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PROMOTING "ELECTRONIC GOVERNMENT"
- WITH A FOCUS ON STATISTICAL ACTIVITIES -

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Summary

The First part of the paper will describe government efforts toward "Electronic Government" and suggest a future challenge.

The Japanese government has been making use of computer and communication technologies to improve the efficiency and efficacy of public administration since the 1950s.

The Basic Law on the Formation of an Advanced Information and Telecommunication Network Society (The IT Basic Law) was enacted in January 2001.

Based on the stipulation of the IT Basic Law, an IT Strategic Headquarters was established and an e-Japan Strategy was formulated in January 2001. The e-Japan Strategy aims at making Japan the world's most advanced IT nation within five years.

To accomplish the e-Japan Strategy, an e-Japan Priority Policy Program was approved in March 2001. The Program sets as its target the realization of e-government by fiscal 2003 and identifies concrete policy measures for that target. The policy targets include 1) electronic delivery of government information, 2) electronic procedures for applications and reporting, 3) electronic process in public procurement, 4) digitization of government payment procedures, and 5) digitization of the works inside the government. The government is now proceeding to carry out necessary measures for the realization of these policy targets.

In concluding the first part, realization of e-government is suggested as a future challenge. Successful transfer from the present government to e-government depends primarily on the human factors in the government.

The Second part of the paper will describe the progress and future prospects of the IT usage in government statistical activities. Itemized suggestions for future challenges will follow.

Statistical data, which describe the social and economic conditions of a country, are indispensable tools for effective policy planning, implementation and evaluation. There is no effective policy without accurate data on the social and economic realities of a country. In this regard, every government carries out statistical surveys covering the whole country based on uniform methods.

The introduction of IT into government statistical activities has made it possible to improve the accuracy and timeliness of statistics, to make survey operation and data processing more efficient and to deliver survey results by various media. These results are regarded as successful and the analysis of the results is made according to the survey operation process, namely 1) set-up of enumeration districts, 2) distribution and collection of questionnaires, 3) input of questionnaire data, 4) checking and coding of questionnaire data, 5) data-editing and tabulation, and 6) release of survey results. In addition, a quantitative analysis concerning IT use and the Population Census is also presented.

In concluding the second part, future challenges for IT use in government statistical activities are suggested. These suggestions include the introduction of online survey, data input by enumerators, data input, data check, data coding by local governments, and so on.

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I. Efforts towards "Electronic Government"

1. General Progress

The Japanese government started its government-wide efforts for the management reform of administrative affairs in the late 1950s. Coincidently, the first computer in the national government was introduced by the Meteorological Agency in 1958. During the 1960s, improvement in the efficiency and efficacy of public administration were made through the use of computers.

Up until 1968, one hundred and twenty-two computers had been installed in fifteen Ministries. At the same time, a decision was made on future measures for the use of computers at the Cabinet meeting. Subsequently, the Council of Chief Officials in charge of Computer Use was established. Every fiscal year since then, the Council has produced a plan for computer use.

In 1983, based on the final recommendation of the Provisional Commission for Administrative Reform, the Council of Chief Officials was reorganized into the Council of Director-Generals for Computer Systems in order to strengthen its coordinating function in the government.

In 1993, the Third Provisional Council for Promotion of Administrative Reform submitted to the Prime Minister its final recommendation requesting the development of a master plan for promoting government-wide use of information technology (IT). Taking into account this recommendation, the Cabinet decided upon a Master Plan for Promoting Government-Wide Use of IT in December 1994. In the same year, an Advanced Information and Telecommunication Society Promotion Headquarters (hereinafter "the Headquarters") was established, comprising of the Prime Minister and all Cabinet members, to promote an advanced information and telecommunication society by making use of ever-developing computer and communication technologies.

In 1995, the Headquarters decided on Basic Guidelines for the Promotion of an Advanced Information and Telecommunication Society. In the Guidelines, the promotion of government-wide use of information technology was identified as one of the most effective measures for realizing an advanced information and telecommunication society.

