**For discussion on
7 January 2019**

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**Legislative Council
Panel on Financial Affairs**

Plan for the 2021 Population Census

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Purpose

       This paper seeks Members' comments on the planned approach for conducting the 2021 Population Census (21C) by the Census and Statistics Department (C&SD).

Background

2.   Since 1961, it has been an established practice in Hong Kong to conduct a population census every 10 years and a population by-census in the middle of the intercensal period. The last population census and by-census were conducted in 2011 and 2016 respectively. Following this practice, C&SD will conduct the next population census in 2021.

3.   The aim of conducting population censuses/by-censuses is to obtain up-to-date benchmark information on the socio-economic characteristics of the population for studying the direction and trend of population changes. The data are key inputs for making projections concerning population, household and labour force. Such information is vital to the Government for planning and policy formulation. It is also important to the private sector for business and research purposes.

4.   The difference between population censuses and by-censuses is that the former take a complete headcount of the population while the latter do not. In both population censuses and by-censuses, detailed characteristics of the entire population are inferred from the results of a large sample in accordance with statistical theory. The sizable scale of population censuses/by-censuses, as compared to other general sample household surveys, can provide statistics of high precision even for population sub-groups and small geographical areas.

Consultation

5.   Planning for the 21C is underway. Extensive consultation on various aspects of the 21C started in July 2018 with a view to ensuring that the 21C will be designed and conducted in an efficient and cost-effective manner. It is an on-going process involving District Councils, advisory and statutory bodies, selected organisations including non-governmental organisations and trade and industrial organisations, relevant faculties/departments in academic institutions, and government bureaux and departments. C&SD will take into account the views received, having regard to the operational efficiency and cost-effectiveness of conducting the population census, and other relevant factors.

The Planned Approach for the 21C

Sampling Scheme

6.   As in the 2011 Population Census (11C), the 21C will comprise a simple enumeration on about nine-tenths of the households in Hong Kong to provide basic demographic information and a detailed enquiry on about one-tenth of households on a broad range of demographic and socio-economic characteristics. Same as the 11C, two types of questionnaire, namely, the "Short Form" and the "Long Form", will be used. The "Short Form", to be used for the simple enumeration, covers only a few basic questions (e.g. year and month of birth, sex and ethnicity). The "Long Form", to be used in the detailed enquiry, includes questions covered in the "Short Form" as well as additional questions related to the detailed characteristics of the population and the characteristics of households and quarters. The common information collected in both the "Short Form" and the "Long Form" combined together will give the complete enumeration results on the basic characteristics of the population. It will also form the basis for estimation of the detailed socio-economic characteristics of the population where the required data will be collected through the "Long Form".

Data Collection Period

7.   It is preliminarily planned that the data collection for the 21C will be conducted during the 36-day period from 30 June to 4 August 2021. This will be slightly longer than the 34-day period (30 June to 2 August 2016) in the 2016 Population By-census (16BC).

Data Collection Approach

8.   Having considered the advancement of technology, changing lifestyle of the Hong Kong people and the favourable take-up rate of the self-enumeration approach of the 11C and the 16BC, the multi-modal data collection approach will continue to be implemented in the 21C.   Under the multi-modal approach, data will be collected through different means including e-Questionnaires (eQ), telephone interviews, postal returns (for "Short Form" only) and conventional face-to-face interviews. As the first three data collection channels are more cost-efficient, they will be heavily promoted in the publicity campaign.   These three modes will be used during the first phase of the data collection period (tentatively from 30 June to 17 July 2021), whereas face-to-face interviews will be introduced as an additional mode during the second phase (tentatively from 18 July to 4 August 2021).

e-Q

9.   Both "Short Form" and "Long Form" households will be provided with an option to use eQ for filing the return themselves through the Internet. A mobile friendly eQ will also be made available so that respondents may complete eQ using smart phones or tablets anytime and anywhere.

