

Challenges of Improving the Statistical Literacy and Skills in Sri Lanka: Small Country Experiences

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Abstract

Sri Lanka is a small developing economy with an excellent track record of collecting, tabulation, analyzing, and dissemination of various type of socioeconomic, political, environmental, health and other statistics. The wealth of these statistics are used for variety of planning and policy making activities by the public institutions and other national and international organizations. A number of key government institutions are responsible for data collection and dissemination in Sri Lanka. Department of Census and Statistics has the mandate for all national level statistics while the Central Bank of Sri Lanka is responsible for the handling some economic and social statistics of the country. Agrarian Research and Training Institute is responsible for collecting, and disseminations of agricultural price data, particularly food prices and market information for the purpose of measuring food security and providing price signals for whole agricultural marketing stakeholders, including small farmers and policy makers. There are dark spots of the bright picture of the data collection and dissemination in the country. Lack of general statistical literacy and unavailability of skilled individuals to collect, analyze and dissemination of data is key drawbacks of the country. Similarly, there is no proper legal obligation to collect and updating of vital data in some areas. The general public are not interested of many important statistics relevant their life, neither they have received basic knowledge to understand those vital statistics. A limited number of training programs are conducted to improve the skills of individuals involved with data collection and dissemination though it is not sufficient to meet the modern data requirement of the country. Some programs are not providing basic knowledge on statistics literacy, so that the general public is not in a position to make use of vital statistics in their day today life. The dividends of invested capital on statistics collection and dissemination are not receiving the country as a result of those events.

Key Words: Agriculture marketing, national statistics, price data, social statistics

1. Introduction: Statistical literacy is defined as the ability to understand the real meaning of statistics published for different purposes. It is necessary for a nation to understand statistics presented in such publications as newspapers, periodicals, television and the Internet. "Statistical literacy involves the ability to read and interpret the data in tables and graphs published by the government statistical associations¹". Statistical literacy has long history; it has only recently become a goal for statistical academicians and professionals. Skills are the ability to use one's knowledge effectively and readily in execution or performance. The statistical skills of certain category of employees are essential to raise their productivity as well as the overall performance of the economy is concerned. The need of statistical skills become critical in higher learning of even medical, agricultural, social and behavioral science once they initiate working on practical projects and research. Researcher cannot ignore science of statistics. It is an essential tool for designing research, processing & analyzing data and drawing inferences. This paper examines socioeconomic implications of the poor statistical literacy and Skills of the general public and lack of skilled individuals in collection and dissemination of data in Sri Lanka. The prime objective of the essay is to provide the brief overview of statistical system and identifying the problems and challenges for the improvement on the statistical literacy and skills as in small country experiences. Sri Lanka's population has a literacy rate of 92 per cent, higher than expected for a developing country; it has the highest literacy rate in South Asia and overall, one of the highest literacy rates in Asia. Definition of a literate person who is a person literate when one can both read and write with understanding a short simple statement on his/her everyday life in Sri Lanka. The economy of Sri Lanka has made great strides in overcoming poverty as it transitions from a lower income to a middle income country. It is obviously

¹ I. Gal, Functional demand of statistical literacy: Ability to read releases from statistical agencies. IASE. At www.stat.auckland.ac.nz/~iase/publications/3/016.pdf,2003

note, despite of higher economic growth rate with highest rate of literacy in the Asia, the poor statistical literacy and skills of the general public and lack of skilled individuals is questionable. The insufficient level of statistical literacy and skills on collection and dissemination of data and information have some problems of curtailing the prices signaling in the markets, allocation of resources, low productivity and wrong interpretations with the unawareness of the general public. Sri Lanka is a small economy with an excellent track record of collecting, tabulation, analyzing, and dissemination of various type of socioeconomic, political, environmental, health and other statistics.

2. Methodology: Primary data collection is interviewing of statistical academics and professionals and public officials, informed individuals, and community leaders. Focused group discussions were widely used here. Field observation is also part of the methodology. There is no sufficient secondary data for the recent developments and changes in statistical literacy and skills in the country. The researcher possessed adequate knowledge and background on statistics, statistical literacy, social sciences, and the market information system and thus competent to use this multidimensional approach.

