



Functional Review Report: Iraqi National Statistical System



This document presents scientific functional review (FR) for Iraq statistical system which includes the Central Statistical Organization (CSO), Kurdistan Regional Statistical Office (KRSO), and other producers of official statistics; which stand at different levels of development and know-how basis.

The FR as part of Iraq Public Sector (I-PSM) programme was conducted through a participatory process of international experts and national counterparts through national and sub-national structures. A national committee headed by CSO and with members from line ministries participated in the FR; similar structure was established in Kurdistan Regional Government headed by KRSO.

The FR was implemented by a team of international experts from UNFPA and ICON International Institute. Dr. Luay Shabaneh, UNFPA Chief Technical Advisor headed the team of experts and articulated the whole process. Dr. Michael Hatterman, ICON, led the team of international experts. Mr. Ali Al-Halabi and Mr. Mahmoud Khoshnaw, from UNFPA Iraq led the field coordination with the national counterparts.

Ms. Salamah Al-Mahdi, CSO was the national coordinator for the FR under the overall supervision of Dr. Mehdi Al-Alak, head of CSO, and Mr. Serwan Mohiddien, head of KRSO led the process in KRG.

We hope that this FR paves the way for modernizing Iraq's national statistical system towards modern federal statistical system capable to effectively contribute to serve development and good governance in Iraq.

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Abbreviations

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| CoP | Code of Practice |
| CSO | Central Statistical Organisation |
| CTT | Core Technical Team |
| CVS | Current Versioning System |
| EMIS | Educational Management Information System |
| Gol | Government of Iraq |
| GSBPM | Generic Statistical Business Process Model |
| I-PSM | Iraq public sector modernization programme |
| IS | Information System |
| KRSO | Kurdistan Region Statistics Office |
| LF | Legal Framework |
| METIS | Work Sessions on Statistical Metadata |
| NSS | National Statistical System |
| SDMX | Statistical Data and Metadata Exchange |
| SS | Statistical System |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNFPA | United Nations Population Fund |

The present functional review was carried out during 2011 as part of the Iraqi Public Sector Modernisation Programme (I-PSM). The review concerns the functioning of selected areas of the national statistical system (NSS) of Iraq. Overall, the review identifies that Iraq's historically centralized statistical organisation needs to be further adapted to the recently established federalised structure of the country in order to deliver the expected services for the benefit of a modern Iraq. The regional statistical office in the Kurdistan Region (KRSO) has sound fieldwork capacity, but is still at a formative stage in several other dimensions. It is however underway to achieving full capacity for production of regional statistics. There is a sound establishment of systems and capacities for production of sectoral statistics (education, health, etc), but there remains much to be done to achieve a harmonised, integrated and professional national statistical system in Iraq. It requires substantial shifts to align the statistical system with the new governance structure in Iraq, empowering regional and provincial capacities to serve good gov-ernance, and to maintain a unified national statistical system. The functional review indicated that these shifts include legal and professional frameworks, horizontal and vertical relationships across production entities, working environment, and modernising shifts in current tools, polices, and competencies required for acquisition of new skills. Important shifts are also required for bridging a significant generation gap in the staff employed. The gender issue also needs more attention if gender statistics are to become more demand oriented in support of evidence based planning and monitoring.

National statistical system: Iraq has had a national statistical system since the 1930s. With the passing of time, it has produced a wealth of useful information on the Iraqi society. Meeting the demands of time, it has changed its organizational structure on several occasions. The current situation suggests that, once again, there is an opportunity for change. This change, among other things, is motivated by the currently large production of statistics; mostly deriving from ad hoc sample surveys, which has made efficient coordination difficult. It has been noted that this also has hampered a unified classification approach. Other circumstances calling for change is the increased demand for official statistics in Parliament, Government and its agencies, as well as among news media and the general public. To meet current demands, there is a fundamental need for introducing a new legislative framework for official statistics which clearly defines the role and coordination among all players like CSO and the data providing ministries involved. To this end, it is suggested that a working group be established with the task of drafting a new sta-tistical act and an associated code of practice.

Legal framework: The existing law regulating the production of official statistics in Iraq dates back to 1972. There is an ongoing attempt at formulating a new statistical framework. It is found, however, that this attempt needs to be updated in order for the statistical legislation to be aligned with international practices. It is recommended that the United Nations Fundamental Principles for Official Statistics be interwoven with a new draft proposal for a statistical framework. Workshops and training to remedy the above-mentioned shortcomings have been suggested.

The production of official statistics in Iraq needs to be timely, integrated, continuous and de-mand driven. Statistics are to be disseminated in a more timely manner with fixed scheduled fashion and using different and modern dissemination tools. For this reason, busi-ness/production plans needs to be revised to ensure relevant, reliable, timely and punctual pro-duction of official statistics that respond to a wide array of user demands. It must also be noted that in the future the use and further development of administrative registers are likely to be much more common as they provide a cost efficient way of data production in the public sector. A modern statistical environment to a very large extent is built around registers (population registers, business registers, etc).

To ensure that the different directorates become more integrated in the production process, it is suggested that the data production at each level and administrative public entity will be analysed in a working group set by CSO and KRSO. It is noted with emphasis that there is an associated need for modernizing the computerization of CSO and KRSO. In addition, it is noted that across directorates there is a need for making more efficient use of modern database technology. It is suggested that a working group be dedicated to modernizing the existing computer network and database system. Assistance in this area should be rendered by environments where such technologies are fully functional. The objective, utilization, role and limitation of the NSS is viewed differently by different stakeholders. Therefore a code of conduct is needed. The rationale for a code of practice is that it brings together the stakeholders in support of maintain-ing an efficient system of official statistics. However, from both a formal and practical point of view, the implementation of a code of practice requires a legal framework that underpins its existence. It is suggested that the working group on creation of a new statistical act also formulates a code of practice. There is a need for workshops

addressing the rationale and functionality of codes of practice for statistical offices.

Dissemination: CSO disseminates a large range of official statistics that may serve policy making, administration and research. The range of disseminated statistical products however needs to be extended. While Government appears to be well served in some areas, the public's access to official statistics is limited. There is a need for modernizing dissemination so that not only is a wider range of statistics made available but also in a more timely and punctual manner. Statistics for the Kurdistan region are sparse and require considerable upgrading. There is a need for statistical messages and publications to be available in English. There is also a need to develop professional report writing in both Arabic and English. A working group should address dissemination of statistical products, across the main statistical areas. This group need to develop and endorse dissemination policy, improve documentation of statistics, improve accessibility of official statistics and develop a wide range of modern dissemination tools to achieve user friendly statistical system.

Classification and coding: Classification and coding are important for making meaningful comparisons not only within Iraq but also with other countries. Classification and coding in CSO and KRSO are not commensurate with internationally agreed standards and for this reason require much attention. There is a need for creating a technical working group that spans over several statistical areas (requiring classification and coding) with the aim of integrating modern classification and coding practices in CSO and KRSO.

Civil registration and administrative records: Statistics on births, deaths, marriages, separations and divorces play an important role for observing the demographic movements of the population. The recent review of the civil registration and administrative records concluded that, from an administrative point of view, they are fully functional. It is however difficult to gauge its functionality in a demographic perspective. In the absence of a population census with a high degree of coverage, it is not possible to assess the completeness of vital registration or to accomplish reliable estimates of mortality and fertility. For this reason, indirect demographic estimation has been used in the recent past for obtaining estimates of total fertility rates, infant and child mortality and life expectancies. The civil registration system is an area for modernization; it requires a lot of effort and resources to upgrade the computerization of the system and to integrate the registers of the CSO /MoH/MoI and to link the registers with census data. A long list of the required capacity building, training and system development requirements are detailed in the civil registration functional review.

Gender statistics: While the national statistical system of Iraq has produced some gender-statistics following the norms of the past, there is now a need to upgrade this information so that it meets with current demands within Government, as well as with the demands of many organizations and individuals. The current status and focus of gender statistics requires updating so that is aligned with new information demands. In this respect it is recommended that the forthcoming legislation on official statistics incorporate gender statistics as one of the key-statistics to be produced. It is particularly important to see gender statistics as part of the whole national statistical system rather as an isolated statistical discipline. There is a room for improving knowledge and skills for gender statistics producers, and to develop better tools for documentation and utilization of gender statistics in the planning and monitoring of gender dimension in Iraq. It is apparent that there is a very large gap between what would be a desirable range of statistics by gender and what is actually available. It is an area that deserves particular attention because of its current low-level profile in the national statistical system.

Human resources and statistical production: Technically, modernizing the Iraqi national statistical system requires principally the adoption of (1) a new statistical act, (2) an associated code of practice, (3) introduction of a production/business plan for official statistics and (4) the establishment of a staff training programme that is aligned with the above-mentioned components. From the point of view of human resources, the introduction of a modern production plan will call for new divisions of labour. In consequence, it also calls for the formation of a new working environment. These advances toward modernisation will call for a technical upgrading of the existing computer network and database systems. It is suggested that a project with long-term technical assistance modality best serves both long and short-terms efforts toward achieving a full-fledged modernisation project.

Implementing modality: It is suggested that working groups with members from CSO/KRSO and line ministries at both central, regional and local levels, aided by a long term technical assistance modality, could address institutional, organisational and individual issues relevant in the context of reforming the current statistical system. Among other things, address how to achieve improvement with respect to (1) legislative framework and code of practice, (2) modernisation of computer networks and database

systems, (3) dissemination, (4) classification and coding, (5) demographic estimation, and (6) integrating the gender issue with all relevant statistical areas. It is suggested that all training be fully integrated with live tasks in CSO/KRSO.

The working group need to design and implement a long term capacity building and reform project that includes a program of workshops, training activities, technical assistance missions to address the gaps indicated in this functional review with cross fertilization with other reviews in other sectors. Therefore, during the implementation stage, the work of this group should be based on two pillars: one related to the cross cutting reform activities related to the NSS (statistical policies, frameworks, business plan, business cycle inside CSO/KRSO, etc), and one addresses the cross fertilization between other sectors (sectoral data systems including data exchange, harmonization of data collection, dissemination, documentation, etc).

