

24th Population Census Conference

Panel Discussion: New Approaches in Integration and Utilization of Population Census Data

H W FUNG

Commissioner for Census and Statistics

Hong Kong, China

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Introduction

- Population data system in HK
- Use of census data as the sampling frame for other surveys
- Use of administrative data in population data system
- Leverage on strengths of the Internet
- Public-private partnership

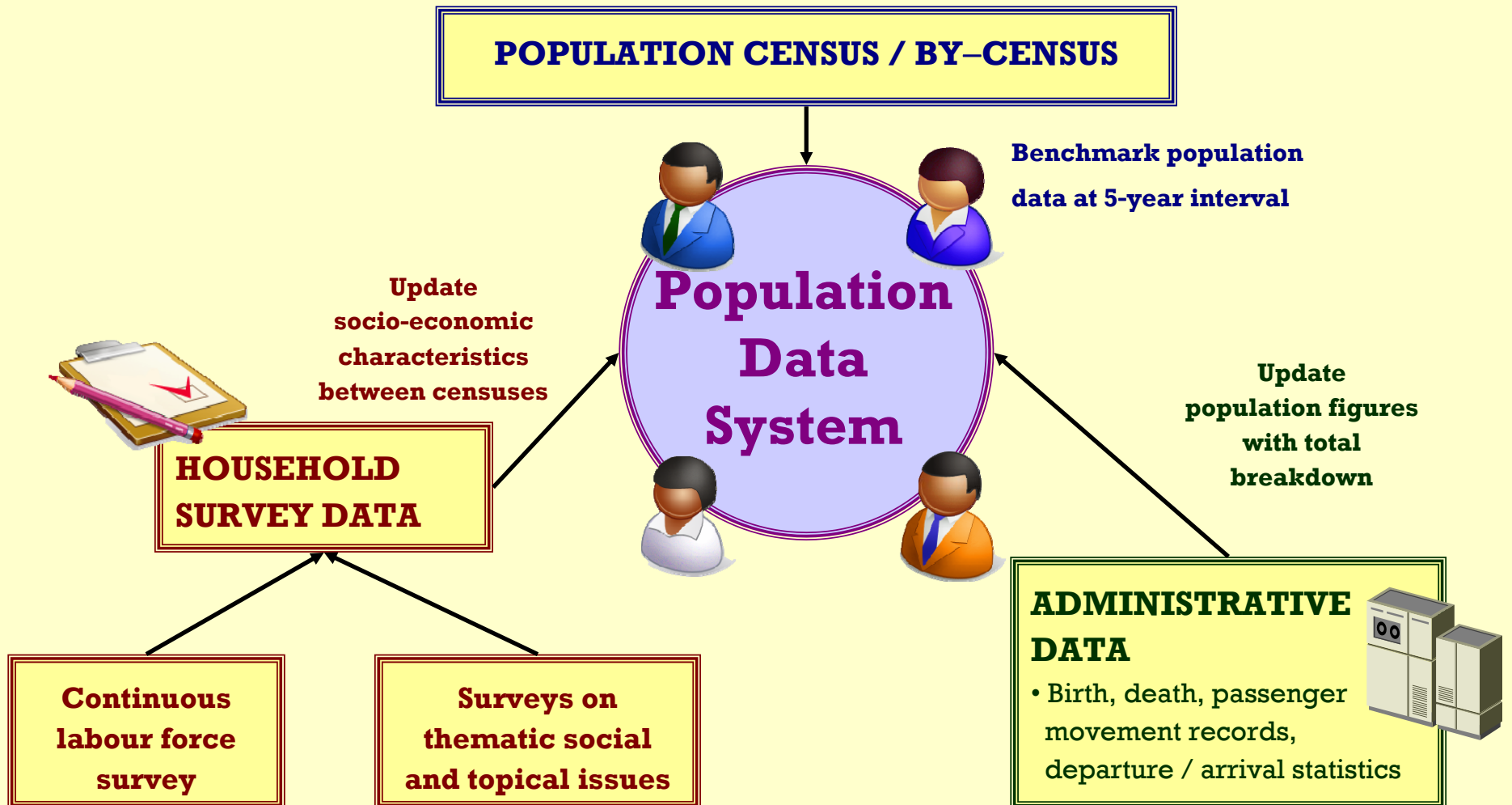


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Framework of Population Data System in Hong Kong



Integration and Utilisation of Population Census data

- Integrated population statistical database for a multitude of purposes
 - Population benchmark estimates and thematic studies on specific population sub-groups
 - Continuous population estimates and distribution by area
 - Continuous estimates on labour force and household characteristics
 - Estimates on various thematic social and topical issues for policy reference



Surveys on Thematic Social and Topical Issues

- Comprising two series, namely
 - Special Topic Enquiry (STE), as supplementary questions to the continuous labour force surveys most on labour-related topics
 - Thematic Household Survey, to entertain requests of various government agencies
- 50 Special Topics Reports compiled since 1992.
- 37 THS Reports compiled since 1999.
- A variety of subject areas covered, including
 - Labour-related, medical and health, people's livelihood, information technology, transport, education, law and order, etc.



