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Electronic Census of Population, Housings and Establishments
NATIONAL CENTRE FOR STATISTICS & INFORMATION
Enhancing Knowledge
SULTANATE OF OMAN

# Statistical Methodologies for Building E-Census for Population, Residences & Establishments 2020

E-Census Documents
Series 2020
05

# His Majesty Sultan Haitham Bin Tarik

- may Allah protect him-

endorses E-Census 2020 results of Population, Residences and Establishments as of 12 December 2020. His Majesty the Sultan expressed his satisfaction with the outcome of this major project which was implemented as scheduled. His Majesty the Sultan underscored the significance of data and indicators provided by the Census in enhancing Oman Vision 2040, as well as the Census's important implications to developmental planning in all sectors of the Sultanate.

14 December 2020

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# Introduction

The electronic census differs from the traditional census in the method of obtaining data. In the traditional census, the data is collected from the field in terms of the form, mechanism and methodology determined by this type of census, while the data in registered census is collected from various administrative records in the Sultanate and performs a wide range of processes before the project is published.

The international methodologies issued by international organizations in calculating the various census data are the main reference to publish any census data worldwide. Because a large group of administrative records in the Sultanate did not use these classifications and methodologies, the census project had to develop these methodologies into force before publication of the results.

The electronic census 2020 depends on the data of the national electronic administrative records that include the three statistical sectors, namely population, residences and establishments. Each sector has an administrative reference source. Other secondary complementary rules represented by the rest of the ministries are also used. The data correction methodology in the electronic census 2020 is based on the following approach:

- Defining a detailed, comprehensive and specific data basket.
- Gathering data from approved sources
- Verifying the accuracy of the data and its conformity with each other.
- Correction and completion of data
- Data Consolidation

When an individual is classified as a worker, what is the activity in which he works, or the sector he belongs to? If he is monitored working in two establishments, how he is distributed and classified, and other questions that should be a clear statistical mechanism to ensure the classification of data in its correct framework.

The same applies to establishments in terms of type, size, economic activity and other characteristics, which require a clear methodology for the calculation. It helps individuals to comprehend the published data and information it represents. It also allows international comparisons that have adopted the same methodology.

In this version, the statistical methodologies of the population census will be addressed for all three census databases; population, residences and establishments, and sub-bases such as education, manpower, units, establishments, disability, marital status...etc.

# 1 | Methodologies

## 1.1 Definition of Methodology

Methodology is generally defined as a set of broad principles and rules from which some methods and procedures can be chosen. This is to analyze and interpret research topics within the framework of a specific scientific topic. Thus, it refers to a set of applied procedures that are commensurate with the nature of the study subject.[1]

## 1.2 Definition of Statistical Methodology

The statistical methodology can be referred in population, residences and establishment censuses, as a set of concepts, principles, methods and procedures that regulate:

- The process of collecting statistical data about the size of population of a particular country, or a precise part of it, and their demographic, social and economic characteristics and their various distributions in a certain period of time, according to logical foundations and philosophical assumptions that govern the conduct of these processes.
- The process of collecting data about buildings and residences and their occupants in all governorates of the country or a specific part in a specific period of time and the characteristics of residences units and construction facilities, which provides a full description of residences conditions and their impact on health and creation of normal living conditions for the family.
- Building on the collected data on the economic characteristics of individuals, as well as on residences and its uses, in making and preparing lists of existing establishments in the country. In addition to the owners of these establishments, providing full information about the type of establishment, its description, work status, numbers of workers, the sector to which it belongs, and the main and sub-activity (if it is found).
- Classifying the previously collected data, at different levels, displaying and distributing them in different ways that provide the opportunity to identify its contents and access them easily.
-

1 The Arab Democratic Center (2019): Scientific Research Methodology and Techniques, Berlin.

- Analyzing the collected data on the status of residences, households and individuals, which contributes to the interpretation of the various changes and provides clarifications about the factors affecting them.
- Local comparisons between identical data obtained from different sources.[2]
- International comparison of results with those collected at the same time for other countries using similar methodologies, especially in the case of population and residences censuses.

The Higher National Committee for Electronic Census 2020 has adopted the necessary methodology to implement the census. It studies the consequent procedures of the competent government authorities and take what is necessary to implement these procedures. A technical committee for the census was formed under the chairmanship of the CEO of National Center for Statistics and Information. It is generally specialized in a systematic study of the census project and the plans emanating from it. The third stage came from the basic stages of implementing the electronic census 2020 to define a statistical methodology for building the most important statistical databases, relying entirely on administrative records (residence address, education and employment characteristics, establishments, buildings and units).



2 Planning and Statistics Authority website css.escwa.org / Principles and Recommendations for Population and Residences Censuses www.psa.gov.gr

# 2 | Methodology for Building a Population Database

Population represents the main nerve of any census carried out by any country in the world. All collected data in the census are directly or indirectly related to the population when it comes to residences and establishments' data. Therefore, access to the correct and accurate counting of the population is the main pillar of the census. The first number to be announced in the census results is the Country's population at the reference time specified by the census staff.

In the Sultanate, Royal Oman Police, represented by Civil Status Registry, is the main and only source for providing population numbers in the Sultanate. The registry census used specific criteria in cooperation with Royal Oman Police, a specific methodology in calculating Omanis and expatriates that can be clarified in the following points:

## 2.1 Methodology and Criteria for Calculating Omanis:

Omanis in the Sultanate is calculated according to a set of documents and notices represented in the civil ID: passport, birth certificate and birth notice. The following points show the priority of the sources and the criteria for calculating each source.

- **Civil ID:**

It is the first source in the order from the rest of the other sources in the Civil Status Register, and its updating processes are faster than the rest of the documents because it occurs every five years. Therefore, it reflects an updated form the data of population holding it in a short period, with various data that is collected through it.

An identity card is issued to every Omani over fifteen years of age who may apply for it. It is obligatory for males and not mandatory for females. Those under the age of fifteen may obtain this card, subject to the approval of his guardian. To calculate population using the civil ID, the following criteria are set:

- Alive Omani national, has no death notice
- Has a valid ID, regardless of the card status
- Has an expired card for a period of 5 years or less and is 21 years old or over
- Has an expired card for a period of 10 years or less and his age is less than 21 years.
- Regardless of other documents (ordinary passport and birth certificate).

- **Passport:**

The second source in the ranking after the civil ID, and all Omanis are entitled to obtain a passport from birth. It is renewed to those under (15 years) every five years, while for those (over 15) is every ten years. Not all Omanis residents have a passport. It is not an obligatory document, which made it second to the ID card. To calculate the Omani population within the population through the passport, it will be according to the following criteria:

- Alive Omani national, has no death notice
- He does not have a personal card.
- Has a valid passport, regardless of the passport status
- He an expired passport for a period of 5 years or less, and he is 21 years old or over
- He an expired passport for a period of 10 years or less and his age is less than 21 years.
- Regardless of other documents (birth certificate).

- **Birth Certificate**

It is obtained from Royal Oman Police and is not renewed. That means it is issued once without an expiration date. It comes in third place in the calculation methodology after the ID card and passport. The calculation methodology will be according to the following criteria:

- alive Omani national, has no death notice
- Hasn't got ID Card
- Hasn't got passport
- Has a birth record or issued birth certificate and his age is less than 21 years

- **Birth Notice**

The notification is issued by the health establishments to the Civil Status Registry. With the exception of the previous documents with which a civil number was issued to the individual, a civil number for birth notification is reserved regardless of the issuance of a birth certificate. Population is calculated for the birth notification according to the following criteria:

- His Omani father has an ID card or an ordinary passport
- Unregistered Birth Notice
- Reservation of a civil number for the new-born
- The age of the new-born is less than three years

## 2.2 Methodology and Criteria for Calculating the Expatriates:

The expatriates who are registered in the civil status registry are calculated according to the following criteria and order:

- Everyone who holds a valid residence visa and he is inside the Sultanate
- Everyone who holds a valid residence visa and he is outside the Sultanate for a period of 6 months or less.
- Anyone who holds an expired residence visa for a period of two years and less and he is inside the Sultanate

**The types of residence visas in the Sultanate are as follows:**

| | |
|---|---|
| Residence Visas | Accompanied Work |
| | Unaccompanied Work |
| | Temporary Work |
| | Housemaid |
| | Investor |
| | Joining Relatives |
| | Study |
| | Residence of the wife of a citizen |
| | Family |

## 2.3Methodology and Criteria for Calculating the Gulf Population:

Gulf population is calculated when they fulfil at least one of the following criteria:

- Every GCC national holds a valid card inside the Sultanate for more than 6 months
- Every GCC national holds an expired card for two years and is still inside the Sultanate.
- Every Gulf national is married to an Omani woman and resides in the Sultanate and has not been outside the Sultanate for more than 6 months.
- Every Gulf woman married to an Omani, residing in the Sultanate and not outside the Sultanate for more than 6 months.
- Every Gulf mother of Omani children who resides in the Sultanate and has not been outside the Sultanate for a period of more than 6 months
- Every GCC national sponsor expatriate workers, residing in the Sultanate and not outside the Sultanate for a period of more than 6 months
- Every Gulf son of an Omani mother who resides in the Sultanate and has not been outside the Sultanate for a period of more than 6 months
- Every Gulf national who works in an establishment inside the Sultanate and he did not go outside the Sultanate for a period of more than 6 months

# 3 | Methodology for Building Population Address Database

The geographic distribution of the population by governorate, Wilayat and other administrative divisions is an important statistical indicator for planning social services and public utilities at the regional and local levels, such as roads, hospitals, and primary schools, etc. If the population of residence is accurate, it will be more helpful to study distribution, density, migration and growth according to the more detailed divisions and to draw comparisons between them in the framework of documenting the statistical methodologies adopted for the implementation of the electronic census of population, residences and establishments for the year 2020.

The methodology followed by the census in the Sultanate to build a database of addresses for the Omanis and expatriates will be addressed according to the following stages:

1. Identification of international standards and sources used to determine the address.
2. Mechanism and method for determining the address of the population

## 3.1 International Standards and Sources used to Determine the Address

- **Calculation of the address as per best practice:**

The "Principles and Recommendations of Population and Residences Censuses" issued by the United Nations Statistics Division categorized the variable of habitual residence among the main topics in the section on internal geographic characteristics and migration.

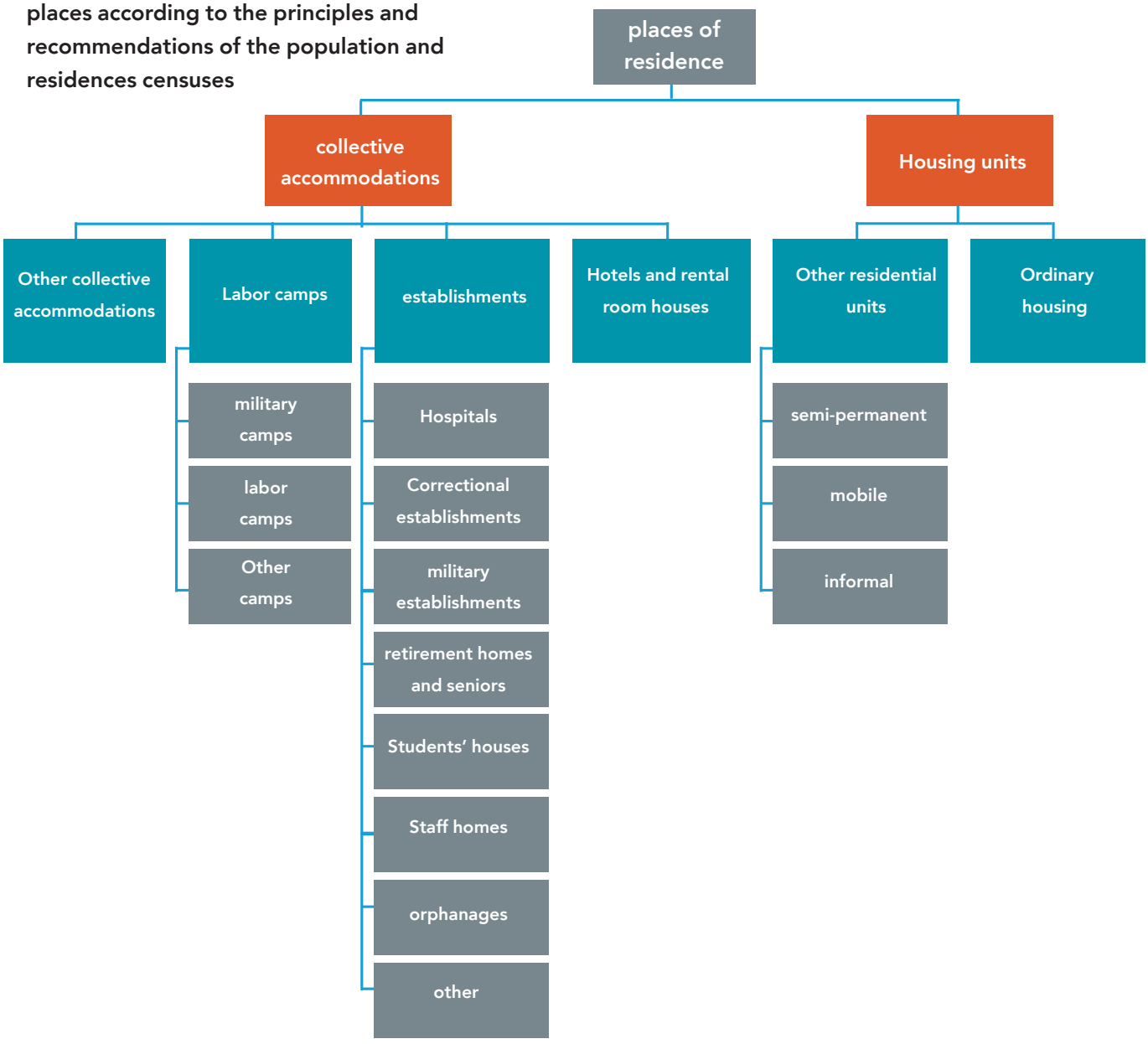
Usual residence is defined as a place where a person lived during the reference date and had lived in it for a period of time or intended to reside there for a period of time. In general, the majority of individuals have not moved from their place of residence for a while, and their place of residence is clearly defined. In the case of people moving, it is recommended to apply the 12-month period to determine residence according to the following criteria:

