

1 - Introduction

The Statistics Act No. 12 of 2012 is the legal basis for conducting the census. The Act stipulates that a general census shall be conducted every ten years at the most at the date determined by the Council of Ministers upon the recommendation of H.E. the Minister of Planning in the areas of housing, population, agriculture, industry and establishments and any other field based upon the Minister's recommendation. Accordingly, pursuant to the decision of the Council of Ministers in their letter No. 32/11/1/9459 dated 5th March 2017 which approved the implementation of the agricultural census, the Department of Statistics (DoS) has carried out the comprehensive agricultural census in 2017.

The agricultural census is a large-scale statistical process to gather information on the composition of the agricultural sector (structure of the agricultural sector) using the agricultural holding as a unit of enumeration, noting that the enumeration process has covered all areas of the Kingdom. The census has covered the plant and livestock holdings that meet the agricultural holding requirements. The enumeration operations included data collection on various aspects of agricultural activity and covered all agricultural seasons during the agricultural year which began on 1st August 2016 and ended on 31st July 2017.

2 - Census Objectives

The Agricultural Census aims to achieve the following:

- Providing comprehensive, detailed and up-to-date statistical data and information on the infrastructure of the agricultural sector to facilitate the tasks of planners in Jordan, whether those concerned with general planning for economic and social development, or agricultural policy makers, as well as data users in the private sector.
- Providing a modern and comprehensive sampling frame for being used in the annual and quarterly agricultural statistical surveys that rely on the agricultural holding as a sampling unit in the fields of plant and animal production and agricultural economy.
- Evaluating the annual estimates of sample surveys on cultivated areas, land use, crop cultivation, productivity and animal production.
- Filling the gaps and replenishing the deficiencies in some types of agricultural data to meet the users' needs in various fields through producing statistical data and information on the components of the agricultural sector.
- Obtaining support from international institutions for the agricultural sector development programs in Jordan by providing data for regional and international comparison purposes.

3 - Previous Agricultural Censuses:

The Agricultural Census-2017 is the seventh census implemented by the Department of Statistics (DoS), noting that the (DoS) has carried out six agricultural censuses prior to this census. The First of which was in 1953, where it has provided general information on the agricultural situation in the (East and West Banks) for the agricultural season 1953/1954. While the Second Census was conducted in 1965 and was characterized for being comprehensive compared to the census of 1953. The Third Census was carried out in 1975,

where it has covered all agricultural holdings of more than five dunums each. Meanwhile, the sampling method was used in case of the holdings of less than five dunums (sample size was 20% of the total of these holdings). Moreover, this census included livestock holdings. The Fourth Census was carried out in 1983. It has been implemented using the previous census methodology with some modifications to the questionnaire items. In 1997, the Fifth Census was carried out, where all agricultural plant holdings with an area of more than 1 dunum have been totally covered in addition to animal and mixed holdings.

In 2007, the (DoS) has conducted its Sixth Agricultural Census, which provided comprehensive and detailed statistical data on the infrastructure of the agricultural sector. The (DoS) used the latest technologies that time and implemented the census using the Personal Digital Assistant (PDA).

4 - Methodology of the Agricultural Census-2017:

In view of the diversity of agricultural activities, and in order to ensure a wider coverage of these activities to satisfy the national and international needs, this sector has been divided into:

- ❖ **Organized Sector:** It includes the organized agricultural units in the Jordan Valley (Aghwar) and those irrigated from the artesian wells in addition to the organized cattle and poultry farms. The (DoS) relied on the frame provided by the records of the Ministry of Agriculture, the Jordan Valley Authority and the Water Authority. The (DoS) also has relied on the staff of these institutions to accompany our enumerators during their visits to most of the holdings through the liaison officers and coordinators who have been designated for this purpose.
- ❖ **Non-organized Sector:** It includes the rest of holdings that satisfy the approved conditions of an agricultural holding for the purposes of implementing the census. These include rain-fed or plant holdings irrigated from sources other than the artesian wells, as well as holdings of sheep, goat, camels and other types of domestic breeding. Data on this sector were collected by visiting all housing units in the Kingdom utilizing the 2015 population census frame.

4-1: Comprehensiveness of the Agricultural Census:

During the implementation process of the census, all organized agricultural holdings and all housing units in Jordan were visited. Data were collected on the holdings that met the following conditions:

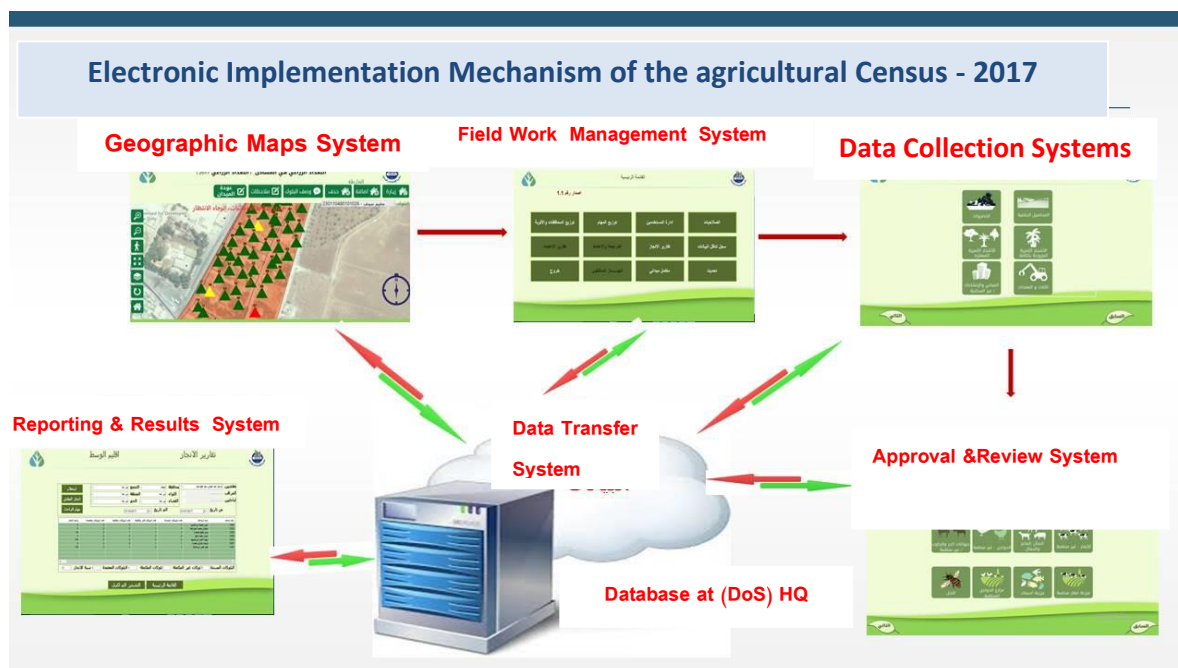
- **Plant Holding:** It is the holding that has vegetables, field crops or fruit trees, whose total area is one dunum or more or any protected area (greenhouses, tunnels or glass houses).
- **Animal Holding:** Any holding that satisfy one or more of the following conditions:
 - Ten sheep or goats or both.
 - One camel or more.
 - One or more working bee hives.

- One or more cows (domestic breeding).
- Thirty domestic poultry.
- Organized livestock farms: These include fish farms, organized cattle farms, organized poultry farms (broilers, mothers, layers and grandmothers).

4-2: Data Collection Mechanism and Use of Electronic Systems:

The census was carried out through personal interviews. This census differs from previous censuses due to the data collection method. The (DoS) employed the latest technology in this census through using the (TABLETS) in all stages thus getting advantage of the available infrastructure and the experience of the (DoS) staff gained during the successful experience of implementing the 2015 population census electronically in all its stages as well. For this purpose, several software systems have been developed as follows:

- Data Collection System: An electronic questionnaire was developed, where data was entered directly into the tablets by the enumerator in the field. This system has a direct edit mechanism during data entry. This process has shortened the mechanism of checking, coding and entry that was followed in the paper questionnaires; in addition to that this mechanism promotes the preservation of data confidentiality.
- Geographic Maps System: The Geographic Information Systems (GIS) Division has produced all maps of the Kingdom's blocks electronically based on the Population Census-2015 and loaded these maps on the enumeration devices according to the tasks assigned to each interviewer, which enabled them to locate their areas of work more accurately in addition to preserving the data quality by shutting off the data entry program as soon as the interviewer leaves the work area.
- Field Work Management System: A management system for field work has been developed to enable the field management staff to assign tasks to enumerators in the enumeration centers electronically. This system included all the reports that enabled the field management to follow up the work moment by moment.
- Approval and Review System: This system enabled the technicians in the (DoS) headquarters to access the data entered by the interviewers directly, so that the correct questionnaires are approved and the incorrect ones are returned to the field electronically for being revised and corrected by the enumerators or re-visiting the holder to ensure data accuracy.
- Reporting and Results System: The system provided all the necessary reports to view the main indicators of the census data continuously for conducting immediate checking and follow-up operations.
- Data Transfer System: The (TABLETS) are provided with cellular chipsets, which are connected directly and safely to the main server in the (DoS) headquarters to ensure data confidentiality. This system enabled the enumerators to perform data transfer from all the (TABLETS) in the Kingdom to the main server immediately after completion of data capture, loading the new tasks assigned to the enumerator in addition to any updates to the enumeration program.



4-3: Time Reference of the Agricultural Census-2017

The agricultural year 2016/2017 is considered to be the time reference of all statistical data and information collected in the Agricultural Census-2017, except for the livestock data, where 1st May 2017 was considered as the day of the reference period.

5- Implementation Stages of the Agricultural Census-2017

5-1: Planning and Preparation Stage:

The following actions were taken at this stage:

- The Council of Ministers decision to conduct the agricultural census has been issued.
- Setting up the organizational structure of the agricultural census and forming of the census committees, such as the Ministerial Committee, Technical Committee, Administrative and Financial Committee and the Media Committee in addition to other subcommittees such as the Expenditure Approval Committee and the Coordinating Committees in the governorates. The functions of each committee were defined. All official institutions concerned in the agricultural sector were represented in these committees through liaison officers and coordinators. These institutions included the Ministry of Agriculture, Ministry of Water and Irrigation, Ministry of Industry and Trade and the Ministry of Interior.
- Drawing various census plans, determining the requirements and necessities of each stage, defining the quality and numbers of employees according to the

required levels in addition to preparing the training programs, related requirements and implementation. Other activities included also setting the timetables for the census stages, which include the start and end date of each stage and the census activities within each stage.

