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I. Brief Summary

Production of agriculture, forestry, fishery, and animal husbandry, in the overall economic and social development, is responsible for the provision of food and industrial raw materials, conservation of natural ecological balance and improvement of the living environment, and it is the livelihood industry most closely related to the community. With population growth, energy crisis and climate change, the management and development of agriculture, forestry, fishery, and husbandry, is not only related to the vital interests of farmers and fishermen, but also provides the function of food security and ecosystem maintenance. The census of agriculture, forestry, fishery, and animal husbandry is one of basic national censuses and should be conducted regularly in accordance with the Statistics Act. We have done fourteen censuses already since the first census was launched in 1956. The major purpose of this census is aimed to collect basic agricultural information, such as the characteristics of the population of farm households, the distribution and utilization of farmland resources, and gross income of agriculture and fishery, as well as the development of the agricultural industry, such as safe agriculture, labor inputs, and the distribution of agricultural products for sale, and continue providing numerous policy application to agricultural policy, the use of agricultural land, and the transformation of operation for the government.

II. Census Planing

To meticulously plan the 2020 Census, DGBAS had reviewed the merits and demerits of last (2015) census, collected the current priorities and objectives of agricultural and fishery policy, and referred the advantages of foreign census designs. To collective wisdom, we invited the representatives of agricultural authorities, experts, and scholars to participate in several meetings and discussions, and after the programs, plans, census forms and analysis framework related to the census were considered by DGBAS Census Evaluation Commission meeting, various planning and design work were completed.

To test the adaptation and completeness of various preliminary designed census forms, guidance notes, audit methods and related operation methods for this census, we conducted pretests twice in July 2019 and in April 2020 respectively. The 1st pretest was conducted in form of fieldwork by related census designers of DGBAS and the staff sent by Statistics Department of 7 counties/cities governments where the samples of the pretest located; DGBAS planned the second pretest, selecting 15 counties/cities with larger number of agricultural and fishery units; the Departments of Budget, Accounting & Statistics and the Department of Agriculture in those counties/cities were responsible

for investigation. The problems were discovered from the two pretests, and then compiled into the work review reports, providing the basic principles of census revision forms and operation methods.

III. Census Operation Contents

A. Census reference period: The census reference day was December 31, 2020. The census reference period was from January 1 to December 31 in 2020.

B. Enumeration period: The census was enumerated from May 1 to August 30 in 2021

C. Geographic area: The census covered all municipalities, counties (cities).

D. Scope of the census industries: The census, based on the "Standard Industrial Classification System of the Republic of China, including Agriculture & animal husbandry (i.e., growing of crops, animal husbandry, and support activities to agriculture and animal husbandry), forestry and fishery (i.e., fishing and aquaculture).

E. Coverage

1. Agriculture: All enterprises operates growing of crops, animal husbandry, support activities to agriculture and animal husbandry ; its objects were divided into agricultural enterprises and agricultural service enterprises.

a. Agriculture and Animal Husbandary: Refer to enterprises had agricultural resources or engaged in agricultural and animal husbandary production or experimentation, such as crop cultivation, livestock and poultry raising, bees and silkworms keeping or operated leisure agriculture with agriculture resources. Enterprises should meet one of the following census criteria:

- (1) At the end of 2020, a unit managed (including on lease/occupy and be consigned; but not including on lending) cultivated land more than 0.05 hectares (included with or without actual crops grown).
- (2) At the end of 2020, a unit raised at least 1 big-sized animal (cattle, deer, horse, etc.).
- (3) At the end of 2020, a unit raised at least 3 medium-sized animals (hog, goat, ostrich, etc.).
- (4) At the end of 2020, a unit raised at least 100 small-sized animals (chicken, duck, goose, rabbit, etc.).
- (5) In 2020, a unit of produced and sold NT\$20,000 or more of agricultural products .

b. Agricultural service enterprise: Refer to family households or non-family households offering direct service (i.e., cultivation activities, post-harvest crop activities, support

activities to animal husbandary) to farm households and farms, and gross income (without deducting from expenditures and expenses) of their service in 2020 was more than NT\$20,000.