Context of the Reviews

The Iraqi Statistical System – Historical Context

In the Ottoman Empire, statistics, or more specifically information, required for governance, extend far back in time. Today's Iraq, geographically speaking, was an important part of the Ottoman Empire. The Empire went through a period of modernization toward the end of the 19th century. It created railways covering extended parts of the Middle East and introduced modern telephone communications at the beginning of the 20th century. It also had an extensive taxation system. Formally it ceased to exist in 1923 as a result of World War I. In Iraq, during the 1930s, statistics were compiled by the Ministry of Economy and Transport. Later, the Ministry of Economy hosted the statistical activities. A Main Office of Statistics was eventually created. In 1956, a merger of various offices collecting statistics took place whereby a Central Office of Statistics was established. Later, in 1959, statistical activities were incorporated into the Ministry of Planning. In 1968 further changes took place and a Central Statistical Organization was established. In 2004, this ministry became the Ministry of Planning and Development. Today's Central Statistical Office is the result of a long cultural heritage.

The main driver of change is technology. The reform of official statistics that has taken place in North America especially in Canada, the Scandinavian countries and elsewhere in the EU has been driven mainly by the emergence of new technologies in communication, especially the emergence of personal computers which obviated the need for a central data processing unit serving all branches of statistics. This change has brought with it considerable change in management styles. Management is now considerably more flat than previously. In a modern statistical environment, communication flows across department and other borders. Management has become increasingly consensus oriented. This is a requirement for efficient job-streaming.

Belatedly, the vital statistics system underwent a functional review. It was noted that Iraq has a fully functional vital statistics system. It is thought to have excellent coverage and for this reason can produce e.g., an array of useful demographic statistics. However, in the absence of proper estimates of the exposed-to-risk population (census population) such estimates are not possible. This is why several surveys have adopted indirect estimation techniques that are much less effective than modern statistical methodologies. This is not to say that such methodologies do not produce useful demographic estimates. However, they lack the substantive detail that could have been brought out if the application of well-chosen standard statistical methodologies had been applied. It must be noted, therefore, that functionality in one dimension (here the operative features of the vital registration system) not necessarily carries over to another (here the possibility of using vital statistics for estimation of demographic parameters).

The Iraq public sector modernization programme (I-PSM) agenda, as it stands at the moment, is of an abstract nature. It calls for a second phase where stated future objectives are outlined. In this respect, and only addressing technical statistical issues, it is important to bear in mind that, as noted above, functionalities sometimes fall in several different dimensions.

It is necessary for the second phase of I-PSM to reach consensus in laying the grounds for the entire Iraqi National Statistical System among the main players involved.

The Iraqi Statistical Offices

Almost any nation has several statistical offices providing data to a central statistical office. This is also the case in Iraq. However, the pyramid of line agencies involved in the production of data has to be further aligned with the new tasks arising from the federalisation of the country. Thereby the functions of the CSO, the regions and governorates need to be further defined in a consensual process in order to establish a semi decentralized structure of the National Statistical System along the lines of efficient subsidiarity.

Currently there are regions, governorates and districts as well as other data collectors and providers like Ministries involved in the national statistical system as players with different importance and with different budgetary constraints. – i.e. there are several distributions of statistics within the districts of each governorate (87 Administrative Units with 27 statistics Branches).

The KRISO is an example of a regional statistical office in close collaboration with the CSO. Other regions also have more or less well-developed local statistical offices. Nevertheless, the absence of a current statistical act makes for a dimmed portrayal of the range of local statistical offices and their

relationships with the CSO. For this reason the present review does not give focus to regional offices in general but limits its focus to KRISO. It is important to realise however that all regional statistical offices must participate in the data delivery chain providing the national statistical system with data.

The organisation of CSO is rather complex. The following statistical directorates are included in CSO's organisational structure:

1 Technical Affairs Office

- 1-1 Agricultural Statistics Directorate: Carries out periodic surveys to estimate cultivated area, average of productivity of agricultural crops;
- 1-2 Industrial Statistics Directorate: Provides data on industrial activities;
- 1-3 Building and Construction Statistics Directorate: Prepares data on building and construction activities;
- 1-4 Trade Statistics Directorate: Provides data on external and internal trade, and tourism;
- 1-5 Transport and Communications Statistics Directorate: Provides data about ground, air and water transportation;
- 1-6 Educational and Social Statistics Directorate: Provides data on education and social conditions;
- 1-7 Population and Manpower Statistics Directorate: Population censuses and comprehensive statistical indicators about the population;
- 1-8 National Accounts Directorate: Estimates the most important economic indicators at the national level;
- 1-9 Living Conditions Statistics Directorate: Prepares data on household income and expenditure and living conditions 1-9 moved to the left one klick;
- 1-10 Environmental Statistics Directorate: Environmental statistical data;
- 1-11 Index Numbers Directorate: Issues reports on consumer price index;
- 1-12 Human Development Statistics Directorate: Data and indicators for the development of different sectors such as education and health;

2 Information Technology Office: Database management, engineering of systems, maintenance and networking.

3 Financial and Administrative Affairs Office: Administrative financial services.

- 3-1 Employee affairs Directorate: Salaries
- 3-2 Administrative affairs Directorate: Administrative services for CSO;
- 3-3 Accounting Directorate: Prepares the current balance sheet and the expenses of investment plans and lists of salaries and wages.
- 3-4 Publication and Public Relations Directorate: Prepares statistical messages.

4 Departments related to the Office of the Chairman of Central Organization for Statistics and Information Technology.

- 4-1 Training and Statistical Researches Centre: Training and statistical research;
- 4-2 Legal Department: Legal representation for COS.
- 4-3 Auditing Department: Carries out the task of auditing all financial transactions;
- 4-4 Following-up and coordination Department: Coordinates tasks/ oversees coordination;
- 4-5 Analysis Unit: Undertakes statistical analysis within COS.

It will be noted that there is a multitude of statistical directorates that, likely, overlap in scope and focus. The immediate impression is that there is a need for reorganizing the allocation of labour across the main statistical areas. This is a topic that could be addressed by dedicated working groups.

Although there are many situations where statistical systems are national, in the sense that they are highly centralized, there are also situations where the statistical system is of a federal nature, like in the United States. The latter situation is much more diverse and disparate than the former and for this reason calls for extensive coordination. After 2003, when Iraq became a nation with federal regions, the need for statistics for planning and administration at local levels has intensified. This regional concern, too, needs concerted acknowledgment when reforming the national statistical system. Specifically, it involves a new federal stakeholder (data delivery chain) configuration.

Scope and Objectives of the Review

The United Nations (UN) is undertaking a joint programme on public sector modernization in Iraq. Several UN agencies are assigned specific tasks. Specifically, the Iraq-Public Sector Modernisation programme, I-PSM, is a joint effort dedicated to supporting the Government of Iraq (GoI) in modernizing its public sector. To this end, a public sector reform strategy will be developed for three sectors, namely education, health and water & sanitation.

The programme addresses existing public sector governance constraints adopting a government-led, centrally administered and coordinated approach that:

- Rationalizes the architecture and machinery of government;
- Improves human resource management and culture;
- Enhances administrative functionality and management systems;
- Develops clearly defined and cost-estimated service delivery models in target sectors;
- Approaches decentralization through a service delivery focus on a sector-by-sector basis;
- Increases the decentralization of service delivery to local government to secure effectiveness, efficiency, transparency and sustainability, with enhanced participation;
- Increases the devolution of service delivery to local government to secure effectiveness, efficiency, transparency and sustainability, with enhanced participation,
- Improves the capacity of local government institutions for decentralized service delivery. The programme will establish synergies with existing UN programmes aimed at addressing corruption, involve the active participation of civil society, and fully integrate crosscutting issues in relation to poverty, gender, social exclusion and environment.

Generally, the programme will establish synergies with existing UN programmes aimed at addressing corruption, will involve active participation of civil society, and fully integrate cross-cutting issues in relation to poverty, gender, social exclusion and environment.

Under the guidance of this programme, the UN will bring to bear its global network of technical capacities to ensure that the latest methodologies and technologies are available to Iraq in its pursuit of reform and modernization. The programme is shaped by analytical and diagnostic work alongside participatory workshops, stakeholder meetings and donor group discussions.

The programme will initially be implemented across government and within the following three key social service sectors that most significantly impact with the achievement of the Millennium Development Goals: health, education, and domestic water supply and sanitation.

By focusing on social service delivery, the Government can demonstrate to the public that public sector reform has concrete and tangible benefits for the population as a whole.

UNFPA is managing the statistical sector in this programme. The output of this component is that GoI has capacities for improving public administration systems. This includes that GoI achieves enhanced capacities to review and implement public administration systems, and that the Ministry of Planning achieves improved capacities for planning and monitoring.

UNFPA undertakes a review of Iraq's national statistical system and provides technical assistance for modernizing the process, and its legal framework. It attempts to enable environmental statistical activities promoting evidence-based planning and surveillance.

The National Statistical System (NSS), in theory, extends the legal framework so that it performs as infrastructure and institutional arrangements for collection, management, dissemination and utilization of official statistics in the country.

Statistics are essential for sustainable economic, environmental and social development. The public trust in official statistics is anchored on the professional independence and impartiality of statisticians, their use of scientific and transparent methods and equal access for all to the official statistical information.

Over the past three decades, the statistical system in Iraq has suffered due to conflicts, wars and sanctions that the country has endured. These circumstances have disrupted the system's operational performance, expelled much of its skilled cadre, and disengaged it from its regional and international peers. The Iraqi statistical system wrestles with attaining acknowledged central focus. There is lack of coordination that prevents the unfolding of a national and efficient information system for monitoring and evaluation. In addition, civil registration is too incomplete for supporting demographic estimates.

Methodology

General Principles

Functional reviews are a form of systematic inquiry, often adopted to assist in the renewal and strengthening of a country's public service, by enhancing its efficiency and effectiveness and enabling it to deliver services that are more responsive to the needs of people and of commercial life. The fundamental process of functional review is one of gathering information about:

- (i) What functions government carries out, through its constituent bodies (such as ministries, departments, agencies, public authorities and other entities),
- (ii) Which purposes are the functionalities meant to bring about?
- (iii) Within which organizational structures, and at what cost?