- Establishing regional offices and field offices to supervise the field work progress in various enumeration areas. That required provision of supplies, equipment, vehicles, stationery, desks, and computers....etc.
- Drawing the electronic maps containing the blocks and buildings prepared for the General Population and Housing Census-2015 by the Geographic Maps Division at the (DoS).
- Preparing and approving the Census Output Tables that meet the needs of data users in addition to preparing analytical tables for the computer.
- Developing the standards and technical classifications used in the census, which were based on international methodologies and classifications. The Agricultural Holders Listing Form and the Questionnaire were designed in accordance with the national needs and the requirements of the Food and Agriculture Organization of the United Nations (FAO) and according to the new World Agricultural Census Program (WCA) 2020. A training workshop was held by the (FAO) in cooperation with the Arab Institute for Training and Research in Statistics (AITRS) in Amman in May 2016 to train the relevant (DoS) technical staff.
- Preparing the edit rules and instructions for completing the questionnaires by the technical staff that have experience in various types of holdings to be covered by the census, preparing the instruction manual in addition to the coding tables and all census documents. These were delivered along with the questionnaire to the programming team for being transformed electronically. Other documents included preparing the Fieldwork Management Programs and the immediate Follow-Up reports.
- Taking the necessary procedures for using the (TABLETS) and their software, receiving these devices and ensuring their technical integrity in cooperation with the Technical Support Division in the (DoS).
- Testing the program by technicians and entering a set of practical examples on the (TABLETS), ensuring the effectiveness of all edit rules, flexibility of program use, then providing the programmers with the remarks and problems, and finding suitable solutions in cooperation between agricultural technicians and programmers.
- Conducting the pilot enumeration to test the enumeration phase to ensure electronic, technical and field readiness.

A group of field teams conducted a pre-test in BALQAA governorate in Aghwar area (Jordan Valley), and in MADABA governorate in highlands, this pre-test was in of the for a period of 14 days. This Pre-test aimed at the following:

1. Testing the census questionnaire in terms of correlation between the questions and the electronic edit rules.
2. Estimating the time required to complete the data.

3. Estimating the number of field staff required for the actual enumeration phase.
4. Testing the use of the electronic agricultural census system using the (TABLETS) and electronic data transfer.

The Pre-Test team gained good experience in completing the listing questionnaire and the census questionnaire using the TABLET, identifying the field problems and their solution. Based on the results of the Pre-test stage, necessary amendments were made to the electronic census questionnaire and some of its items.

- Commencing the media campaign, announcing a competition to design the Agricultural Census-2017 logo and approving it in addition to approving the agricultural census brochure.

5-2: Actual Implementation Stage of the Census:

This phase included the following activities:

- Training and distribution of field staff members to work areas. Training of the census staff is considered to be a major task that requires immense efforts and preparation due to the large number of participants on the one hand and to ensure capacity-building of enumerators to carry out enumeration operations. A two-stage plan was developed: the first stage was dedicated to train the teams working to enumerate the agricultural units in the Jordan Valley (Aghwar), organized poultry farms and artesian wells' holdings. The second stage was devoted to train teams working to enumerate the agricultural holders through the housing units.
- The first training course of the Jordan Valley (Aghwar) enumeration stage was held for a period of one week in March, where the technical staff of the census has trained the enumerators and controllers totaling 65 employees from the Agricultural Field Surveys Division. The second course was held for a period of four weeks during August in the enumeration centers in the governorates and districts. The trainers have trained the controllers, enumerators and technical support staff totaling about 431 who were appointed on the basis of temporary projects.
- The training program covered many aspects such as explaining the census objectives, data collection methodology, definitions and terminology, method of completing the listing and census questionnaires, informing the participants (of various levels) of their duties and responsibilities, as well as training them on how to use and handle the (TABLETS). At the end of the training course, the Data Quality Division has held a comprehensive examination to ensure the competence of trainees.
- Intensification of the media campaign through preparing a media campaign for this census and forming a specialized committee where the members' roles were assigned to each of them to cover various media aspects that achieve the campaign goals in each implementation stage. Part of the activities included arranging of meetings with the press for the Director General of Statistics / National Director of the Agricultural Census, providing Jordan TV with census messages and news. Jordan TV has prepared a documentary film on the agricultural census and used to prepare three news reports in the three regions which were broadcasted during the daily news bulletins.

5-3: Data Collection Stage

Data collection process was carried out over a number of time periods in accordance with the agricultural seasons in the Jordan Valley (Aghwar), in addition to the relative importance of the organized agricultural sector, as follows:

First Period: Enumeration Stage of the Organized Sector

This stage included enumerating the agricultural units' holdings in the Jordan Valley (Aghwar), artesian wells holdings, organized poultry farms and organized cattle farms. The enumeration was conducted through two visits as follows:

- a) Visit to the Holding: The aim was to collect data on the holding that included holding and holder's addresses, holding type (plant or animal), area, types of plantations and livestock and capital formation.
- b) Visit to the Holder: A separate visit was made to the holder due to the difficulty in obtaining detailed data of the holder from the farm workers. The holder's data include: age, nationality, main and secondary occupation, educational level, number and age group of family members, system of part tenure (right of utilization) and holding management.

Second Period: Enumeration Stage of the Non-organized Sector

This stage included enumerating the rest of the agricultural holdings targeted by the census, such as sheep, goats and camels' holdings, home breeding holdings of poultry, cows and bees, in addition to rain-fed plant holdings or those irrigated from sources other than the artesian wells. This data was collected by visiting all the Kingdom's housing units based on the population frame provided by the 2015 population census.

The agricultural holdings data collection stage from the housing units in all governorates of the Kingdom began on 6th September 2017 and lasted till 31st March 2018.