3. Statistical System in Sri Lanka: Key government institutions are responsible for data collection and dissemination in Sri Lanka. Department of Census and Statistics (DCS) has the mandate for all national level statistics while the Central Bank of Sri Lanka (CBSL) is responsible for the handling some economic and social statistics of the country. Hector Kobbekaduwa Agrarian Research and Training Institute² (HARTI) are responsible for collecting, analyzing and disseminations of Agricultural Market Information System (AMIS). In this context, the paper is very briefly examine the roles and activities of the above first and second organizations rather than third organization which is the pioneer socioeconomic and agricultural research institute in Sri Lanka. The HARTI implemented the AMIS in the country since end of 1970s, is accountable for collecting, and disseminations of agricultural price data, particularly food prices and market information for the purpose of measuring food security and providing price signals for whole agricultural marketing stakeholders, including small farmers, traders and policy makers. The basic issues and discussion of the problems and challenges on statistical literacy and skills in paper is key to concern on the AMIS in Sri Lanka. This paper is also discusses the implications of HARTI market information system in collection and dissemination on statistical literacy and lack of skilled particularly rural farmers' individuals, while on general public's in Sri Lanka.

4. Department of Census and Statistics: The DCS functions under the two ordinances namely the Census Ordinance and the Statistics Ordinance in 1935. The DCS is the key statistical agency in Sri Lanka, which is responsible for collection, compilation, analysis and dissemination of all statistical data needed for planning, policy formulation and to monitor the progress of various development activities and also to measure the impact of various governmental policies. The DCS is as well entrusted with taking of all censuses and sample surveys relating to the socio-economic conditions of the people of Sri Lanka. Data comprehensibility is growing challenge for the DCS in Sri Lanka, as their users are less likely to be data analysts. A good understanding of statistical concepts and methodologies and their correct interpretation is essential to the proper and effective use of official statistics. Therefore, to improve the utility of statistics and their relevance to the country's social and economic developments, the DCS need to be work continually to promote statistical literacy and skills in community which are most lacking part of the system. Thus, the DCS may need to promote statically literacy for consumers externally and fluency in data presentation internally in order to avoid jeopardizing their core mission.

5. Central Bank of Sri Lanka: Established in 1950 under the Monetary Law Act No.58 of 1949, the Central Bank of Sri Lanka (CBSL) is the apex institution in the financial sector in Sri Lanka. With a view to encouraging and promoting the development of the productive resources of Sri Lanka, the CBSL is responsible for securing its core objectives of economic and price stability and financial system stability.

² The institute was renamed by the government of Sri Lanka as the "Hector Kobbekaduwa Agrarian Research and Training Institute" since 1994.

CBSL is another key agency in the country, which are responsible for collection, compilation, analysis and dissemination of all economic statistical data need for macroeconomic policy planning, management and monitoring the economic development activities and also measure the impact of various economic policies. In case of the central bank economic data, statistical literacy does not appear as a high priority with many national economic statistics. Therefore, the improvement of statistical literacy is one of the most important challenges that bank have to cope with at the process of economic globalization. In this context, data comprehensibility is a growing disagreement for economic statistics as their users are less likely to be data analysts. But if the professional users – the administrative official cannot accurately interpret the data provided by the agency, they may make bad decisions that would be the serious problems for general public.

6. Agrarian Research and Training Institute: Hector Kobbekaduwa Agrarian Research and Training Institute (**HARTI**) were established in act of No. 5 in 1972 and conducting the socio-economic research and training activities. Agricultural Marketing Information system (**AMIS**) has been introduced in 1979 at HARTI and operated by the Marketing, Food Policy and Agri-Business Division (**MFPAD**). AMIS plays an important role in food supply chain in Sri Lanka. The ability of AMIS to provide a valuable service has been strengthened with the development of the Internet and the advance of electronic commerce and industry. AMIS are information system used in gathering, analyzing and disseminating information about prices and other information relevant to farmers, traders, policy makers, processors and others involved in handling agricultural products. It's commonly understood that long transaction chains, lack of transparency, lack of standards, and insufficient access to markets for products has perpetuated low incomes in predominantly in the agrarian economy. The recent surge of mobile phone usage in developing countries has provided an opportunity for innovative projects to leverage this new distribution channel to get critical market data into the hands of farmers and traders, if there are higher level of statistical literacy and skills in these communities. To achieve these benefits, the information system must provide relevant, reliable timely accessible and responsive information to the particularly farmers.