- The place where the individual has lived continuously for most of the previous 12 months (i.e for a period of 6 months and at least one day) or the place where the individual intends to reside for at least 6 months and does not include periods of temporary absence for holiday and work assignment.
- In the case of highly moving individuals who do not have their usual place of residence, they should be counted in the place where they are at the time of the reference date.
- Given the possibility of changing the address through internal or external migration or any change or update of address, best practices in its latest version indicated the

importance of linking the address with the time dimension. In order to determine the only usual place of residence for each person, there are some special cases such as students in schools dormitories and those who live far from their families in universities, as well as those who work far for their families:

- Individuals who spend their weekly working days in an area close to their families and spend their weekends and vacations at the family's residence.
- Workers who travel frequently such as truck drivers and workers on long-term or semi-permanent job assignments in locations far from the family.
- It should be noted that the address of individuals can be determined by their presence in the framework of families (residences) or in the framework of collective residences (establishment's guests).

**Structuring and defining collective residence places according to the principles and recommendations of the population and residences censuses**



Mass accommodation includes separate and independent structurally accommodations used for a large sum of individuals or several households and occupied in the reference date and there are usually shared facilities in those places and shared by occupants such as kitchen, toilets and bathrooms, living rooms or bedrooms. These dwellings were originally prepared, constructed or transformed for the purpose of collective housing. In this category, it does not include housing units that is originally intended to occupy one family, but at the time of the census are occupied by more than one household.

**According to the principles and recommendations of population and residences censuses, the most important forms of collective residences are:**

- **Hotels and rental room houses:** This category includes residents of hotels and rental houses for long periods without having another residence for an approved period or on the reference date for the enumeration.
- **Establishments:** This category includes any group of places in a permanent building/ buildings intended to house usually large groups of people with a common goal or personal interest. This group of accommodation usually includes certain common facilities to be shared by the residents. In this category hospitals, military camps, boarding schools, prisons, etc are included.
- **Camps and workers' housing:** Camps are a group of places originally prepared for temporary accommodation for people with common activities or interests, and within this category are camps, refugee camps, and camps established to house workers in mining, agriculture, or other public works.
- **Other collective accommodations.**

- **Classification of the Sources used in Determining the Address:**

Administrative structures, each according to their specialization and the quality of services they provide, show great importance to the variable of address. It is often the main determinant for providing education, health and residences services, and the process of election.

In order to improve and define the addresses of the population, the administrative sources that have been collected at the census level are represented in 3 types of files:

- **First Category:** covers the address at the governorate, Wilayat and village levels: civil registry files (the population reference database), Ministry of Education, Ministry of Higher Education, Ministry of Health, Ministry of Manpower, the Public Authority for the

Registry of Manpower, files of rental contracts from municipalities and subscriptions to the Internet and the post.

- **Second Category:**It covers the address at the level of coordinates: files of electricity accounts, water accounts and land ownership accounts.
- **Third Category:** They are sources of comparison and quality knowledge that are used to extract indicators about the quality of the address database of the Omanis and expatriates, represented in the individual data of the 2010 Census and the data of mobile phones.

- **Specific Sources of Address at the Governorate, Wilayat and gathering level**
  - **Civil Registry:**The civil registry covers the permanent address and the current address at the governorate, Wilayat and village levels for Omanis, and the current address for expatriates. One or both addresses may not be changed unless proof of the new address is submitted (land or home ownership, electricity and water bills, proof of children's enrolment in schools, proof of work). The permanent address is changed through the committee to correct the records of civil status incidents, while the current address can be changed directly after the civil registrar verifies the proofs of the address. Noting that most of the administrative services depend on the address shown in the civil registry.
  - **Educational Portal:**It is an electronic system affiliated to Ministry of Education that covers students' data on study benches in public and private sectors. A special portal has been developed for community schools in order to cover all school students. The portal mainly contains information about student, parent and school. When a student is registered in government schools, the guardian shall present proof of residency in the school's area. Education data is an essential determinant of residential address. The results of the 2016 comprehensive survey indicate that 57% of households are less than one km away from a public school and 90% are less than 5 km away.
  - **AlShifa Pulse:**It is an information system approved by Ministry of Health "to link specialized and public clinics, all internal departments of hospital, e-transfer of patients and the results of tests. In addition to the unification of the e-national health file, which in turn connects patients' files between different health establishments through the civil ID." When a patient is registered in a health center, he has to provide proof of residency in the area to which the health center belongs. Health data is an essential determinant of residence address. The results of the 2016 comprehensive survey indicate that 34% of

households are less than one km away from a health center or hospital, and 82% are less than 5 km away.

- **ASAS System:** ASAS system of Ministry of Higher Education covers higher education students studying inside the Sultanate for Omanis and expatriates as well as Omanis studying abroad. Connecting the student to the university or college helps to know the student's address in general and the country of residence for students who study abroad in particular.

- **Ministry of Manpower:** Ministry of Manpower Data include linking workers in the private sector to the place of activity code, meaning the work address. Those who are working in family sector, identifying the sponsor helps to connect the worker with the family in which he is located. The economic activity variable is considered one of the most important variables that help to determine the methodology of the expatriates' address, as the methodology for determining the addresses of workers in the construction sector, for example, differs from the methodology of workers in the café and restaurants sectors.

- **Public Authority of Manpower Register:** Currently, the files of the Authority cover Omani workers in the governmental and private sectors, as well as job seekers. In the short term, it is expected that the authority will cover all types of manpower (Paid workers and Omani or expatriate employers in all sectors) in addition to job seekers and retirees. It connects the workers with the activity and the work address through the activity place code.

- **Lease Contracts:** With the exception of Dhofar Municipality, lease contracts in Muscat Municipality, the Ministry of Municipalities and Sohar Municipality are recorded through different information systems in which the data of the owner, the tenant, usage, dates, as well as the contract status are entered. It is possible through the lease agreement to determine the place of residence of the tenant.

- **Oman Post:** Oman Post has a list of postal service beneficiaries, whether individuals or establishments: identifying data for the beneficiary, and data about the address and phone number.

1. Subscription Data to the Internet
2. Subscription data for the Internet and landline cover data about the subscriber and the residential address.
3. File of social insurance
4. Social insurance data covers the addresses of some workers outside the Sultanate

- **Specific sources of address at the coordinate level:**

The specific sources of population address at the coordinate level are:

1. **Electricity Accounts:** Electricity accounts are considered one of the most important sources which can determine the list of housing units and type of occupancy (indirectly through consumption) and their use (residential, commercial, administrative, and agricultural). Despite the multiplicity of electricity companies, the electricity account number is the current identifier for the dwelling address because it covers all residential units and is not repeated. Electricity data provides accurate details of the address because it contains the coordinates of the housing unit for all uses, including temporary accounts that are usually used during the construction period.
2. **Water accounts:** Despite the incomplete coverage of water accounts compared to electricity accounts, their annual development is witnessing a high rate. The coverage of water accounts represents 62% during the year 2018. With an annual development of more than 53 thousand new accounts in recent years. Water accounts data cover data about the account owner and account coordinates as well as consumption.
3. **Land ownership**: land file covers data about the owner, plot identifier, land use, governorate and Wilayat

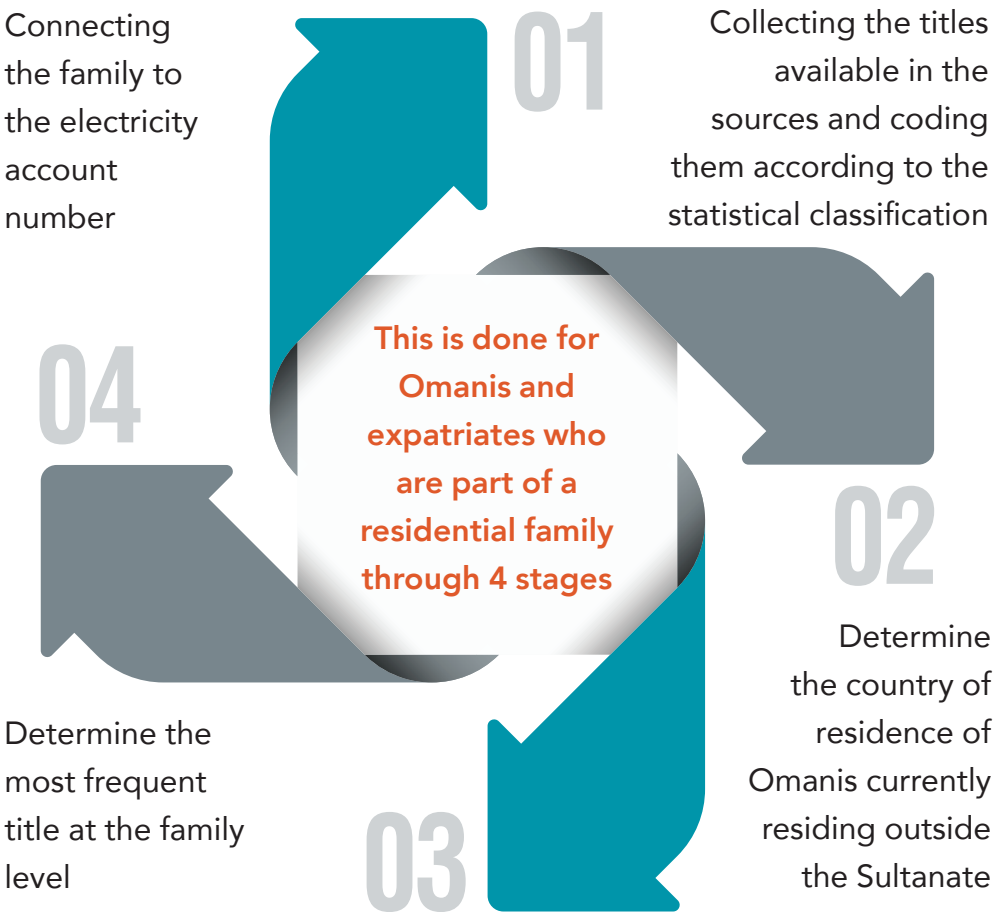
- **Sources used to determine the quality of residential address data:**

Reference sources are very high-quality sources that are used for comparison and to extract indicators of accuracy. In the case of determining the residential address, the reference sources (statistical benchmark) are the most important sources for determining the accuracy of the addresses specified in the addresses database. The census used the following sources to compare the accuracy of address data:

1. **Census 2010:** The address was collected through the 2010 census at the governorate, Wilayat, village, and zone levels, as well as the coordinates. It is a statistical source for comparing the relative population distribution with a database of addresses for Omanis. It also contributes to knowing the quality of address at the individual level for Omanis who have not changed their place of residence.
2. **Mobile phones:** Telephone data determine the coordinates of people while they are in their places of residence, on their commute, or during their work. It has become an important source used to extract statistics in various fields such as population density, migration, transportation and tourism. Comparing telephone addresses with residential and business addresses is also an important use to determine the quality of the addresses database.