5-4: Results Extraction and Analysis Stage

This census was characterized by direct extraction of the results, which enabled editing and entering of corrections as soon as the data was transferred, thus extracting the census preliminary results within the few days after completion of the field work. The process of data cleaning and ensuring its consistency and logic lasted only 30 days, thus the census preliminary results report was ready by the end of April 2018. This stage also included the following:

- Extracting the final results of the census within the following four months, and was expected to be issued in August 2018 in hard copy format, CDs and was loaded on the (DoS) website.
- Conducting statistical analysis of the results and extracting the indicators.
- Writing the final report.

6- Data Quality

Staff of the Data Quality Division has participated in the Agricultural Census from the very beginning. They acted as members of the Census Technical Committee and participated in most initial meetings dedicated to prepare for this major work. The aim was to ensure integrity of the processes and procedures at all stages to obtain correct and high quality data.

The adopted international data quality principles have been applied at all stages since the start of operations. Scientific materials were developed and discussed with the concerned census staff. The questions, answers and discussions were documented, training of trainers was carried out and the course was monitored. Evaluations and tests were conducted for all these processes.

Training was conducted in cooperation with the Data Quality Division where the training environment was totally monitored in terms of evaluating the trainers and trainees, measuring the extent of the trainees' understanding of the material, their interaction in the training class, testing the questionnaire electronically, documenting the remarks in a detailed report submitted to senior management on daily basis and attaching the evaluation and tests' results of the trainees in cooperation with the staff in-charge of training.

Staff of the Data Quality Division has accompanied the teams in the process of testing the electronic questionnaire to ensure program effectiveness and to write down the notes and items of this process in addition to conducting more than one test for this questionnaire in the field and finally preparing the Data Quality Division plan before the implementation stage.

The Data Quality Division staff has also accompanied the census enumerators, carried out the post-enumeration processes and ensured integrity of the collected data. They have also monitored all remarks arising from new cases and finally discussing remedies with concerned staff.

Data quality principles were applied to all themes and tests were conducted for conformity, comparison, documentation, transparency, accuracy, time utilization and reliability processes of the data. Till this moment, preliminary results are under study before being launched.

7- Terms and Definitions:

7-1: Locality:

It is the place where the population resides as individuals or groups in permanent buildings and housing units. It may be a center for practicing one or more economic activities and it varies considerably in terms of population size. The locality usually has a name that distinguishes it from other localities, has clear boundaries and consists of one block or more.

For statistical purposes, each locality in Jordan is affiliated to a particular sub-district (whether it is imaginary or real), each sub-district is affiliated to a district and each district is affiliated to a governorate. Each locality is assigned a number (code) that distinguishes it from other localities, as well as in the case of administrative and statistical divisions at various levels.

7-2: Area:

Each city has been divided into service areas under the naming and numbering system in the municipalities and each area has a name and a number that distinguishes it from other areas. For statistical purposes, the localities that have not been divided into areas by their municipalities of affiliation are considered as (One Area).

7-3: Neighborhood:

Under the naming and numbering system, each area in the cities and other localities was divided into neighborhoods and each neighborhood has a name and a number that distinguishes it from the rest of neighborhoods. For statistical purposes, the locality is considered as one neighborhood in case the locality is not divided into neighborhoods.

7-4: Block:

It is a group of buildings that form a locality or part of a locality that has artificial boundaries such as paved and unpaved roads, lanes, passages, stairs, electricity and telephone poles, railway...etc., or natural boundaries such as mountains, rivers and valleys that can be easily identified. The outer boundaries of each block are marked with rectangular boards and have a number that distinguishes it from adjacent blocks.

7-5: Street (Road):

It is a public or private passage that leads to the entrances of one or more buildings. The street may be paved or unpaved, straight or winding and may be open from two sides or blocked from one side (dead end). It may have a name that distinguishes it from other nearby streets and may also not have a name. The name of the street may have been chosen officially or non-officially.

7-6: Building:

It means any structure constructed on land or water permanently or temporarily composed of any material, consisting of one or more floors with a roof, used for human habitation or for work, worship or entertainment, has one or more door (entrance) leading from the main or private road to all or most of its parts. Building annexes such as garage, shop, toilet and store are considered to be parts of the building structures rather than independent buildings. Bus shades and stands, bridges, stalls, power transformers and abandoned buildings are also not considered as buildings.

7-7: Building Occupancy Purposes:

- Accommodation only.
- Work only.
- Worship such as mosques and churches.
- Entertainment and culture.
- Multi-purpose (work and accommodation).

Closed: It means the buildings inhabited by residents but were not available at the time of the visit (listing time).

Vacant: It means the building not inhabited at the time of the census and has no any furniture. Furnished buildings, which are not inhabited at the time of the visit, are also considered as vacant.

Under Construction: It means the building that has a roof and walls under construction or finishing currently (i.e., incomplete and not ready for occupancy) at the time of the census.

7-8: Building Main Entrance:

It is the entrance or the door that overlooks the street, passageway, lane or stairs, and leads to the building components and its floors. The building may have more than one entrance with the same characteristics, but the busiest one is chosen as a main entrance.

7-9: Building Sub-entrance:

It means each entrance (or door) that leads to building components and is not considered as the main entrance because the aforementioned conditions do not apply to it.