2. Forestry: Refer to enterprises that had forestry resources or engaged in planting, cultivation, and management of forests and bamboo forests, including forestry activities that also provide leisure and recreation for the public, and manage (including on lease and be consigned) forest land area over 0.1 hectares at the end of 2020; however, the forestation and logging contractors should not consider the forest land area of contracting jobs as their managing forestry resources.
3. Fishery: Refer to enterprises that had fishery equipment and aquaculture resources, or engaged in production, and experimentation for fishing and aquaculture, or operated leisure fishery with fishing equipment and aquaculture resources. Enterprises should meet one of the following census criteria:
 - a. At the end of 2020, a unit had the right (including on lease; but not including on lending) to use fishing equipment (i.e., powered fishing crafts, sampan, and fishing raft).
 - b. At the end of 2020, a unit managed (including on lease/occupy and be consigned; but not including on lending) aquaculture area more than 0.05 hectares .
 - c. In 2020, a unit produced and sold NT\$20,000 or more of fishing and aquaculture products.

F. Census Units:

1. Family households as farm households, agricultural service households, forestry households, and fishery households are defined as common household that operates agricultural, forestry, fishery, and livestock production or service independently as a census enumeration unit.
2. Non-family households included farms, agricultural service enterprises, forest farms, and non-sole proprietorship fishery households refers to a census enumeration unit that comprises independently operated and managed locations involved in agricultural, forestry, fishing, or livestock production, experimentation, or services.

G. Method of enumeration: A comprehensive census is conducted through a variety of channels, such as personal interview investigation, leaving forms to be filled out, and online filing.

H. Questionnaire item:

1. Agriculture and Animal Husbandary:

- a. Type of organization.
- b. Operating situation of agriculture in the census year.
- c. The cultivated land and non-cultivated land which can be used for crops growing at the end of the census year and use situation in the census year.
- d. Crops production in the census year.
- e. Number of livestock and poultry at the end of the census year.
- f. The main industry in agriculture in the census year.
- g. Operation status consigned to agricultural service enterprise in the census year.
- h. Operating situation of leisure agriculture in the census year.
- i. Operating situation of agriculture-related business (excluding products processing and leisure agriculture) in the census year.
- j. Characteristics of household population aged 15 years and over in farm households.
 - (1)Relationship of householder.
 - (2)Sex.
 - (3)Birth year.
 - (4)Education.
 - (5)Family livelihood maintainers.
 - (6)Status of own farm work.
 - (7)Annual man-days engaged in own farm work.
 - (8)Whether engaged in work other than self-own ariculture in the census year.
 - (9)Main working conditions in the census year.
 - (10)Whether is a new farmer after 2016.
- k. Characteristics of manager of farms.
 1. Number of employees and workers without wages engaged in self-owned agriculture enterpsies (farms) in the census year.
- m. Annual agriculture-related gross income in the census year.
- n. Distribution of agricultural products in the census year.

2. Agriculture Service Enterprises:

- a. Type of organization.
- b. Characteristics of manager.

- c. Number of employees engaged in agricultural service in the census year.
- d. Operating situation of agricultural service in the census year.
- e. Number of agricultural machinery at the end of the census year.
- f. Area of land and farm shed for agricultural service at the end of the census year.
- g. Annual gross income of agricultural service in the census year.

3. Forestry:

- a. Type of organization.
- b. Forestry-related work in the census year.
- c. Number of household population at the end of the census year.
- d. Characteristics of managers.
- e. The main forestry operating types in the census year.
- f. Forestry land area at the end of the census year.
- g. The forest land area involved in national afforestation program at the end of the census year.
- h. Forestry operation in the census year.
- i. The number of employees engaged in self-owned units (farms) and those who were not paid in the census year.
- j. Annual forestry-related gross income in the census year.

4. Fishery

- a. Type of organization.
- b. Operating situation of fishery in the census year.
- c. Number of fishing crafts at the end of the year and operating situation in the census year.
- d. Engaging in fishing without fishing crafts in the census year.
- e. The aquaculture area which can be used for cultivating and the fishing vessels used at the end of the census year and use situation in the census year.
- f. The main industry in fishery in the census year.
- g. Operating situation of leisure fishery in the census year.
- h. Operating situation of fishery-related business (excluding products processing and leisure fishery) in the census year.
- i. Characteristics of household population aged 15 years and over in sole proprietorship fishery households .
 - (1)Relationship of householder.

- (2)Sex.
- (3)Birth year.
- (4)Education.
- (5)Family livelihood maintainers.
- (6)Status of own fishery work.
- (7)Annual man-days engaged in own fishery work.
- (8)Whether engaged in work other than self-own fishery in the census year.
- (9)Main working conditions in the census year.
- j. Characteristics of managers in non-sole proprietorship fishery households.
- k. Numbers of employees and workers without wages engaged in self-owned fishery (this unit) in the census year.
- l. Annual fishery-related gross income in the census year.
- m. Distribution of fishery products in the census year.