The rapid growth of Internet usage and developments in electronic commerce forced the government to revise the Master Plan for Promoting Government-wide Use of IT in 1997 and the Basic Guidelines for the Promotion of an Advanced Information and Telecommunication Society in 1998.

In order to promote comprehensive measures aimed at developing Japan into an internationally competitive IT nation, the Headquarters was dissolved and a new IT Strategy Headquarters was established in July 2000. An IT Strategy Council has been established under the auspices of the Headquarters to facilitate strategic and focused deliberations on the promotion of the IT revolution.

Following intensive deliberations by the Council and the Headquarters, the Basic Law on the Formation of an Advanced Information and Telecommunication Network Society (The IT Basic Law) came into force in January 2001. Realization of an electronic government is one of the basic policy measures stipulated by the IT Basic Law.

Based on the stipulations of the IT Basic Law, an IT Strategic Headquarters was established and an e-Japan Strategy was adopted at the first meeting of the new Headquarters in January 2001. The e-Japan Strategy aims at making Japan the world's most advanced IT nation within five years. To implement the e-Japan Strategy, an e-Japan Priority Policy Program was approved at the third meeting of the Headquarters in March 2001. The Program is a specific blueprint for achieving the national goal of becoming the world's most advanced IT nation and includes details of the government actions that need to be implemented expeditiously and intensively, as well as the target date.

The Japanese government is now actively engaged in taking concrete measures to realize the goal of electronic government (E-Government) based on the e-Japan Priority Policy Program.

2. Computers and Communication Infrastructure for the Electronic Government

One hundred and twenty-two computers were installed in fifteen Ministries between their introduction in1958 and 1968. The number increased gradually to one hundred and seventy-one in 1970, three hundred in 1980 and four hundred and thirty in 1986. After that, the number of newly installed main-frame computers increased rapidly to eight hundred in 1987, nineteen hundred in 1995 and twenty-eight hundred in 2000.

Remarkable development was also achieved in the field of computer and communication technologies such as downsizing, open-system, networking and user-friendly software from the 1980s onward. The Ministries introduced personal computers (PCs) at a rapid rate and the number of PCs in the government (excluding those installed at the national universities and schools) grew from three hundred and fifty in 1982 to more than thirty thousand in 2000.

Keeping pace with the introduction of PCs, the Ministries have constructed LANs (Local Area Networks) to connect the PCs installed in their offices. Moreover, the government has constructed a WAN (Wide Area Network) system, connecting the Ministries to facilitate the safe exchange of information between them. The system, known as "Kasumigaseki* WAN," has been operational since January 1997.

*Kasumigaseki is the name of the area where most of the central government offices are located.

As of April 2000, there were 313,711 PCs and 444,822 officials in the national government excluding those in the national universities and schools. Therefore the allocation rate of PCs per person is 0.7. As for the head offices of the Ministries, the allocation rate is 1.1. Thus, each official at the head offices of the Ministries has a public telephone line and his or her own PC connected internally by LAN, and externally by WAN.

3. Progress of Computer Application in Administrative Affairs

From the early stage to the 1970s, computers were installed to facilitate the rapid processing of weather observation data, statistical data, experimental data and so on.

Until the 1980s, large-scale computer systems were constructed to process voluminous and uniform data such as drivers' licenses data, automobile inspection data and social security data, thereby substantially improving the efficiency and efficacy of data processing as well as the quality of public services.

From the 1980s to the 1990s, policy-supporting databases were progressively constructed and office-automation equipment such as word processors and facsimiles were introduced into everyday administrative affairs.

From 1990 onward, efforts have been devoted to networking, namely the construction of LANs and WANs as well as the installation of PCs so that computer and all officials could deal with general management affairs could have common access to necessary information.

4. Efforts toward E-Government

(1) General observation

The Cabinet decided in 1994 on a Master Plan for Promoting Government-Wide Use of IT, a five-year plan for promoting government-wide use of information technology (IT) in national public administration. The Plan went into effect in fiscal 1995.