- **Determining the address of residence:**

The process of building a database of the address or permanent residence address of the population basically consists in defining the governorate, Wilayat and village as a first step, and then linking, in a second step, the house (that is, with its current electrical address, i.e., the updated address number). In light of the multiple main and secondary sources, therefore, we referred to them in the previous analysis. It was necessary to collect those sources and adopt a unified methodology to obtain the statement of the statistical address of the population.




- **Collect the available addresses in the sources and encode them according to statistical classification:**

Due to the fact that different establishments do not use the same symbols in their administrative records to identify the governorate and Wilayat. The symbols and names differ for village or population variables, in a first stage, pass tables have been built between the names and symbols of the governorates, Wilayat, villages, and population centres shown in the sources with its corresponding in the statistical classification of the governorate and Wilayat. It should be noted that with regard to villages or gatherings, and due to the presence of linking cases of a type (one = multiple), pass tables do not cover all cases, and at this stage the address at the level of the assembly has not been determined.

After coding the Wilayat in the sources, the addresses of the school, health center, university, work and the rented place were added to the population reference data, which in turn contains the current address. After matching the data, it was found that:

- 48% of families have at least one member currently enrolled in education.
- 89% of the families had at least one person visited or more in al-Shifa Pulse file.
- 92% of families (covering 96% of the population) of which at least one person is currently enrolled in school education or has visited a health center. This indicates that the movement of the Omani population can be determined in 96% of cases through health and education data.

By comparing the population's addresses with the current address in the Civil Registry, it was found that health and education address is close to the current address of the police (more than 82% of the addresses are equal on Wilayat level and 89% on Governorate level). While there is a discrepancy between higher education titles compared to the current title

- **Determine the Residence Country for Omanis Currently Residing Outside the Sultanate:**

After collecting address data in the reference database for the population and determine the address of each person based on the source, the people who are residing outside the Sultanate is determined by using entry and exit movement file and data of students studying in the framework of scholarships through ASAS system. For school students who are studying abroad, educational portal will be used. For workers outside the Sultanate will be through social insurance file and the data of Civil Service Pension Fund, with attention to cases of residency within the Sultanate and studying abroad for the residents of the border areas.

- **Determining the Statistical Address of the Population:**

After collecting the address data in the database reference and identifying Omanis residing outside the Sultanate, all addresses shown at the family level are used to determine the statistical address for each individual. Knowing that there are two well-known methodologies in this field that belong to the family of the deterministic reporting format, they are:

- Choose the Frequently Used Title: If the quality of the sources is equal, the address of the family is the most frequent address for its members at the sources level.
- Choose the Title Shown in the Most High-Quality Source: Arrange the sources by quality and choose the title shown in the most high-quality source. In the light of the convergence of the quality of civil registry data with health and education data repeatedly, the first

methodology was used and choosing the most title at the family level in the civil registry data, school education and health data.

In general, it turns out that more than three-quarters of families whose members' addresses are equal to what is shown in the civil registry and health and education data at the Wilayat level at a rate of 80%, while the lowest range of families is less than 5%.

- **Connecting Individuals to Electricity Account:**

Most of the population was linked to an electricity account through the source files. The first source is the address data in the civil registry. The second source is the educational portal data. The title of the electricity calculation was compared to the title of the primary statistician (discussed in the previous paragraph). The data of ownership of electricity accounts and data of lease contracts were also used as sources for address comparison and to complete the missing data.

It should be noted that during the implementation period of the census, the electricity account number field became a mandatory field in the civil registry data and the approved identifier to determine the residence address of the Omani and the expatriate.

- **Determining the residence address for collective families:**

After connecting expatriates who are in the context of families using the address data civil registry and family tree files, education, health and leases files, as well as linking workers in the household sector (special guarantee) with families present therein. This stage is to identify expatriates addresses who are in collective residences at the level of coordinates taking into account the following cases:

- companies residential lease contracts
- workplaces accommodation such as construction and transportation
- Taking into consideration the list of industrial zones and private gatherings for workers' housing
- Taking into account the temporary electricity accounts: in the absence of the company name, the data of the "Building Start Permit" which can be used to link the account owner with the company.
- A comparison between the number of branches and the number of workers in certain professions, such as: barbering and selling foodstuffs.

### 3.2 Recommendations for improving the quality of data sources:

The most important recommendations that the work teams used in coordination with the census team in order to improve the quality and coverage of the data sources for the place of residence of the population are as follows:

**At the level of the housing unit identifier in the civil registry:**

the completion of the addressing system in all the governorates and Wilayats of the Sultanate and its related villages. Then, disseminating this system for use by all government and private institutions in the Sultanate and the use of the electricity account identifier to determine the actual coordinates of the unit and individual in the civil records.

**At the level of school coordinates:**

Complete the inclusion and update of the coordinates of private schools within the educational portal of the Ministry of Education.

**At the level of the housing unit identifier in the lease contracts:**

Considering the number according to electricity as the main identifier for the housing unit, completing the inclusion of the account number in all lease contracts, and unifying the information system among all municipalities in the Sultanate and linking it to civil records and electricity accounts databases.

## Collective Accommodations for Expatriates:

There is no clear framework within which to monitor and regulate the collective residences of expat workers. Some of them are located in collective residences in the industrial areas, others are in private camps, while some of them are still found in the workplaces of the establishments in the construction phase. The development of a legal framework for collective residences for expatriates, through the establishment of special areas may contribute to further regulating workers' residences and ensuring health and safety conditions. (For example, certain companies specialize in recruiting labor and providing a space for their housing)

# 4 | Education Base Building Methodology

Educational characteristics is considered of population is considered one of the statistical variables which censuses rely a great importance on it. It becomes necessary to obtain information about people according to enrolment in the study, educational level and field of specialization in order to study the specifity of the population, setting economic and educational planning programs, conducting studies on education outcomes and their relationship to the labor market, and the extent of compatibility between supply and demand.

**The methodology followed by the census in the Sultanate to build the education database will be addressed according to the following stages:**

- Determining the international standards and the sources used to determine the entrants to education, educational levels and specializations.
- Building an education base.
- Recommendations for improving data sources

## 4.1 International standards and sources used to determine enrolment, educational levels and specializations.

The internationally recognized methodologies issued by the United Nations Statistics Division (Principles and Recommendations) for population and residences censuses, Revision 3, related to the education axis, specify a clear set of educational variables, which are the basic characteristics:

- Literacy
- Attending studies or enrolling in education
- Educational attainment, qualifications, or educational level
- Field of study or specialization

- **Literacy:**

The third revision of the Principles and Recommendations for Population and Residences Censuses classified the "literacy" variable as a core topic. The person who is able to read and write - the person who is not illiterate - knows that he can read and write a simple sentence about his daily life.

The literacy data cover the entire population from the age of 10. It is recommended that the statistical tables distinguish individuals under the age 15 and those over 15 years for the purpose of international comparison (there are countries that cover only 15 years or more). Most countries use the simple question method for self-assessment. In the case of record censuses, the quality of the educational level data in general and the literacy variable in particular depends on the method of collecting administrative data for the educational level with the concerned authorities, even though it verifies the quality of permits issued by individuals.

**Currently enrolled:**

If the individual is enrolled on the census reference date (or during the last school year if the reference date coincides with the end of the school year holiday) at any stage of regular education or in their colleges or universities or vocational training centers, even if the teaching is in the evening (learning special skills outside the educational system, such as following up the workers for training courses during the service, is not considered regular in the study).

**Previously enrolled:**

If the individual has previously attended one of the educational stages mentioned above and then left it, either after completing the stage or before that (provided that he finishes the first grade of the primary stage).

**Never enrolled:**

It is related to the individual who has not attended any stage of study, as well as the individual who left the first grade without successfully completing it. They cannot be considered cases of illiteracy until after the age of ten.

Information about school attendance is collected for all persons of the official school age, who are generally from 5 to 29 years old, but this varies from country to age, age, and age to education. For the Sultanate of Oman, the laws of the Ministry of Education specify the student's age when registering in the first grade, which is 5 years and 8 months at the start of the school year.

- **Attending studies or enrolling in education**

It means regular attendance at any recognized educational institution or program, governmental, private or non-profit (international schools for example), to learn at any level of education. It is divided into three cases:

- **Educational Level:**

It is the highest grade a person has completed at the highest level he/she is enrolled in the educational system. The equation is taken into account with regard to adult education, even if the education or training is provided outside the normal education system in schools and universities. In the form of data collection of education level by national classification, it is necessary to have a pass table between the national classification and the ISCED for the purposes of international comparison which consists of 9 levels:

  - Zero Level: early childhood education
  - First Level: primary education
  - Second Level: lower secondary education
  - Third Level: upper secondary education
  - Fourth Level: Post-secondary education
  - Fifth level: the short cycle after secondary education
  - Sixth level: Bachelor's degree or equivalent
  - Seventh level: Master's degree or equivalent
  - Eighth level: PhD and equivalent

- **Specialization or Field of Study:**

The academic specialization is what the student chooses when he reaches the university studies stage that enables him to obtain a scientific qualification. The academic qualification (degrees, diplomas, certificates or titles) is an official document certifying the successful completion of an educational program or a stage of the programme. To encode a variable for field of study, best practice recommends the use of ISCED (the International Standard Classification of Education) as a basis to ensure international comparison. In the form of data collection, countries use an accredited national classification. It is preferable that the higher levels of the classification be equal with what is added in a detailed description of the world class. In the light of the difference between the national classification and the global classification, a pass table should be established between the two classifications.

**List of fields of study ISCED Level 1**

| 0 | Non-specialized programs and qualifications |
|---|---|
| 1 | education |
| 2 | Arts and Humanities |
| 3 | Social sciences, journalism and media |
| 4 | Business, Administration and Law |
| 5 | Natural sciences, mathematics and statistics |
| 6 | information and communication technology |
| 7 | Engineering, Manufacturing and Construction |
| 8 | Agriculture, forestry, fisheries and veterinary |
| 9 | health and well-fare |
| 10 | Services |

## 4.2 Sources of Education Characteristics Data:

To estimate the educational characteristics of the Omanis and expatriates population using administrative sources, the sources were divided into 3 categories:

- **Primary Sources:**

They are sources that officially document people's pursuit of regular education or sources that exclusively cover a certain segment of the population.

**The establishments with the primary source of education are:**

- Ministry of Education
- Ministry of Higher Education, Innovation and Scientific Research
- Ministry of Labor
- Royal Oman Police
- Ministry of Education: Ministry of Education is the source of reference for students at the elementary, preparatory and secondary levels. The educational portal currently

covers Omanis and expatriates students studying inside the Sultanate in the public and private sectors, as well as elderly education and literacy. At the beginning of the census, it was noticed that the coverage of community school students and Omani students outside the Sultanate was incomplete. Ministry of Education team worked in coordination with the census team to overcome this problem by including international school data and urging parents of students studying outside the Sultanate to register them in the e-portal. It is worth noting that the educational portal was established in phases. The first phase included the governorates of (Muscat and Al Buraimi) as a start, and then South Al Batinah governorate was added in 2011. The e-portal became inclusive of all public and private schools within the Sultanate, starting from 2012, in addition to the information on the educational data provided in 2007 and the data of students on study seats. There are other data is available at the level of Ministry of Education, which is the data archive for ninth grade students and the archive for twelfth grade students.

- Ministry of Higher Education: ASAS system collects individual records of students enrolled in public and private universities and colleges, as well as Omani students pursuing higher education outside the Sultanate. Statistical comparisons indicate almost complete coverage of students on study seats and incomplete coverage of graduates and dropouts, especially before 2010. It is worth noting that the methods of collecting data on higher education students differ according to the authorities, and only the universities affiliated with the Ministry of Higher Education are dealt with directly. In addition to the existing data in ASAS system, the Ministry of Higher Education is following up on updating the unified admission data, which aims to check out the procedures for university guidance, including successful students in the twelfth grade since 2006. It should be noted that the work team of the Ministry of Higher Education completed the coverage of Omani graduates during the census completion period.

- Ministry of Labor: Ministry of Manpower is also considered a main source as it is the source where expatriates working in the private and family sectors declare their educational level.

- Royal Oman Police: Royal Oman Police (Civil Registry), in the case of accompanying expatriates and expatriates working in the government sector is a main source, as it is the only source that covers the educational level of this segment of the population.

- **Secondary Sources:**

They are the sources that cover one or more variables about the characteristics of education and take measures to verify the quality of the data. Previously, the Public Authority of Manpower Register was considered a secondary source for determining the educational level and specializations for Omanis. It carried out procedures to verify the educational level of the graduates' certificates and their specializations when registering with the authority.