Telephone interviews

10.   Both "Short Form" and "Long Form" households may call our telephone centre for telephone interviews. Telephone interviews have the advantage of providing instant guidance and assistance to respondents during data collection.

Postal returns

11.   Postal questionnaires with prepaid envelopes will be available for "Short Form" households but not "Long Form" households.   This is because the "Long Form" consists of a large number of questions and hence it would be necessary to have built-in functions in eQ for skipping irrelevant questions and checking for inconsistent or missing answers, or have a trained person (i.e. Temporary Field Worker (TFW)) to guide the respondent to complete the questionnaire through telephone or face-to-face interview.

<u>Face-to-face interviews</u>

12.   During the second phase of the data collection period, TFWs will visit and conduct face-to-face interviews with households which have not provided data through any of the above channels. As in the 16BC, TFWs will be equipped with mobile tablets for data collection. As compared to using the paper form questionnaires, the adoption of mobile tablets offers better support to fieldwork operations and enhances the quality of the collected data by allowing data validations and verifications with the respondents at an early stage. To address the public's concern about the personal safety of TFWs, pairing visit arrangement (i.e. TFWs must visit and interview households in pairs) will be fully implemented in the 21C as in the 16BC.

<u>Data Topics for the 21C</u>

13.   In the 16BC, there were 45 data topics, including the newly introduced topics of (i) subdivided units; (ii) floor areas; (iii) working hours; and (iv) ability to read/write languages (see **Annex**). The census/by-census data topics have to be reviewed before the conduct of each census/by-census to ensure that they remain relevant and meet users' needs. Consultation with users is an essential process in determining the census data topics.

14.   The user consultation exercise on the data topics for the 21C started in July 2018. Some 200 parties including District Councils, advisory and statutory bodies, selected organisations including non-governmental organisations and trade and industrial organisations, relevant faculties/departments in academic institutions, and government bureaux and departments were invited to provide views on the usefulness of the 16BC data topics. The respondents were asked to rate each topic as "Essential", "Desirable" or "May not be required" to serve as a reference for determining the 21C topics. Almost all topics in the 16BC were rated by the respondents as "Essential" or "Desirable". Respondents were also invited to make suggestions on new topics to be included in the 21C.

15.   Same as the past censuses/by-censuses, the following factors will be considered in deciding the topics for the 21C –

     (a)   **Usefulness of data** – The data should be extensively used by Government, researchers and the public. Hence topics which are for a very special purpose will not be included;

(b) **Willingness and ability of the respondents to answer** – The topics should be of a nature that respondents will be willing and able to provide adequate information.   Questions which are likely to arouse fear, prejudice, or unwarranted concern as intrusion into privacy, and those which are generally too difficult for the respondents to answer accurately should be avoided;

(c) **Ability of the enumerators to understand** – The topics should only entail questions and answers easily comprehended by an average enumerator without having undergone prolonged specialised training;

(d) **Existence of other data source/data collection channel** – The strength of a population census lies in producing reliable statistics for small geographical areas or population sub-groups.   These statistics generally cannot be tapped from other sources.   To ensure efficient use of resources for such a large-scale population census, topics for which the data can be obtained equally well or better from other sources/by other means will not be included;

(e) **Processing efforts** – For cost efficiency and timeliness of results, answers to the questions must be amenable to data processing by simple and cost affordable procedures.   Topics which call for laborious coding and editing are not favoured;

(f) **Comparability of data with previous censuses/by-censuses** – Previous topics should be maintained as far as possible in order to study the direction and progress of changes;

(g) **Keeping the interviewing time within reasonable length** – A population census cannot cover too many questions or questions that require detailed probing.   Only relatively simple, straight-forward and fact-finding questions should be included; and

(h) **Recommendations of the United Nations and international practices** – The recommendations of the United Nations and international standards should be followed as far as possible. For instance, data topics on geographical and internal migration characteristics (e.g. place of usual residence, duration of residence); demographic characteristics (e.g. age,

sex, marital status); educational characteristics (e.g. educational attainment); and economic characteristics (e.g. occupation, industry) are recommended.