The environment surrounding government-wide use of IT has changed remarkably. In particular, the utilization of IT in society has made rapid strides with a rapid growth in Internet use and in efforts to realize electronic commerce, and emerging strong calls for the reduction of administrative burden. Taking these circumstances into consideration, the Master Plan for Promoting Government-Wide Use of IT was revised in 1997. The Revised Plan covers a five-year period starting in fiscal 1998.

One of the main objectives of the Master Plan is to enhance the quality of public services as well as to make public administration more efficient, effective and responsive to the people's needs by actively making use of information and communication technologies.

This objective is integrated into the e-Japan Strategy, decided in January 2001, and the realization of electronic government is identified as one of the high-priority policy areas in the Strategy.

In the e-Japan Priority Policy Program, approved in March 2001, government actions needed for the realization of e-government are described under the item of "digitization of administration and application of IT in other public sectors."

The Program sets as its target the realization of e-government by fiscal 2003 and identifies concrete policy measures for attaining that target. The detailed policy targets are divided into five headings, namely 1) electronic delivery of government information, 2) electronic procedures for applications and reporting, 3) electronic process in public procurement, 4) digitization of government payment procedures, and 5) digitization of government internal works.

The government is now implementing the necessary measures for the realization of these policy targets. How the government has been taking necessary actions toward e-government is described as follows.

(2) Electronic Delivery of Government Information

All the Ministries will prepare their own action programs to promote the electronic delivery of government information in early fiscal 2001. The action programs should be made based on the Directive on Electronic Delivery of Government Information, an agreement among the Ministries approved in March 2001.

The Directive includes the following items.

- ✓ As for the contents of information, basic laws and regulations concerning establishment of government organs and systems, plans and results of government projects, white papers, statistics, evaluation results of government activities, press release, etc. should be delivered electronically.
- ✓ Government information, which should be open to the public, is in principle to be stored in the Internet Homepages of the Ministries.
- ✓ A window system should be established, through access is available to all the Homepages of the government organizations.
- ✓ There should be timely delivery and daily updating of information.
- ✓ Two-way communication between citizens and the government should be guaranteed.

(3) Electronic Procedures for Applications and Reporting

Online systems for a substantial part of all the procedures for applications and reporting should be developed and made available by fiscal 2003. This will enable citizens or businesses to file applications and reports via the Internet from homes or offices. At the same time, relevant laws and regulations should be reviewed with a view to enabling online procedures by the end of fiscal 2001. Where necessary, laws should be revised as appropriate.

"One-stop government shop" is a system of providing 24-hour public services available to homes, offices or familiar access points. To facilitate this, the Ministry of Public Management, Home Affairs, Posts and Telecommunications (The former Management and Coordination Agency, the Ministry of Home Affairs and the Ministry of Posts and Telecommunications were merged into this new Ministry in January 2001.) is developing a united window system at the Internet Homepage, through which citizens or businesses can access individual online systems for procedures on applications and reporting. Citizens without PCs will be able to use familiar access points located at existing public facilities such as post offices.

(4) Electronic Process in Public Procurement

Each Ministry will provide businesses with its public procurement information via the Internet Homepage and digitize the public procurement process by introducing an electronic bidding system with a view to reducing burdens of businesses and simplifying administrative works.

Each Ministry will make efforts to develop an electronic bidding system via the Internet for the public procurement of non-construction works and to make it available by fiscal 2003.

As for the public procurement of construction works, the Ministry of Land, Infrastructure and Transport and related Ministries will start an electronic bidding system via the Internet from October 2001 and will introduce the system for all public construction works by fiscal 2004.

(5) Digitization of Government Payment Procedures

The government should develop the system that enables payments to and from the government via the Internet by fiscal 2003 on the premise that the systems of the Bank of Japan and the other financial institutions will be developed. This electronic payment system will reduce the burdens of citizens and businesses and simplify the government works.