Surveys on Thematic Social and Topical Issues - Examples

Subject	Topic
Labour-related	<ul style="list-style-type: none"> ● Hong Kong residents working in the mainland of China ● Job-changing of employed persons ● Patterns of hours of work of employees
Medical and health	<ul style="list-style-type: none"> ● Pattern of using health supplements ● Pattern of smoking ● Cognitive function of older persons ● Provision of medical benefits by employers ● Persons with disability and chronic diseases
People's livelihood	<ul style="list-style-type: none"> ● Keeping pets by households ● Needs of persons from the Mainland having resided in Hong Kong for less than 7 years
Information Technology	<ul style="list-style-type: none"> ● IT usage and penetration
Transport	<ul style="list-style-type: none"> ● Pattern of using non-franchised bus services
Education	<ul style="list-style-type: none"> ● Public views on education reform
Law and order	<ul style="list-style-type: none"> ● Crime and its victims in Hong Kong



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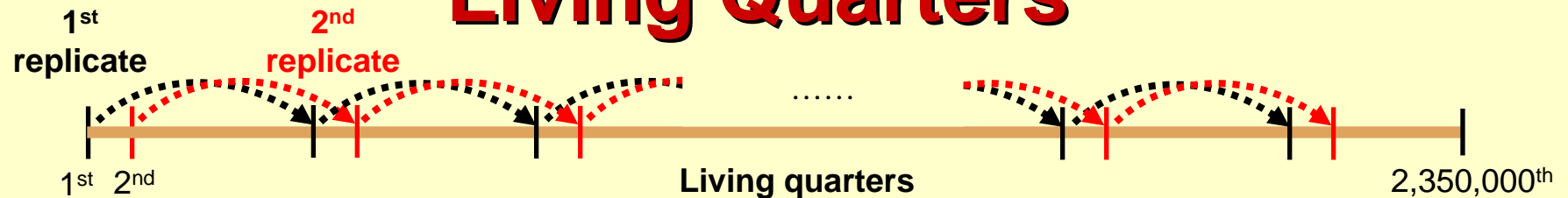


Use of Census Data as the Sampling Frame for other Surveys

- Complete list of quarters for population censuses/by-censuses and sampling frame for household surveys
- Consists of
 - **Registers of Quarters** for built-up areas (address of individual quarters from building and structures)
 - **Registers of Segments** for non-built-up areas (small piece of land delineated by landmarks with some 8-15 quarters/structures in each segment)



Replicate Sampling on Living Quarters



- Complete list of 2.35 millions living quarters, sorted by area and quarter type (e.g. public, private, ...).
- Around 5 000 systemic replicates formed, each comprising some 470 quarters.
- Continuous updating of replicates according to administrative records (e.g. new and demolished buildings).
- Sampling in continuous labour force survey and other thematic household surveys
 - Replicates making up the required sample size are selected.
 - Replicates sampled in one survey are excluded from subsequent surveys to avoid overburdening respondents.



Use of Population Estimates for Ratio Estimation in Other Household Surveys

- Population estimates (by age, sex and mobility status) can be used as the independent estimates for performing ratio estimation in other household surveys.
- Advantages
 - Enhance accuracy of estimates of the surveys
 - Achieve consistency among estimates from different surveys



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Use of Administrative Data in Population Data System

- The HK Resident Population (HKRP) approach adopted in view of the increasing mobility of HK people
- HKRP comprising
 - Usual residents
 - Mobile residents



Use of Administrative Data in Population Data System (Cont'd)

● Usual residents

- HK Permanent Residents who spend on the average three months or more in the six month periods before or after the reference time point and
- HK Non-Permanent Residents who are found in Hong Kong at the reference time point

● Mobile residents

- HK Permanent Residents who spend on the average between one to less than three months in the six month periods before or after the reference time point



Use of Administrative Data in Population Data System (Cont'd)

● Benefits of HKRP

- Mainly reflecting the de jure population
- Also including a group of persons with strong link to HK

● Data required for the compilation of HKRP

- Benchmark data from population census/by-census
- Births and deaths records
- **Most importantly, availability of individual passenger movement records to estimate duration of stay in HK for each HK Permanent Resident**