Constrained by costs and operational considerations, there is a limit on the number and type of data topics to be included. To make room for any new data topics, some existing questions with smaller data demand might have to give way. Further research on the data topics and engagement with stakeholders will be carried out before we proceed to the stage of questionnaire design.

Computer Systems and Services

16. The 21C will be a large-scale and complex operation involving the entire Hong Kong population. It is essential to have effective and efficient computer support for implementing the multi-modal data collection approach, processing and analyzing the data collected as well as disseminating the census results.

17. A feasibility study on the required computer equipment and services for the 21C has been conducted. Results of the study indicate that the computer equipment and hosting services will have to be greatly strengthened for supporting the substantial increase in the number of households to be enumerated as compared to the 16BC. The 19 computer sub-systems developed for the 16BC can be re-used after necessary enhancement and consolidation, while one new sub-system has to be developed to support telephone interviews. Enhancements for the various old sub-systems will be introduced to streamline work flows and data flows; handle the "Short Form", which was not used in the 16BC; better support field operation; enhance data quality; improve efficiency of statistical imputation and calibration; and enhance convenience of accessing census statistics. The study also recommends that IT security measures should be strengthened in view of increasing cyber risks.

18. It is estimated that the computer equipment and services for the 21C project will incur a non-recurrent cost of some $203 million over a four-year period from 2019-20 to 2022-23. The recurrent maintenance cost beyond the project period will be absorbed by the department. The estimated cost covers provision of equipment and enhancement/development of computer sub-systems to support pre-census preparation work, census operation (e.g. data collection through various channels) and post-census activities (e.g. data processing, statistical analysis and data dissemination). Our plan is to seek funding approval from the Legislative Council Finance Committee in February 2019.

Advice Sought

19.   Members are invited to provide comments on the plan of the 21C as set out in paragraphs 6 to 18 above.

Census and Statistics Department
24 December 2018

Data topics in the 2016 Population By-census

Demographic and social characteristics
1. Year and month of birth
2. Sex
3. Marital status
4. Usual spoken language
5. Ability to speak other languages/ dialects
6. Ability to read/write languages
7. Nationality
8. Ethnicity
9. Place of birth

Economic characteristics
19. Economic activity status
20. Industry
21. Occupation
22. Whether having secondary employment
23. Earnings from main employment
24. Earnings from other employment
25. Other cash income (including cash income from rent)
26. Hours of work
27. Place of work
28. Mode of transport to place of work

Educational characteristics
10. School attendance
11. Educational attainment (highest level attended)
12. Educational attainment (highest level completed)
13. Field of education
14. Place of study
15. Mode of transport to place of study

Housing characteristics
29. Type of quarters
30. Type of accommodation
31. Whether the quarters is used as usual or occasional residence
32. Whether the quarters is a subdivided unit
33. Number of rooms in the residence (including living/dining rooms, bedrooms, other rooms, kitchens, bathrooms/toilets)
34. Floor area of accommodation
35. No. of households in quarters (derived)
36. No. of occupants in quarters (derived)
37. Tenure of accommodation
38. Rent (including rates, government rent and management fees)
39. Mortgage payment or loan payment

Internal migration characteristics
16. Whereabouts at census reference moment
17. Duration of residence in Hong Kong
18. Place of residence 5 years ago

Household characteristics
40. Type of household
41. Relationship to head of household
42. Whether a member of household
43. Household size (derived)
44. Household composition (derived)
45. Household income (derived)

Notes: Aside from the above, the 2016 Population By-census also covered data topics on population coverage (i.e. 'Total time stayed in Hong Kong in the past 6 months', 'Total time to be stayed in Hong Kong in the coming 6 months', 'Usual accommodation in Hong Kong at present', and 'Usual reason for not staying in Hong Kong for some period').

Statistics at different geographical levels, such as the District Council districts, District Council Constituency Areas, new towns, Tertiary Planning Unit groups and major housing estates, were also available.