(6) Digitization of Government Internal Works

The government should review internal document related procedures and revise document management regulations as necessary to facilitate the digitization of the collection, transmission, common-holding and processing of information. Thus, the present paper-based public administration will be transformed into more simplifying and efficient electronic public administration.

As a concrete measure to realize electronic public administration, fifty-seven common paper-works across the Ministries will be digitized by fiscal 2002 and document management regulations will be revised concerning storage, management and control of electronic access to the digitized documents within fiscal 2001. Moreover, the network to connect the LAN systems of the head offices of the Ministries with the local branch offices will be constructed by fiscal 2003.

5. Future Challenges

As mentioned in the policy speech by the Prime Minister at the current session of the Diet, the Japanese government will move with full speed ahead to turn Japan into the foremost advanced IT nation in the world within five years. Realization of e-government is one of the main policy objectives for this policy agenda.

The Japanese government will, henceforth, be striving to achieve e-government on the basis of the e-Japan Priority Policy Program. Successful transfer from the present government to e-government depends primarily on human factors. E-government will be managed and administered by real flesh and blood officials. An acceptance of the changes brought about by the use of IT in procedures and techniques concerning government works and a positive attitude on the part of officials to the routine use of IT will be necessary if e-government is to be successfully realized.

If government officials have a positive attitude toward employing IT in their government works, they will be able to employ it successfully to improve the efficiency and effectiveness of government programs.

The more fundamental issue concerns cultural aspects of public administration. The use of IT will force officials to change the procedures and techniques for dealing with government works and will affect what should be done and how it should be done. Such changes will make the streamlining of government programs and organizations inevitable. To bring about a fruitful result, we should create a new administrative culture, which will enable aggressive utilization of IT and generous acceptance of digitized documents and procedures. In addition, we should denounce the old one that takes the emphasis on paper-based documents.

II. Use of Information Technologies in Government Statistical Activities

1. Role of Statistics in the Government

Statistical data that describe the social and economic conditions of a country are indispensable tools for effective policy planning, implementation and evaluation. There can be no effective policy without accurate data on the social and economic realities of a country. It is for this reason that every government carries out statistical surveys covering the whole country based on the uniform methods. In most cases, the government obliges citizens to respond to any government survey so as to ensure the veracity of response.

Every government has organizations in charge of statistical surveys. In Japan, we have adopted a de-centralized system for government statistical activities. Namely, each Ministry has its own units to carry out statistical surveys within its jurisdiction, while basic multi-purpose statistical surveys such as the Population Census are carried out by the Statistics Bureau of the Ministry of Public Management, Home Affairs, Posts and Telecommunications. As for large-scale statistical surveys, the Central Government is primarily responsible for implementing the surveys and does the work of survey planning. The field operation of surveys is entrusted to local governments based on the Local Autonomy Law and local governments are in charge of field survey, namely: employing survey enumerators, training the enumerators, supervising the enumerators, in some cases persuading reluctant respondents, data-checking and so on.

A government-wide coordinating organization has been established in the form of the Statistical Standards Department of the Statistics Bureau. The responsibilities of the Department include overall planning of government statistical system both at the central and local levels, establishing standard classification systems, scrutiny of the necessity, sample size and questions of surveys, avoiding duplication of surveys, reducing the reporting burdens, streamlining the works entrusted to local governments and so on.

In the Japanese government, the expenditure on statistical activities in fiscal 2000 was estimated at 162.3 billion yen, of which 68.8 billion yen was for the personnel payroll. This 162.3 billion yen accounted for 0.2% of the total government expenditure in fiscal 2000. As the Population Census was conducted in 2000, the expenditure for the Census amounted to 70 billion yen, approximately 70 % of all the government expenditure on statistical activities excluding payroll for personnel. The expenditure in fiscal 2001 is estimated to be 100.2 billion yen.

As of April 2000, the number of personnel in charge of statistical activities was 8,731 in the central government and 2,338 in local governments. Approximately three hundred surveys are being carried out by the central government every year. They are monthly surveys, quarterly surveys, annual surveys and periodical surveys (once in two, three or five years).