- **Supplementary Resources:**

They are sources that cover one or more variables about the characteristics of education and do not perform quality assurance procedures. The educational level in these sources is considered an spontaneous declaration by the person, whether a student for social services or a parent, and is not subject to any verification procedure.

Files of Ministry of Social Development and the Royal Oman Police are considered complementary sources for Omanis in particular with regard to knowledge of the educational level, especially for the illiterate and those with low levels.

## 4.3 Stages of building a database of educational characteristics:

The process of determining educational characteristics is to know the enrolment status, educational level and specialization of the population aged 6 years or over. The population data (civil registry) is the base of reference for the Omanis and expatriates in Oman.

**The basic stages are as follows:**

- **Verifying the validity of the civil number and improving its quality at the level of each source**

The stage of verifying and improving the quality of the civil number with file sources is considered an essential stage for improving the quality and coverage of education specificities. The better the quality of the civil number, the better the connection and the more information we know about the person. When reviewing the data of the various establishments regarding the civil number, it became clear that there is a large group of data that does not have the civil number or that the civil number was entered incorrectly. Therefore, the process of correcting civil numbers in the establishments ' databases was carried out using a wide range of equations and methodologies that depend on other variables, such as the triple name, tribe, gender, age, Wilayat and other variables that ensure the assignment of the correct civil number to the individual.

- **Coding of the educational level in the source according to the statistical classification:**

The source files follow national administrative classifications of education characteristics in general and the educational level in particular. There is a difference between these classifications and the international statistical classification. Pass tables have been developed between the administrative classifications and the statistical classification of the educational level in line with the approved international classification (Annex No. 3 specifies the pass tables). After correcting the civil number and assigning a statistical code to the characteristics of education (the educational level in particular), it is added to the population database and mentioning the source.

- **Building the education base:**

After completing the process of correcting civil numbers and improving the quality of data in the various educational sources, whether primary, secondary or supplementary, and after tabulation and identification of the classifications used in the databases and the development of pass tables between them and the international statistical classification, the management of the electronic census project built the education database according to an organised methodology, graded as follows:

- Determine those enrolled in education
- Determine the educational level
- Identification of literacy
- Specialties

- **Enrollment in Education:**

The variable of regularity in study or enrolment in education determines the educational status of every person aged 6 years and over, whether he is currently enrolled, previously enrolled, or not fully enrolled in education. This variable measures the extent of people's tendency to enrol in education, the quantity of those currently enrolled, and gives indications of future numbers that can be calculated through the current enrolment rates.

- **Currently enrolled:** For students currently enrolled in school education: The educational portal of Ministry of Education is the main source for identifying Omanis and expatriates who are currently enrolled in school education or in school literacy programs and elderly education in public and private sector inside the Sultanate.

- **for students currently enrolled in higher education:** ASAS system of Ministry of Higher Education is the reference source for identifying persons currently enrolled in higher education inside or outside the Sultanate. The coverage is considered almost complete. With the exception of some Omanis studying abroad at their own expense, the Ministry cannot cover them till their graduation certificate is approved. ASAS system covers all public and private higher education establishments outside the Sultanate, as part of the scholarship programs since 2010.

- **Previously enrolled:** The archive of Ministry of Education, the data of the ninth and twelfth grades, as well as the data of unified admissions, the data of graduates and leavers of higher education in ASAS system are considered the basis of specific sources for a large part of the enrolment of Omani. For expatriates, it is considered the educational level in the Ministry of Manpower data set, if a worker had already enrolled in one of the stages of education or not. The same is applicable for accompanying expatriates and expatriates workering in the government sector, it is possible to determine their level of education, although they previously enrolled or not, through data civil registry.

- **Never Enrolled:** Initially the person classified as "never enrolled in education" is any person who was not counted among the enrolled or among the previously enrolled. Knowing that the dropouts from the first grade (without success) are considered to have never enrolled. The higher the coverage of the enrolled and previously enrolled, the fewer the classification errors in the non-enrolled section will be. The educational level of this category has been confirmed using secondary sources such as social security files and employment files.

- **Educational Level:**

The educational level variable aims to determine the highest grade completed (successfully) for each person aged 6 years or over, whether he is currently enrolled in education or was previously enrolled.Thus, it is possible to determine the educational level of Omanis and expatriates in the Sultanate, whenever a statement about them is found in any of the administrative records in the Sultanate (major, secondary, supplementary). Then determine the most recent level of it based on what the data shows and the accuracy and validity of the received data.

- **Educational level of Omanis**

The stage of determining the educational level of Omanis passes through four stages as follows:

- **First stage:** Determining the educational level of Omanis who are currently enrolled, which is the highest level (or Class) that a person has successfully completed, through the portal's data and ASAS system. With the need to take into account the possibility that the person continues his education but is a former graduate (about 37% of Omanis whose educational level is determined at this stage).
- **Second stage:** Determining the educational level of Omani graduates through ASAS data, making sure to use the most recent and highest-ranked data, which represents 15% of Omanis.
- **Third stage:** Determining the educational level of Omanis who are not currently enrolled and who are not graduates (cases who left studies or did not complete registration procedures) from higher education and are present in the data based on 10% of Omanis.
- **Fourth stage:** Determining the highest educational level through data: the unified admissions file, grade 12 file, grade 9, Ministry of Education archives, as well as secondary and supplementary sources, with the application of the methodology for determining illiteracy verified in the point 3.3 (estimation of reading and writing knowledge). Noting that upon completion of the coverage of primary source files for all Omanis, correcting and completing the archive's coverage, the primary sources will be the only determinant of educational levels for all Omanis (currently the primary sources cover 82% of Omanis).

- **4.3.7 Educational level of expatriates:**

The stage of determining the educational level of expatriates passes through three stages as follows:

- **First stage:** Determining the educational level of the currently enrolled expatriates, which is the highest level (or Class) that a person has successfully completed through the portal's data and ASAS system. Take into account the possibility that the person pursues a higher education, but is a former graduate (about 5% of the arrivals are determined by their educational level at this stage)
- **Second stage**: Determining the educational level of expatriates working in the private and family sectors through the data of Ministry of Manpower.
- **Third stage:** Determining the educational level of accompanying expatriates and expatriates working in the government sector through police data.

- **Literacy**

The data of Ministry of Education and the data of Ministry of Higher Education are considered a basic determinant for the knowledge of the current and formerly enrolled students. It cannot be used in a direct way to determine cases of illiteracy. It is not possible to classify everyone who has pursued a previous education other than illiterate (cases of dropouts in the first class without being able to know how to read and write). Also, not everyone who has not fully enrolled in education is considered to be literate (who have not fully enrolled in special education). Therefore, in order to estimate the cases of illiteracy, people's permits were relied on in the secondary and complementary administrative sources: the Public Authority for the Manpower Register, the Ministry of Social Development, the Civil Registry, and the file of parents of Ministry of Education and Education. This was done for Omanis through the following stages:

- First. Excluding individuals under the age of 10.
- Second: Excluding individuals whose educational level indicates at least one of the primary and secondary sources that their educational level is higher than the "read and write" level, ie the primary educational level.
- Third: Considering illiterate is everyone whose educational level has been stated at least once by categorizing "illiterate" in the primary and secondary sources, or anyne aged 60 years or over, and it was not possible to obtain any statement about his educational level.

for expatriates, the educational level indicated in the file of Ministry of Manpower is relied upon to identify illiterate workers, and the educational level indicated in the police file to identify illiterate escorts.

- **Specialization**

This variable aims to determine the specialization or field of study for graduates. The system is the basis of the reference source for this statement for Omani graduates, and Ministry of Manpower and Royal Oman Police for expatriate graduates working as well as their companions.

for the classification used to define specialization:

- At the national level, there is the Standard Classification of Education in the Sultanate of Oman OSCED issued by the Accreditation Council in 2009.
- Ministry of Higher Education uses the national classification OSCED as well as the International Standard Classification of Education ISCED and keeps updating a pass table between the two classifications.

## 4.4 Recommendations for improving data sources:

The most important recommendations that the census work team worked on with the authorities' teams during the years 2018 and 2019 are as follows:

**Currently enrolled**

The educational portal represents the main source for determining those currently enrolled in school education. Therefore, it is necessary to cover all students enrolled in community schools and their parents, as well as Omani students studying abroad

**Previously enrolled**

Improving the coverage and quality of the archives of Ministry of Education and Ministry of Higher Education for Omanis, as well as improving the quality of data entry for the educational level with Ministry of Manpower and the Royal Oman Police for expatriates will aid to improve recording former entrants.

### Illiteracy data

It is not possible to record cases of illiteracy through the main sources of education. Secondary and supplementary sources are the current determinant of illiteracy. The higher the quality of the permits in these sources, the less errors of classification in general and more precisely at the lower levels. Therefore, it is necessary to distinguish secondary and supplementary sources when including the educational level between the case of "Illiterate" and the case of "read and write" and that a mechanism to be established to identify illiteracy.

### Omani graduate's data

The only reference source for alumni is ASAS. It is necessary to complete the coverage of all Omani graduates, especially graduates registered with the Public Authority of Manpower Register from government sector employees, private sector workers and job seekers

### Data of Specialization

Specialization variable are currently only available to graduates registered in the ASAS system. To complete the coverage of this variable, it is necessary to conclude the coverage of all Omani graduates and their specializations at the level of Ministry of Higher Education. In addition to add the specialization variable in the information system of Ministry of Manpower and Royal Oman Police. The Omani Authority for Academic Accreditation can also play an important role in building a database of specialization for Omanis and expatriates in particular especially it is the authority responsible for determining the classification of specialization in the Sultanate.

# 5 | Manpower Base Building Methodology

The identification of manpower characteristics of population is considered the basic requirements for the successful planning. The extrapolation of labour market requirements through analysis of professions data and economic activities in addition to social and economic characteristics and linking outputs of higher education and identifying areas and qualifications required by the labour market is the basis of planning for any community. It helps on comprehending the structure of the economy and the real opportunities available in addition to challenges. It also contributes to guiding employment and Omanization policies and dealing with job seekers by creating job opportunities in the private sector or by creating economic activities that contribute to the domestic product and provide the labor market with job opportunities for job seekers, which necessitates recognizing the growth trends of human forces and their economic and social characteristics.

Accordingly, the Electronic Census 2020 of Population, Residences and Establishments seeks to provide a modern and timely database for manpower, which in turn feeds and supplies the various government authorities and other segments of society to contribute to drawing the following future directions and related government policies through the study of the main themes and policies:

- Definitions, terms and classifications of the basic variables of manpower
- A comparison of the variables related to the workforce between the deliberate basket of the electronic census 2020, international recommendations and the most important classifications used.
- Sources and inputs used in building the manpower base.
- Building a manpower database
- Recommendations to improve the quality of the manpower database.

## 5.1 Definitions and Terminology of the Basic Labour Force Variables:

This part of the methodology reviews the definitions and terms for the basic variables of the manpower used in the International Labor Organization and which are applied in the statistical surveys of labor statistics.

- **Economic activity:**

The process that leads to the production of specific types of goods and services for sale in the

market or for private end use or consumption and formation of fixed capital for private use.

- **Economically active population:**

All individuals of both genders who contribute directly to the production of economic goods and services, whether they are active workers or job seekers As specified in the System of National Accounts (SNA) during a specified period of time.

- **Manpower Framework:**

The framework consists of three basic categories: (workers, job seekers, people outside manpower) that will classify people according to their activities on priority bases and the activity principle - the activity of which was specified during the reference period.

Employed:

All individuals who have done some work for wages or salaries, profit or family earning, in cash or in kind, during a certain reference period.

- **Non-economic activity:**

The production for private end use or the consumption of quantitatively insignificant items of the total supply, and gross fixed capital formation for private domestic use, voluntary services, or private household utilities.

- **Outside Manpower:**

All individuals who are not employed during the short reference period due to attendance in educational establishments, participation in homework, retirement or old age, and other reasons such as incapacity or incapacity.

- **Unable to work:**

An individual who is unable to carry out any work, including housekeeping work, because of his old age or physical or mental disability. For the purposes of the census, the prisoners are classified except who are in detention.

- **Non-working:**

The non-working population is all individuals above the minimum age (15 years and over) used to measure the economically active population who are during the reference period.

- **Job seekers:**

They are individuals who have reached the age of (18) years or over and are able and willing to work, and whom, in the reference date, have not practiced any work whatsoever, and are registered with the Public Authority for Manpower Registry as job seekers.

- **Active Job Seeker:**

An individual who is looking for a job and has activated the data in the Public Authority for Manpower Registry during the previous two months, provided that he does not have any other work.

- **Inactive Job Seeker:**

An individual who is looking for a job and did not activate the data of the Public Authority for Manpower Registry during the previous two months, provided that he does not have any other work.

