed in a way that allows error detection and correction. This applies particularly to logical errors that might not be discovered before data entry operations. A consistency check was also performed to assure accuracy after data entry.

These errors are due to non-response cases as well as the implementation of surveys. In this survey, these errors emerged because of (a) the special situation of the questionnaire itself which depends on type of estimation; (b) diversity of sources (e.g. the interviewers, respondent, editors, coders, data entry operator, etc).

It is important to mention that 5% from the sample of this survey was re-interviewed, and the results of this re-interview were reported by the supervisors. The re-interview shows the

variance in estimation by interviewers for quantities of water consumed and solid waste produced, when the interviewer who answers for the main survey questionnaire is different from the one who answers the re-interview questionnaire.

$$\begin{aligned}\text{None response rate} &= \frac{\text{Sum of none response cases}}{\text{Net sample}} \times 100\% \\ &= \frac{707}{3,922} \times 100\% = 18.1\%\end{aligned}$$

$$\begin{aligned}\text{Response rate} &= 100\% - \text{none response rate} \\ &= 100\% - 18.1\% = 81.9\%\end{aligned}$$

The none response cases were treated using adjustment groups (strata) and the following equation shows this

$$fg = \frac{\sum_{ng} wi - \sum_{o.c} wi}{\sum_{rg} wi}$$

Where

$$\begin{aligned}\sum_{ng} wi &\text{ Total weights in g group} \\ \sum_{o.cg} wi &\text{ Total weights over coverage} \\ \sum_{rg} wi &\text{ Total weights responding in the survey}\end{aligned}$$

Each unit is given fg value for the interval lies in and finally we get $w'i$ using the following equation

$$w'gi = wi * fgi$$

2. Comparability

The data of the environmental economic survey is comparable geographically and against time; the results when comparing the data between different geographical areas and when comparing the data of this survey with the data of previous rounds were typical and there were no significant differences.

3. Data Quality Assurance Procedures

Several measures were made to ensure quality control in the survey, such as the training of the fieldworkers on main skills before the start of data collection, and conducting field visits to field researchers to ensure the integrity of data collection, in addition to conducting a re-interview for 5% of the economic establishments. Audit of questionnaires was carried out before data entry, and then a program was used that does not allow any mistakes during the process of data entry. Data was examined to ensure that they were free from errors not previously discovered. After the receipt of the raw data file, cleaning and inspection of the anomalous values was made, and also inspection of the consistency between the different questions on the questionnaire.

4. Special Technical Notes

This part presents the important technical notes on the indicators presented in the results of the survey:

- Data from the Gaza Strip should be handled carefully because of the economic situation which was dominant there during the implementation of the survey.
- Data of water quantities, and solid waste quantities were based on the estimations by respondents.
- Data of solid waste treatment was published on the level of the Palestinian Territory because the number of observations was not sufficient for publishing on a level less than the Palestinian Territory level.
- Tables of container volumes, and tables of distance between the establishment and solid waste disposal place were also based on the respondent estimation.