I. Demarcation of districts:

- 1. In principle, an enumeration district would contain 120 census units; 10 to 12 enumeration districts would be grouped into an administrative district. However, the size of enumeration and administrative district could be enlarged or reduced as necessary.
- 2. Supervisory districts: In principle, a county/city was designed to be a supervisory district.

J. Scope of specific survey:

- 1. Ministry of Agriculture
- 2. Ministry of Education
- 3. Ministry of Justice
- 4. Ministry of Economic Affairs
- 5. Veterans Affairs Council
- 6. Municipality, County/City Government

IV. Preparatory Operation

A. Demarcation of enumeration districts: To reduce the overlapping or omission of the census objects and enhance the accuracy of the data, during the period from January to February of the year 2021, the demarcation of enumeration districts was carried out by city and county authorities. Each municipality and county (city) government took responsibility for this task in collaboration with the local township (town, city, district) offices. The enumeration districts were used to recruit census staff at all levels and making census work smoothly.

B. Promulgation of census administrative system: To save paper, reduce staff workloads and meet the timely requirement of the census, DGBAS has developed “Census Administration

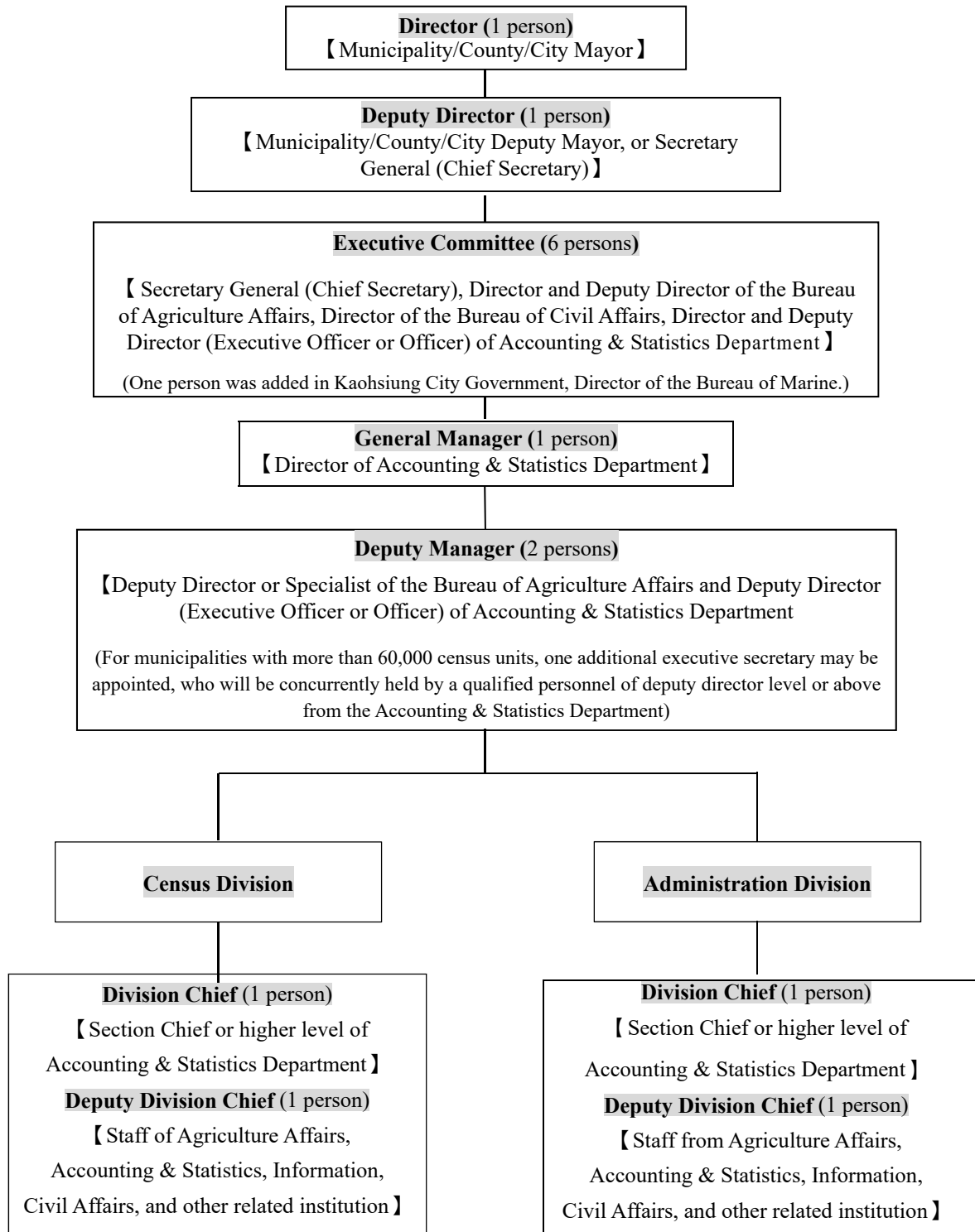
System, CAS”, which installed with the function of staff recruitment, demarcation of enumeration districts, funding management, and staff performance evaluation. Municipality/County/City government’s administrative staff training was initiated on early January 2021 by DGBAS.

