

## Beyond Official Statistics

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### Abstract

*There are many systems that exist in the world as well as in the statistics area. The paper explores different statistical systems that are employed by nations in running their statistical operations. There are those that take statistics as government obligation while others are not sure of how to handle them all, therefore take a specific position to deal with only government statistics. The paper tries to look at these two sides by bringing in the details of each and ends with what could be the right way to organise statistical systems in countries.*

**Keywords:** National statistical system, national official statistical system, official statistics, non-official statistics, components of a national statistical system

### 1. Background

There is an enormous literature on official statistics since the creation of the United Nations Statistics Division (UNSD) in the 1940s under the United Nations (UN). The division is pioneering in guiding and advising countries on the best way in producing these statistics. It has, since its formation, issued numerous guidelines on such things as; concepts, definitions, methods, formats, classifications, and their periodicity of production in different socio-economic fields. On 29<sup>th</sup> January 2014, the UN General Assembly adopted the resolution on Ten Fundamental Principles of Official Statistics (UN, 2014). Before we dwell in details on our narration on this issue, let us first describe what are called “official statistics”.

Official Statistics can simply be described as statistics produced and published by governments or government agents. Their publications have to be approved by a person of a certain designation in the government echelon, such as a head of a selected government office. Wikipedia describes them as statistics published by government agencies or other public bodies such as international organizations. They provide quantitative and/or qualitative information on all major areas of citizens' lives, such as economic and social development, living conditions, health, education, and the environment. Encyclopaedia describes them as Statistical information produced, collated, and disseminated by national governments, their agencies, and the international bodies which link them. These data are almost invariably nationally representative, because they are obtained from complete censuses or very large-scale national sample surveys, and they usually seek to present definitive information conforming to international definitions and classifications or other well-established conventions.

From the three descriptions, it can be deduced that these are statistics that are published by the government. The third description goes further; that, the statistics are mainly produced to be representative at national level. One key question we have to ask here is: Are there other statistics apart from the official ones? The answer is affirmative since there are other statistics called non-official statistics. These can be described as; Statistics produced by non-government organisations and/or departments, such as independent research bodies, academic research, commercial and market research organisations. At times they are produced by some government departments as well at different levels for their own consumption. The publications of these statistics do not need any clearance of the government like the official ones. The organisations producing such statistics have the liberty to publish them at will. The major difference between these two types of statistics is that the official ones are published by the government to the general public after a certain clearance and approval while the non-official ones are mainly kept by the respective departments or organisations for their own use and in rare occasions are published for use by the general public as well but without prior approval of any other body.

## **2. Usefulness of official and non-official statistics**

Both official and non-official statistics are produced for a purpose. Users are at will to choose any type of available statistics to address their need.

### **2.1 Usefulness of official statistics**

World over, trust is mostly placed on official statistics. The trust is high because responsibilities for the production of these statistics are entrusted on one government department or agency by law. Most of these offices are either called National Statistical Offices (NSOs) or Central Statistical Offices (CSOs), but assume other various titles in different countries, such as; National Bureau of Statistics (NBS) for Tanzania, Office of the National Statistics (ONS) for United Kingdom, Uganda Bureau of Statistics (UBOS) for Uganda, Kenya National Bureau of Statistics (KNBS) for Kenya, Statistics South Africa (StatSA) for South Africa. These offices are staffed with qualified personnel in statistics, at least according to their national standards, and receive adequate financial and occupational support from their governments and/or international organisations. Most of these offices are located at national capital cities of every country.

The offices normally produce statistics that represent their countries at national levels; such as Gross Domestic Product (GDP), National Consumer Price Index (NCPI), National Monthly Inflation Rates, National Primary Enrolment Ratio, National Fertility Rates, and National Poverty Levels. Under rare circumstances they can produce statistics that have estimates of sub-national levels of administrations. The only data that are reliably produced at these levels are from censuses, Bumpstead, et al (2011).