i. "**Food Commodity Bulletin**", which is released every Friday and preparation of the bulletin is done by the MFPAD. The major outlook and some of the key indicators of prices of the bulletin are viewed. Description statistics such as range and average are worked out and price comparisons and made as compared to last week and last year for the corresponding period. However, the coverage of marketing statistics was limited. Retail prices were gathered from principle production, consumption and trading cities plus Colombo and suburbs which include 30 retail markets.

ii. "**Food Information Bulletin**" which issued in end of the every month. The major outlook and brief summary of the key indicators of prices, production, crop situation and food stocks, are in the bulletin viewed. The bulletin provide the over role food marketing situation of the country with averages and absolute statistics of retail prices, wholesale prices, producer prices in major crop areas and quantity of food imports and their values, CIF prices and countries that are food imports to Sri Lanka. Further, the information on crop stage in major producing areas, cultivation extents, and target crop growing extents, actual crop extents, achievements, water levels of major irrigation tanks, rainfalls and climate conditions and patterns and if their some droughts, floods or any other causes are leading to occurring crop damages are key indicators and information that are available of the monthly bulletin.

The ultimate goal was to increase rural incomes of farmers through their use of this information in negotiating prices and identifying better market opportunities. The prime objectives were to improve transparency and increase competition in the markets through the provision of price and market information to farmers, traders, and consumers. The majority of the activities put into practice in the project period, while the withdrawn of donor supports on financial and technical, most of activities and program have been stooped or stagnated. Information service was turn into the more unworkable activities and inefficiency of the system lead to the lack of financial resources from the government. The lacks of resources were generating the more complicated environment and the expectation of the project

was far below than the achievements. However, policy makers of the ministries and department in the government, academicians and other officials were received the benefits and very few traders are get some remuneration. The data gathering exercises have developed a better data base on prices of many agricultural commodities. Though, disappointment of the marketing information services in Sri Lanka and many other countries, has raise question of “why, failure of information system, is it defective policy implementation or malfunctioning of the project implementation?” There should be a research question that will be answers to the experiences realized by the project relevant stakeholders of farmers, traders, processors and others involved in handling agricultural products. The farming communities in Sri Lanka are really educated who can read and write. But unfortunately, it was obvious to note that general statistical literacy and individuals skilled are unsatisfactory in many of the farmers and traders. The market statistics is presented in both bulletin of weekly and monthly rather advanced. Therefore, most of the farmers and traders are not properly used it, due to the insufficient knowledge of statistical literacy and skilled. Average prices of commodity, prices ranges and price comparison to last week etc, they can understand and realized. However the indicators of seasonal price index, transaction cost analysis, such as market margins, percentage of farm gate prices, CIF prices and share of the markets are difficulty be aware of them. As a result of that the two bulletins of weekly and monthly information are underutilized, because of the unsatisfactory level of statistical literacy and skilled in farming and trading communities.

7. Statistical Literacy Issues and Prospects of a Small Country: There are dark spots of the bright picture of the data collection and dissemination in the country. Lack of general statistical literacy and unavailability of skilled individuals to collect, analyze and dissemination of data are key drawbacks of the country. Similarly, there is no proper legal obligation to collect and updating of vital data in some areas of the country. The general public are not interested of many important statistics relevant their life, neither they have received basic knowledge to understand those vital statistics. The education system of country is not providing basic knowledge on statistics literacy, so that the general public is not in a position to make use of vital statistics in their day today life.

