IT Application, China National Statistics Information Network and International Cooperation

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I. Current status of IT application and China national statistics information network

Development of China national statistics information network commenced in 1986. With 18 years efforts made on the principle of " Start with PC, proceed from small steps, couple man's efforts with machines, and perfect it step by step", China national statistics information network has initially taken shape .

In terms of hardware, mainframe computers, workstations and hosts of over 130 sets, PC server of 1600 sets, and PCs of 586 and higher of 33,000 sets are in service in all the Statistics Bureaus at the level of county and above.

In terms of software, in addition to legal copies of system software and common software, application software of common and specific purpose for processing of reporting tables and forms, statistics tables and forms, and for statistics analysis have either been independently developed or imported.

In network development, a framework has bee built up. It connects NBS with provincial statistics bureaus in 31 provinces (autonomous regions and municipalities directly under the State Council) and city statistics bureaus in 33 key cities. WAN capacity expansion and update at national and provincial level, WAN development at provincial and city level, and extension to bureaus at county level are underway.

In data processing, China national statistics information network has met the data processing requirement of conventional statistics tables and forms and of general census. It has done, since 1986, many data processing on large scale surveys, and on special subject census, in addition to conventional annual statistics reports. Those in case are 1986 national survey on female fertility, national sample survey on 1% of the population and survey on input and output in 1987, the 4th population census in 1990, the 3d industrial census in 1993, the 3d national census on manufacturing industry, the first national census on basic unit in 1996, the first national census on agriculture, and the 5th national population census just completed in the main, and the later stage data processing for second national census on basic unit. OCR technology was used on 230 million sheets of tables and forms

nationwide in the national census on agriculture in 1997. OCR technology was also used on 4.1 sheets of survey forms in the 5th national population census in 2000.

With the development and perfection of statistics information network in statistics bureaus at each level, network based statistics endeavors and information service were launched and network technology application realized: data transmission through e-mail, office automation and official document processing, statistics database query, and information release at Internet/Intranet workstations by NBS and provincial statistics bureaus. China national statistics information website officially opened to the public on February 26, 1999. Quiet a number of provincial (autonomous region and municipality) statistics bureaus opened their statistics information websites to the public in their own region, and linked with NBS website. Network based statistics information collection, data processing, data management and information service are successful. Currently, straight submission of report on-line by 5000 manufacturing enterprises and 3000 real estate enterprises has been launched nation-wide.

II. Problems in IT application and development of China national statistics information network

Due to many reasons, problems, such as regarding hardware as more important than software, regarding construction as more important than management, regarding development as more important than application, and attaching more importance to " high level" than to grass-root, crop up often in the process of developing China statistics information network Some are serious problems. Such as messy and varied software for processing of conventional statistics reporting tables and forms, weak management and inefficient utilization of information sources, and low status of sustained database utilization

Lack of uniform data rules, lack of data exchange criteria, and lack of unified application system, all lead to an imperfect database development at all local statistics bureaus. What attributes to these problems are departure from actual demand on application, detachment from information sources, absence of scientific planning and guidance, and lack of a updating and maintenance system. However, all-type mini-databases for specific purpose and to satisfy the demand of individuals or small organizations have been developed at comprehensive statistics departments. Due to shortage of funding and absence of unified planning and guidance, such databases are of sub-standarded in terms of criteria and information sharing, thus aggravating the existing data gap, hampering the progress of an uniform management on data sources and data sharing.

Furthermore, there exist vulnerable spots of management in the informationization planning.

III. International cooperation program, IT application, and China national statistics information network

In the process of reform and opening up and integration of China's statistics
undertaking onto international practice, international cooperation in China national statistics information network and in IT application has been stepped up. In the last 10 years, UN Population Funds, UNICEF, FAO, and Asian Development Bank have, in each stage and with different focus, provided great assistance and support to the development of China national statistics information network by way of infrastructure construction, of application and training, through assistant programs and Sino-Japan bilateral government loan projects. NBS has successfully implemented a quite a number of international cooperation programs in the past few years. The major ones are Sino-Canada cooperation on database development, Sino-US cooperation on software development, and Sino-Germany exchange on IT management .