#### **Merits of official statistics/data**

1. Statistics are produced with certain periodicity allowing a possibility of developing trends over time;
2. They allow comparison on national achievements as compared to other nations. This is very relevant when it comes to countries in the same economic block like Southern African Development Community (SADC), East African Community (EAC), Economic Cooperation of Western Africa States (ECOWAS), and European Union (EU), where they target to reach certain levels of achievements like reducing inflation to a specified level or raising Gross Domestic Product (GDP) by a certain percentage in specified periods of time;
3. Offices responsible for their production and publication have legal backing in their respective countries;
4. Data from censuses are good bench-marks for sample surveys and studies carried out in the respective countries in subsequent periods;
5. They are used in assessing sectoral performance of the socio-economic aspects of the country from time to time; and
6. They enjoy international backing and guidance. The United Nation Statistics Division (UNSD) is at the forefront in developing concepts, definitions, formats and methods that are followed by all countries in producing these statistics for international comparison purposes.

#### **Limitations of official statistics**

1. Most of them are not useful at sub-national administrative levels because they are only available at national levels. For example a national monthly inflation rate of 5.2, say, may not be relevant to any of the sub-national administrative level, like a Local Government in a country that has 50 of them;
2. Given that the mandate of producing these statistics are entrusted to NSOs, for national figures, the few that can be produced by sub-national administrative levels lack trust from the public even if they portray a real picture of a situation at their level;
3. Inadequate funding from the governments of some countries lead the NSOs producing statistics that are not true representative of the reality on the ground because sample sizes covered fail to meet minimum statistical requirements. However, given that there are no any comparable figures, they end up being blindly used in decision making leading to grave consequences;
4. Production of these statistics normally lags behind their actual needs. Most of their productions are planned when the need is logged, that means they are published in future dates after the need. This leads to many of them being discarded soon after their production because they become out-dated;
5. The prevailing low level of statistical literacy and awareness by the contemporary and potential users, especially in developing countries, lead to low demand for statistics, leading to low funding. This creates a viscous cycle of statistical underdevelopment in the countries;

6. Frequent interference by government officials and other pressure groups on technical matters. The interference may lead either to the production and publication of partial statistics in favour of such groups or completely ban the production of some of them;
7. Slow pace in developing methodologies for the contemporary data needs in new fields, such as ICT and related ones, lead to serious data gap in such areas; and
8. Production and publication of these statistics are biased to economic aspects. There are enormous gaps in social statistics which have direct impact to people's life.

## **2.2 Usefulness of non-official statistics**

Production of these statistics is not governed by any rule, from the contemporary literature. Each institution has its own way of carrying out its activities on a daily basis. There are different internal guidelines, rules, tasks, targets and goals that are pursued all the time. By act of doing something within or by the organization, some data are being generated automatically. For example; there are attendance registers which require each employee to register when entering and leaving the office gate, daily tasks of each worker (workload) and daily expected output. When these are cumulated for all workers in the institution form big data sets on such aspects and can generate various statistics of interest. Research and academic institutions undertake various researchers both regularly and on ad-hoc basis for different purposes.

### **Merits of non-official statistics**

1. They are available in most institutions and at very detailed levels, at times, if properly adapted/arranged can be good sources as census data in some aspects;
2. Most of them can be produced a bit cheaply since they are/can be obtained as by-products of some administrative functions within the institutions;
3. They fast respond to contemporary data needs to address issues of interest to the population in all socio-economic spheres;
4. They are available in most institutions in all socio-economic areas; and
5. In some fields, especially in scientific ones, they are the only source of such statistics in the countries.

### **Limitations of non-official statistics**

1. At times samples sizes used are too small to warrant meaningful inference to the whole population. This means they have, at best, to be taken as case studies, never to be used to generalise to the parent population;
2. Improper handling of statistics related information by non-statisticians in most institutions lead to the production of unreliable statistics;
3. Lack of political will and low statistical literacy, probably because of low statistical awareness; inhibit harnessing their potential in filling data gaps left by official statistics; and
4. Most produced statistics lack supporting information. In some cases resulting statistics miss necessary background information; like sample sizes, size of population of interest, sample units' selection methods, data collection methods, estimation methods, and data analysis procedures.

## **3. National systems for official and non-official statistics**

### **3.1 National System for Official Statistics**

There isn't much literature on national system of official statistics. In New Zealand, official Statistics are described as all statistics produced by government departments and specified crown entities. The Official Statistics System is described as the government-wide system of policies, practices, processes, underlying data sources, and people that are involved in producing and disseminating official statistics. It is further expounded that:

Statistics New Zealand is New Zealand's national statistical office. Statistics New Zealand is the leader of the Official Statistics System and is the major producer of official statistics in New Zealand.