7.1 Lack of Cooperation from Respondents: There is no proper legal obligation to collect and updating of vital data in some areas. The general public are not interested of many important statistics relevant their life, for example on food prices, neither they have received basic knowledge to understand those vital statistics. Unlike demographic, health and certain other social conditions, income related activities are not readily reported by the communities. Specially, traders, farmers and other business stakeholders in agricultural marketing system are completely reluctant to provide their real prices and costs in business tricks. When such information is given, sometime, there are erroneous. Sometime, there is total refusal to provide such information. The key reason for this was the incapability to understand the real meaning of statistics due to the lack of general statistical literacy and unavailability of skilled farmers, traders and individuals. Therefore, it is clear to note that the AMIS in Sri Lanka, is generated in much “information and statistics’ on marketing, but it is not adequately and effectively analysis and interpretations to generate “information” that will be useful to “farmers, traders, and rural communities to make their decisions on crop production and marketing. It has not helping farmers to improve their bargaining power at the rural markets, while reducing and controlling the cheating by middlemen and other intermediary agents because of the low level on statistical literacy and skills.

7.2 Upgrading and Policy Priority for Statistical Literacy and skilled: Key statistical agencies are given low priority for the improvement of statistical literacy and there are no policy agenda on their programs. Relevant agencies and general public’s are not more concerned the improvement of the statistical literacy. Owing to the lack of policy priority and day to day upgrading of data systems and other inappropriate involvements has become the leading factor for the failure of statistical information system. Therefore, many empirical evidences have confirmed that the developing and implementing of efficient and sustainable AMIS are not easy task on the process of agricultural transformation. The benefits of such systems shows that are debatable and failure to operate timely, accurate, reliable date and statistics to those who are need market information. Experiences of marketing information services that

are implemented in many other developing countries, including Sri Lanka, are analysis and studied by the FAO and provided the following explanation as in their concluding remarks.

“.....and relatively few developing countries presently have market information services that offer commercially useful information on a timely basis. Public- sector MIS suffer from all of the problems faced by bureaucracies in poor countries. They nearly all face staffing constraints. Most lack of resources to carry out day-to-day operations and this trends to lower staff motivation. While the weaknesses of bureaucracies are often not particularly visible to the outsider, the failures of MIS are there for all to see. Notice boards which are rarely updated and have not been given a coat of paint in a decade, newspaper columns which do not appear and daily radio broadcasts which suddenly become weekly broadcasts are all obvious evidence of problems. Once an MIS begins to go downhill it becomes very difficult to reverse the direction and many MIS are now services in name only”³.

The root cause for all these problems, are not properly upgrading the system on time and not given the higher priorities for their programs and terms of statistical literacy and skilled. Most of the officials those who are worked for the information systems are problematic in the subject. In comparison to the implementations, impacts and benefits of the AMIS of Sri Lank have not significant differences in other countries. However, problems with operating and implementing system of marketing information are numerous. Problems of data collections, data processing and transmission, dissemination of information, utilization of data and information, duplication of data collection activities, charging for market information and political interference and bureaucratic intervention were the prime problems of the AMIS due to the insufficient statistical literacy and skills.

7.3 Unorganized Planning Structure and Standardization: What is lacking in Sri Lanka, however, are data and metadata sharing systems and standards and effective presentation of data. The leading agencies do not have the technical capacity to make the integration of information system and sharing data a reality. DCS has the mandate for all national level statistics while the CBSL is responsible for the handling some economic and social statistics of the country. HARTI is responsible for collecting, analyzing and disseminations of AMIS. These three organizations are collect, analysis and dissemination on food prices and related agricultural market data. Each organization struggles to develop and manage prices and statistical information systems on their own. Even, where technical skills are missing, leadership and vision could make a difference for making progress in systematic data sharing. The key issue is these organizations are not given any attempts to the improvement of statistical literacy and skilled in rural farming communities, particularly food market information system, to better use of day to day life. The actual benefits and remuneration of this AMIS, is not properly receiving to millions of small farmers those who are living in remote rural agricultural areas. The agricultural traders are also getting fewer benefits from the system, since some of the inherited problems and constraints in marketing system. The benefits to farmers are relatively limited. Distributing of marketing information at a grass root level is not adequate to meet the needs of farmers. The information distributing trends to be raw price data often averaged over the country, which is little use to farmers due to lack of statistical literacy and skilled. Therefore, the poor performances are the results of several causes of the problems of production and marketing system that are directly relation to the need on the improvement of statistical literacy and skills in farming and trading communities. Although, the use of marketing information on the some other parties in the country such as government, policy makers, academicians, and specially politicians are significant. The big Challenge faced system is build networks to addressing the gaps and problems in AMIS and the improvement of statistical literacy and skills in Sri Lanka.