2. Evaluation for Government Statistical Activities

The main objectives of government statistical activities are twofold: to verify current social and economic realities and to disseminate survey results as soon as possible. To be more specific, government statistical activities should be conducted to cope with the following challenges.

- ✓ To design questionnaires that can accurately identify social and economic conditions
- ✓ To cover a fair and sufficient sample of respondents
- ✓ To elicit authentic responses from survey respondents
- ✓ To get cooperation from citizens and carry out surveys smoothly
- ✓ To process the resulting questionnaires as swiftly as possible

- ✓ To disseminate the results by various means such as floppy disks, magneto optical disks and via the Internet
- ✓ To minimize the cost of survey operation and processing

Before a government organization carries out a statistical survey, the Statistical Standards Department examines the survey plan with a view to avoiding duplication and reducing respondents' burdens prior to giving its approval. In the case of important surveys such as the Population Census and the Census of Commerce, the Statistical Council, an advisory body to the Ministry of Public Management, Home Affairs, Posts and Telecommunications, deliberates the survey plan before the approval by the Statistical Standards Department. In such deliberations, the Council examines, from the viewpoints of developing official statistics, whether it is really necessary to conduct the survey or not, what and which items should be included in questionnaires so as to obtain an accurate and truthful picture of the society, what is the most suitable sample size, how appropriate the survey methods are, and so on. After a survey plan has been approved, the responsible government organization starts the survey operation.

Under the new structure of the Japanese government, inaugurated in January 2001, the policy evaluation function is underlined and every Ministry has now its own unit for policy evaluation. Moreover, a bill on policy evaluation has been submitted to the current session of the Diet. In performing government functions, every government official has to keep in mind how to evaluate any given policy measure.

Government statistical activities are also subject to evaluation from the viewpoints of effectiveness, efficiency and legitimacy.

The introduction of IT into the government statistical activities has made it possible to improve the accuracy and timeliness of statistics, to make survey operations and data processing more efficient and to deliver survey results by various media. The results are regarded as successful. The author will analyze the results in the following sections, bearing in mind the challenges mentioned above.

3. Brief History of IT Use in Government Statistical Activities

The Statistics Bureau introduced computers in 1961 in order to improve efficiency and accuracy in processing the Population Census data and to compile more detailed statistical tables so as to cope with the growing needs of policy-makers. The Population Census covers all households and individuals living in Japan. The large volume of data generated by the questionnaires forced the Bureau to seek more efficient and effective calculating machines to process it. Other government organizations subsequently installed computers to process survey results.

At an early stage, data input was done with a punch-card system; namely a person in-charge used a punching machine to make machine-readable cards. The punch-card system was replaced by the key-to-disk system, whereby key-operators entered questionnaire data on to floppy disks or directly into a computer.

Recently, each Ministry has been introducing a client-server system and, in the case of statistical organizations, PCs connected via LAN and servers have been utilized in processing questionnaire data.

Until a few years ago, the use of IT in the field of statistics was limited to tabulation. However, the recent development of IT has made it possible to carry out statistical surveys via the Internet or by other electronic means.

4. Results of IT Use in Government Statistical Activities

In this section, the effects of IT use in government statistical activities will be analyzed according to survey operation process.

(1) Setting up Enumeration Districts

Before any field survey, a survey conducting organization sets up enumeration districts for efficient deployment of enumerators. In the case of the Population Census, the Statistics Bureau divides geographical areas into approximately nine hundred thousand enumeration districts, each containing about fifty households.

In the work of setting up enumeration districts, nine hundred thousand maps of enumeration districts were prepared manually. The workload was voluminous and a lot of human resources were allocated to this work.

To make the mapmaking work more efficient, a computer assisted mapping system (CMS: Census Mapping System) was developed by the Statistics Bureau, and introduced in the map preparation work for the 2000 Population Census. Moreover, CMS is used for many other purposes such as selecting sample enumeration districts for some surveys and presenting small area statistics on a map-basis.

