Problems and Recommendations for Rural Statistics and Survey Methods

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Abstract With constant deepening of the reform and opening-up, national economic system has changed from planned economy to market economy, and rural survey and statistics remain in a difficult transition period. In this period, China needs transforming original statistical mode according to market economic system. All levels of government should report and submit a lot and increasing statistical information. Besides, in this period, townships, villages and counties are faced with old and new conflicts. These conflicts perplex implementation of rural statistics and survey and development of rural statistical undertaking, and also cause researches and thinking of reform of rural statistical and survey methods.

Key words Rural areas, Statistics, Survey, Methods, Problems and recommendations

1 Serious conflicts of rural statistics and survey

1.1 Conflict between arduous survey and statistical task and weak statistical forces In recent 20 years, on the one hand, rural statistical and survey workload is constantly increasing and the task is more and more arduous; on the other hand, there are weak statistical and survey forces. This conflict is increasingly serious. Rural survey organizations and institutions at and below the county level need providing services for statistical authority of superior government and related departments, and assuming heavy task of periodic statement, and survey projects. Besides, they should provide high quality and efficient services for local party leaders and related departments and periodically or non-periodically perform assigned or assistant tasks. These services include complete statistical statement, periodical survey tasks, and various new and old sampling surveys. As to services for local party and government leaders, they have to undertake one and another survey and statistical tasks. Institutional reform compels government at all levels to simplify administrative organizations. Since the personnel system was frozen several years ago, nearly no person enters county level and township rural survey institutions. Although most townships have established statistical stations (committees), they are separate in form and few are entities. As to staffing, few are full time and most are part-time personnel. In villages, village accountant basically undertakes the whole job and becomes an actual "president". In addition, financial strain is a common problem faced by all levels of statistical departments. In this situation, it is impossible to purchase statistical facilities. Furthermore, survey and statistical means are backward. As a result, it leads to prominent conflict of arduous task, weak force and strong contrast.

1.2 Conflict between statistical data inconsistency and truth seeking of statistical accounting In recent years, there is a strange problem in rural survey and statistical work, that is statistics plus estimation when searching data and "calculation plus analysis" when using data. This reflects current situation of rural survey and statistical work and statistical accounting data from a side. From the first conflict, we have known that at the time of depth development of economic system reform, the entire rural survey and statistical network is not well established, and staffing is serious in short or even very weak, and the channel for delivering statistical statement is not smooth. In addition to difference in understanding of rural survey and statistical work, as well as interference of corruption against survey and statistical work, it leads to serious inconsistency of collected statistical data. However, in using statistical data, every government orders its inferior government to evaluate and analyze the reported data, make various calculation and demonstration by various means, analyze and use data of statistical statement, and provide corresponding word data. "Number statement + word analysis" seems completion of survey and statistical work level by level, but it is a question whether the source of survey and statistical data is true or not. Every level of government takes serious attitude for arrangement, calculation and summary of survey and statistical data, so the problem of "true calculation with fake number" frequently occurs in rural survey and statistical work. No matter how the calculation formulas and methods are scientific and no matter how the calculation means is advanced, the calculation results and the effect after using the results, *i. e.* the credibility and function, will certainly give a great discount. Therefore, the conflict between statistical data inconsistency and truth seeking of statistical accounting is also a prominent conflict.

2 Reform and innovation of rural Statistical and survey methods

2.1 Getting rid of old mode and establishing new mode In recent 20 years, various types of reform have been launched in statistical field in the whole country. At current stage, such reform is basically the simplification, change or supplement of original statistical mode. Planned economy and market economy are two

Received: May 21, 2014 Accepted: July 14, 2014

Supported by Project of Business Management Cultivation Discipline in Commerce Department of Rongchang Campus, Southwest University.