7.4 Overcoming Financial Constraints: The dividends of invested capital on statistics collection and dissemination are not receiving the country as a result of those events. Financial constraints affect in two ways. First, it restrains the conducting of new surveys to produce more deliberative statistics that are suitable for the improvement of public statistical literacy. Secondly, it affects the quality of surveys and information system that currently being conducted. This is another question raise to that the why and what is the reasons for malfunction to many “Marketing Information Projects” that were introduced by the

³ Market Information Services: Theory and Practice, by Andrew W.Shepherd, FAO Agricultural services Bulletin 125, 1997, Rome. Page-53.

national governments and donor agencies in many developing countries, the fact that surveyed and highlighted by the FAO⁴ as;

“....., problems with operating MIS are numerous. The main constraints appear to stem from lack of resources, not so much to establish an MIS, where donors are often prepared to assist, but to maintain it in efficient operation after the donors have left. Particularly in day and age when governments are under pressures to cut expenditures, it is often difficult to maintain political support for services with few visible benefits.

Judging by the above experiences in other countries and Sri Lankan case, it is understood that the limited financial resources is one of the leading reason for the implementation of the information system with the challenge of the improvement of the statistical literacy and skills in rural farming and trading communities.

7.5 Public Awareness Programs on Statistics Literacy: Some programs are not providing basic knowledge on statistics literacy, so that the general public is not in a position to make use of vital statistics in their day today life. A limited number of training programs are conducted to improve the skills of individuals involved with data collection and dissemination though it is not sufficient to meet the modern data requirement of the country. It is big question inquire, why Sri Lankan farmers are fail to use of market information? Use of market information by the small frames is very limited, because they cannot use this data for planning or bargaining or any other purpose at the market, due the lack of statistics literacy and skilled. Other limitation of these statistics and data are only few types of prices and production figures which are not properly understanding to them. That information is not enough for making right decisions on what to produce, how to produce, when to produce and where to produce and bargaining to commodities prices. Sri Lankan farmers have to struggle with costs and prices in other countries. Therefore, farmers have need to more compressive, trouble-free and detail information on marketing and production in international markets. Prevailing local marketing information is not enough for making correct decisions in agriculture. Therefore, need of formation of public awareness programs on statistics literacy is urgent need and compulsory.

7.6 International Cooperation for the Improvement on Statistics Literacy: The role of statistics as a key development factor is not obvious for all decision makers in developing countries. Therefore, international organizations have provided strong support for data production while little attention has been paid to use and understanding of data by policy makers and public. Consequently, the core funding of many statistical services is inadequate for organizing data collection for the production basic set of internationally recommended key indicators. Providing technical and financial support, the international organizations can be develops the capacity of government, civil society and media by given training course on statistical literacy and technical assistance.

8. Conclusion: In conclusion, all professionals, essentially statisticians, economists, agriculturalist, sociologists and politicians in developing countries are facing challenge to properly measure and understand the new global economy in which they heavily involved. Sri Lanka is no exception. As a small country experiences of the improvement of the statistical literacy and skills are the vast problems and challenges in the field. Lack of cooperation from respondents, need of upgrading and policy priority for statistical literacy and skilled, unorganized planning structure and standardization, financial and other resources constraints, creation of public awareness programs on statistics literacy, need of international cooperation and data comprehensibility of the disagreement in economic and social statistics are few of the massive challenges for the enhancement of the statistical literacy and skilled. To improve the utility of statistics and their relevance to the Sri Lanka's social and economic development, the key government statistics agencies continuously works to promote statistical literacy in the community. For that, a good understanding of statistical concepts and methodologies and their interpretation is essential to the proper and effective use of official statistics.

⁴ I.M.Crawford (1997). Agricultural and Food Marketing Management, FAO, Rome.