Purposes address the following questions:

- Is the CSO / KRSO doing 'the right things'?
- Are the 'right people' involved?
- Is the CSO / KRSO doing things in 'the right way'?
- Are things done in 'the right place'?
- Are the things done in a cost-efficient way?

A functional review as undertaken addresses several issues, for example:

1. Institutional issues - the legislative framework and other formal and informal rules and conventions, that determines both the allocation of responsibilities between organizations, between tiers of government, and between government and other actors in society, and the way in which functions are carried out;

2. Organizational issues – the structure, internal systems and processes, and human, financial and physical resources of the organizations concerned, including the means by which objectives and strategies are determined and resources allocated, the alignment of objectives with the high level aims of the government, the alignment of the tasks carried out with those objectives, and the efficiency and effectiveness of work processes;

3. Individual issues – the skills and capabilities of staff members to do the jobs required of them, their understanding and ownership of those jobs and the objectives they refer-ence.

Scope of the Review

The present functional report discusses the results of missions regarding the statistical and information systems, classification and coding, legal framework, dissemination, code of practice, Human resources and statistical production/ Working Group and gender. The primary focus is mainly technical, not delving into managerial features.

The following dimensions were included in the assessment this functional review is based on:

- Information and statistical systems: Assessment of the Iraqi information system (IS), and its statistical system (SS).
- Classification and coding: Inventory and appraisal of applied classifications and coding systems in pilot ministries in Baghdad and Erbil.
- Code of practice: Development of code of practice policy document (CoP) for the Statistical System.
- Human resources and statistical production: Formation of core technical team (CTT) to define strategies toward re-engineering and modernising the statistical system.
- Legal framework: Assess and propose the required modifications and development steps to the existing statistical system legal framework (LF).
- Dissemination: Inventory and appraise existing data dissemination practices. Draft a data dissemination and protection strategy/policy.
- Gender statistics: Inventory and appraise current practices with suggested improvements.
- Civil registration: Inventory and appraisal of the civil registration system.

The Review Process

The review followed a participatory approach and involved international experts, staff from UNFPA, representatives from the CSO and KRSO as well as members of line ministries. The review included two waves of missions with respectively 3 and 4 international experts specialised in the eight dimensions assessed. Each mission included a stay of four days in Baghdad (CSO) as well as seven days in Erbil (KRSO).

Two national UNFPA staff members coordinated the general review missions and served as liaison offices for facilitating communication and organizing required meetings. Furthermore, they coordinated the work of an international consulting company that provided the technical assistance for the assessment missions as well as an international team leader who was based in the UNFPA office in Amman. He supports the general coordination with the consulting company, the review expert teams as well as with the I-PSM in general via the Chief Technical Advisor.

Prior to the review, a technical committee was established by the Ministry of Planning with assistance from the UNFPA. It was headed by general coordinators of the CSO and regional coordinators from KRSA, and composed by members from respective line ministries (MoI, MoP, MoH, MoE, MoHE, MOLSA, and the Justice Council). The basic mandate of the committee was to develop the plan of the functional review, to participate in the review missions (if possible), to validate the findings and conclusions as well as to shape out the interventions needed. The committee met four times during the review process, and a fifth time is envisaged for the presentation and discussion of results.

During the reviews, the technical experts worked in close cooperation with the technical committee, and information was collected during a series of meetings within CSO and KRSO as well as the units responsible for statistics within the Ministries covered by the project: Health; Education; Higher Education; Labour and Social Affairs; Municipalities; Planning; and Water Resources. All missions were concluded with a workshop by the technical committee, the technical experts, and UNFPA representative in Erbil.

Considerable weight was put on the use of interactive group discussions with CSO/ KRSO and ministerial staff to supplement information drawn from documents and individual interviews. Furthermore, the review results were shared with the technical committee as well as with CSO/ KRSO to facilitate a participatory design of the roadmap of intervention actions.

The first assessment mission covering Legal Framework, Classifications and Coding as well as Dissemination was carried out from 17–29 July, 2011. A second mission covering Code of Practice, Statistical System/ IT, Gender and Human resources and statistical production/ Working Group was carried out from 11–22 September, 2011.

It is important that the findings in this functional review report be discussed by means of a final workshop by the technical committee that validates its findings.

This section aims at setting out the findings of the specific review missions in general terms, and to draw a broader picture of the situation found in CSO / KRSO. The evidence on which these conclusions are drawn are summarised in Chapter 4 of this report and are based on the detailed mission reports, attached in the Annex.

This section, then, does not seek to relate particular findings to the individual seven reviewed dimensions, which would be redundant, but outlines observations that the review team believes to be generally true.

Major Achievements so far

The main achievements have detailed strong and weak features of the existing statistical system. On the whole, they address issues which are partly organizational and partly institutional, and a natural extension of these circumstances touches on individual issues.

At the institutional level, it is a worrisome feature that there are weak links between data providers (the data delivery chain, governorates and ministries) and the central authority for official statistics (CSO). While the weak links, in part, can be attributed to the lack of a modern statistical framework, and an associated code of practice, other reasons may also explain the weak links. The federalization of the regions of Iraq, undoubtedly, partially explains the lack of close collaboration within the statistical system.

At the organisational Level, an important finding is that the absence of a modern computer network stands in the way of achieving qualitative and quantitative improvements in the production of official statistics.

At the individual level, staff usually is well educated, enthusiastic and knowledge seeking. But it has to be stressed that there is a general need to upgrade technical skills so that they become on par with today's requirements. At the same time, it is clear that work efforts often are duplicated with the result that resources become unnecessarily strained. However, capacity building and a general re-tooling of the statistical system will require a more modern working environment.

Basic Requirements

The constitutional definition as laid out in the Iraqi constitution defines the CSO as the central coordinating statistics office and provides for semi-prevalent independence of the KRSO and some other governorates. Although it has already paved the way for the necessary change with the constitutional definition of statistical work to be deemed federal, it now has to be implemented as such. A successful transition from a centrally organised statistical system towards a (partial) federal system with clearly defined and fully operational distribution of work and responsibilities requires further steps to be taken.

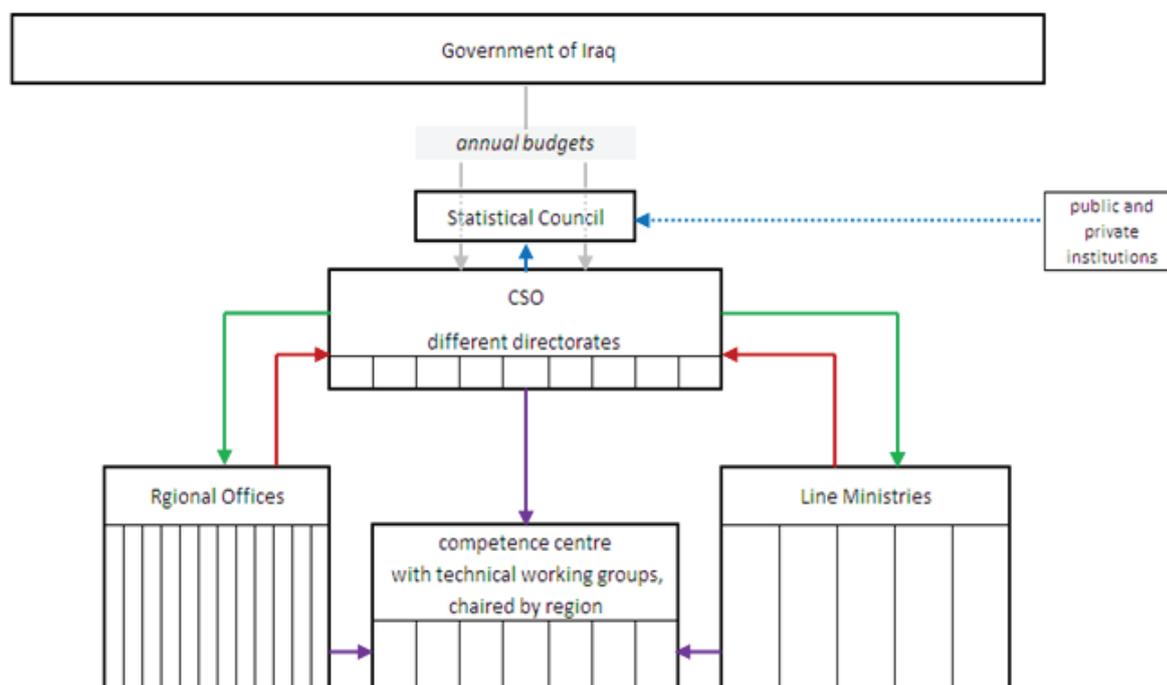
First of all, it requires political support and cooperation, and it has to be reflected in the legal framework as well as the code of practice. However, similarly important as the political and legal framework is the development of a long-term and sustainable investment plan that secures the funds for the central office as well as the governorates.

A strong coordination role of the CSO with federal responsibilities of the governorates:

It is commonly agreed in the past year that a division of labour in statistical data production should be the main principle. Normally, this system should be coordinated from one center by the CSO. This situation should be recognised in the new law, and it should empower the CSO to coordinate the system as a whole.

The data delivery chain of a functional decentralised, federal statistical system could be organised as follows:

Figure 1: Possible data delivery chain



Empowerment of the central statistical office with the authority to issue guidelines related to the planning and coordination of activities as well as to access directly the administrative sources for statistical purposes.

Setting up of a working group, composed of representatives from the CSO, the regional offices, line ministries as well as other central, regional and local authorities to discuss methodological aspects related to data collection.

Whereas data collection is coordinated by the central office, the actual implementation of the collection is carried out by the governorates and regions. Close monitoring of the application of the statistical principles of (e.g. timeliness, accuracy, or confidentiality) has to be carried out by the CSO.

Analysis and dissemination of the results is under the responsibility of the CSO, but could be delegated to the regions if necessary.