7-10: Housing Unit:

It is an entire building (or part of a building) with walls and a roof, originally designed to accommodate one or more households, regardless of its occupancy status even if it is vacant, closed or under construction at the time of the survey. The dwelling consists of one or more rooms with its amenities and has its own separate door that leads directly (or through a passageway or stairway) to the public road without passing through other dwellings. Abandoned buildings that are not suitable for human habitation cannot be considered as dwellings.

For census purposes, any place found at the time of listing is considered a dwelling. The dwelling is therefore one of the following types:

- A building originally built for use by one household such as a villa.
- Part of a building such as an apartment in a building or the house.
- An inhabited place inside an establishment building such as residence of the guard or the establishment manager.
- A building originally intended for housing but used as an establishment and residence at the same time.
- Marginal buildings at the time of listing.

7-11: Housing Unit Occupancy Status:

- ✓ Occupied by private households.
- ✓ Occupied by collective households.

Vacant: It is the dwelling not inhabited by anyone at the time of the visit and has no furniture. The furnished dwellings, which are not inhabited at the time of the census, are also considered as vacant.

Closed: It is the dwelling inhabited by residents but they were not present at the time of the visit (listing time). They could have gone to visit another household or were on a mission or a tour inside or outside Jordan.

Under construction: It is the dwelling that has a roof and walls and is currently under construction or finishing (i.e., its construction not completed) and not ready for being inhabited at the census time.

7-12: Establishment:

It is a fixed place in which one economic activity or similar or integrated activities are carried out. This entity has one owner, an individual or a company (i.e., the owner could be a natural or legal person). All places located within a single building or group of buildings inside a single wall shall be considered as one building as long as they are owned by a single natural or legal person engaged in a single, integrated or similar economic activity. If the enterprise or company is engaged in more than one activity in a building or a part of it, then each activity is considered to be an establishment provided that it has separate accounts. For further clarification, if two different activities are located in one place and can be separated financially (independent accounts), then each activity in this case shall be deemed to be an independent establishment. In case separation is not possible, then all of them shall be treated as one establishment (unit). The predominant economic activity is considered by the establishment as the major activity, while the rest of activities shall be considered as secondary or auxiliary where its data shall be included in the main activity questionnaire.

The establishment must also have one or more employees in order to carry out its economic activity. In this sense, the basis of its classification as an establishment is its location in a fixed place. Therefore, street vendors are not considered as establishments and street stalls are not considered as establishments too, while licensed and fixed stalls in a public market or a building are considered as establishments and are included in the census. For agricultural census purposes, it is necessary to determine the establishment type (whether it is an organized farm) and the farm type should also be determined, for example, a poultry farm (layers or broiler) or a cattle farm.

7-13: Occupancy Status of the Establishment:

- Inhabited establishment.
- An establishment for work only.

Vacant: It is an establishment without any assets.

Closed: It is a closed facility so that neither its name nor its economic activity can be traced.

Under Construction: it is a facility with a roof and walls and is currently under construction or finishing (i.e., its construction is not completed and not ready for practicing any economic activity) at the time of the census.

Worship: For worship purposes only, such as mosques and churches.

Entertainment and culture.

7-14: Household:

It is one or more individuals occupying an independent housing unit (or part thereof). For the census purposes, there are two types of households: the private household and the collective household. The private household has a head (household head) whose members share the expenditure of the household head income or some of its members. It is common to have a close relationship that binds most members of the household together. It is also common for them to participate in all or some meals.

The collective household does not have a household head and is made up of a group of individuals, but they do not share income and expenditure arrangements such as collective labour camps, nurses' dormitories outside the hospital, teachers' residences, hotel guests, prison inmates and homes for the elderly, orphans and mental health clinics. For the agricultural census purposes, the household head in collective households (in case of collective labour camps) is the oldest person.

7-15: Home Gardens:

It means the planted plot of land around the house and does not meet the conditions of a plant holding. It is used for growing ornamental plants such as flowers, fruit trees, vegetables or field crops.

7-16: Agricultural Holding:

It is an economic unit for agricultural production under one management and includes all existing animals and all land used in whole or in part for agricultural production purposes, regardless of ownership or legal form. Management of the same holding could be run by one person or a household, two or more persons or two households may participate. A clan or a tribe can run the management or it could be managed by a legal entity such as a company, cooperative association or government agency.

The holding land may consist of one or more parts, located in one locality, provided that all parts of the holding participate in same means of production such as labor, agricultural buildings, agricultural machinery and towing animals.

The following economic activities are not considered as agricultural holdings because their scope is not within agriculture:

- Hunting and breeding of hunting animals.
- Exploitation of forests or logging.
- Fishing.
- Agricultural services.

* Note: Forests and nurseries that are within the holding must be included. They are defined as follows:

- Definition of forest (forest trees): It is part of the holding area that has dense forest trees, founded by nature or by man, and has or will have value as wood or other forest products or used as windbreakers.
- Nursery area: It is part of the holding area used for producing seedlings whether for being planted or for sale and whether they are vegetables such as tomatoes or field crops such as tobacco or fruit trees such as citrus. Forest tree nurseries, private and public nurseries are excluded.

7-17: Plant Holding:

It is defined as the holding that has crops, vegetables, field crops or fruit trees that has a total area of one dunum or more or any protected area (green houses, tunnels or glass houses).

7-18: Animal Holding:

The holding is classified as an animal holding if it contains animals only (cattle, camels, goats or sheep) provided one or more of the following conditions exist:

- 1) Ten sheep, goats or both.

Goats: Their bodies are covered by hair.

Sheep: Their bodies are covered by wool.