The Government Statistician, who is also the Chief Executive of Statistics New Zealand, has a legally mandated role to coordinate statistical activity across government by:

- driving the overall performance of the Official Statistics System and ensuring New Zealand gets the information it needs, and that this is value-for-money at the lowest possible cost to government, the community, and suppliers of data;
- providing direction to the Official Statistics System and engaging other government departments to build shared ownership, minimise duplication, and maximise reuse of data;
- defining and agreeing on the results that agencies will focus on together;
- coordinating statistical activities across government, including setting statistical standards, reviewing and commenting on the validity of statistics, monitoring progress and performance, and ensuring that action is taken if expected results are not achieved; and
- Advising the government on policies, priorities, and the costs and benefits of statistical activities.

Key information we derive from this part is that Statistics New Zealand has a number of responsibilities;

- (i) New Zealand's national statistical office;
- (ii) Leader of the Official Statistics System;
- (iii) Major producer of official statistics in New Zealand; and
- (iv) Through the Government Statistician, who is the Chief Executive of the Office, has been given the mandate of coordinating the official statistics system in the country.

The New Zealand Statistics Act of 1975 (reprinted on 5<sup>th</sup> December 2013); is on Official Statistics, describes official statistics as statistics derived by government departments from various sources and by different means.

### **3.2 National System for Non-Official Statistics**

Given that most non-official statistics are produced either within the institutions both governmental and private or from outside for their own consumption, there isn't any system that can be prescribed. This is because it is the needs of the institutions that shape the concepts, definitions, format, periodicity, methodologies, and coverage. We could not access any literature that gives any hint on the existence of such a system at the moment. However, from experience, in absence of any official data, non-official ones have been used to make plans and decisions. At times, they are the only ones that are available and could easily be accessed, such as most of organisations' administrative records.

### **4. Merging official and non-official statistics– Statistical Producers**

In order to effectively and efficiently manage its socio-economic development, every nation needs both official and non-official statistics and data. Just as Jesus Christ had said in the Bible, that, "man shall not live on bread alone" (Bible). The bread makes the man physically fit and the spirit makes him spiritually well, thus making a person complete. Likewise every government and any institution need to use both information that it gather itself and that is gathered by others to be able to manage its business more effectively and efficiently. One acts as a mirror to the other. An example are shadow government statistics. (Williams'2016).

There are two major producers of statistics and data in any country. These are government and non-government organisations (NGOs). The government is the sole producer of what are called official statistics while non-official statistics can be produced by both government and non-government organisations.

Planners and decision makers in a country who employ both official and non-official statistics in their actions are more likely to realise the intended goals than those using only one of them. As has been seen above on the merits and disadvantages of each, the disadvantages of each are cancelled by merits of the other. Just as Nanette (Nanette, 2014) had advocated on the integration of the two in his paper entitled "Towards the integration of official and non-official statistics beyond GDP", he argued for the inclusion of information and data from the civil society to empower the policies brought out by the government. He further asserts that " full legitimacy of public decisions cannot be exclusively produced and ensured by formal institutions connected with the activity of the state or of international organizations, but it has to be based as well on civil society activation, involvement and contribution".

The process of producing statistics in any country, however, is not a stand-alone one. To make the process complete producers need to collaborate with other stakeholders. These are; data suppliers, statistical users, statistical training institutions, academic and research institutions, and professional statistical societies/associations.

These together form what we call a National Statistical System (NSS) in this paper. Each stakeholder has its rights and obligation(s) to ensure that the system works in an amicable manner for the benefit of the whole nation. Their positions and relationships in the system are elaborated below.