Additional tools for a strong and efficient coordination could be:

- The Establishment of a 'Statistical Council' under the organisation of the CSO. Members from public and private institutions will be represented in this body, having right to voice
- Preparation of a long-term 'Statistics Programme' - this programme can cover a 3 year period, providing advice on all statistical activities in Iraq, including other public institutions than the CSO. The Statistical Council will also have a role in the programme.
- Setting up a 'Data Quality Control Board' under the CSO. This board shall have power over all institutions and control all processes from a scientific perspective.
- Setting up a 'Data Dissemination Board'. This board is established within the organisation of the CSO having right to determine all dissemination rules and principles in Iraq

Integration of other data providers in the overall statistical system reform process

As the graphic above shows, strengthening the statistical system does not only include the statistical offices (centrally and in the region) but also other data providers, mainly the line ministries. First of all, it has to be ensured that they are involved in the reform process, which requires a political mandate and legal framework. Secondly, strong consideration in capacity building activities and involvement in working groups will be crucial for quality and cooperation of the data providers.

In addition, monitoring of the methodologies applied, and of the quality of the data delivered, is an important aspect that has to be considered by the CSO.

Tools for the improved cooperation with data providers could be, for example:

- Ensuring strong representation of respective ministries in the technical working groups
- Alignment of the reform processes and coordination of capacity building activities
- The development of a monitoring system by the CSO to steer the applied definitions and classifications as well as the data quality in general.

Major Issues to be addressed

The general situation in Iraq has been examined from this perspective, and the review has identified a number of areas of concern which need to be addressed if the reform process is to be successfully completed. The completion of this reform calls for a strong and federal statistical system as well as a modern, efficient, and responsive public service.

Undoubtedly, there have been improvements already. But in order to achieve the above mentioned improvements, there are several systemic weaknesses that need to be rectified, if the reforms are to be brought to fruition.

These cover the following specific areas and are summarised below:

- (i) Legal framework and a legal working group
- (ii) Code of practice
- (iii) Production process
- (iv) Management information protocol
- (v) Computer network and database technology
- (vi) Statistical culture
- (vii) Data delivery chain

Legal Framework: Several of the assessment reports share the common ground that there is a need for a new statistical act to be implemented as soon as possible. This is required not only from a formal point of view, but also from a pragmatic one. The entire national statistical system requires, for its proper functionality, that a central body be designated the coordinating role for official statistics. The data delivery chain too requires this legal foundation, as otherwise it cannot function in agreement with current information demands. The new legal framework is suggested to mirror similar statistical legislation in the European Union.

Legal working group: It is recommended that a working group consisting of representative from the CSO, KRSO and additional Government entities, supplemented by international legal expertise, be formed as soon as possible with the task of drafting a modern statistical act for Iraq. This working group could also draft a code of practice for official statistics.

Code of practice: While the legal framework is the uppermost echelon for the production of official statistics, the performance protocol, that is, code of practice for statistics is equally important since it facilitates an unfolding of the intentions of the statistical act. The concept of code of practice is new in Iraq and requires for its proper implementation and functionality that it be anchored among all staff serving in the reformed national statistical system. As, noted, a code of practice could be formulated by the legal working group.

Disparate production: Directorates in the CSO do not communicate very well with one another. Instead, each directorate is more or less technically self-sustained. As a result, there is a duplication of efforts. In the first place, this could be tantamount to overspending of resources and, in the second, it could bar important experiences from being shared. The latter is often described as stove piping; a mechanism preventing effectual sharing of professional experiences. There is, therefore, a need in the CSO to re-tool the functionality of its many directorates and bring them closer together. There are, it is

believed, too many directorates duplicating efforts. This is a managerial task that must be undertaken in order to pave the way for a modern statistical system. It is suggested, therefore, that a management committee be established with the task of reducing the number of directorates and, at the same time, bring about new institutional norms.

Management information protocol: There must be a closer relationship in CSO between upper echelon management and staff, both technical and general. Among other things, an intranet (embedded in a computer network) is necessary.

Information from top management to the production floor should come via an intranet, which at the same time allows staff to seek clarification, technical, clerical etc. It is also recommended that the statistical reform package be presented to all staff so that information is spread as widely as possible. This, among other things, can be accomplished by workshops dedicated to the overall process of statistical reform.

Computer network: A modern statistical system requires a modern computer network that can be used by all staff members. In the absence of this tool there cannot be a modern statistical system. It is an absolute that such a system be established as soon as possible. It should be noted that the tour de force of database technology is that it performs within a computer network. A stand-alone database system has very little efficiency and does not meet its own intended functionality. There is, above all, a large demand for strengthening computer literacy in CSO and KRSO.

Statistical culture: Every statistical office has its heritage; many offices have existed for more than a hundred years. In the case of Iraq it is a proud one. After World War II, a large number of statisticians from e.g., Egypt, Syria and Iraq were trained in the Soviet Union. Scholastic standards were often high. The geographical and cultural direction of this educational process was mainly historically motivated; it was to a much lesser extent politically motivated. The dominating feature of this training, both academic and vocational, was that it was technical rather than administrative or organizational. The existence of a functional organization was always tacitly assumed. The focus was solely on technology and its applications.

Technology however is a strong force that drives social, economic and cultural change. Since the 1980s, the emergence of the personal computer has brought about an information revolution, which, at the moment, is strengthened by smart phone technology. Walking hand-in-hand with this revolution has been a gradual change of management styles; essentially, they have descended from being hierarchical to flat. This issue is well suited for discussion in workshops.

The demand for information is now so competitive that only the strong actors prevail. Strong commercial forces compete with those of parallel institutions financed by governments. For this reason, it is necessary to change the existing statistical culture. There is now a call for transparency, reliability, relevance, timeliness and punctuality that requires that responsibilities be delegated in the most effectual way.

Data delivery chain: A data delivery chain, that is, all the members of the statistical system that provide it with data, must engage in an open process under the guidance of a statistical act and its code of practice. It must be acknowledged that there is a central organization, the CSO, which coordinates the process. It is not enough that a statistical act is passed by Parliament. For its proper implementation, it must be de facto acknowledged by all members of the chain; the chain should be seen as an integrated part of a system. This status has not yet been achieved. Instead, there is considerable disparity in norms and attitudes toward the statistical system and its purposes.

For this review, time and cost issues made it necessary to focus on a few institutions and statistical main areas. The dimensions under review were selected because they would make possible a basic impression of the functionality of the statistical system. Thus, the focus was set on the Legal Framework, the Code of Practice, the National Statistical System/ Information System, Data Dissemination practices, Coding and Classifications, and Gender Statistics. A seventh dimension focuses on creating a human resources statistical production group. A summary of the findings on and recommendations for each of the missions is presented below.

Legal Framework

The current legal basis for the collection of official statistics in Iraq is the Statistical Law of 1972. A new law is at the drafting stage. It is currently being studied at ministerial levels. A separate draft for the Kurdistan Region is also under consideration. The initiative of formulating a new legislative framework for official statistics in Iraq is supported by the United Nations Public Sector Modernization Programme, I-PSM.

Main Findings

The draft legal frameworks for official statistics in Iraq are not aligned with the principles of statistical laws in modern statistical environments. The current drafts, although in many ways quite comprehensive, do not reflect contemporary user needs. It is necessary, therefore, to go into a re-drafting phase where new legal principles are adopted. The role of the KRISO, relative to the CSO, requires elaboration. In addition, it is found that there is a need for a draft policy document on code of practice. This need arises because the manifestation of the legal framework hinges on how official statistics are collected, processed, analysed, disseminated, archived and evaluated. Because a statistical system must have a centre of gravitation, it is important that the coordinating role of the central statistical office be specified in operational detail. Confidentiality and data protection are not dealt with adequately in the draft proposals. To this must be added, that the conduct of data dissemination needs to be addressed.

The current draft proposal also has too much latitude for ambiguity (e.g., articles 110 and 115). Translations into English are not consistent. It would appear, for example, that the production of official statistics is not necessarily a federal responsibility. It is possible to interpret the text to the extent that only the national population census is a federal statistical responsibility. The statistical terminology used in the draft deviates significantly from internationally acknowledged terms and definitions. An additional concern is that the draft suggests that the statistical system should consist of local and regional statistics, without a centrally coordinating organization. This would stand in the way of facilitating the creation of a modern national statistical system.

Draft legal framework for Kurdistan Region

As noted, a draft law for the Kurdistan Region is currently under discussion. It is based on suggestions made by the CSO. It is clear from perusing the draft statistical act that it is in close alignment with the original law from 1972. As a result, it does not accommodate the modernization of official statistics which is now required. Moreover, the section in the original law referring to the national population census has been deleted.

Notwithstanding several improvements (the reader is referred to the original mission report for details), there are several deficiencies, most of which probably are unintended. For example, it is important to mention that the overall responsibility for official statistics should be delegated to a central authority.

The list of abbreviations and definitions in the draft law requires amendment. The same concepts should not be defined in several different places. It is necessary to define a core set of official statistics. Figure 1 outlines the main areas in a statistical system (see Annex for annotated content). Not all areas would form the core, only those of principal interest to the Government of Iraq. There should be a paragraph in the law that calls for quality assurance (a code of practice) so that data are relevant, reliable and timely.

Figure 2: Principal content of a statistical system

| No. | Main area | No. | Main Area |
|-----|--------------------------------------------|-----|-----------------------------------------------|
| 1 | Accommodation, food, and other services | 16 | Income, expenditures, poverty and wealth |
| 2 | Agriculture | 17 | Information and communication |
| 3 | Arts, recreation and travel | 18 | International statistics |
| 4 | Banking, finance and insurance | 19 | Labour force, employment and earnings |
| 5 | Births, deaths, marriages, and divorces | 20 | Law enforcement, courts, and prisons |
| 6 | Business enterprise | 21 | Manufacture |
| 7 | Construction and housing | 22 | National security and veterans affairs |
| 8 | Education | 23 | Population |
| 9 | Elections | 24 | Prices |
| 10 | Energy and utilities | 25 | Science and technology |
| 11 | Federal government finances and employment | 26 | Social insurance and human affairs |
| 12 | Foreign commerce and aid | 27 | State and Governorate finances and employment |
| 13 | Forestry, fishing, and mining | 28 | Transportation |
| 14 | Geography and environment | 29 | Wholesale and retail trade |
| 15 | Health and nutrition | | |

Recommendations

Delegation of Authority

In furtherance of a new statistical act for Iraq, it is recommended that the United Nations Fundamental Principles be fully integrated. Attention should be given to defining an organization responsible for official statistics, data protection, archiving of official statistics, and dissemination of official statistics, definition of official statistics, and the legal relationship with KRSO. The role of the national population census should also be included in the draft statistical act. In addition, it should be noted under which ministry the central statistical organization finds itself. It should be noted which officers in the statistical organization are appointed by Government (usually the director general and his/her deputy), and which are recruited directly by the organization.