Use of Administrative Data in Population Data System (Cont'd)

Individual passenger movement records for each HK Permanent Residents

- Anonymised to protect privacy
- Over 13 million arrival/ departure records a month
- Enable classification of resident status by duration of stay in HK according to HKRP concept
- Facilitate updating of the current size of the population by type of residents and analysis on the mobility pattern



Unique HK Identity Card Number

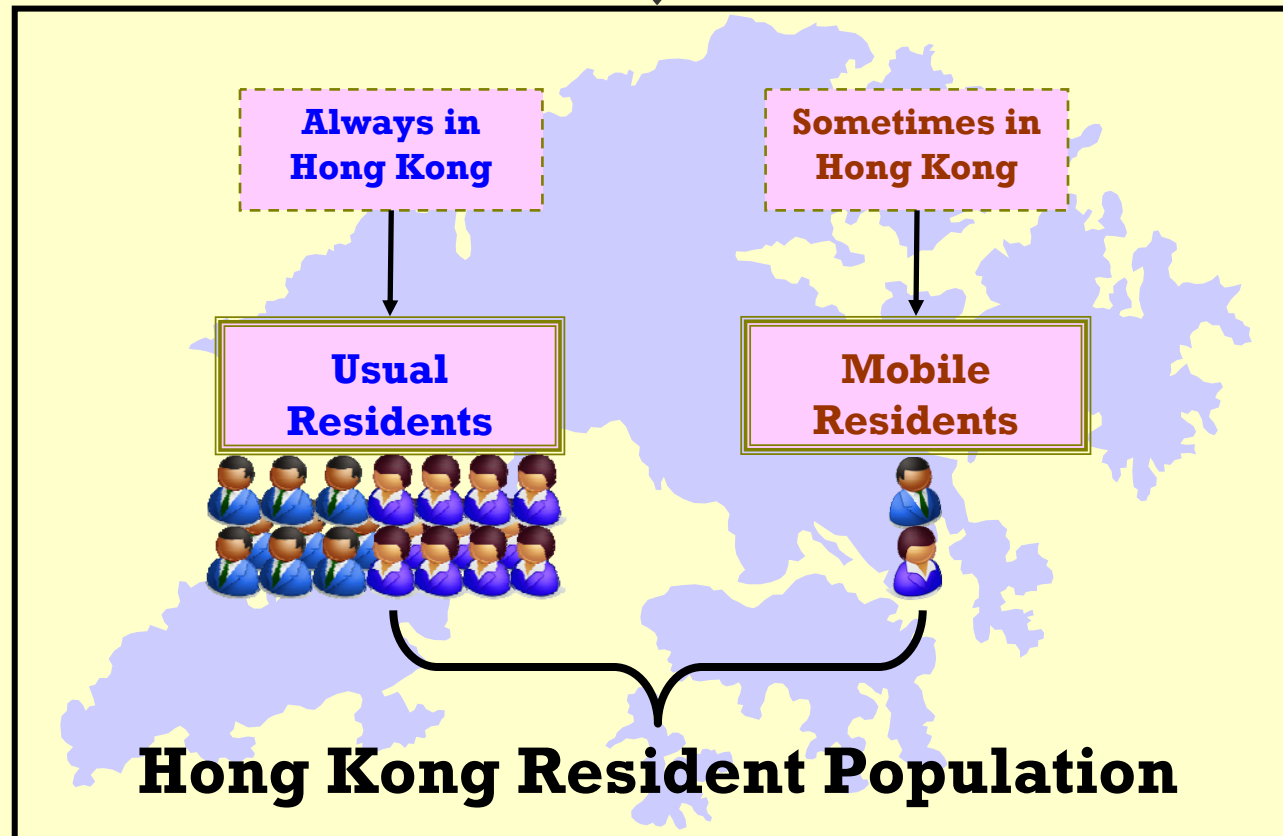


Use of Administrative Data in Population Data System (Cont'd)

Anonymised Individually Linked
Arrival / Departure Data



Long Away
Residents



Use of Administrative Data in Population Data System (Cont'd)

- Anonymised individual passenger movement records of babies born in HK whose parents are not HK residents
 - Babies have right of abode but their parents do not
 - Represented 30-40% of live births in HK
 - Keeping track of the whereabouts of these babies to monitor whether they would stay in HK
 - Also supplemented with results of survey on the parents' intention to bring their babies back to HK
 - Enable formulating assumptions/parameters in making population and related projections



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Leverage on strengths of the Internet

The Internet

- Convenient and efficient channel
- Support dynamic mode of dissemination
- Already a trend for government statistical offices to use it as a channel of data dissemination