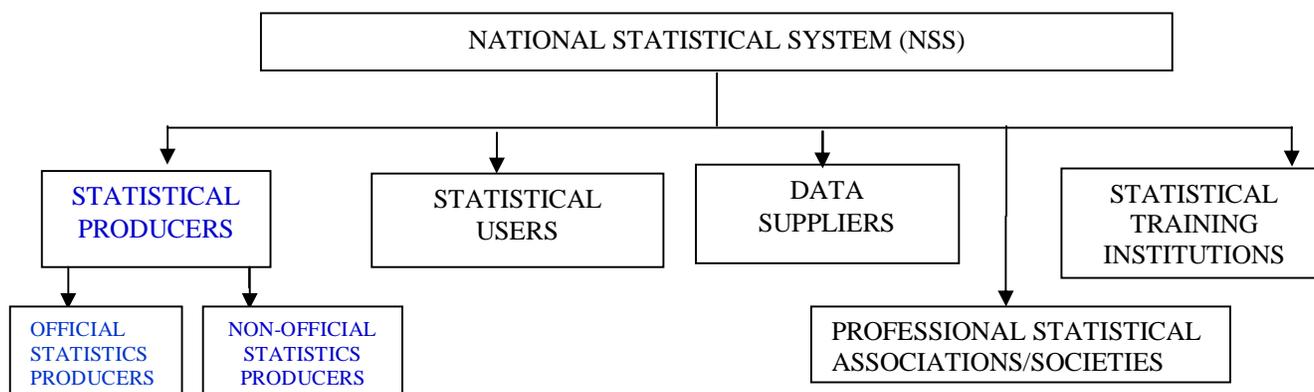
### 5. Positions of five statistical stakeholders in the National Statistical System (NSS)

The world is rich on literature for “National Statistical System(s)”, both at national and international levels, such as United Nations (UN) System and Partnership in Statistics in the 21<sup>st</sup> Century (PARIS21), national statistical offices, just to mention a few. However, when one looks at most of them with a closer eye finds that what is widely called “the national statistical system” in most literature is what is called “official statistical system” in New Zealand (New Zealand, 1975) which culminates only on producers of government statistics. We propose this could either be called the System for Producers of Official Statistics (SPOS) or just Government Statistical System (GSS) or National Official Statistics System (NOSS) or just Official Statistical System (OSS) as in New Zealand. This is because the real NSS is supposed to include the production of both official and non-official statistics as well as other statistics related activities in the country such as; uses of statistics, supply of data, statistical education and training, and statistics professional matters. This issue was articulated earlier in our paper entitled “Development of National Statistical Systems in Africa by 2012: Lessons learnt and prospects” of 2014. (Msokwa, 2014). We had, in that paper, explained the major problem that countries (especially African) encounter in the process of developing their National Strategies for the Development of Statistics (NSDS).

The major problem that we have found is that almost all countries have mistakenly called Official Statistics (Government Statistics) as National Statistics. Therefore, instead of talking about the system of official statistics or just official statistical system, as for New Zealand, they are wrongly referring them as national statistical system. They have gone further in placing the heads of government statistics offices as heads of what now they call *National Statistical Systems* which we feel it is inappropriate. They, probably, could best be heads of government statistical systems. This approach has starved statistical activities in the countries, in its wider sense, because they have to operate at the will of the government of the day. Furthermore, statistical professionalism is not observed because even the laid down laws give mandate to the head of NSOs to regulate statistical professional affairs in such counties. We are of the opinion that there is a need for a higher body to oversee the NSS, of which official statistics is just a small part of it from the producers’ side. Our proposal is further expounded in Figures 5.1, 5.2 and 5.3 below, and the narration that follows.

### Position of official and non-official statistics in the National Statistical System

**Figure 5.1 Components of a National Statistical System (NSS)**



The NSS should be built-up by five pillars (Figure 5.1 above). These are; statistics producers, statistics users, data suppliers, statistics training institutions, and professional statistical associations/societies. All the five make this system. Less one of them the system cannot be in equilibrium. As noted above, each of these pillars has its own rights and obligations to the system. However, in order for the system to operate efficiently, there must be clear lines of communications among them.

## Statistics users

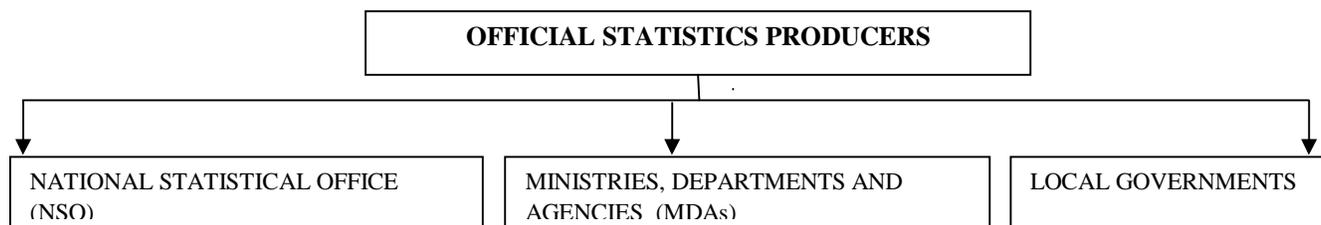
There is a wide range of statistics users in every country, starting from the government as the major user (mainly of official statistic) up to a general public. For example; Governments need statistics in order to prepare plans and monitor their implementation towards achieving intended national goals for the benefit of its citizens. Business communities need statistics in order to venture in activities which are likely to generate more profits to them. The general public need statistics in order to make the government in power, account for their promises in improving their livelihood. International organisations need the statistics in order to compare situations in member countries on certain issues spatially and temporally.