C. Establsihment of census organization:

1. Specific survey organization: Each related authority set up organization and assigned counselors, officers, and enumerators, under the direction and supervision of DGBAS to conduct specific survey.
2. Census organization of Municipality/County/City: Municipality, county/city governments established the “Agriculture, Forestry, Fishery and Animal Husbandry Census Department” (hereinafter referred to as “the Census Department”) respectively, which was composed of accounting & statistics and agriculture related units under the direction and supervision of DGBAS to conduct census affairs.
3. Census of organization of Township/City/District: An "Agriculture, Forestry, Fishery and Animal Husbandry Census Office" (hereinafter referred to as the "Census Office") was established in each Township (Town/City/District) and the indigenous district office of Municipality, under the direction and supervision of DGBAS. Each district office conducted census affairs of own district and was supervised by higher census authorities.

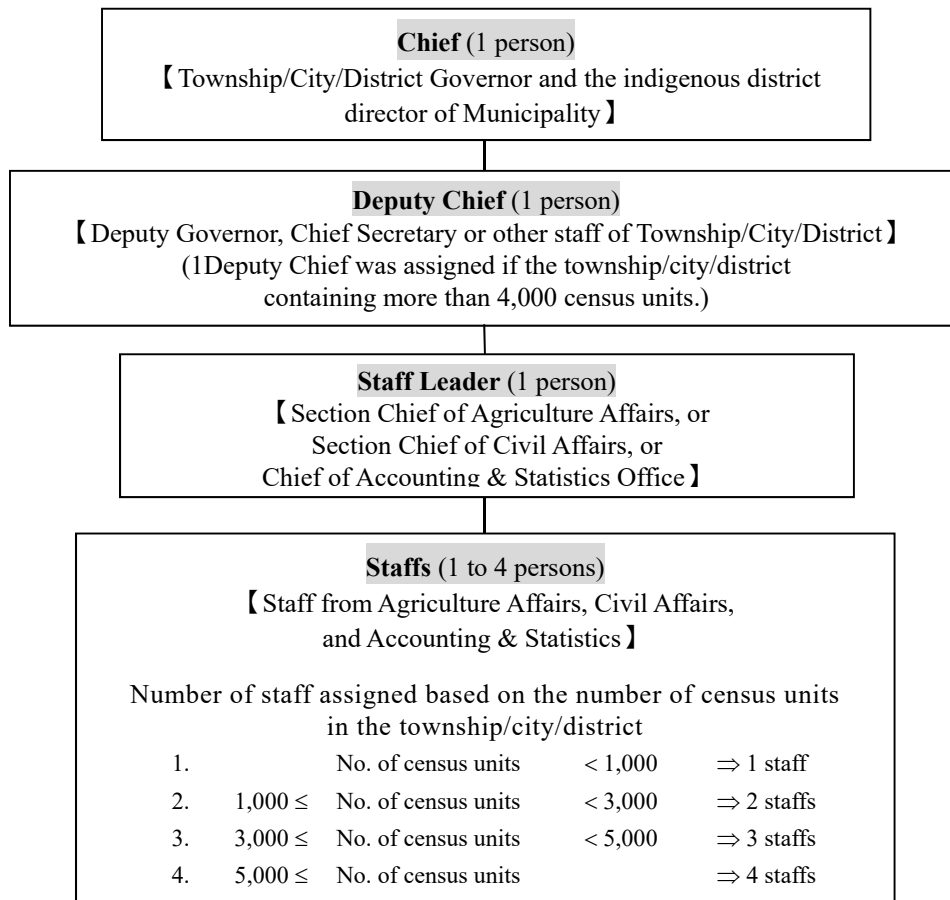
Agriculture, Forestry, Fishery and Animal Husbandry

Census Department of Municipality/County/City



Agriculture, Forestry, Fishery and Animal Husbandry

Census Office of Township/ City/District



D. Recruitment of census staff at all levels: To successfully accomplish the census mission and enhance the functions of the census organization, local census organizations had set enumerators, administrators, inspectors, and supervisors to carry out field investigation from May to August 2021.