- **Profession:**

It is the type of work performed by the employed individual, and the type of work is described according to the main tasks and duties.

Place of work:

The location of the establishment or facility in which the individual works.

- **Employer:**

The establishment in which the individual works.

- **Business Sector:** The sector of the establishment in which the individual works and is divided into the following cases:

    1. **Governmental:** If the individual is working in an entity wholly owned by the Country, which manages its affairs and directs its activities. This sector includes, for example, ministries, administrations, schools, government hospitals, and mosques that are supervised by the Country.
    2. **Private:** If the individual works in an enterprise owned by one or more individuals, such as (companies and enterprises). It is established for profit. Private sector establishments also include those establishments in which both the government and individuals are jointly own their capital. Likewise, the private sector includes everyone involved in selling water (tankers) activities, taxis, gas cars, sewage suction cars, and fishermen.
    3. **Domestic:** If the individual is working in a facility established for non-profit purposes. Those facilities are doing its activity for cultural or social purposes and not for profit,

such as sports and cultural clubs and charity associations and public Majlis etc.

4. **Others:** If the individual is working in a religious establishment such as mosques or an establishment owned by national, regional or international bodies or organizations or an embassy. The organizations are often of a non-economic nature.

5. **Family:** If the individual is working in a facility owned by the family and at its expense. It also includes family projects that aim for profit and do not have a commercial registry or a permit from any government authority. For instance, sewing, selling clothes, caps, selling home prepared food, making palm fronds, incense burners and frankincense, and farmer who works on a farm. Also, domestic workers who work at the expense of the family.

- **Practical Status:** The status in which the individual exercises his profession within a specific economic activity:

1. **Paid work:** the individual who works for others, whether this third party is an individual or a governmental or private establishment, in return for a lump sum cash or in-kind wage paid on a regular basis (daily, weekly, monthly, etc.) or on a piece-work basis.

2. **Unpaid Work:** people who work in their own economic units to produce goods primarily intended for sale or barter, even if the household or family consumes part of the outputs.

3. **Self-employed:** the individual who works in his establishment, or works independently in a craft or trade, provided that he does not employ anyone for a wage, otherwise he becomes an employer

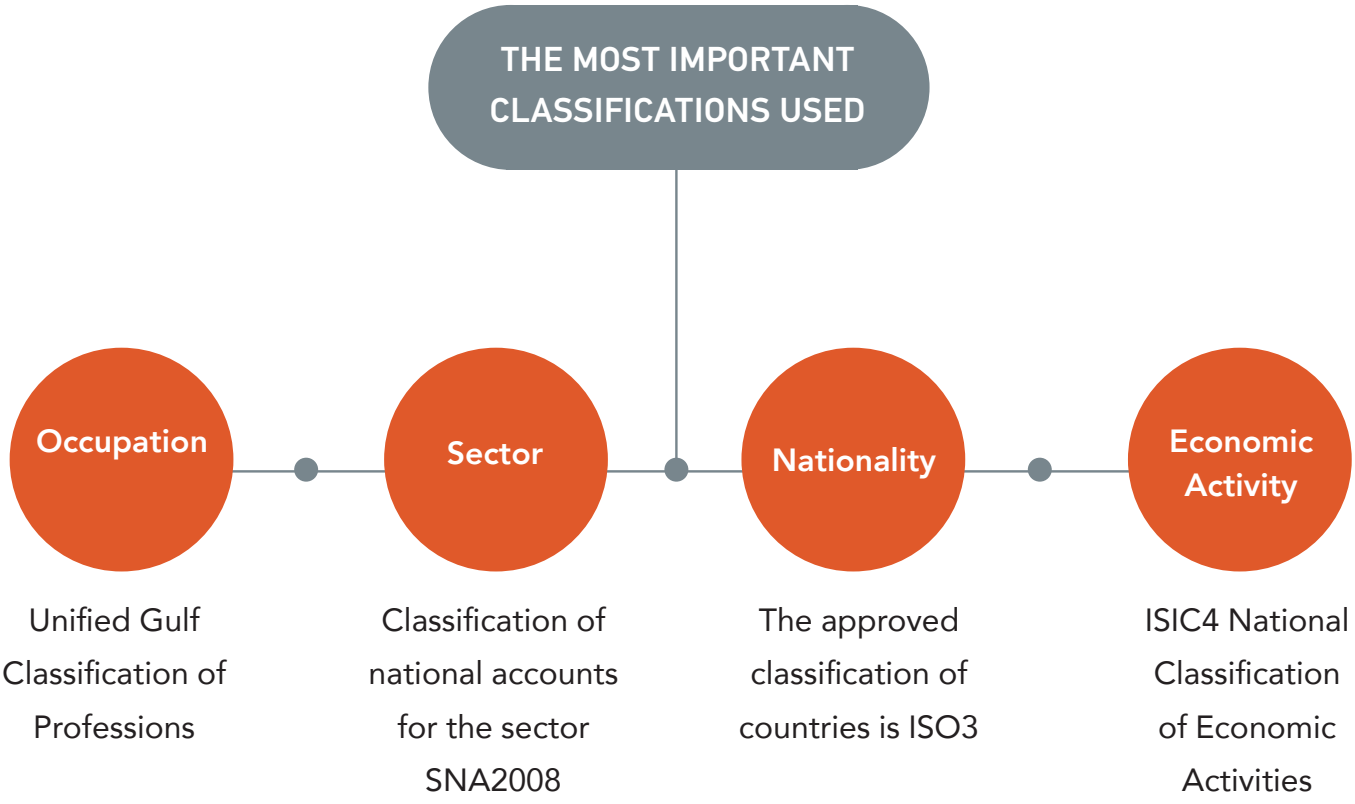
4. **Employer:** the individual who works in his own establishment or works independently in a profession or trade and he employs an individual or more in return for cash or in kind, even if these are members of his family, nor they are shareholders in joint stock companies, even if they work in them. The situation in which the individual exercises his profession is considered within a certain economic activity

## 5.2 A comparison of the variables related to the manpower between the approved basket of the electronic census 2020, and the international recommendations, and the most important used classifications:

This part reviews the comparison of the variables related to manpower between the basket of approved to the e-census 2020, and the recommendations of the Statistical Center of the Gulf Cooperation Council, and the variables taken from the 2010 census. In addition to the United Nations recommendations to provide final recommendations on the census list for manpower

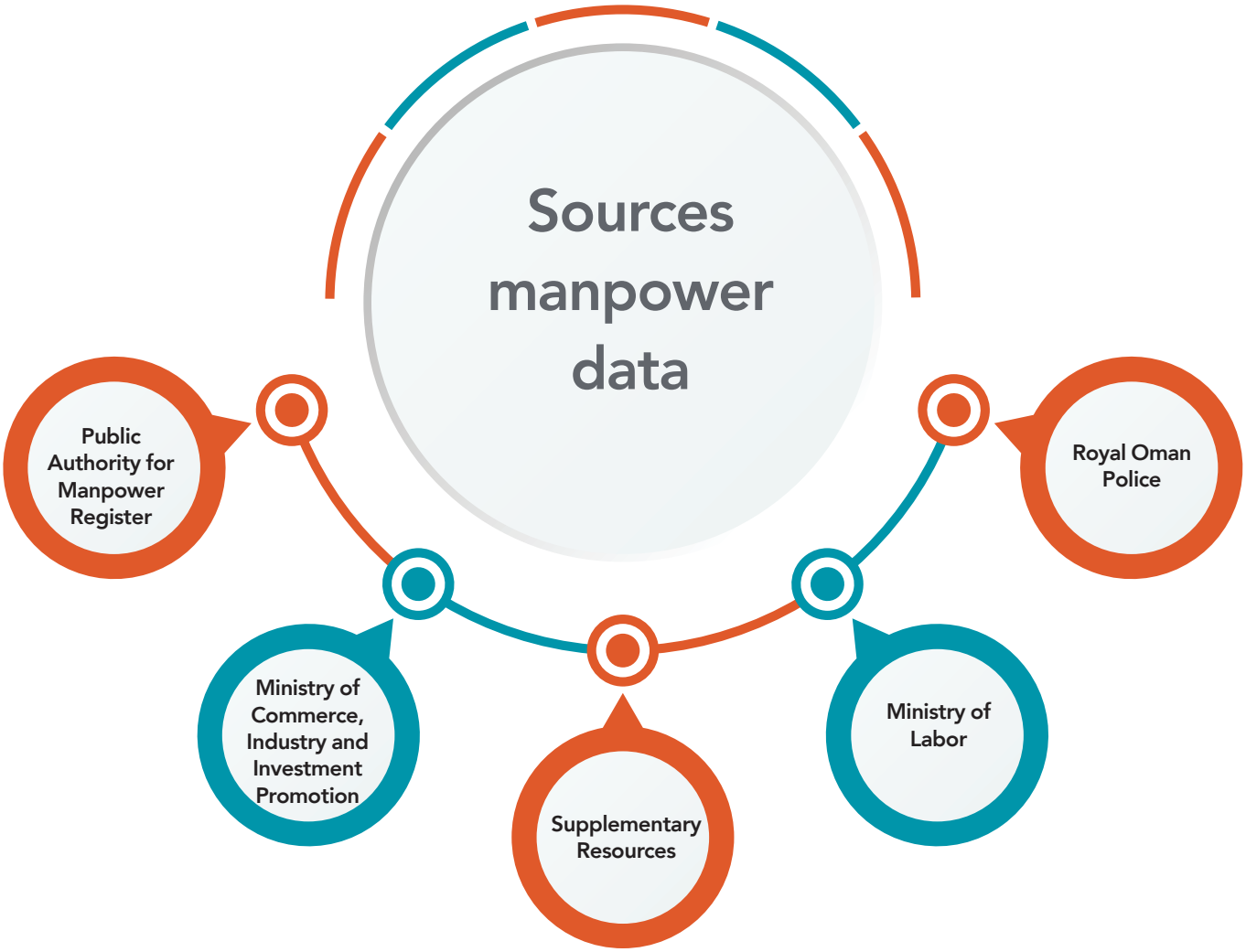
variables, where it summed up through the following table:

| variable name | Availability in the data basket | 2010 census | Recommendation of the Gulf Statistical Center | UN Recommendation | Recommendation to include the variable within the variables of the 2020 census |
|---|---|---|---|---|---|
| manpower relationship | available | available | available | available | √ |
| Practical status | available | available | available | available | √ |
| economic activity | available | available | available | available | √ |
| Occupation | available | available | available | available | √ |
| business sector | available | available | available | available | √ |
| Participation in production intended for self-consumption | * | - | - | available | × |
| Workplace | - | available | - | available | √ |



## 5.3 Sources and inputs used in building the manpower base:

The Public Authority of Manpower Register is the main source of manpowe data, as it covers data of (employees, retirees, and job seekers) in the private, governmental, domestic, and family sectors. There are a group of establishments classified as secondary and supplementary sources illustrated in the following figure.