The reform process should be presented by the director generals of CSO and KRSO to their respective staff. The reform is a process that concerns all staff, not just select technical staff. The reform should permeate all levels and branches of the organizations. The functional report should be made available to all staff and time should be set aside for discussing its content and conclusions. A workshop would facilitate this important achievement.

Monitoring

It is recommended that before a new draft on the legislative framework is passed on for general ministerial and parliamentary approval that it be examined by one or several international consultants well versed with the modern standards applying to statistical acts.

Eventually, after the passing of the new statistics act, the central statistical organization should announce on its website that under the Statistics Act it is authorized to collect, compile, analyse, abstract and publish statistical information relating to the commercial, industrial, financial, social, economic and general activities and conditions of the people of Iraq.

It is recommended that a workshop be dedicated to the theme of statistical legislation. In this workshop the statistical acts for a number of countries could be studied as a background for developing a new statistical framework for Iraq. This workshop, it is recommended, should also lead to the establishment of a committee for drafting a new legal system for Iraq. It is suggested that this committee also host international expertise in statistical legislation.

The Code of Practice

In classical antiquity, Iraq was known as Mesopotamia. Its recorded history covers thousands of years. During the 16th century it came under Ottoman rule. After World War I it was ruled by Great Britain until the establishment of the Kingdom of Iraq in 1932. The Republic of Iraq was established in 1958. During extended periods, Iraq has had a close geopolitical relationship with partly the Russian Empire, partly the Soviet Union and the Federated States of Russia. These relationships have deep historical and cultural roots.

A statistical act mirrors the society it serves. When a nation migrates from one political system into another, the entire legislative body must necessarily follow a parallel path. In the traditional democracies in e.g., North America and Western Europe, the statistical acts perform not only as means of acquiring legislative bodies and parliaments with relevant statistical information for proper governance, but also as means of providing such information to the press and the general public. In countries with different political systems, statistical acts may still fulfil the requirements of the system without necessarily providing easily accessible information to the general public. Nevertheless, regardless of the political past, the global information surge has profound consequences for the world community at large. While this surge in information exchange originally was set in motion by the Internet during the 1990s, it has accelerated considerably since then with deep ramifications for governments, the business community and individuals; as a result, different political systems increasingly share similar information demands.

The origins of code of practice

The United Nations Fundamental Principles for Official Statistics stand recognized as a best-practice method for development of statistical acts and codes of practice. These principles are invoked in North America, Australia, New Zealand, the European Union, and in many other countries. The recent mission to Iraq under the I-PSM emphasized the need to implement these principles in the new draft legislation (currently in progress).

The principles of code of practice are better understood when viewed in historical perspective. The United Nations Fundamental Principles for Official Statistics have evolved over an ex-tended period of time. Historically, a code of practice for official statistics extends back to the 17th century when the first statistical investigations were performed by John Graunt in London. Graunt's studies opened a statistical vista in British society that would eventually extend to preventive medicine, education and many more areas. Sir William Petty, a contemporary scholar, recommended that every nation should have a statistical office.

It was debated whether statistics regarding the population should be considered state secrets. Eventually, it was agreed that statistics of this nature should be accessible to everyone. Similar debates took place on the European continent with the recognition that such statistics should be accessible to the general public. In the newly born United States of America, it was noted that allocation of seats in the legislative bodies should be decided on proportionality. For this reason, the need for population censuses was embedded in the 1789 Constitution.

Figure 3: Interaction between the statistical act, code of practice, and statistical system and its activities.

Legal framework

Statistical Act



Code of practice



Statistical system consisting of

**Stakeholders:
Data delivery chain**

**CSO: Data collection, processing,
analysis, formation of databases,
dissemination, archiving, etc.**

The British of code of practice

Before discussing the findings and recommendations of the mission, it is necessary to outline the modern principles of a code of practice. To this end, the British code of practice is discussed. This code, it may be noted, is the basis for code of practice in the Statistical Office in the Palestinian Authority. It has eight fundamental principles and two associated protocols. These principles were discussed at the workshop on September 20, 2011, and met with the approval of the participants. For ease of illustration, these are on the following page.

Figure 4: The eight fundamental principles and protocols

Principle

- | | |
|---|------------------------------------------|
| 1 | Meeting user demands |
| 2 | Impartiality and objectivity |
| 3 | Integrity |
| 4 | Sound methods and assured quality |
| 5 | Confidentiality |
| 6 | Proportionate burden |
| 7 | Resources |
| 8 | Frankness and accessibility |

Protocol

- | | |
|---|--------------------------|
| 1 | User engagement |
| 2 | Release practices |

The semantic meaning of the principles and the protocols are given in the Annex. For comparison purposes, the code of practice for official statistics in the European Union is also given in the Annex. This code is slightly more elaborate. The reason for this is that it has been tailored to meeting the statistical requirements in the European Union, which has 27 member countries and, therefore, must accommodate extensive communication and collaboration between national statistical institutes.

The principal role of a code of practice is to ensure efficient collaboration between the data delivery chain (stakeholders) and the central authority for production of official statistics. This is an essential step toward ensuring that the Government, Parliament, news media and general public are provided with relevant, reliable and timely official statistics. The code of practice is an indispensable component of any modern statistical system.

Because the code of practice is a common denominator in the statistical system, it must be followed by all entities that take part in the statistical system. It is important that this role is highlighted in a workshop for the CSO/KRSO and its many stakeholders.

Ethical principles

Although the principles of code of practice do not necessarily equate with ethical principles, they nevertheless share a degree of common ground. To a large extent, ethical principles in any branch of human endeavour must be underpinned by legislation. This is true of e.g., medicine and law, which probably have the oldest codes of practice.

The International Statistical Institute, ISI, is the largest international body of statisticians. It was established already in 1885. Its main office is in the Netherlands. It spans all branches of statistics and, of course, the whole area of official statistics. Every two years it organises conferences that are visited by statisticians working in academia as well as in statistical offices. With respect to official statistics, the ISI has developed some basic and widely accepted ethical rules for official statistics. The ethical rules are the result of extensive professional discussions regarding official statistics and the obligations

bestowed upon staff working in national central statistical offices. They actively supplement a modern code of practice. For this reason they need to be contemplated not only when drafting a code of practice but, especially, when drafting the legal framework for the collection of official statistics. The ISI ethical principles are given in the An-nex.

Documentation

Data stored in databases (including registers) must be explained by means of metadata. Census and survey results, too, require technical documentation for their proper use. This is particularly the case when data are archived for future use. Documentation is an important functionality of code of practice. There is only limited tradition in the CSO and KRSO for producing such technical documentation.

Main Findings

Current re-drafting of the statistical law

During discussions, it was often mentioned that the CSO, in Baghdad and KRSO in Irbil are supported by a legal framework, albeit in recognized need of modernization. In addition, it was noted that a code of practice has been in place since the adoption of the law from 1972. This code of practice however is undocumented.

It is a shared impression that there is a need to re-write the legislative framework. Considerable efforts in this direction have already unfolded under the auspices of the CSO. Nevertheless, the recent I-PSM mission on the legal framework (Chapter 5) emphasized the need for alterations in the new draft proposal. It is important to note that in the absence of a modern statistical act, it is difficult to implement a code of practice for official statistics. The reason for this is that the legal basis for the code of practice is a statistical act that legalizes its content and intentions. Also, a code of practice covers all areas of official statistics and, as already noted, for this reason has to be underwritten by all members of the data delivery chain. Common areas of official statistics are given in figure 1 (Legal Framework). These areas of official statistics are given here to show the considerable width of activities they cover.

While some offices might offer products for a smaller range of activities others might offer more. On the whole, however, the areas depicted in figure 1 are the most common ones in official statistics. The CSO and KRSO, only offer a relatively small volume of official statistics, especially taking into consideration published products. Particularly they are not harmonized with the second protocol (figure 3) stating that: "Statistical reports should be released into the public domain in an orderly manner that promotes public confidence and gives equal access to all, subject to relevant legislation". In reality, there is no continuous reporting or dissemination system in place ensuring timely publication of the main areas of official statistics.

Computer networks and registers

The lack of a computer network servicing the CSO, KRSO and the data delivery chain at large, is an important shortcoming deserving immediate attention. Discussions and observations reveal that this area deserves considerable attention. Indeed, exaggerating only slightly, it forms a gap between, on the one hand, young computer and smart phone literate persons and, on the other, older staff members serving in CSO and especially KRSO. It is not a problem specific to Iraq; rather it is a worldwide phenomenon. Young people have grown up with the Internet and completely new technologies, which they often master quite well. Older staff members, for obvious reasons, have their traditions. They may, in fact, be highly skilled statisticians. Notwithstanding this rather obvious conclusion, lack of a functional computer network, expertise and experience in drawing on its advantages is a matter that deserves attention simply because this deficiency stands in the way of creating a modern statistical system. The forthcoming use of statistical registers in Iraq must, necessarily, also be underpinned by improved experience and familiarity in using computer networks. The implementation of a proper code of practice, too, requires improved familiarity and experience in the use of computer networks calling databases.

The home page for a statistical office should be rich in information. It is the home page that is the target of information seeking and for this reason should pave the way for a range of official statistics. It should also provide a link to the statistical framework including ethical principles and code of practice. The home page should provide RSS feeds (continuous updating of statistical messages to users).

Recommendations

To remedy the lack of a modern code of practice for official statistics several recommendations present themselves. It is suggested that these recommendations be brought to life by means of a number of workshops, as well as by concerted monitoring.