(2) Distribution and Collection of Questionnaires

The two major categories of field survey methods are enumerator surveys and mail surveys. In an enumerator survey, an enumerator distributes survey questionnaires to respondents and collects completed questionnaires. The response rate of the enumerator survey is as high as one hundred percent. In the mail survey, questionnaires are sent to respondents and returned to survey organizations by mail. The response rate of the mail survey is lower than that of the enumerator survey.

With the development of computer networks, an on-line survey method has been introduced recently. In this method, questionnaires are sent to respondents via computer network such as the Internet and completed questionnaires are returned via network. Some surveys have adopted this method since 1999. The response rate is as high as the enumerator survey and the respondents' burden has been minimized.

(3) Input of Questionnaire Data

Questionnaire data are usually digitized by the key-to-disk system, in which key-operators enter questionnaire data into floppy disks or directly into computers. As for large-scale surveys such as the Establishment Census and the Census of Commerce, data input works are processed in a decentralized way, namely the works are carried out by the Prefectural Governments. *

*There are forty-seven prefectures in Japan.

In the case of the Population Census, because of the huge volume of Census data, Optical Mark Readers (OMRs) were introduced for the first time in the 1965 Census. OMRs were used until the 1995 Census.

Because of conspicuous advances in the technology of the Optical Character Reader (OCR), the Statistics Bureau had moved to employ OCRs to input questionnaire data since 1998 so as to simplify data input and make it more efficient.

As of April 2001, OCRs are used for the Monthly Labor Force Survey and the Quarterly Survey of Unincorporated Enterprises. OCRs have been used for quinquennial surveys such as the 1998 Housing Survey, the 1999 Survey on Service Industries and the 2000 Population Census.

(4) Checking and Coding of Questionnaire Data

The present OCR can only transform numerical figures but not Japanese handwritings into digital codes. The hand written reply in the questionnaire can then be stored in computers as image data by OCR.

The computer system of the Statistics Bureau has been replaced periodically so as to make use of

the most advanced information technologies. Recently, a client-server system has been established, which is composed of more than one thousand PCs connected via LAN and servers. PCs are allocated to all the personnel of data processing sections. By using these image data inputted through OCRs, they conduct data correction and coding of statistical classifications such as industries, occupations, and expenditure items.

With the help of OCR, the data correction and coding works have been done more quickly and efficiently and moreover the accuracy of processed data has been improved.

Some reference materials useful for data correction and coding are constructed into in-house databases to assist personnel in charge of data correction and coding.

Thus, data correction and coding works have been made remarkably efficient, and because most of the available human resources had, in the past, been allocated to the work of data correction and coding, the whole process of data processing and tabulation has become more efficient.

(5) Data-editing and Tabulation

Data editing and tabulation are conducted using computer programs such as error correction and imputation programs.

The introduction of computers has allowed the use of various cross section tables, and facilitated the improvement of accuracy of statistical tables and the rapid examination of tables.

A review of programs is routinely carried out so as to speed up data processing and to improve the accuracy of error correction. The development of these computer programs is either contracted out or done in-house.

(6) Release of Survey Results

With the help of IT, the timeliness of statistics has been improved recently. Namely, the time span from field survey to the release of results has been shortened remarkably. At present, the results of monthly surveys are usually released two months after the field survey, except for the surveys on current economic trends where, taking account of the users' needs, results are released within one month.

As for the disseminating media of survey results, floppy disk or CD-Rom or magneto optical disk is used in addition to paper-based publication. Moreover, summary results are made available at the Internet homepages of the responsible Ministries.

Thus, the quality of data delivery services to citizens has been raised as a result of the improvement of timeliness and the use of multiple media.

5. IT Use and the Population Census

In this section, a quantitative analysis will be made concerning the use of IT and the Population Census. In doing so, the author will make reference to human resources allocated to tabulation, timing of the release of results and the amount of government expenditure excluding salaries for regular government employees.