Statistics users may not necessarily heed to the differences between official and non-official statistics. What is most important to them is the availability of statistics that serve their purposes. Users' need for statistics have to be lodged to the statistics producers for the type and format of data in need. At times, users may not necessarily lodge their need in well-articulated statistical terms. It is the duty of the producers to shape them in the correct format. This can efficiently be achieved when there are clear rules and guidelines in a system on how stakeholders relate among themselves.

## Statistics producers

Statistics producers in a system are further split in two parts (Figure 5.2). The first part is for the official statistics producers which are generally government institutions. As already have been noted above, there is a lot of literature on concepts, rules and methodologies for the production of these statistics. The UN has developed a lot of guidelines in handling official statistics ranging from social to economic ones; such as national accounts, housing, prices and index numbers, agriculture, environment, trade, population and housing census, and civil registration. The UN has developed these guidelines so as to enable cross-country comparisons at international level in every aspect.

**Figure 5.2 Components of producers of official statistics**



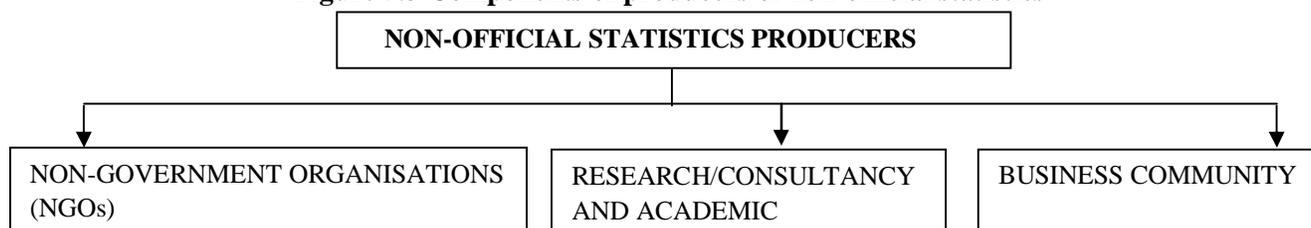
National statistical offices are major, if not sole, producers of official statistics in most countries. In some countries they even tend to appear as producers of national statistics. That is why they are often given mandates of coordinating NSS. They enjoy the availability of good statistically knowledgeable staff with substantial experience. The offices thrive to produce statistics of almost all socio-economic sectors of the nations, of-course, at national levels. They are, by far, the only one stop shop for statistical needs at macro levels in the countries.

Ministries are supposed to be responsible for the production of statistics on their activities. However, depending on the administrative and legal arrangement in different countries, the obligation of producing ministries' statistics may be placed under the national statistical office. In such situations ministries, at best, become just data providers. In ideal situations, however, each ministry has to have a sizable statistical unit, if not department, that deals with the production of statistics relevant to the ministry's activities. For example, the Ministry of agriculture should be responsible for the production of agricultural statistics in a country. Ministry of industry and trade should produce industrial and trade statistics, ministry of education, should produce education statistics, and so on. They should be able to produce what we call meso (middle) level statistics in their areas of operations.

Local governments on the other part are supposed to be producers of all micro level statistics in their areas of jurisdictions. These should be like what are known as neighbourhood statistics in the United Kingdom (UK) that are produced by the Office of National Statistics (ONS). With these statistics, one can get estimates (by inference) by using appropriate weights for any higher government administrative level, regional and national. Unfortunately, most countries have ignored to strengthen statistical activities at Local Government Authorities levels. It is only when each of the LGA is enabled to produce statistics at its level for its own consumption that countries will realise real development. This is because vices of people's life like poverty cannot be tackled by national directives but local level initiatives because of different local level conditions as well as geological factors. Statistics production and proper use at these levels shall prove this correct.