It is recommended that lead staff in CSO and KRSO participate in the ISI conferences, especially those concerned with official statistics. Recommended workshops are outlined below:

It is recommended to hold a workshop covering:

1. A study of statistical frameworks for modern statistical offices.
2. An orientation study in codes of practice for official statistics closely aligned with the United Nations Fundamental Principles of Official Statistics.

It is advisable to have a study tour to a statistical office in the EU for discussion of code of practice and its implementation. This study tour should be logically aligned with the one on legal framework.

The National Statistical System/ Information System

A national statistical system is a complex arrangement of work procedures under the auspices of a statistical act, and coordinated by a central authority. Conceptually, a system designates that its inner components are interrelated. All components must communicate and collaborate with one another under the guidance of a statistical act and its associated code of practice. The system embodies, on the one hand, the collection of data and, on the other, analysis, dissemination, archiving and evaluation. An example of main statistical areas is given below (see Annex for annotated statistical areas).

Figure 5: Example content of the statistical system

| No. | Main area | No. | Main Area |
|-----|--------------------------------------------|-----|-----------------------------------------------|
| 1 | Accommodation, food, and other services | 16 | Income, expenditures, poverty and wealth |
| 2 | Agriculture | 17 | Information and communication |
| 3 | Arts, recreation and travel | 18 | International statistics |
| 4 | Banking, finance and insurance | 19 | Labour force, employment and earnings |
| 5 | Births, deaths, marriages, and divorces | 20 | Law enforcement, courts, and prisons |
| 6 | Business enterprise | 21 | Manufacture |
| 7 | Construction and housing | 22 | National security and veterans affairs |
| 8 | Education | 23 | Population |
| 9 | Elections | 24 | Prices |
| 10 | Energy and utilities | 25 | Science and technology |
| 11 | Federal government finances and employment | 26 | Social insurance and human affairs |
| 12 | Foreign commerce and aid | 27 | State and Governorate finances and employment |
| 13 | Forestry, fishing, and mining | 28 | Transportation |
| 14 | Geography and environment | 29 | Wholesale and retail trade |
| 15 | Health and nutrition | | |

The generic business plan

Following several initiatives by international bodies on statistical process definition, an international standard was agreed upon in the Joint UNECE/Eurostat/OECD Work Sessions on Statistical Metadata (METIS). It has become known as the Generic Statistical Business Process Model (GSBPM). It is, to some extent, unfortunate that it has been named generic business plan. The reason for this is that the central statistical office, in any country, is not a business but a government agency. However, because the term business plan is widely used, we stay with it here.

The generic business plan is intended as a flexible tool to describe and define the set of business (technical and administrative) processes needed to produce official statistics. The use of this model can also be envisaged in other contexts such as harmonizing statistical computing infrastructures, facilitating the sharing of software components, and providing a framework for process quality assessment. It has four principal levels:

Level Description:

1. The statistical business process;
2. The nine phases of the statistical business process;
3. The sub-processes within each phase; and,
4. Description of sub-processes

The nine major phases of a modern production plan are:

- (i) Specification of information need;
- (ii) Design;
- (iii) Building the process;
- (iv) Collecting the data;
- (v) Processing;
- (vi) Analysis;
- (vii) Dissemination;
- (viii) Archiving; and,
- (ix) Evaluation.

As noted, each of these nine components has sequential sub-processes (figure 8). The sub-processes are outlined on the following page.

Figure 6: The sub-processes in the generic business model

| Process | Description |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Design | Describes the development and design activities, and any associated practical research work needed to define the statistical outputs, concepts, methodologies, collection instruments and operational processes. For statistical outputs produced on a regular basis, this phase usually occurs for the first iteration, and whenever improvement actions are identified in phase 9 (Evaluate) of a previous iteration. |
| Build | Builds and tests the production systems to the point where they are ready for use in the “live” environment. For statistical outputs produced on a regular basis, this phase usually occurs for the first iteration, and following a review or a change in methodology, rather than for every iteration. |
| Collect | Collects all necessary data, using different collection modes (including extractions from administrative and statistical registers and databases), and loads them into the appropriate data environment. It does not include any transformations of collected data, as these are all done in phase 5 (Process). |
| Process | Describes the cleaning of data records and their preparation for analysis. It is made up of sub-processes that check, clean, and transform the collected data, and may be repeated several times. |
| Analyse | Statistics are produced, examined in detail and made ready for dissemination. This phase includes the sub-processes and activities that enable statistical analysts to understand the statistics produced. The analysis phase and sub-processes are generic for all statistical outputs, regardless of how the data were sourced. |
| Disseminate | Manages the release of the statistical products to customers. For statistical outputs produced regularly, this phase occurs for each iteration. |
| Archive | Manages the archiving and disposal of statistical data and metadata. Given the reduced costs of data storage, it is possible that the archiving strategy adopted by a statistical organization does not include provision for disposal, so the final sub-process may not be relevant for all statistical business processes. In other cases, disposal may be limited to intermediate files from previous iterations, rather than disseminated data. |
| Evaluate | Manages the evaluation of a specific instance of a statistical business process. It logically takes place at the end of the instance of the process, but relies on inputs gathered throughout the different phases. For statistical outputs produced regularly, evaluation should, at least in theory occur for each iteration, determining whether future iterations should take place, and if so, whether any improvements should be implemented. |

Figure 7: Formal business plan, major and sub-processes

1 Specify needs

- 1.1 Determine Needs for information
- 1.2 Consult & Confirm needs
- 1.3 Establish output objectives
- 1.4 Identify concepts
- 1.5 Check data availability
- 1.6 Prepare the project

2 Design

- 2.1 Design outputs
- 2.2 Design variable descriptions
- 2.3 Design data collection methodology
- 2.4 Design frame and sample methodology
- 2.5 Design statistical processing methodology
- 2.6 Design production systems and work flow

3 Build

- 3.1 Build data collection instrument
- 3.2 Build enhance process components
- 3.3 Configure work flows
- 3.4 Test production system
- 3.5 Test statistical business process
- 3.6 Finalize production system

4 Collect

- 4.1 Select sample
- 4.2 Set up Collection
- 3 Run Collection
- 4.4 Finalize Collection

5 Process

- 5.1 Integrate data
- 5.2 Classify and code
- 5.3 Review, validate and edit
- 5.4 Impute
- 5.5 Derive new variables and statistical units
- 5.6 Calculate weights
- 5.7 Calculate aggregates
- 5.8 Finalize data files

6 Analyze

- 6.1 Prepare draft outputs
- 6.2 Validate outputs
- 6.3 Scrutinize and explain
- 6.4 Apply disclosure control
- 6.5 Finalize outputs

7 Disseminate

- 7.1 Update output systems
- 7.2 Produce dissemination products
- 7.3 Manage release of dissemination products
- 7.4 Promote dissemination products
- 7.5 Manage user support

8 Archive

- 8.1 Define archive rules
- 8.2 Manage archive repository
- 8.3 Preserve data and associated metadata

Business plans necessarily vary across statistical organisations. However, they have in common an array of processes that perform not only as practical guidelines for the work, but also tally with the objectives of code of practice. A plan of this nature is indispensable for the sake of efficiency and, in addition, highlights best practice methods. It would be a misunderstanding to assume that a generic business plan should be implemented in minute detail. This is not the idea behind it. The idea is that the model gives an overall impression of how the work should be organised. It is up to each individual organization to implement its own plan.

The use of such a model could give to all Iraqi statistical organizations a way to describe current CSO-KRSO statistical processes in a coherent way, identifying strengths and weaknesses; to de-sign the future of statistical processes, defining standards to be used; standardize terminology; compare processes within and between organizations; identify synergies between processes; inform decisions on organizational and systems architectures.

In passing, it may be emphasized that such a production plan also calls for technical training of the staff members. Advances in software, statistical methods and other technical areas need to be monitored so that staff members always have access to recognized best-practice methods. Another concern is that staff change is more frequent now than before. This necessitates that documentation for the production process is available.

Main Findings

Developments in communication technology

The expansion of the network and of information and communication technologies (ICT) has dramatically reduced the costs of handling information. These costs are now minimal. Computer networks apart from connecting people also facilitate swift transfer to knowledge. In fact there is a well-known adage that says the network is the computer. The advantage of this is obviously that transfer of knowledge on paper is far more time and recourse demanding than using the network. The network also obviates the need for transfers via CD, DCD or other similar media. This consideration is especially true for statistical institutions, in which all processes involve information in the shape of input, processed information and final products.

Skills and technologies

During the mission we met many managers and technicians both from CSO, KRSO and from the ministries who are well informed and in possession of potentially applicable skills in the use of modern computer networks. Not surprisingly, we found many colleagues who under strenuous circumstances work with dedication and passion. The CSO and KRSO have this professional trait in common with many other statistical organizations. Nevertheless, Iraq does not at the moment have a fully functional national statistical system.

The stovepipe approach

In the Iraqi statistical organizations, the compilation of statistics for a specific domain is usually considered, a highly specialized activity requiring IT systems and processes customized to their set of statistical data. Stated otherwise, the organization resembles compartments with but little inter-communication. This approach has been named stovepipe; a conduit that traverses vertical levels efficiently, but does not disperse widely.

Statistical productions in CSO and KRSO are separated by statistical main areas (stovepiped). This is underscored by the numerous statistical directorates in CSO. This is also true of surveys in different statistical areas. This separation leads to an unnecessary and costly duplication of efforts. Moreover, and most important, such an approach stands in the way of establishing a useful metadata system! This has consequences for the overall utility of the collected official statistics. The advantage and major purpose of the generic business plan is to avoid such a situation. In fact, the generic business plan model is a modern approach to establishing an integrated national statistical system.

Recommendations

Standards, classifications and metadata

It is a fundamental characteristic of a fully functional national statistical system that it integrates all statistical main areas. Similar standards and classifications should apply. Metadata should reflect an integrated approach, rather than a disparate one. In this respect it is important for CSO and KRSO to adopt an own version of the generic business plan. It is also important to integrate the United Nations Fundamental Principles of Official Statistics. It is noted though that such efforts appear well understood in the CSO.