- 2) One camel or more: It is the animal that has a fatty mass on its back (the hump); the female camel is called (Naqah).
- 3) One or more working bee hives: These are the hives that shelter the honey bee colonies.
- 4) One or more female cows (domestic breeding): Any single cow or more that is bred without the presence of technical requirements, equipment and license.
- 5) One organized cattle farm: These are farms that are specialized in raising cattle for commercial purposes. Establishing such farms require obtaining prior license from the official authorities under certain conditions. The farm should have buildings and tools needed for raising animals, such as stables, breeding hangars, automatic and semi-automatic milking machine, cold room or store and fodder warehouse ...etc.
- 6) Thirty non-organized poultry (domestic): They include all poultry raised at homes for agricultural production such as; chicken, pigeons, ducks, rabbits, quails (partridges), ostriches and peacocks.
- 7) One organized poultry farm: This type of farms is specialized in raising broiler chicken, table eggs or hatching eggs. They have buildings and tools for animal breeding and operate in a commercial manner. Establishing such farms requires obtaining prior permission from the official authorities under certain conditions. It is worthy to note that numbers of birds is in thousands. These farms are divided into the following categories:
 - a) Broilers: These are the farms specialized in raising chicken for meat production.

- b) Egg Layers: These are the farms specialized in the production of table eggs.
 - c) Mothers: These are the farms specialized in the production of hatching eggs.
- 8) Fish farms: They are ponds used for fish farming, whether fresh water or brackish water is used, whether the purpose of breeding is to increase or produce fish. These farms have buildings, ponds and tools necessary for breeding noting that they operate in a commercial manner. Establishing such farms require obtaining prior permission from the official authorities under certain conditions.

7-19: Mixed Holding:

The holding is classified as being a mixed holding if it consists of land used for plant production as well as animal husbandry. Thus, the plant holding that has one or more cows, one or more camels, ten goats or sheep or more or both, or organized farms, or 30 or more poultry or a beehive are classified as mixed holdings.

7-20: Agricultural Holder:

He/she is a person or a group of persons or legal persons who exercises administrative control over the operation of the agricultural holding and makes key decisions regarding the use of available resources. The holder shoulders technical and economic responsibilities of the holding and may assume all responsibilities directly or assign day-to-day management responsibilities to a paid manager.

If two or more members of the household manage the same holding, then the household head is considered the holder.

In this case, it is necessary to distinguish between the agricultural holder and the owner of the agricultural holding. It is not necessarily that any owner is a holder, especially plant holdings: the owner may own this holding or may lease it to others; therefore the tenant will bear the economic consequences, expenses and the agricultural decision during the agricultural season.

It is not necessarily imperative that the holder should own the agricultural holding as utilization and management of the holding may be based on certain arrangements between the holder and the owner, such as renting, forced acquisition and so on. It should be noted that the person who is leasing the crop only is not considered as a holder.

The targeted person in the census is the agricultural holder: He/she is the one who has the administrative power over the holding, the agricultural decision and bears the economic consequences of the holding at different work stages. He/she manages this holding and its resources (whether personally or through a paid manager), has the right to dispose of the holding resources (whether he owns the holding or getting this right through renting or forced acquisition) during the agricultural year of the census (1st August 2016 – 31st July 2017).

7-21: Land Tenure System (Right of Utilization)

It means the arrangements or rights under which the holder is able to acquire and utilize the land of the holding. Therefore, the land tenure system may refer to its ownership (owned or considered to be owned), forced acquisition, leased in return for money or for a share of the crop.

7-22: Management of the Holding / part of it:

It means the person responsible for managing the agricultural holding activities, using its components and follow-up on the implementation of these works. The person responsible for management of the holding could be:

- The holder himself: He assumes the required administrative tasks noting that no other person or persons can play such role.
- A household member: He could be the son or wife for example. It is important here to determine the sex of the person who manages the holding.
- A paid manager: He is another person who is charged with managing daily activities of the holding in exchange for cash or in-kind wage.

7-23: Legal Entity of the Holder:

The legal entity or the legal status of the holder means nature of the holder who bears the administrative, technical and economic liability of the holding. He/she could be one of the following:

Individual: A person (male or female) who may be single, household head or the most active household member who is most interested and preoccupied with the holding management.

Household: It means that more than one individual in the same household is responsible for the holding. They are jointly involved in decisions regarding management of the holding.

Partner Individuals: They are persons who belong to different households and are involved in decision-making for the agricultural holding management and bear the consequences of its running.

A company Registered Under the Companies Law: It represents the situation in which a number of persons or entities share the holding. Management of the company is responsible for the disposal of the holding resources and manages it directly or through a paid manager.

Government Authority: If the holding is owned by a government body that manages its resources directly or through a paid manager or institution, then the holder in this case is considered as a governmental body.

Other: If the legal entity is not as mentioned above.

7-24: Financing Sources of the Holding / part of it:

It means the parties to which the holder has sought loans in order to finance projects for the holding either during the agricultural year 2016 -2017 or earlier. It must be emphasized that

these loans are meant for financing the agricultural projects within the holding and not outside it or for other areas.

7-25: Household Head:

It means the person recognized by other members as the chief and has the authority and primary responsibility for managing the household affairs.

7-26: Respondent:

He/she is the person responding to the enumerator's questions about the agricultural holding noting that he/she must be capable and qualified to provide that data.

7-27: Holder's Age (in full years):

It means the time period between the birth date and the census date calculated in full calendar years (i.e., months and days of any number are neglected). For example, the age of the person is recorded as 12 years if his/her age is 12 years and 9 months.