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fundamentally different economic modes. It is not proper to use statistical mode suitable for planned economy to simplify, change and supplement market economy. This is like using knife and fork to eat Chinese food or using chopsticks to eat western style food. In the in-depth advance of national economic system reform, it is particularly urgent to accelerate step of statistical reform and establish a statistical mode that suits to national conditions and also suits to international accounting comparative type. China's statistical modes consist of three survey and statistical systems, *i. e.* social development, social and technological progress, and economic construction. Statistical indicators of these three systems should get rid of original rules and regulations and should be established in accordance with practical, scientific, simple and flexible principles. Reform of statistical mode will inevitably promote reform of statistical and survey methods. This should be valued by competent authorities and it is also the expectation of grass-roots statistical workers.

2.2 Recommendations for survey and statistical intervals In existing rural survey and statistical methods, the survey and statistical intervals include annual, quarterly, and seasonal statement, *etc*. In these statistical and survey statements, most indicators are economic and physical output indicators, while few are social, scientific and technological, and value statistical indicators. Even in this situation, the statistical task is still quite arduous. Thus, it is recommended to undertake following reform:

(i) Changing the annual report to every other year report. In existing rural survey and statistical system, some statistical indicators, such as increase in number of towns, villages and communities, quantity of machines and tools, and farmland area, may be surveyed and counted every other year.

(ii) Changing two times of survey and statistics to one time. In seasonal statement of some crops, at present, there are two times of reports, namely "estimated" and "actual" yield. However, actual survey and statistical work has proved that the estimated yield has low accuracy and the difference with actual yield is great. It also leaves space for change or alteration of data. Thus, it is completely feasible to undertake survey and statistics when a planting season ends.

(iii) Survey and statistical indicators of seasonal statements should be rough but not fine. Present arrangement of statistical statements focuses on production. For statistical indicators concerning "rice bag, vegetable basket and wallet" of common people, the state should pay close attention and thus the proportion should be larger. For example, "rice bag" indicator focuses on rice, wheat and oil, "vegetable basket" indicator focuses on pig, cattle, sheep, poultry, egg, fish and vegetable. In fact, statistical indicators are far not like these. There are problems of difficult survey and statistics. Some personnel using the data feel vexed as soon as they see statistical statements.

2.3 Recommendations for reform of survey and statistical methods Since the reform and opening-up, rural survey and statistics changed to village report from production brigade report, the application range of survey method gets narrowed. Incomplete survey methods, such as sampling survey, key point survey, and typical survey, are widely used, providing broad prospect for reform of rural survey and statistical methods. This should give the credit to the reform and opening-up, *i. e.* the reform of relations of production. Nevertheless, there are still many problems in sampling survey of rural family income and expenditure, sampling survey of crop yield, sampling survey of pig, cattle and sheep, and other various surveys. These should be further improved.

2.3.1 Using "village sampling" to replace complete statistics and survey. Rural statistical and survey methods are mainly sampling survey and need close cooperation of simple sampling and regular sampling. Then, it may suit to and satisfy requirements of grass-roots, all departments and levels. This is a common understanding of rural statistical and survey workers. Since the rural areas implemented household contract system in an all-sided way, the original production type comprehensive statistics changed to village cadre overall estimation. In other words, the superior government asks villages to submit certain proportion of farmer survey data. However, nearly no such work is implemented in practice. This leads to inconsistency of statistical data from the source, and deteriorates the conflict with data inferred from sampling survey of all levels. Practice has proved that the report data is easily interfered by human factor and is difficultly to be controlled. Although it is known that comprehensive statistics are not reliable, it has to be used. All levels of sampling survey data will have to be used as reference of evaluation. Village sampling can better solve this problem. In 1987, Shanxi Province has been applied such survey and statistical method and all parts of country have launched discussion about this and most people agree this method.