Software and technology configurations

Each organization has its own preferences and shibboleths. When many different organizations meet in Iraq, they bring with them a farrago of software and technologies. This inexorably leads to confusion and inefficiency. It is necessary for the upcoming Iraqi National Statistical System to set limits for how many different technical configurations should be used. It pays to define common technologies for data entry, data editing, tabulation, analysis, database handling, dissemination, etc. Specifically, standards for statistical data exchange have been developed and is sponsored by the European Central Bank, Eurostat, International Monetary Fund, OECD, United Nations and World Bank. They define common technical and statistical standards and guidelines, together with an IT architecture and IT tools, to be used for the efficient exchange and sharing of statistical data and metadata. It is important that the CSO and KRSO tag themselves onto these methodologies.

Software and technology configurations

As already noted electronic networks must be introduced in all processes of the institutions: this action is critical for achieving the objectives of modernization of Iraqi statistical institutions. The introduction of the Network within statistical processes involves numerous interconnected actions such as:

1. Installation and configuration of a network serving all workstations in Iraqi Statistical Institutes; the network should cover both central and local offices.
2. Definition of protocols and workflows that make it possible and mandatory to use the network to exchange data within the institutions. Network use should be mandatory also for technical and administrative procedures such as handling requests for hardware maintenance or software documentation.
3. Use of the network for the exchange of files between different units inside CSO/ KRSO and for the sharing of devices such as printers. For data exchange within CSO/ KRSO a simple digitalized procedure must be developed in order to reduce the complexity of the request and to reduce the time needed.
4. Using Web 2.0 tools like wikis, blogs and social networks. These tools should be used internally as well as between departments allowing online discussions on various technical issues.
5. Design and implement an internal web site (intranet) for storage of rules, protocols and organizational acts, laws and regulations, phone and mail directories, standards defined, etc.
6. Setting up dedicated servers exposed on the Internet that allow secure transfer of files between CSO, KRSO, Ministries and local offices using the standard Statistical Data and Metadata Exchange (SDMX).
7. Implementation of the first Iraqi "open data" website, by which users can download datasets containing raw-data released under open license.
8. Experimentation for Web Data Capturing, starting from simple business surveys and using simple open tools like Lime Survey
9. Designing a Data Warehouse starting from data collected in Censuses; the Data Warehouse will be used both for internal usage in "Process" phase and for external usage in a Website in which users can select data, manipulate them, change their dimensions and download/print their own results; the Data Warehouse must cover the functionalities of Business Intelligence and Advanced Reporting tools and must be designed by resources coming from IT Development, Web, Data Base and Dissemination resources

10. Using some tool able to enhance cooperation between remote developers: tools like CVS (Concurrent Versioning System) or SubVersion are used all over the world to manage workgroups developing software and should be used to keep in contact CSO and KRSO IT developers working on the same applications
11. Following the definition of software development standards, use the “web architecture” technology to develop all new applications, used by both internal and external users

Database system

Some particular comments and observations are in place with respect to the use of databases. First, not all features of modern database technology are used in statistical offices. Second, database applications in statistical offices typically involve storing and retrieving data (subject to metadata documentation).

Database applications are not very well understood in CSO and especially KRSO. There are several obvious reasons for this that need not be enumerated here. However, the application of modern database technology is an indispensable element in the development of a modern statistical system for Iraq.

Eventually all statistics will reside in a database system. In conclusion this is an area that deserves strong attention. It will involve extensive training of the staff in several compartment of the statistical system.

Training will involve familiarity with databases. Themes for discussion are classification, design, implementation international codes, repository for statistics, dissemination procedures including web downloads, standards for communicating with other organizations, and many more functionalities.

Training and workshops

Although training in the use of database software necessarily will involve traditional classroom training, bona fide familiarity and experience is harvested when performing actual work. This means that solid and professional experience comes from two sources: workshops and seminars, as well as practical experience.

It is recommended that workshops and seminars be given on computer networks and how they facilitate work in a statistical environment.

It is recommended that workshops and seminars be given which highlight the functionality of modern database systems.

The workshops should tackle actual applications in the CSO and KRSO.

Data Dissemination

The dissemination of official statistics has high priority in the Central Statistical Office, CSO, as well as in the Kurdistan Regional Statistical Office, KRSO. The current status and focus of official statistics were recently discussed in July, 2011. Several meetings took place partly in the CSO, partly in the KRSO. Representatives from the pilot ministries and the Regional Statistics Directorates participated and undertook a general appraisal of current data dissemination practices, their coverage, advantages and disadvantages.

The recent publication National Strategy for the Development of Statistics 2011-2015, issued by the CSO, gives a portrayal of the future and its information needs. During the current mission, discussions took place both in the CSO and the KRSO regarding dissemination and its shortcomings. The meetings took place with participation from the Ministry of Health, Ministry of Education and Ministry for Municipality and Tourism, Kurdish Regional Government.

Main Findings

Varying dissemination practices by CSO

Before 2003, only selected statistics were disseminated. In addition, many of the statistics produced by the CSO, and other government agencies, were not available to the general public but

only to a limited cadre of privileged persons. In response to this situation, the CSO recently embarked on developing a modern system of data dissemination practices aligned with the United Nations Fundamental Principles for Official Statistics. This marks a radical new tradition in official statistics in Iraq.

It is noted that CSO’s national strategy for modernizing the production and wider use of statistics, calls for a new organization for the dissemination of official statistics. This new organization, called the “Office for Dissemination and Public Relations” addresses relevant issues and tasks.

Issues and objectives to be addressed by the Office for Dissemination and Public Relations:

- Building confidence regarding data confidentiality and reliability. To inform the media enabling them to perform as providers of important statistical results;
- Arrange for production of printed and electronic publications (CD-ROM, Internet and Intranet);
- Accomplish documentation and archiving of all statistical publications;
- Establish central library for internal and external users;
- Arrange for dispatch of publications and user service;
- Establish printing office for printing and binding of publications and other material for statistical purposes; and,
- Arrange for translation office with the main task to translate CSO’s publications from Arabic into English.
- Recently, the CSO has increased its production. In 2010, it published 205 reports.
- In charge of publications is the sub-division “Production of Printed and Electronic Publications” in the “Office for Dissemination and Public Relations”. This subdivision also issues the Statistical Yearbook, and some other horizontal publications such as the leaflet Iraq in Figures. It also assumes responsibility for statistics disseminated via Internet or by other electronic media (e.g. CD-ROM).

Figure 8: Publications issued by CSO in 2010

| Statistical main area | Monthly | Quarterly | Half-yearly | Yearly |
|-----------------------------|-----------|-----------|-------------|-----------|
| Agricultural statistics | | | | 18 |
| Industry | | 3 | | 6 |
| Building and construction | 24 | 8 | 6 | 4 |
| Trade | | 3 | | 4 |
| Transport and communication | | | | 9 |
| Social and educational | | | | 12 |
| Population and manpower | | 4 | | 6 |
| Environment | | | | 1 |
| National accounts | 2 | 1 | 1 | 12 |
| Human development | | | | 3 |
| Living conditions | | | | 5 |
| Key-figures and indexes | 42 | 16 | | 11 |
| Total | 72 | 35 | 7 | 91 |

The CSO website

The CSO disseminates statistical information on its Website <http://cosit.gov.iq>, which is produced and updated by the department “Database Management in the IT Office”. It is currently being updated. It is a stated aim that users will be able to directly access the database via an effective search engine.

At the moment, the CSO’s Website is configured into three themes:

1. General information regarding the CSO, and the most recent press releases;
2. Statistical Yearbook 2009 in Arabic and English; and,
3. Downloading of 233 publications or reports as pdf-files in Arabic, some of which are also available in English.

For obvious reasons, nearly all reports are written in Arabic. It is planned however to translate all reports into English. For this reason, the “Translation Office”, at the moment, are the Statistical Yearbooks for 2002–2009, and some other publications e.g., Iraq in Figures (October 2008). In addition, the yearbooks are also available on CD-ROM.

Printing of statistical messages and reports

All publications and reports are printed in the Printing Office, which is well equipped. The subdivision “Dispatch of Publications and User Service” is in charge of dispatching the publications and reports to ministries, state institutions, agencies, and to Arab and international organizations. These users are served on a complimentary basis; all publications and reports are gratis. This policy of providing publications free of charge may change in the future when demand is expected to increase.

Technical and substantive improvements in the data dissemination system appears to be well underway. The current speed of improvement would suggest that in a short number of years, the CSO could provide users with much improved official statistics. More than this, data will be available as downloads from the website. This will enhance analysis capabilities considerably. This improvement will meet the demands of a broad range of users.

CSO library

The Central Library has not yet been established, for which reason documentation for the undertaken statistical publications is not readily available. It is recognized however that it is of paramount importance that the CSO has a central library for internal and external users, containing all publications and reports produced in the past, statistical methodologies, international classifications and statistical concepts, etc. All books and associated technical documentation should be indexed using a modern electronic library system for easier access by users.

This library should contain relevant statistical literature supporting the production of official statistics. It should provide technical knowhow regarding survey sampling, census taking, and other major statistical areas. It should also support research and development efforts in the CSO. Such a library, of course, would also be an aid for research organizations, universities and other interested parties in the whole of Iraq.

The functionality of the data delivery chain**Collaboration**

The level of cooperation with several organizations that are part of the conceptual data delivery chain is deemed inadequate for meeting stated dissemination objectives. For example, existing statistical publications do not usually cover the Kurdish provinces. The same applies to a number of ministries. The most immediate explanation for this could very well be that (i) there is no clearly stated data dissemination policy and (ii) there is no acknowledged code of practice (promoted by a modern statistical act) guiding the delivery and dissemination of official statistics.

In 2008, the CSO conducted a survey to get an overview of statistical activities in ministries, state agencies and affiliated offices. A total of 31 institutions with statistical responsibility were requested to fill-in a questionnaire. As result, 65 percent of the institutions had an independent statistical department. The remaining 35 percent were without a statistical department. Clearly, the CSO might face problems if an institution has either no or several department performing statistical

work. The survey also showed that 81 percent of all institutions have a database suggesting that in many cases it will be relatively easy to obtain the requested data. To this must be added that some 36 percent of the data providers run advanced statistical systems implementing international standards.