Non-government entities and even some government bodies (at certain levels) produce statistics that do not pass through the channel of the government rules, for whatever reasons, but are of important use to the respective institutions and at times to governments as well. These statistics come from different sources such as; case studies, observational studies, scientific researches, and social research findings undertaken outside the government helm. Methodologies used in producing these statistics do not necessarily match those used in producing official statistics. Some of these statistics are by products of administrative records in the institutions. The ease and difficulty in transcribing statistical information from administrative records depends on the format of the administrative files and the expertise of the transcriber. These differ from organisation to organisation, and country to country depending on their statistical development and appreciation, both from the users' and producers' side. Figure 5.3 below shows components of this group.

**Figure 5.3 Components of producers of non-official statistics**



Producers of non-official statistics have three roles. The first one is to produce statistics for their own use. The second is to produce statistics that fills gaps that are left by official statistics. The third one is to produce statistics that challenge the official ones (the shadow statistics). It is, therefore, very important for a country to have this group of producers to enrich the understanding of the function of the government and the society as a whole. Societies world-over will be more democratically managed when everybody is statistically literate and all those responsible to govern at whatever level use the statistics in making evidence-based decisions.

#### **Data providers/suppliers**

This is a key pillar of the system. It consists of entities having the information (data) that is sought by statistics producers. It includes; households, individual members of households, Ministries and Departments, enterprises and/or establishments, institutions; both public and private, individual persons, departments or sections within one establishment, etc. Some of these tend to become end users of the produced statistics at the end of the process as well. Their importance in the system need no more emphasis because it is them who can guarantee the reliability of the statistics produced from the data they provide. They have to be well informed in advance on the intention of any data collection exercise and their importance to the society as a whole. Above all, they need to be assured on the confidentiality of the submitted information.

The system has to ensure that data providers are knowledgeable about it and more so, on their ultimate importance in providing the needed data throughout their existence. The system and data producers should be aware of the effect of overburdening data providers over time and be able to address/deal with it so as to safeguard the accuracy of provided data. Any system that ignores data providers is assured of getting garbage as the end result.

#### **Professional Statistical Associations/Societies**

The professional associations/societies can take a number of options. They can either be inclusive (general) for all statistical fields or subject oriented ones. For example; there can be an association for professional surveys sampling, national accounts, statistical modeling, etc. The main aim of a professional society is primarily educational and informational. Their influence flows from their continuing and highly visible functions: to publish professional journals, to develop professional excellence, to raise public awareness, and to make awards. Through their work, they help to define and set standards for their professional fields and to promote high standards of quality through awards and other forms of recognition.

New statistical methods, concepts, definitions, and classifications in various statistical fields are a result of rigorous researches, deliberations in different conferences and meetings of relevant statistical societies/associations. It is after professional statisticians have undertaken researches and/or review of existing literature that they come up with proposed new methods, concepts, and definitions in the relevant areas.

This paper is a result of such activities. It is an obligation of professional statisticians and statistical training institutions to educate the public on statistical matters so as to raise statistical awareness in a society.

It is, therefore, important that all the statistical stakeholders in a country are placed under one strong umbrella of statistical activities and each pillar is given its rights and responsibilities for the whole system, as well as establishing clear lines of communications. Under this kind of arrangement we propose that the right body to coordinate NSS should be the National Statistical Council (NSC). The head of the council has to be a highly qualified professional statistician with distinguished track record of professional training and practical experience. Members of the council have to be drawn from both government and private sectors. The discharge of its mandate should purely be based on safeguarding the statistics profession and ethical matters for the country as a whole.

Depending on the statistical development in a country, it would be better if each branch of stakeholders is served by a unit or department at the NSC level on a daily basis. Staffing of these departments, again, should be manned by highly professional and ethical staff. It is with the adaptation of such a system that the world will discover the beauty and power of statistics in managing our socio-economic aspects of all kinds. This is, as per PARIS 21, statistics are supposed to be eyes and ears of every policy makers

## 6. Conclusions

Current literature and understanding of “national statistical systems” should be revisited in order to expand its horizon and the management or coordination of the same should be placed under a strong team of professionals in the name of National Statistical Council (NSC). We hope by adapting this arrangement the status of statistics shall raise in the countries. Governments should establish systems of official statistics to manage its operations and not tempering with national statistics as a whole under its control.

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