The following figure shows the entries of the manpower database according to the various sources:

| No. | Entries | Associated variable | source |
|---|---|---|---|
| 1 | Civil No | ID | Royal Oman Police |
| 2 | Date of Birth | working age | Royal Oman Police |
| 3 | Gender | introductory statement | Royal Oman Police |
| 4 | Nationality | introductory statement | Royal Oman Police |
| 5 | Employer/Sponsor | business sector | Manpower Register Authority / Ministry of Manpower |
| 6 | Workplace | Workplace | Manpower Register Authority / Ministry of Manpower |
| 7 | paid work | Relationship to manpower/ working status | Manpower Register Authority / Ministry of Manpower |
| 8 | Active job seeker | Relationship to manpower | Manpower Register Authority |
| 9 | Inactive job seeker | Relationship to manpower | Manpower Register Authority |
| 10 | retired | Relationship to manpower | Pensions Fund/social insurance |
| 11 | disability | Relationship to manpower | Social Development |
| 12 | Business Owners (Riya-(dah | Relationship to manpower / work status | Riyadah/ Ministry of Commerce |
| 13 | Owners of enterprises employing workers | Relationship to manpower / work status | Ministry of Manpower/ Ministry of Commerce |
| 14 | Owners of enterprises not employing workers | Relationship to manpower / work status | Ministry of Commerce and Industry |

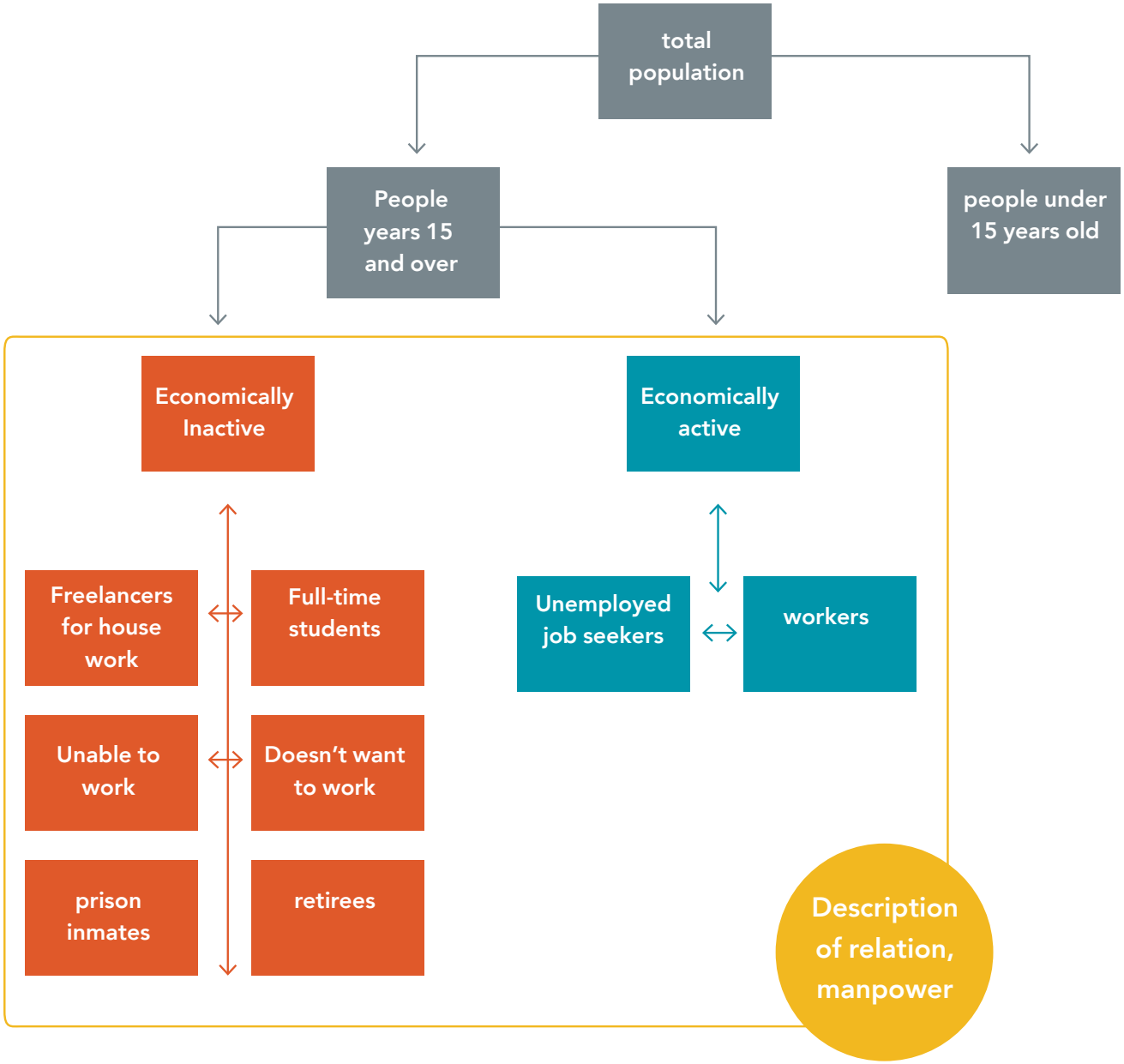
| No. | Entries | Associated variable | source |
|---|---|---|---|
| 15 | An Omani sponsors an expatriate (domestic worker/nanny/private (driver | Relationship to manpower / work status/ activity | Ministry of Manpower |
| 16 | An Omani sponsors an expatriate (agriculture/ herding/fishing) | Relationship to manpower / work status/ activity | Ministry of Manpower |
| 17 | Utility vehicle owners (taxi/gas transport/pub-lic transport/teaching driving) | Relationship to manpower / work status/ activity | Royal Oman Police |
| 18 | agricultural holders | Relationship to manpower / work status/ activity | Ministry of Agriculture and Fisheries |
| 19 | craftsmen | Relationship to manpower / work status/ activity | Public Authority for Craft In-dustries |
| 20 | fishing/Farmers | Relationship to manpower / work status/ activity | Ministry of Agriculture and Fisheries |
| 21 | lawyers | Relationship to manpower / work status/ activity | Ministry of Justice |
| 22 | judges | Relationship to manpower / work status/ activity | Ministry of Justice |
| 23 | Electricity account hold-ers | Relationship to manpower | Nama Holding Company |
| 24 | landowners | Relationship to manpower | Ministry of Housing |
| 25 | The economic activity | The economic activity | Manpower Register Authority/ Ministry of Manpower |
| 26 | Occupation | Occupation | Manpower Register Authority/ Ministry of Manpower |

## 5.4 Building a manpower database:

At this stage, all data related to the manpower of all people from different sources are collected in a unified base of the manpower, through which it shows the various variables related to the manpower from the relationship to the manpower, activity, profession, sector and other related variables

- **General Manpower Framework:**

This part of the methodology views the paths that are followed to give the individual a single description of the relationship to the manpower. The following figure shows the general framework for the distribution of the population according to the relationship to the manpower:



## Paths describing the relationship to the manpower:

This stage is considered the decision stage, since after collecting all data related to manpower for all individuals from various sources, each individual of working age is given a single description that determines their relationship to the manpower, and is classified according to that relationship if he works on the type of work, profession, sector, and economic activity. Thus, we arrive at an accurate description of the individual in his relationship to manpower.

**In order to reach that result, the methodology used to determine that relationship gives priorities, which are illustrated in the following order:**

1. The source that describes the person as employed is a better priority than the source who describes him as a job seeker, retired or full-time homemaker, with priority given to more accurate sources, the formal sector (government and private) and then the informal sector.
2. The source describing the person as economically active has a better priority than the source describing the person inactive economically.

**An illustration of the pathways describing the relationship with the manpower:**

| Status/ Source | Manpower Register Authority | Royal Oman Police | Ministry of Commerce and Industry | Riyadah | Ministry of Agriculture and Fisheries | Public Authority for Craft Industries | Pension Funds | Ministry of Education | Ministry of Higher Education | Ministry of Social Development |
|---|---|---|---|---|---|---|---|---|---|---|
| First | paid work | - | Self employed | Self employed | Self employed | Self employed | - | Student | Student | - |
| Second | Active job seeker | - | - | - | - | - | retiree | Student | Student | - |
| Third | Active job seeker | Own water tanker | - | - | - | - | - | - | - | - |
| Fourth | Active job seeker | Teaching Driving car owner<br>taxi / cargo / transportation | - | - | - | - | - | - | Student | - |
| Fifth | Active job seeker | - | - | - | - | - | - | Student | Student | - |
| Sixth | Active job seeker | - | Self employed | Self employed | Self employed | Self employed | - | - | - | - |
| Seventh | Active job seeker | - | - | - | - | - | - | - | - | Disable |

## 5.5 Recommendations to improve the quality of manpower database

Here we review the most important recommendations, in order to improve the quality of manpower data in the Sultanate:

**Building a unified**

database for manpower that includes all the characteristics of individuals related to the manpower.

**Adopting a unified**

classification of professions (the Gulf classification of professions) in all authorities.

**Adopting a unified classification**

Adopting a unified classification of economic activities in all regions (ISIC4).

**Adopting a unified**

classification of economic sectors in all regions.

**Inclusion of all data**

of temporary contract workers.

# 6 | Methodology for building a database of establishments and enterprises

The collection of data related to the establishments and enterprises based in the Sultanate is considered one of the basic requirements for the electronic census in the Sultanate. This data is of great importance in knowing the characteristics of these units and establishments, their geographical distribution, their role in employment, their quantity and the amount of their economic contribution, as well as their distribution according to economic activities. Thus, developing programs and plans in line with those characteristics, in order to improve the role played by these establishments and enterprises.

Accordingly, the electronic census 2020 for population, residences and establishments seeks to provide a database of establishments and enterprises in the Sultanate. It in turn feeds and supplies the various government authorities and other segments of society to contribute to the formulation of future directions and policies, the following main government themes:

- Defining the variables of establishments and enterprises according to best practices
- The most important administrative sources about establishments and enterprises
- Building a manpower database
- Recommendations to improve the quality of the establishments and enterprises database.

## 6.1 Defining the variables of establishments and enterprises according to best practices:

The "Manual of Statistical Records for Establishments" issued by the Statistics Division of the United Nations is considered one of the most important references for the terms, concepts and practices of the statistical records of establishments. We referred also to the national definitions issued by Ministry of Commerce and Industry, Ministry of Manpower and Municipalities.

The establishments and enterprises database is defined as a continuous update of the characteristics of the economic units of establishments, enterprises, branches, activities, workers and investors using the available administrative records. Variables are classified into:

- Identification variables: (such as unit identifier, establishment name, and addresses)
- Demographic variables: (such as the date of foundation and cessation date of activity)

- Classification variables: (such as economic activities, legal form, sector, number of employees and sales figures)
- Link variables (such as the owner ID and unit IDs in other departments).

- **Definition of Units:**

The most important units covered by the statistical records of establishments are as follows:

- **The establishment:** Is a unit of production of goods and services is characterized by independent self in making financial and investment decisions and the allocation of resources, and can be a government or public establishment, or association or a company or individual establishments. It can engage in one economic activity or several activities, and field presence through one address or several addresses (each address represents a branch), and the establishment can be profitable or non-profitable.
- **Enterprise/Branch:** It is an establishment or part of a site that has one geographical location and engages in one economic activity or several activities that could be a main branch (the main headquarters of the establishment) or a secondary branch. Noting that secondary branches do not enjoy independence.
- **Economic Activity Unit:** It is part of an establishment or enterprise that has a single economic activity according to the most detailed level of the approved classification of economic activities. The more branches and activities an enterprise has, the higher the number of economic activity units.
- **The worker:** Every person who contributes in the production process can be a wage worker or an employer.
- **Investor:** is a person or an establishment that contributes to the capital of the establishment directly or indirectly (ie, through an establishment in which he contributes or owns it). The investor can be a person who alone owns the entire establishment in the case of individual establishments , and the investor can be an owner only of a part of the capital. He is called a major investor in the establishment when he owns the majority of the capital.

- **Definition of Variables:**

The most important variables covered by the establishments and enterprises database are as follows:

- **The main activity:** It is the economic activity that contributes to the largest share of the value added of the establishment . In the absence of information about the added value of each activity at the level of the establishment, the main activity can

be estimated using the value of sales or the number of employees. If the establishment has more than one branch, it is possible to specify, in addition to the main activity of the establishment, what is the main activity of each branch. It should be noted that the reference and standard classification of economic activities. currently approved is the "National Classification of Economic Activities Revision 2".

- **Secondary Activity / Activities:** In the event that an establishment or a branch engages in more than one economic activity, each activity contributes to the added value. It is not a major activity and is considered a secondary activity.
- **Supporting Activity:** It is every activity within the establishment that assists and accompanies the production process and often provides services that are only used within the establishment (such as information systems department or accounting department within an industrial establishment). The supporting activities are not considered among the economic activities as long as they are not marketed outside the establishment.
- **Sector or Establishment Sector**: Refers to the legal organization of the enterprise. It is recommended to follow the definitions used in the System of National Accounts, which are generally:
    1. Public Government: Ministries and administrative structures that provide non-profit administrative services.
    2. Private Sector: financial and non-financial companies and semi-corporate
    3. Non-profit establishments serving households: such as professional associations, sports and cultural clubs, and other units that provide non-market goods and services to families.
    4. Family sector: projects and establishments run by family members.
- **Legal form:** Determined through the laws regulating commercial activities at the national level. Establishments are classified according to the number of participants in their capital and their obligations. The legal form is the main determinant of the enterprise sector.
- **Number of Employees:** The number of individuals working in the unit (establishment, enterprise or activity), including wage-earners and self-employed (employers and partners who work regularly in the unit). Contracted operators through employment establishments are not considered among the employers (they are employed by recruitment companies.
- **Organization Size:** One of the variables that can be extracted (deduced variable). It is related to production and the number of employees, it aims to determine whether the establishment is a small, junior, medium, or large one. It is worth noting that the number of employees is mostly relied upon due to the difficulty of obtaining the added value, the volume of production or the value of the profits. The size of the establishment is currently

defined at the level of Ministry of Commerce and Industry and the Public Authority for the Development of Small and Medium Enterprises, depending on the number of employees and the volume of sales as follows:

1. **Juniorestablishments:** These are establishments in which the number of employees ranges between (1-5) workers and annual sales of less than 100,000.
2. **Small establishments:** These are establishments with a number of employees ranging between (6-25) workers, and annual sales of (100 to 500) thousand Omani riyals.
3. **Medium establishments:** They are establishments with a number of employees ranging between (26-99) workers and annual sales of more than OMR 500,000 and less than OMR 3 million.
4. **Large establishments:** are establishments that employ (100) workers or more. The annual sales of more than 3 million Omani riyals.