1. Enumerators: One enumeration district (about 120 units) was assigned to one enumerator. Enumerators were recruited either from government staff of agriculture affairs and accounting & statistics, or from civil labor force.
2. Administrators: One administrative district (about 10 to 12 enumeration districts) was assigned to one administrator. Administrators were recruited either from government staff of agriculture affairs and accounting & statistics, or from civil labor force.
3. Inspectors: One administrative district (about 10 to 12 enumeration districts) was assigned to one inspector. Inspectors were recruited from related personnel by census department of each Municipality, County/City government.
4. Supervisors: One supervisory district was assigned to one supervisor. Supervisors were recruited from those who possessed abundant experiences on censuses, surveys, or statistics by DBGAS.

E. Compilation of enumeration rosters: To reduce the omission and enhance the full coverage of interviewees, not only the 2015 census enumeration rosters were taken into consideration, but new rosters of authorities concerned were collected for census use.

F. Training of census staffs: To improve the quality of data and unify the enumeration procedures, it is imperative to let census staffs fully understand the implications and significance of the Census, such as operation rules and regulations, ways of reporting census questionnaire, interview skills. The training program was carried out as follows:

1. Census promulgation meeting: The half-day meeting was held by DGBAS in early February 2021. The chiefs of agricultural units, directors, and deputy directors (senior executive officers) and chief of Accounting & Statistics departments in each municipality, county/city were invited to the meeting.
2. Census administration system seminar: The meeting was held by DGBAS in early January of 2021, and lasted for 2 days. The participants included personnel designated by the municipal and county (city) governments.
3. Working seminar : The seminar was held by each County/City Census Department in March 2021. Not only directors, deputy directors, executive committee, general managers, deputy managers, division chiefs and deputy chiefs, and staffs in Census Department, but also directors, general managers, and staff in charge of census operations in their respective townships (towns/cities/districts).
4. Lecturers and supervisors training: The two-day meeting was held by DGBAS on middle and last March 2021. Participants included lecturers of investigators training, supervisors, and relative personnel.
5. Investigator training : Held from April 2021 by district. Participants included enumerators, administrators, inspectors, and staffs.

G. Lecturers and training materials: The recruitment of lecturers and compilation of training materials for this census were made by DGBAS.

H. Census promotion: To make the public fully aware of the purposes and implications of the Census, the Census Departments started local promotion programs as soon as Municipality, County/City Census District Departments had established. The promotion should be highly concentrated a week before field investigation started and finished at the end of investigation.

V. Census Implementation

A. Personal interview: Enumerators are supposed to wear identification card and carry necessary forms to visit census units during this period, and conduct on-site assessments and preliminary inspections. They should proceed according to the prescribed schedule, and submit completing the verification of census forms and relevant documents to the administrator.

B. Administration of field work: During the implementation of the census, the administrators were required to assist the enumerators on how to conduct the enumeration work, including the application of enumeration techniques, the control of work progress, and the co-ordination and resolution of difficult issues, etc.; and should also review and approve the census forms submitted by the enumerators before sending them to the inspectors.

C. Inspection of completed forms: Upon receipt of the census form from the administrator, inspectors should conduct serious review of the completed forms for content. The completed forms with serious incidental omissions or contradictions were returned to enumerators to check again.

D. Supervision of census operation: To facilitate the census operation, DGBAS assigned one supervisor for each supervisory district. Supervisors are responsible for consulting of practical operations, monitoring the progress of field works and review of the data.

E. Delivery of census documents: Local census organizations are required to collect and deliver the completed census forms to DGBAS before deadline.

VI. Data Processing

For those who return the census form in writing, DGBAS adopted the Optical Character Recognition (OCR) technology to scan the census forms, recognize and edit the data on line, and save the data in an image format; for those who provide the data by using the Internet filing system, the data will be directly registered in this census database after online checking. The compilation of census data and statistical tables were processed by the contractor assigned by DGBAS.

VII. Compilation of Census Reports

Two types of census reports were compiled: preliminary report and final report. The contents of the former were the number of agriculture, forestry, fishery and animal husbandry enterprises, household population and structures of production, etc.; and it was edited and published in June 2022. The latter included general report, agriculture report, agricultural service report, forestry report, and fishery report. The general report was scheduled to be published during June 2023. The census reports (including electrical books) will be disseminated for public use.