Leverage on strengths of the Internet (Cont'd)

- Design of C&SD Website
 - Customised corners for different users (the media, survey respondents, thematic site for census results, etc.)
- Free download policy
 - Implemented since June 2006
 - All C&SD publications and detailed statistical tables free of charge
 - Promoting statistical literacy and informed decision making
 - Downloads boosted from a few hundred per month to more than 60 000



Leverage on strengths of the Internet (Cont'd)

- Two new interactive applications to disseminate the results of 2006 Population By-census
 - “**Statistics on Map**” dashboards
 - Visualization effect helping statistical data to be presented in a vivid manner
 - **Interactive Data Dissemination Service (IDDS)**



Leverage on strengths of the Internet (Cont'd)

IDDS (August 2008)

- Free and dynamic access to detailed macro-data of the 2006 Population By-census
- Build statistical tables according to user's specification online
- Integrated data visualization tools such as charting and thematic map presentation
- A simple and user friendly step-by-step process



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Public-private partnership

- Business community better understands market needs, thus promotes innovative use of statistics
- Leverage on strengths of business
 - Extensive/worldwide business network maintained by business partners) → Enrich client base
 - With additional resources → Overcome government resource constraint
- Fewer rules and standards, thus more flexible and timely deployment



Public-private partnership (Cont'd)

- Some successful data applications
 - GIS application with a property agency
 - Formation of building group statistics based on census data
 - Online dissemination
 - Classification of customer segments with a marketing intelligence company
 - Cluster analysis techniques
 - Classify local neighbourhoods into different consumer segments such as “upper echelons”, “emerging middle class”, “grass roots living”, ...
 - Small area statistics on the website of an online business directory



Centamap

Map Positioning mira hotel

Hot: [Property Listing](#) [Property Transaction](#) [Food & Beverage](#) [Bus](#)

(* You can first **Find A Place** , and then **Make Query Using Buttons in the Left Hand Column**)

Census

Census & Statistics Department -
Street Block | Building Group
 2006 Population By-Census
 Copyright | Disclaimer | Introduction & Definitions

Demographic | Education | Economic | Household | Housing | ...

Population (circled in blue)

Age composition
 0-14 | 15-39 | 40-64 | 65 or above

Median age
 Population | Male | Female

Never married %
 Male aged over 15 | Female aged over 15

6 record(s) found, (listed in descending order of total resident population):

YM0245: (Tsim Sha Tsui) Pre-war to 1960's 2122 persons private residential buildings with less than 9 storeys	<input type="button" value="Detail"/>
YM0160: (Tsim Sha Tsui) New 1690 persons South Section (Salisbury Road to Austin Road)	

Special building group : 2121 persons (Tsim Sha Tsui) Pre-war to 1960's private residential buildings with less than 9 storeys



MOSAIC

- Formation of consumer segments from small areas (“street blocks”) based on statistics of the areas (e.g. income, age, housing types, mortgage repayment, etc.).
- 30 consumer segments formed, such as “upper echelons” (wealthy families with an upscale privileged lifestyle), “emerging middle class” (stable and educated families of moderate affluence), “grass roots living” (average families in affordable public blocks), “grey perspectives” (modest seniors and retirees in very old public blocks and communities).
- The company offers two types of services to facilitate direct marketing
 - To classify the targeted households on mailing list provided by the client in accordance with the consumer segments defined, so that the client can selectively exercise their marketing plan; and
 - In collaboration with the HK Post, to send marketing materials of the client to selected consumer segments.



Yellow Page Map

YPMAP - Microsoft Internet Explorer

檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)

地址(D) http://www.yppmap.com/en/viewer.asp?mapService=CensusMap

yellow pages® yppmap.com Yellow Pages - Always be there 4 U.

Location Search Dining Map Tourist Map Transportation Map Traffic Map Weather Map Census Map Photo Gallery

community demographics, population, income and more... help

To use: 1) select ONE of the following census topics, 2) click on map for details at map scale between 5 & 8.

Above Medium Below

Population

Total Population
 Working Population

Age

Median Age (Male)
 Median Age (Female)

Households

Number of Domestic Households
 Average Domestic Households Size
 1-Person Domestic Households
 Unextended Nuclear Family

Marital Status

Aged 15+ and Never Married (Male)
 Aged 15+ and Never Married (Female)

Income

Median Household Income

Households

Median Household Rent
 Proportion of Owner-Occupiers

Education

...

Map Usage Tips: Select any of the above tools and use the mouse to drag map, zoom in on specific areas, and click on map icons for information.

地政總署 Lands Department

網際網路

http://www.yppmap.com/en/CensusMap/textcensus.htm