2.3.2 Using "multiple subject sampling" to solve the problem of many sites. Now, not only a district, township, village has survey site, farmer household income and expenditure, agricultural output, pig, cattle and sheep, and vegetable has survey sites. These sites cross and overlap each other, like a close network. Most rural survey and statistical personnel below the county level are part-time workers, while these part-time workers undertake the whole rural survey and statistical tasks that should be assumed by full-time survey and statistical personnel. How to guarantee the quality and how to solve this conflict? Using multiple-subject sampling to establish "one point for multiple purposes" rural survey and statistical network is a feasible solution. Take several sampling surveys mentioned above as examples, many sampling subjects can be selected when distributing sampling sites. For farmers, the per capita income, crop yield, and number of pigs and cattle are closely related with number of family members, land operation area, and economic foundation of family. When sampling, select a sample as a main indicator combined with proper quantity of auxiliary indicators. If the typical error of "multiple subject sampling" is large and difficult to be adjusted, number of samples may be increased properly, to realize "one point for multiple purposes". In fact, the "one point for multiple purposes" can verify calculation and factor analysis of survey items.

2.3.3 Using multiple points of view to infer the accuracy of survey and statistical data. For example, after obtaining pig and cattle production data of sample farmers, we can infer from household level, personnel level, land (area) level and other points of view, and select inference results. For another example, in different seasons of crop yield accounting, we can use expenditure of agricultural means of production of accounting data of sample farmers

to calculate the assurance degree. In other words, we take full use of sample data to infer the segment gene for a research subject, to verify final inference result of a subject.

3 Innovation for improving quality of rural statistical data

In recent years, factors influencing quality of entire statistical (including rural statistical) data include improper performance evaluation system, the reform of statistical management system not in place, inadequate implementation of statistical laws, and low comprehensive quality of statistical personnel, apart from statistical and survey methods and statistical system. Therefore, following recommendations are provided for actually changing current situations of rural statistical and survey works.

3.1 Improving cadre evaluation system The primary reason for inconsistency of statistical data is excessive interference of human factor. Especially in recent years, no matter in urban or rural areas, statistical data become more and more important in political performance evaluation, and many areas take the data of economic development as major basis for evaluating political performance of cadres. However, it should be noted that data only reflect partial aspect of political performance. Therefore, when selecting and appointing cadres, it is required to pay attention to data, and make comprehensive evaluation of social development, environment quality, and opinion of the masses, so as to effectively avoid inconsistency of statistical data due to incomplete cadre evaluation system.

3.2 Coordinating all parties and strengthening management of statistical data Firstly, it is recommended to establish coordination mechanism between government and department statistics, implement unified management in indicator setting and scope of statistics, to obtain statistical data that satisfy both government and department statistics, and reduce pressure of grass-roots enterprises. Besides, it is required to strengthen the coordination between statistics, accounting and business, and incorporate accounting content, accounting method and accounting requirement into the new national economy accounting system.

3.3 Establishing and improving evaluation and monitoring system for quality of statistical data Consistency of statistical data is closed related to the entire survey and statistical activity. Fake and inconsistent statistical data threaten department and common people, or even endanger national security. Statistical departments at all levels (including government statistical department, industrial competent authorities, and statistical department of organization) should establish and implement major data evaluation and review system within the scope of duties.

3.4 Enhancing legal work of statistics This is a fundamental requirement of making statistics in compliance with laws. To control and clean up external environment of statistical work, stop and punish falsification and exaggeration acts, it is required to enhance wide extension and education of implementation rules of Statistics Law and raise statistical awareness of the common people. On this basis, it is recommended to enhance and increase efforts of investigation and prosecution over falsification and exaggeration and corruption acts.

3.5 Improving comprehensive quality of grass-roots statistical personnel Implementing continuing education for existing statistical personnel is an effective approach for improving comprehensive quality of statistical personnel at all levels. In the continuing education, it should give prominence to characteristics of statistics theory and business learning. Besides, it should cultivate statistical personnel at all levels (especially grass-roots level) to set up excellent professional morality, and make them value the statistical work and enhance the sense of responsibility. All related departments should provide training and guidance level by level. Statistical personnel should improve their legal awareness, get rid of all interference factors, and carefully implement statistical work.

(From page 4)

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