1. China-Canada cooperation program: NBS and Statistics Canada launched in September 2002 meta-database and database development. Through joint efforts, major tasks as provided in the project document have all been successfully done. In October 2003, Check-up and acceptance working team of the Two Parties checked and accepted the database, and on February 25, 2004 checked and accepted the meta-database. Meta-database development covers 10 function blocks. Of which, 5 have met acceptance criteria, and another 5 surpassed acceptance criteria. Canadian project manager expressed appreciation on such achievements. Both Parties believe, based on overall project assessment, that the database and meta-database developed by the Chinese Party is a success. With design and implementation done by China, some of the functions have surpassed that of Canada statistics information network.

Planning has been made to promote the achievements of the two databases in provincial statistics bureaus which ever are feasible to do so, and to tap further on the two databases for online information release.

Meta-database and database, developed by the Chinese Party based on the development and application experience of Statistics Canada and China's specific conditions, is involved in NBS infrastructure development. It is also a component part of China national statistics information network to be developed in the "Tenth Five-year" Planning period. This international cooperation program has helped not only in the development of the two database system, but also provided useful experience to NBS for network development in the days to come. Cooperation has been successfully done. A team that can expertly do IT application through international cooperation program has been trained.

2. China--USA cooperation in software development: In June 2002, US Census Bureau delivered to NBS a complete set of CSPro metacodes for creating a Chinese version Cspro and to be applied in China. NBS Computer Center created the Chinese version CSPro ,

did the translation and published it in the forma of a handbook in 2003. Software modules of Chinese version (test copy) have been uploaded onto NBS intranet for free us and downloading.

The Chinese version CSPro and metacodes have all been returned to US Census Bureau except that applied in China statistics organizations. The Two Parties agreed to promote synchronously new versions and to share them with other countries and regions.

The Two Parties shall joint efforts in renovation of SARP, China's independent data processing software. It is hoped that data dictionary, data input, auxiliary function modules and user documentation could be consistent and compatible with CSPro.

Following the integration onto international practice of national account system, statistics criteria system, statistics indicator system, and statistics surveys, it is inevitable for criteria and standards applied in China's statistics data processing to be integrated onto international practices. Standardization, normalization and internationalization of statistics data processing software are trend of the times. Therefore, the relevant international standards, norms and common practice are important reference for China in developing statistics data processing software. It is also important to note that it is takes time for statistics reporting tables and forms and data processing norms currently applied in China to be integrated onto international practice. In the "Tenth Five-year" Planning period, reference shall be taken primarily from CSPro that are used in a great number of countries, regions and international organizations for data planning, as technical standards and processing norms in statistics data processing software development.

The great significance of this cooperation lies in the modification of UNICODE criteria. Its success has turned CSPro into an internationalized software in real sense, which is critical for dissemination and promotion in non-English spoken countries and regions, and is important for enhancing NBS influence in statistics endeavors world-wide.

For the success, representative of US Census Bureau put it as " It made history ". To NBS, it is a significant achievement made on the shoulders of a "Giant".

3. China—Germany cooperation on exchange in IT management: In January 2003, NBS's IT delegation went to make a study tour to Federal Statistics Office of Germany as provided in the China-Germany cooperation agreement. Focus of the study tour was IT application, IT resources planning, allocation, utilization, performance assessment, accounting management, statistics e-government and development of e-government, performance assessment on statistics program.

In later 2004, Federal Statistics Office of Germany shall dispatch a IT

delegation to China to meet IT leaders in China statistics administration and Director-General of NBS Computer Center to hold discussions and make exchanges on informationization and IT management.

IT management exchange between China and Germany is not limited to specific technical issues. It focuses on informationization planning in government departments, informationizaton management and coordination, which could be important and helpful to the development and perfection of a IT management mechanism for China national statistics information network

IV. Summary

China National statistics information network has made great progress through wide-ranging international cooperation in terms of database development, data processing criteria, informationization and management. International cooperation has also helped enhance China national statistics information network in technological competence and management expertise, and promoted China's statistics technology onto a higher international standing .

International cooperation shall be further promoted to combine overseas update technology with China's statistics endeavors, and to build up a statistics technology system in line with China's conditions, and to share China's expertise and technology in large scale census, and the population census is one in case, with international colleagues of the same trade.