The Population Census is, needless to say, the largest statistical survey in Japan. It covers all households, the number of which is about 47 million, and is carried out every five years. The first Population Census was conducted in 1920. Since then, prompt and efficient processing of the resulting questionnaires has been one of the top priority items in the government's statistical activities. From the early on, the government had made every effort to reduce the tabulation works by introducing advanced calculating machines.

Tabulation by computer was used in the 1960 Population Census for the first time. Since then, the government has been employing the most advanced computer and communication technologies to minimize the human resources needed for tabulation.

The total number of personnel needed for tabulation was 950,000 man-days for the 1955 Census,

the last Census processed without computer. The number was down remarkably to 720,000 for the 1960 Census, approximately twenty five percent decrease compared to that for the 1955 Census. The number was 416,800 for the 1980 Census, less than half of that for the 1955 Census. Since then, the steady decrease of human resources has continued. As for the 2000 Census, the number of personnel is expected to be about 270,000 (See Table 1).

Table 1 Human Resources Allocated to the Processing of the Population Census

Year	Number of personnel	1955=100	1960=100	1980=100
1920	1,410,000			
1955	950,000	100		
1960	720,000	76	100	
1980	416,800	44	58	100
1985	397,100	42	55	95
1990	331,600	35	46	80
1995	280,800	30	39	67
2000	269,000	28	37	65

In the 1970 Census, it took two years to publish primary statistical tables, which are basic tables on households. It took one year and five months for the 1980 Census, and one year and one month for the 1985 Census. The primary tables for the 2000 Census will be published in October 2001, exactly one year after the field survey (See Table 2). Thus, the timeliness of the Census results has been improved substantially.

Table 2 Release of the Results of the Population Census

(Release date of results for overall Japan)

	Primary Results	Secondary Results
1970	Oct/1972	
	(24 months after the field survey)	
1975	July 1977	
	(20 months)	
1980	Mar/1982	Feb/1983
	(17 months)	(28 months)
1985	Nov/1986	Jun/1987
	(13 months)	(20 months)
1990	Nov/1991	Jun/1992
	(13 months)	(20 months)
1995	Nov/1996	Jan/1997
	(13 months)	(15 months)
2000(expected)	Oct/2001	Jan/2002
	(12 months)	(15 months)

The figures in parenthesis are working term for tabulation after the field survey.

The amount of government expenditure in the Population Census (excluding salaries for regular government employees) indicates the substantial increase, 35 billion-yen in 1980 to 75 billion-yen in 2000 (See Table 3). Most of the expenditure took the form of allowances for the enumerators. About eight hundred forty thousand enumerators were employed in 2000. The total number of households has increased, as has the number of enumeration districts. In principle, one enumeration district is allocated to one enumerator. Therefore, as the number of enumerators has increased, so has the expenditure. Recently, the degree of cooperation from citizens has been declining. Because distributing questionnaires and collecting them has become a more difficult job, much higher remuneration has had to be paid to enumerators.

Table 3 Basic Data on the Population Census

	1980	1985	1990	1995	2000
Number of Households	36,299,300	37,913,600	40,116,800	43,856,900	47,177,500
Number of Enumeration Districts	748,226	778,373	823,538	880,753	943,271
Number of enumerators	748,226	778,373	730,058	773,886	835,107
Working days of the enumerators	8.40	7.25	8.40	7.25	8.70
Number of supervising enumerators	43,340	44,725	67,001	78,470	83,650
Working days of supervising enumerators	11.00	9.50	11.00	9.50	11.20
Number of personnel of the local government	2,829	2,693	2,558	2,440	2,338
Number of personnel of the Statistics Center	416,800	397,100	331,600	280,800	269,000
Amount of Budget (thousand yen)	34,790,154	37,683,408	54,450,237	62,799,113	75,016,911

In the case of the Population Census, the efficiency of data processing work and the timeliness of the survey results have been improved, while many more resources have been allocated to the field operation.