7-28: Permanent Agricultural Worker:

It means the person who works regularly and continuously in the holding during the agricultural year.

7-29: Temporary Agricultural Worker (Occasional):

It means the labourer who works irregularly and not continuously in the holding during the agricultural year. Usually, temporary workers (occasional) are hired for short periods of time to accomplish certain tasks such as harvesting, fruit-picking ... etc., so that their services will be terminated upon completion of the task.

7-30: Holder's Main Occupation:

It is the main work carried out by the concerned person in which most of the normal working time is spent. If he/she spends more than 50% of his/her work time during the year in agricultural work, then the main occupation is agriculture. If he/she spends more than 50% of his work time during the year in non-agricultural work, then the main occupation is non-agricultural.

7-31: Secondary Occupation:

It is the secondary work carried out by the concerned person and takes less than 50% of the time allocated to work during the year.

7-32: Agricultural Worker:

He is the person who had a work at some time in the agricultural holding during the census reference year and whose employment status was classified as a worker. He could have worked in return for a wage, food or any farm product. There could have been agreed remuneration or compensation at some time during the year. This includes permanent and

temporary workers. The person who worked in the holding many times during the reference period is counted only once within the agricultural labour.

7-33: Owned Area:

It means the holding area owned by the holder as shown in its title deed who has the right to assess the nature of its use, noting that the area owned and leased to others do not fall within the land holding.

7-34: Leased Area:

It represents the total land area leased by the holder from others during a limited period of time. It may be in return for an agreed amount of money or a share in the crop or both. Management of the holding shall be the responsibility of the holder.

7-35: Utilized Area through Forced Acquisition:

It represents the total land area that is exploited by the holder without title deed and without a rental system. Land occupied by forced acquisition persons may be a private property or public land exploited without the owner's knowledge or consent.

7-36: Total Area of the Holding:

It means the holding area, including the area owned or leased from others and any areas held by the holder under other rights of utilization such as forced acquisition, excluding the area owned by the holder and leased to others. The holding consists of the cultivated land and the land used for the farm house, stockyard, squares and roads. The area of any part of the holding must be reported even if it is meant for animals only.

7-37: Part of the Holding:

It represents any land separated from the rest of the holding, whether by land not at the disposal of the holder, railway, public road, forests ...etc. The holding may consist of one or more parts, provided that all its parts are under same management.

7-38: Arable Area:

It constitutes part of the total holding area and includes all the land areas under different methods of exploitation including the cultivated land and fallow land (for temporary rest).

7-39: Arid Area:

It constitutes part of the total area and not suitable for growing any crop due to permanent or temporary reasons such as saline, rocky and steep lands.

7-40: Unprotected Temporary Crop Land (Uncovered Vegetables, Field Crops and Pick Flowers):

It represents all cultivated land using the uncovered (Unprotected) cultivation method for growing of crops whose life-cycle is less than one year. They are cultivated, harvested and

their production is collected in less than a year. They include field crops, uncovered vegetables and pick flowers.

7-41: Temporary Pasture Land:

It means the land planted with grazing grasses, used to feed animals whose life cycle is less than five years.

7-42: Fallow Land left for Rest:

It is an area of temporary agricultural land, which is usually used for agricultural production purposes, within an agricultural cycle followed in the holding, and is left fallow for rest in the agricultural season coinciding with the census.

7-43: Temporary Protected Crops Land (Protected Vegetables and Pick Flowers):

It is the land covered with a protective cover of glass, plastic or any other material in order to protect the plants against external factors. This method is often used for cultivation of vegetables and protected pick flowers.

7-44: Permanent Crops Land (Permanent Trees):

It is an area of land planted with permanent crops that does not need to be re-cultivated after each harvest season, such as fruit trees that last for several years.

7-45: Pastures and Permanent Meadows Land (Permanent Pastures):

It is the land within the holding cultivated permanently (for a period of five years or more) with grass fodder crops whether it is constantly sown or grow naturally.

7-46: Forest Land (Forest Trees):

It means the land that has dense forest trees found by nature or by man. It has or will have value as wood or other forest products or could be used as windbreakers.

7-47: Nurseries' Area:

They are part of the holding area used to produce seedlings, whether they are vegetables seedlings such as tomatoes, field crop seedlings such as tobacco or fruit trees such as citrus.

7-48: Untapped Land that has Potential production Capacity (Fallow due to Negligence):

It is an area of land left without exploitation for several agricultural seasons exceeding three seasons and requires reclamation works to become able to produce.

7-49: Winter Agricultural Cycle:

It represents the time period between August and end of November during which the temporary agricultural crops are cultivated in the Jordan Valley areas (Aghwar) and between August and the end of January in the highlands.

7-50: Summer Agricultural Cycle:

It represents the time period between December and end of July during which the temporary agricultural crops are cultivated in the Jordan Valley areas (Aghwar) and between February and end of July in the highlands.

7-51: Single Crop:

It means a single-type crop planted in a given area independently (i.e., without the presence of crops of other species along with it in the same area such as the field is planted with olives, tomatoes or wheat only).

7-52: Successive Crops:

It means the temporary crop (vegetables or field crops) planted in a field planted with another temporary crop (totally or partially) after the cultivation date of the first crop, or re-cultivated after harvesting the first temporary crop. (This means that the same plot of land is cultivated more than once during the agricultural year).