In view of the lack of sales data for all establishments, a statistical definition of the size of the establishment based solely on the number of employees was determined as follows:

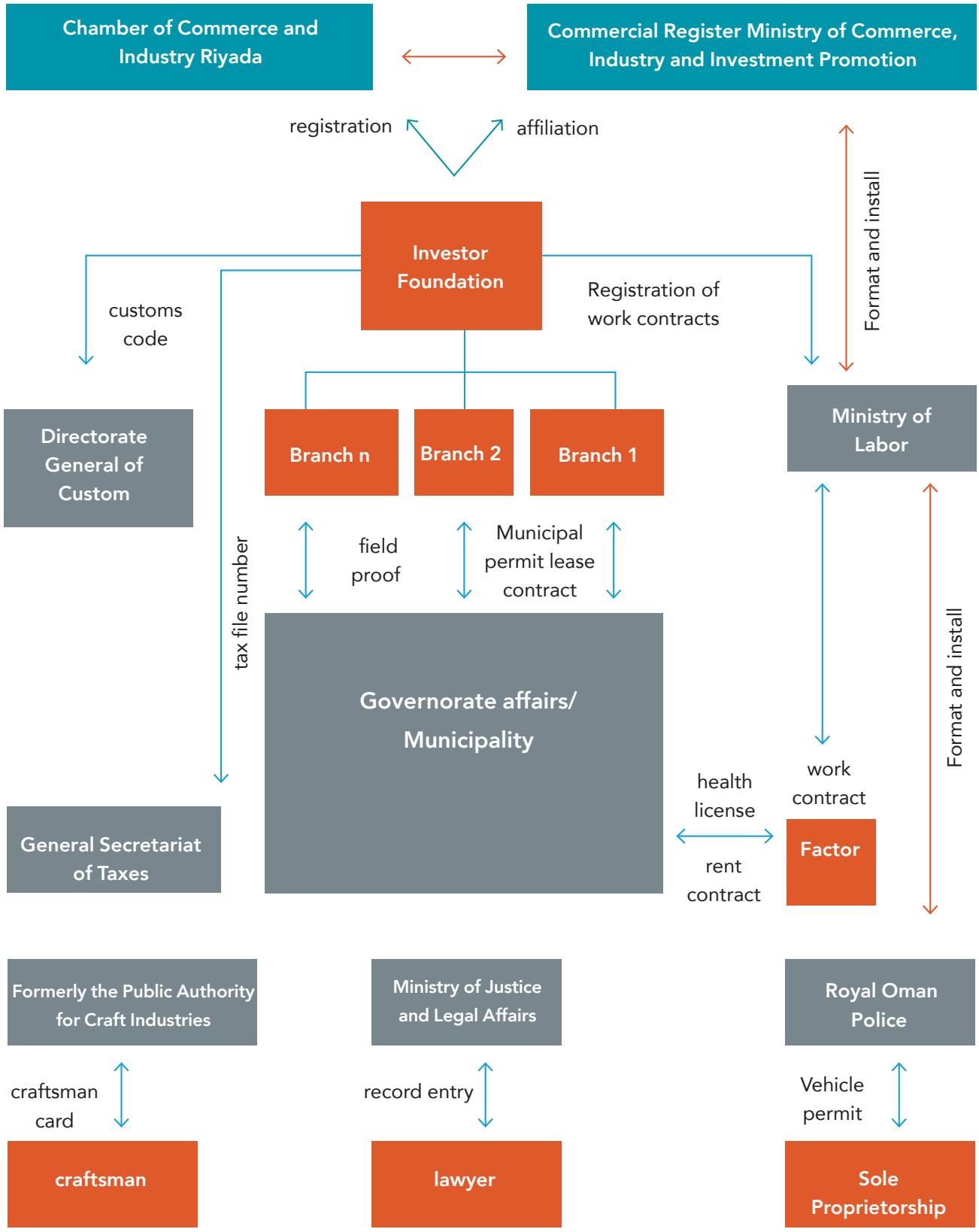
1. **Juniorestablishments:** These are establishments that employ (5) workers or less.
2. **Small establishments:** These are establishments in which the number of employees ranges between (6-25) workers.
3. **Medium establishments:** These are establishments in which the number of employees ranges between (26-99) workers.
4. **Large establishments**: are establishments that employ (100) workers or more.

- **Address:** The recommendations of the United Nations Statistics Division emphasized the need to record the title at the most detailed level. Knowing the governorate, Wilayat and village may not be enough to determine the location. It is necessary to know details such as the complex number, the lane, and the building number. In all cases, defining the address at the coordinate level is the most detailed. Noting that the establishment's address is the address of the main branch or head office.

- **The most important administrative sources about establishments and enterprises:**

The statistical units that make up the establishments and enterprises database are in the establishments, enterprises, activities, investors and workers. The following figure shows the

most important ministries and administrative structures that directly or indirectly cover these statistical units. In general, the records of Ministry of Commerce, Ministry of Manpower and Municipalities cover the most important active establishments in the private sector (complete coverage of operating establishments ), but coverage of some professions such as law and traditional industries will be completed from other sources



- **Ministry of Commerce, Industry and Investment Promotion:** According to the Commercial Registry Establishment Law, the Commercial Registry Secretariat of the Ministry of Commerce and Industry is entrusted with the task of maintaining the commercial registry and recording information related to merchants, companies and individuals. The stage of applying for a permitto practice the activity is the necessary first step for founding an establishment by a natural or legal individual. The commercial register is renewed once every 5 years and within a month if the establishment changes one of its characteristics such as address, economic activity, capital, legal form or partners. The Ministry of Commerce and Industry is working through the Invest Easy system to improve the coverage of non-commercial establishments such as associations and administrations.

The commercial register mainly covers the following variables by unit:

1. **Investor:** civil number, nationality and name with its link to the establishment and the value of participation or contribution (passport number in the case of a non-resident investor)
2. **Establishment:** commercial registration number, name of the establishment (trade name), date of incorporation, activity status, capital, legal form and head office address.
3. **Branch or establishment:** code of the place of activity, the address and the status of the activity and linking with the establishment.
4. **Activity:** The icon and name of the activity and linking to branch and the establishment It is worth noting the Invest Easy system compiles the financial statements of establishments, which represents an important source for covering production, investment and value-added variables.

- **Chamber of Commerce and Industry:** According to the law regulating the Chamber, all establishments, regardless of their size, activity and number of branches, are required to apply for affiliation with the Chamber and to renew it every year, immediately after obtaining a permitfrom the Ministry of Commerce and Industry. The Chamber's affiliation register covers only establishments (there are no establishments or activities). They are identified by a Chamber identifier in addition to the Commercial Register identifier. The most important variables available in the database are the Chamber identifier, the commercial registration number, the name of the establishment, the date of first affiliation, the date of the last update, and the address of the establishment (the main branch).

- **Municipalities:** Municipalities represent a necessary stage to complete the stages of founding an establishment or creating a new branch for the majority of activities. The Ministry of Regional Municipalities (formerly), Muscat Municipality, Dhofar Municipality and Sohar Municipality supervise the issuance and renewal of licenses for commercial activities. After submitting the application form together with a copy of the ID card and the lease or site ownership and a copy of the registration in the commercial register and a certificate of affiliation to the Chamber of Commerce and Industry, the applicant is given service appointment for the inspector to visit him to make sure of the accuracy of the data and provide all the technical and health requirements. Upon completion of the inspection stages, the municipal permit number is assigned, provided that the permit is renewed once every one or two years. It should be noted that:
    1. Establishments located in industrial zones and free zones obtain licenses from the Public Establishment for Industrial Estates in lieu of municipal permits.
    2. Establishments with the legal form of "House Trade Business" or "Street Vendors" are not currently required to obtain a municipal permit.

In the context of facilitating administrative procedures, the majority of municipal licenses will be extracted through the Invest Easy system. The most important variables in the municipal files are the commercial registry number, the name of the establishment, the municipal permit identifier, place of activity code, and the number of the municipality's current location.

- **Ministry of Labour:** The Ministry of Labour represents a necessary stage for operating establishments to register contracts of Omani or expatriate workers in the private sector, banks, insurance establishments, oil and gas companies, as well as some unlicensed activities (Individual activity whose owner is known based on his personal identity, such as fishermen and farmers). The application for a permit from the Ministry of Manpower is necessary, and registration and renewal are done electronically via the ministry's website after verifying the validity of the data and documents submitted in coordination with the Ministry of Commerce and Industry (Commercial Register). The data of the employee is entered in the records of the Ministry of Manpower at the level of the establishment, branch and activity. The most important variables are the worker's civil number, educational level, salary, profession, contract dates, economic activity, place of business code and commercial registration number.
- **Secretariat General for Taxation:** The Income Tax Law regulates the relationship between establishments and the Secretariat General for Taxation. In accordance with this law, all sole proprietorships, Omani, mixed or foreign companies, regardless of their size or activity, must make annual permits:

1. Each taxable individual is required to submit preliminary tax recognition before the end of March of the year following the accounting year and annual tax recognition before the end of June.
2. The new tax law issued by Royal Decree (9/2017) circulated the tax to all types of establishments, including small ones.

| Tax rate according to the activity and size of the institution | | |
|---|---|---|
| **Establishment type** | **Tax percentage (of annual tax-(able income** | **Permit date** |
| **Establishments active in the field of exploration** | **55%** | **Initial tax returns: before March 31 of the year following the accounting**<br><br>**Annual declarations before June 30th**<br><br>**1% additional tax for each month of delay** |
| **Establishments with capital less than 50,000, income less than 100,000, and employees less than 15 (excluding professions, exploration activities, banking, air transport, and insurance)** | **3% (not subject to prior 2017)** | |
| **The rest of the Establishment*** | **15%** | |

*With some exceptions

The most important variables available in the trust database are the tax file number, commercial registration number, name of the establishment, the establishment 's nationality, capital, number of employees, sales number, and the value of profits or losses.

- **Royal Oman Police (Directorate General of Customs):** Directorate General of Customs supervises commercial exchanges, including export, re-export and import. According to the customs manual, there are three types of units that can carry out these operations:
    1. **Commercial establishments:** Each commercial establishment is assigned a customs code, in coordination with data registered in the Commercial Register and the Chamber of Commerce and Industry.

2. **Non-commercial establishments:** Upon requesting a license, a customs code is assigned to them, based on their name and the identification of the government entity affiliated to them.
3. **3.Individuals:** They are known as the civil number.

The most important variables available at the level of Directorate General of Customs are the customs code, commercial registration number, the name of the establishment, the code and name of the product, the country code and name, the date and quality of the exchange, (export, import or re-export), its characteristics (value, volume or weight).

- **Royal Oman Police (Directorate General of Traffic):** Royal Oman Police has a vehicle registry that covers all types of vehicles, regardless of their private or commercial use, with specification of the owner, whether an individual or an establishment. This register covers, in particular, the professions of transporting people, goods, water and driving education. The most important variables for the transport professions are: the civil number of the vehicle owner, the type of vehicle, the number of passengers, the engine capacity and the type of use (private, commercial, taxi, water transportation, gas transportation, marine transportation, ...). Date of registration and expiry. In the event that individual units for transporting people and goods are considered as individual establishments, it is possible to rely on the Directorate General for Traffic's record as a primary source for determining the specifics of these units.
- **Ministry of Justice and Legal Affairs:** Ministry of Justice and Legal Affairs supervises a register of lawyers in which the data of activists in the legal sector, represented by Omani and non-Omani lawyers, and law firms of all kinds, is updated. The profession can only be practiced after being registered and obtaining a professional card. For reference, the Ministry of Commerce and Industry is currently coordinating with the Ministry of Justice and Legal Affairs to assign a commercial registry number to lawyers. The most important variables of the lawyer's registration record are the civil number, name, nationality, university degree, specialization, and date of registration.
- **Public Authority for Craft Industries:** Public Authority for Craft Industries oversees the issuance licenses for craft for active individuals in the following craft industries: pottery and porcelain, silver jewellery, fronds industries, copper and metal industry, textile industry, cotton textile industry, wood industry, leather industry, incense and cosmetics industry, stone and gypsum industry, distillation of flowers and herbs, manufacture of musical instruments, and manufacture of fishing tools. The most important variables are the civil number, name, profession (craft activity), workshop address and registration date.