6. Future Challenges for IT Use in Government Statistical Activities

The efficiency and effectiveness of government statistical activities in Japan have been substantially improved as a result of the use of IT. As IT is developed, various methods can be applied to various stages of government statistical activities. We should identify the most feasible methods and aggressively utilize them so as to make the statistical activities more efficient, valuable and useful to the needs of policy makers as well as those of the general public. To realize this goal, the author would suggest some challenges for the use of IT in government statistical activities.

(1) Introduction of Online Survey

Widespread use of PCs and the Internet by both enterprises and households has made it feasible to introduce online survey, in which questionnaires are distributed and collected via the telecommunication network.

The introduction of online survey should be promoted further so as to improve efficiency in the conduct of survey, to reduce the reporting burdens, and to facilitate the prompt release of survey results.

(2) Data Input by Enumerators

A new enumerator survey method will be introduced in the Retail Price Survey in this October. Whereby the enumerator will input data directly into a small portable computer while conducting the survey, examine the collected data and send them via the telecommunication network. The time span between field survey and release of results will thereby be shortened.

The use of computers and the telecommunication network by enumerators should be introduced in other enumerator surveys where appropriate in order to speed up field surveys, to make the input of questionnaire data more efficient and to simplify data checking work.

(3) Data Input, Data Check and Data Coding by Local Governments

The input of questionnaire data and primary data checking are done by local governments in the cases of the Establishment and Enterprise Census, the Manufacturing Census and the Census of Commerce. Such arrangements have promoted efficient data processing and improved the timeliness of survey results.

Advanced information technologies will make it feasible to input questionnaire data, to do the data-checking-and-coding at the local governments and send them via telecommunication network to the central government. Such local processing of data should be introduced in other survey where appropriate so that data processing will be done more efficiently, and survey results will be made available faster.

(4) Outsourcing of Data Processing Work

The Headquarters for the Reform of the Central Government, which consists of the members of the Cabinet, decided on a Basic Plan for Slimming the Government in April 1999. In that plan, it is stipulated that work such as data input should be outsourced to the private sector as far as possible.

Outsourcing in the field of statistical activities should be promoted, taking into account the need to protect the privacy of individual questionnaires. Strict management of private entrustees will be necessary to prevent leak of questionnaire data.

(5) Transformation of the Statistics Center into an Independent Administrative Institution

The Statistics Center of the Ministry of Public Management, Home Affairs, Posts and Telecommunications is mainly responsible for processing survey data and compiling statistical tables for the surveys conducted by the Statistics Bureau. In addition to this responsibility, the other Ministries entrust the Center with the task of data processing and tabulation for their own surveys.

Based on the Basic Plan for Slimming the Government, the Basic Law on the Independent Administrative Institution and the Establishment Law of the Statistics Center as Independent Administrative Institution, the Center will be transformed into an Independent Administrative Institution in April 2003. The objective of the Independent Administrative Institution System is to improve the efficiency and quality of services by granting more autonomy and responsibilities to a corporation and also to ensure the transparency of the operation.

Taking account of the general objectives of the Independent Administrative Institution System, it should be emphasized that the accuracy and timeliness of statistics can be improved with less resource by actively utilizing ever-advancing computer and communication technologies

(6) Promotion of Disseminating Statistics by the Internet Homepages

Survey-conducting Ministries now deliver statistical data via the Internet Homepages to improve users' convenience. This endeavor was started at the early stage of Internet use in the government. Recently, the Ministry of Economy, Trade and Industries stopped paper-based release of monthly survey results, and instead, the release of survey results is formally done via its Homepage.

The quantities of statistics delivered by the Homepages should be increased and the timeliness of statistics available at the Homepages should be enhanced further with a view to improving the qualities of public services to citizens and businesses.

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Biography of the Author

Yuko Kaneko is one of few female officials in the management position of the Japanese government. She joined the government services immediately upon graduation from the University of Tokyo (LL.B.) and has been working in the government ever since. Her experiences include preparation of a white paper on public management and administrative reform, administrative inspection, coordination of international statistical affairs, control of statistical reports and review of government statistical systems. She is now in charge of research on personal savings and insurances.

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