7-53: Combined Area:

It means each area cultivated with a temporary crop (vegetables or field crops) within the field of permanent trees (totally or partially), its area should be less than the tree field area.

7-54: Crop Area:

It represents the total of different crop areas cultivated during the agricultural year, whether through successive or combined plantation.

7-55: Scattered Trees:

It represents the number of fruit trees (whether of one kind or more) planted in the holding land area / or part of it and are scattered or planted on the sides and passages and form a fence or windbreakers.

7-56: Irrigated Area:

It is the land area that is usually deliberately irrigated with non-rain water to improve the crop and pasture production.

7-57: Farm Animals:

They include all animals that are kept for production and farm services purposes such as; cattle, buffalo, sheep, goats, horses, mules, donkeys, camels, poultry and bees.

7-58: Sheep:

Their bodies are covered with wool and often are fat-tailed and include the following breeds:

- Domestic Sheep: It is one of the sheep breeds found in most regions of the Kingdom, which is smaller than other breeds and predominantly white.

- Najdi Sheep: It is larger than the domestic sheep, predominantly black and often found in mountainous areas.
- Hybrid Sheep: It is a breed resulting from mating the (AWASI) sheep with the Najdi sheep. Its size is middle between the two.
- Foreign Sheep: It is a breed of Cypriot sheep the size of which is larger than the domestic kind and has a small fat-tail and with an extended thin tail and is available in some sheep farms.

7-59: Goats:

Their bodies are covered with hair and have no fatty tails. They comprise the following breeds:

- Domestic Goats: A breed found in most regions of the Kingdom, which is smaller than other breeds, and predominantly black.
- Shami (Syrian) Goats: It is a larger breed than the domestic kind and predominantly light or dark brown.
- Hybrid Goats: It is a breed that results from mating of the domestic kind with the Shami goats noting that its size is middle between the two.
- Foreign Goats: Their source is foreign countries, their size is larger and their productivity is high.

7-60: Cattle:

They belong to one of the following breeds:

- Dutch Cows: These are one of the cow breeds, have large size, high-yield and their color is black with white patches.
 - Domestic Cows: Their size is smaller than Dutch cows, less yielding and predominantly brown.
 - Shami (Syrian) Cows: These are the yellow-colored Golani cows with no patches, medium-sized with broad shoulders and the head is larger than the Dutch cow. Annual yield is 3 tons of milk and usually found in the northern region bordering Syria. This type is about to extinct.
- Hybrid Cows: This breed is a mixture between the Holstein Friesian cows and the domestic cows to produce a generation called “the Combined” kind. Yield is 2500 Kilograms of milk in the middle between the two breeds (800 Kilograms in the case of the domestic type and 5000 Kilograms in the case of the Dutch type). They are resistant to diseases and natural conditions, their feed needs are less than the Friesian and more than the domestic cows and depend on pastures.

7-61: Organized Farms:

They represent all farms specialized in the production of one or more types of livestock. They have the necessary buildings and tools for animal husbandry and operate in a commercial manner. Establishing of such farms requires obtaining prior authorization from the official authorities under certain conditions, they include the following types:

- **Organized Cattle Farms:** These farms are specialized in cow-breeding for commercial purposes. The farms should have the buildings and tools needed for raising animals, such as stables, breeding hangars, automatic and semi-automatic milking machine, cold room or store and fodder warehouse ...etc.
- **Organized Poultry Farms, including:**
 - Broilers: These are the farms specialized in raising chicken for meat production. Certain breeds that have high ability to convert feed into meat are raised there.
 - Egg Layers: These are the farms specialized in the production of table eggs. Some chicken breeds have a high ability to convert feed into eggs.
 - Mothers: These are the farms specialized in the production of hatching eggs.

7-62: Domestic Poultry:

It includes all domestic poultry raised at homes (unorganized holdings) for agricultural production purposes. Poultry and birds used for ornamental purposes are excluded.

7-63: Fish Farms:

They are ponds used for fish farming, whether fresh water or brackish water is used, whether the purpose of breeding is to increase or produce fish.

7-64: Beehives: They are divided into two types:

- Traditional Hives: These primitive hives are made of clay or pottery and rarely used in Jordan.
- Modern Hives: These are available in several shapes, made of wood according to scientific specifications, easy to deal with and detect the bees in them whenever necessary.

7-65: Bee Breeds (Colonies):

Bee breeds are divided into three kinds:

- Domestic: This breed is known as the Holy Land breed or the Syrian breed, of which there are two species: the SAYAQI (Harathi) bees and the GHANAMI (Qamari) bees.
- Foreign: These are the imported breeds such as the Italian, Carniolan and the Caucasian breeds.
- Hybrid: It is a product of hybridization between the local breed and the pure breeds that were introduced to Jordan. Some of these breeds bear good qualities and some are undesirable.

7-66: Wells:

It means any well whose water is used in agricultural production, whether it is artesian or used for water collection or for storage. This does not include wells used for non-agricultural purposes such as drinking water wells and others.

7-67: Machinery and Equipment:

It means the agricultural machinery and equipment owned by agricultural holders only and does not include agricultural machinery owned by the public sector, cooperative societies and companies that lease machinery to agricultural holders.

7-68: Organic Agriculture:

It is an agricultural system based on the use of natural biological materials in agriculture instead of chemical fertilizers, pesticides and control materials which are harmful to public health. Genetically modified breeds and organisms in addition to preservatives are not permitted in the manufacturing, processing or canning of foods, thus the foodstuffs reach the consumer in their natural state.