## 6.2 Building a database for establishments and enterprises:

Despite the multiplicity of administrative sources covering the active economic units in the Sultanate for establishments and enterprises, activities and coverage of semi-all commercial register for all these units, however some sole establishments such as law and traditional industries cannot be identified and update their data only by using complementary sources of commercial record: record of lawyers at the Ministry of Justice, The Public Authority for Craft Industries. These units are distinguished as sole establishments with a single branch and in most cases the establishment's owner is employed (full-time or part-time). We are waiting to be covered by the Commercial Registry or the Secretariat General for Taxation and is known by a commercial or tax ID, the civil number is the current identifier for these units.

**The stage of building a database of establishments and facilities in the Sultanate passes through the following stages:**

- **Determining the identifier, name, legal form and capital:**

Determine of variables according to the type of establishments as follows:

| Source in accordance with the type of establishment | | |
|---|---|---|
| **Unknown commercial registration number** | **Knowing a commercial registration number** | **Variable** |
| Civil No | Commercial Registration No | identifier |
| Name according to civil registry | Name according to commercial register | The name |
| Sole establishment | Legal form according to the commercial register | Legal form |
| do not apply | Capital according to commercial register | capital |

- **Determining the activity status of the economic units:**

Due to the long dates of updating the status of the activity in the reference source, as licenses are not renewed in commercial register generally only once over 5 years, the result of this is the presence of registered establishments administratively in the "status of activity" but economically stopped. Therefore, the methodology for determining the status of activity on aggregation activity indicators (signal of activity) from all other sources in determining whether the establishment is active in the following order:

1. Establishment obtains at least a municipal permit in a state of activity
2. Establishment obtains at least one registered employee in the Ministry of Manpower
3. Establishment that has declared its sales positive value with the Secretariat General for Taxation
4. Establishment that conducted commercial exchanges at the level of the Directorate General of Customs

5. Establishment registered in Muscat Market
6. Establishment registered in Tender Board

**for the enterprise to be active according to:**

1. Belongs to an active establishment (as indicated in the previous table) and has one or more employees at the level of Ministry of Manpower
2. Or has an active municipal permit for more than a year

**for the economic activity unit, it is considered active:**

Belongs to an active establishment that has one or more employees at Ministry of Manpower level, or belongs to an active municipal license

| The status of the activity of the establishment defined by a commercial registration number according to the presence of an activity indicator in the source 1: active 0: inactive | | | | |
|---|---|---|---|---|
| Decision | Tax Authority and Customs Administration | municipalities | The Ministry of Manpower | Commercial Register |
| Active Establishment | 1 | 1 | 1 | 1 |
| Active Establishment | 0 | 1 | 1 | 1 |
| Active Establishment (with veri-(fication of municipal data | 1 | 0 | 1 | 1 |
| Active Establishment (with verification of municipal data) | 0 | 0 | 1 | 1 |
| Active establishment (with verification of manpower data if it has more than one active municipal license) | 1 | 1 | 0 | 1 |
| Active establishment (with verification of manpower data if it has more than one active municipal license) | 0 | 1 | 0 | 1 |
| Active Establishment | 1 | 0 | 0 | 1 |
| inactive Establishment | 0 | 0 | 0 | 1 |
| Inactive Establishment (All (Sources Verified | 1 | 1 | 1 | 0 |
| An inactive Establishment (with data on manpower and munici-(palities verified | 0 | 1 | 1 | 0 |
| Inactive establishment (with verification of manpower, taxes (and customs data | 1 | 0 | 1 | 0 |
| Inactive Establishment (with (verification of manpower data | 0 | 0 | 1 | 0 |
| inactive Establishment | 0 | 0 | 0 | 0 |

This is for the establishments that are known by a commercial register number, as for the other establishments that are not known by a commercial register number, It is considered active if its registration in its records is in a state of activity (which, as mentioned previously, are establishments that have a single enterprise and a sole activity)

- **Determining the number of employees:**

The total number of employees is generally calculated by adding the number of employees registered in the files of Ministry of Manpower with the number of full-time owners in the establishment's activity, noting the following:

1. **For establishments that do not have a commercial register number:** In the event that the owner of the establishment is is working in it and there are no registered employees in the manpower registry, the number of employed is equal to one individual.

1. **For establishments that are known by a commercial register number:** the number of employees is calculated according to the establishment's permits in the Ministry of Manpower, with the addition of the number of full-time owners. In the case of the legal form of "sole establishment", a worker is added to the number of employees registered in the Ministry of Manpower in the event that he is fully devoted to the establishment's activity.

- **Determine the size of the establishment / enterprise**

In the absence of production variables (sales, value added and profits), the number of employees is the main determinant of the size of the establishment. The sizes of the establishment have been determined as follows:

1. Junior establishments: These are establishments that employ (5) workers or less.
2. Small establishments: These are establishments in which the number of employees ranges between (6-25) workers.
3. Medium establishments: they are establishments in which the number of employees ranges between (26-99) workers.
4. Large establishments: are establishments that employ (100) workers or more.

- **Determining the main activity of the establishment / enterprise:**

The economic activity of the establishment is one of the most important variables that are required to be present in the establishments' statistical record. The economic activity has already been defined previously. In order to classify the establishments and enterprises in the Sultanate according to the activity, it has been approved that the main activity of the establishment is the activity that occupies the most at the level of the establishment.

It should be noted that this methodology is considered accurate in cases of homogeneous activities (all activities of the establishment in the industrial sector, for example, or all of them in trade), but it is limited in the event that the establishment has activities in industry or services. Determining the main activity of large establishments is usually a complex task in cases of multiple and heterogeneous activities, Which sometimes necessitates doing verification or communicating with the establishment.

- **Determining the address of the establishment / enterprise:**

Best practices emphasized the need to record the address of the establishment and enterprise at the most detailed level. Due to the absence of a unified addressing system covering all the governorates of the Sultanate, the main variables appears for determining the address in the governorate, Wilayat, village and coordinates. The address data will be collected through the data of Ministry of Commerce and Industry due to its reliance on lease contracts or ownership certificates submitted by the investor to prove the address, which is registered and verified in the first phase. To ensure that address coordinates are covered, municipalities have started to include the electricity account number in the lease contracts.

## 6.3 Recommendations to improve the quality of establishments and enterprises database

تتمثل أهم التوصيات المقدمة للجهات لتحسين تغطية وجودة الوحدات والمتغيرات الخاصة بقاعدة بيانات المؤسسات والمنشآت فيما يلي:

### At the level of the Ministry of Commerce and Industry:

- Complete coverage of all types of establishments such as law and craft professions, as well as foreign establishments that are active in the Sultanate for a short period (currently known only with a tax number) and assign them a commercial registration number.
- Improving the quality of the variable status of the activity in relation to the establishments and enterprises.
- Distinction between the main and secondary branches.
- Covering all administrative units and assigning a commercial registration number to establishments (ministries and structures) and an activity place code for branches.

### At the level of municipalities:

- Unification of procedures for licensing activities between municipalities.
- Complete linking between the municipal permit number with the activity place code.
- Defining the list of activities for each establishment (in case there is more than one activity in the branch)
- Use the unified national classification of economic activities for coding economic activity.
- Linking the municipal permit with the electricity account number
- Coordination with Ministry of Manpower to deal with the differences in the number of operating enterprises.

### At the level of the Ministry of Manpower:

- Complete the identification of the place of activity code for workers in the private sector.
- Improving quality of linking workers to the place of activity code
- Linking the issuance of permits to the activity and code of place of activity

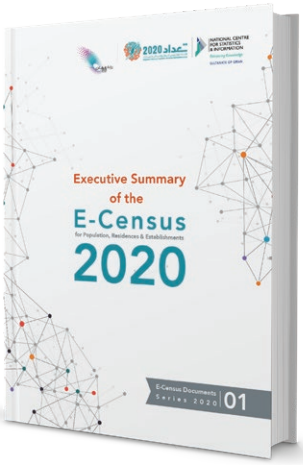
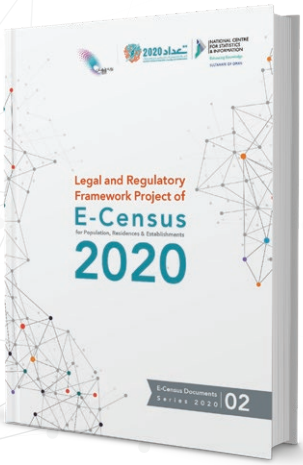
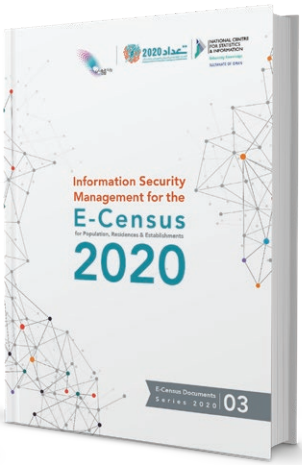
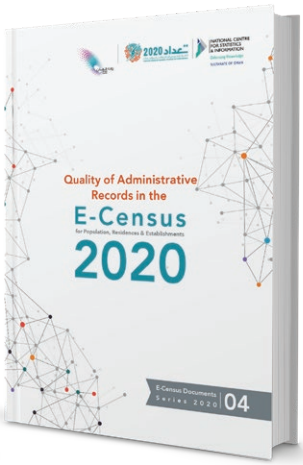
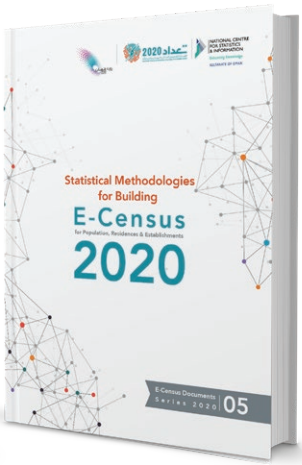
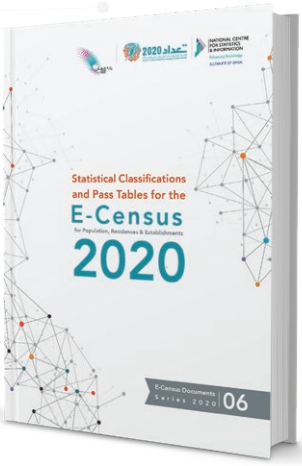
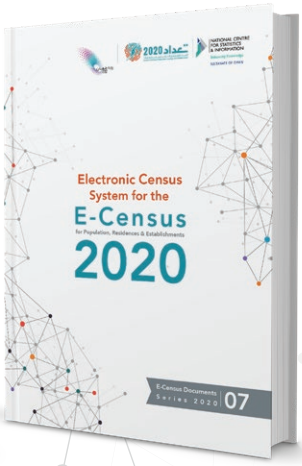
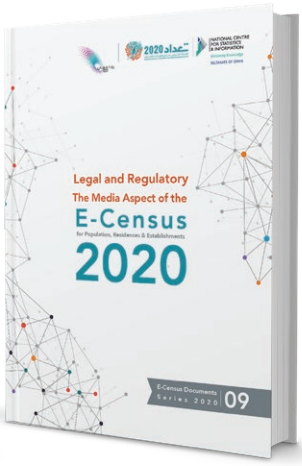
### At the level of the Secretariat General for Taxation:

- Disseminating assigning a commercial registration number to foreign establishments that are temporarily active, about 3,000, and currently only assigning them the tax identifier.
- Disseminating the commercial registration number as a single (national) identifier for all establishments in the Sultanate.
- Unifying the mechanism for collecting financial statements between the Ministry of Commerce and Industry, the Chamber of Commerce and Industry, and the Secretariat General for Taxation.
- Completing the registration of sales data, value-added and profits.

# Conclusion:

The Higher National Committee for Electronic Census 2020 has adopted the necessary methodology to implement the census, study the consequent procedures of the competent government authorities and take the necessary to implement those procedures. The third phase is one of basic stages of implementing the electronic census 2020 to determine a statistical methodology for building the most important statistical databases by depending totally on administrative records (residence address, education and employment characteristics, establishments, buildings and units).

This document defined the basic frameworks on which the census databases were built, and identified the main, secondary and supplementary sources for all the bases. It has also clarified the order in the classification priorities and the distribution of data from different records for various variables based on the international classifications approved for each database.

The methodological preparation period witnessed many additions and improvements in the establishments' databases that were a major reason for the success of the electronic census project. This document also clarified the shortcomings in some administrative records and how those data were processed, and what aspects should be improved in the various establishments databases to obtain accurate, fast and integrated results for the main rules in the electronic census 2020.

## E-Census Documents
## Series 2020