Nonetheless, on many occasions, the CSO faces problems with obtaining data. Noticeably, this happens when the responsible unit is understaffed, or not equipped with IT; hence still working on paper, which slows down the work. Another problem is insufficient reliability of the delivered data, which is exacerbated by the presence of staff with little or no training required for the tasks.

Computer networks

While all the pilot ministries manage databases to provide decision makers with the necessary information, electronic communication in networks between and across entities has not yet been accomplished. The adage that the network is the computer has not yet been brought to fruition. This is an important observation because the lack of network communication stands in the way of creating a modern national statistical system.

Publications in English

Browsing the available publications, as noted but a few are available in English, it is clear that they do not comply with international standards. In addition, it may be noted that the translations often fall short of expectation. Also, the chosen terminology is not very well aligned with international terminologies (a problem that exists in many Arab countries). In passing, it may be noted that the accuracy of the data often is misinterpreted because of too many decimals not upholding the actual accuracy. It is always important to assess the accuracy carried by the collected data! This is an expression of quality assurance.

With respect to the pilot ministries, the Ministry of Health, the Ministry of Education and the Ministry of Planning, lack of communication with the CSO is standing in the way of proper and timely data delivery. While the CSO is pressing for a Supreme Council for National Statistics to be established, which undoubtedly would alleviate the situation, it must be noted that even among professional statisticians the realm of official statistics is very complex.

Dissemination in KRSO

In the Kurdistan Regional Statistical Office, KRSO, there is a demand for upgrading (modernizing) the production of official statistics as well as the mechanisms ensuring timely dissemination. Dissemination of official statistics, generally speaking, is sparse especially because of the relatively limited volume of data being produced. While there is a need for training the relevant staff members in the KRSO in modern and efficient dissemination techniques, the main problem is the paucity of data. Of particular importance is improving the networking capabilities between CSO and KRSO; there is an obvious demand for developing modern computer networks within a forthcoming national statistical system.

Users

Originally, the users of official statistics were limited to principally parliament, the government and its agencies, universities, research organizations and the like. The electronic computer and associated modern technology has widened the use of not only official statistics but also of other kinds of information. Along with this development have been changes in data collection methods; several countries now manage population registers and other administrative registers that are part of the official statistics system. In effect, the data delivery chain is now interactively computerized.

It is natural to expect that this development process in communication will increase over time. This means that the range and number of users of information made available in computer networks will increase over time. For central statistical offices, this development makes it increasingly important that the legal framework and its code of practice guarantee quality assurance and confidentiality and, moreover, that statistics are passed on to users at a speed meeting expectations. Important statistical messages must be issued regularly and dates of publication of standard of statistical products must be known by users. As a result, it is necessary for a central statistical office to interface actively with its widening spectrum of users. This is a development that has unfolded in the European Union, North America and parts of Asia.

Recommendations

It is recommended that the CSO undertake training of the staff in its Department of Dissemination including other relevant staff in modern international dissemination practices. This recommendation is on par with the fact that the CSO has a fundamentally professional understanding of the requirements of data dissemination. Staff from the KRISO can very well participate in selected parts of this training.

It is important to realize that usually on-the-job training is far more efficient than workshops. Although workshops may highlight a wide range of technical solutions, it is the application of those that counts. For this reason it should be contemplated how to arrange for in-service training that incorporates the acquired workshop skills.

Recommended Training

In order to improve data dissemination, training should be provided on how to produce statistical publications meeting international standards. It should include presentation rules, structuring, page formatting, text presentation and font preference.

Furthermore, a study tour to a statistical office in the EU for orientation in modern dissemination practices should take place.

Coding and Classifications

Classification and coding serve important comparative purposes. If official statistics were not to be compared across regional and international borders, classification and coding could be managed ad libitum. However, because official statistics are meant to accomplish meaningful comparison, not only across geographical and administrative borders but also in time, it is desirable to have a classification and coding system that is used internationally.

As the process of globalization continues this need becomes increasingly obvious. The United Nations Fundamental Principles of Official Statistics provide internationally acknowledged guidelines for classification and coding. Specifically, official statistics are used in the analysis of e.g., economical and social structures. Upholding the same semantic meaning among users is necessary and requires acknowledged standards. This need is greatly underscored by the unfolding globalization.

Classifications and coding are not restricted to statistical institutions; they play important roles in government administration. Classifications cover a wide array of human activities such as those affiliated with building and construction, industry and commerce, taxation, customs etc. Especially in the context of statistical databases facilitating international and regional comparisons (like those maintained by the European Union), proper and acknowledged classification is a must.

Classification naturally divides into two different spheres: thematic and geographical. Thematic classifications reference statistical topics, geographical where the registered events took place. In passing, it is important to realize that statistical coding of geographical areas need not necessarily be in conflict with disputes regarding regional boundaries. Regional coding is usually performed using GPS, which is impervious to political disagreement since it merely identifies, in GPS coordinates, where the events took place.

Main Findings Classification

Classification in CSO

The National Strategy for the Organization of Statistics 2011–2015, by the National Statistics Strategy Committee, provides a lucid description of the current situation, and suggests vistas that could be pursued by the CSO.

Figure 9: Number of statistics and classifications used or targeted

| Targeted | Used | ISIC 4 | COI COP | HS | IR HBS | LCS | LSMS | None | Total |
|------------|------|-----------|----------|----------|----------|----------|----------|----------|-----------|
| ISIC 2 | | 31 | 3 | | | | | | 34 |
| ISIC 3 | | 53 | | | | | | | 53 |
| ISIC 4 | | 2 | | | | | | | 2 |
| SITC R 1 | | | | 4 | | | | | 4 |
| IRHBS | | | | | 1 | | | | 1 |
| LCS | | | | | | 1 | | | 1 |
| LSMS | | | | | | | 1 | | 1 |
| None | | | | | | | | 3 | 3 |
| Sum | | 86 | 3 | 4 | 1 | 1 | 1 | 3 | 99 |

Figure 10: Abbreviations for the sources of classification

| Code | Text | Source |
|--------|-----------------------------------------------------------------------------|------------|
| COICOP | Classification of Individual Consumption by Purpose | UN |
| HS | Harmonized System – (Import/Export) | USBC/USITC |
| IRHBS | Iraqi Household Budget Survey, guided / supported by | IMF |
| ISIC | International Standard Industrial Classification of All Economic Activities | UN |
| LCS | See IRHBS | (IMF) |
| LSMS | See IRHBS | (IMF) |
| SITC | Standard international trade classification (Import / Export) | UN |
| USBC | US-Bureau of Census | --- |
| USITC | US –International Trade Commission | --- |

This document served as a point of reference because of the limited time available for discussion with substantive staff and others. The findings regarding actual and future use of classifications are summarized below together with definitions of classification sources. The desk review covers 99 statistics. In addition, the strategy document mentions 13 reports which are approved or in preparation. In several publications, there is no mention of classification.

Regional classification (RC) is important for accomplishing comparable statistics. RC references spatial units. This territorial division is hierarchical: provinces, districts and municipalities. If, for statistical purposes, a sub-municipal administrative division is required, a special statistical division is made, e.g. in urban areas quarters (mahalles). Census blocks (divisions of enumeration districts) and buildings are the lowest level of RC. As already noted, while ordinarily regions are defined as clusters of spatial coordinates, GPS coordinates in their own right do not define regions or other spatial divisions. Classification of regions need not necessarily interface with political concerns. The existing GIS department, currently supporting the pre- and post processing of the population census, provides RCs. There are however certain inconsistencies in the adapted RC.

Classification for education

The Ministry of Education has implemented an IT-System, Educational Management Information System (EMIS), to manage the educational resources of kindergartens, primary, and secondary schools, high schools, vocational education and training, education at teacher training institutes. The system is provided, supported and maintained by UNESCO. It is MS-SQL Server based.

Because UNESCO supports EMIS, it is anticipated that international classifications are used. Nevertheless, the CSO continues to survey educational characteristics because, evidently, the required information cannot be obtained from EMIS. The educational classifications used in CSO and KSRO are the same.

Health classification

In the Department of Health and Vital Statistics in the Ministry of Health, a self-designed system has been developed in recent years. It is a graduated system of data collection using Microsoft's EXCEL and Visual FoxPro. Coding is by the International Classification of Diseases (ICD), version 10, provided by the WHO. Some efforts have been made to train the coders. More training is required. The data quality does not seem to meet current requirements.

Classification in KRG

In the Kurdistan Region, the responsibility for the statistical activities is delegated to KRSO, which covers the Dahuk, Erbil and Sulaymaniyah regions. It would appear that here is no law on regional levels that defines the role of the KRSO. Due to the absence of a legal base for activities, resources are those provided by the CSO. All activities are guided by the CSO in Baghdad. Therefore, the findings about classification and coding described above are also valid for the KRSO, including the existence of a GIS department.

The Ministry of Education in the Kurdistan Region provides data on education to the CSO. EMIS is used in this ministry. However, data after 2007 appear not to be available. It is also acknowledged that principles of quality assurance are wanting. Training in the use of EMIS is foreseen. Health statistics for Erbil Governorate are similar to those produced by the Ministry of Health in Bagdad. In the statistical unit of the Kurdistan Directorate of the Ministry of Health, returns are collected and coded for data entry. At the moment, ICD-9 is used. ICD-10 will be used in the near future. Besides morbidity and mortality, covered by the ICD, additional national classifications are used. An example is the classification of occupation; here, the equivalent international classification would be the ISCO-88 (International Standard Classification of Occupations). These statistics are forwarded monthly to the KRSO as well as to the Ministry of Health in Bagdad in paper reports. As previously noted, communication in computer networks has not yet reached a satisfactory level.

It was reported that the Ministry of Municipalities does not perform prepare statistics on water usage/supply. All statistical data about water supply are surveyed by the CSO, as part of its Environmental Survey. This survey project is supported by UNICEF; data are delivered to the Ministry of Municipalities and published in the Statistical Yearbook.

The responsibility for water supply in the Kurdish Region rests with the Ministry of Municipalities and Tourism. No statistics on water supply are produced.

A GIS section is part of the Urban Planning Directorate. GIS is used for project-oriented work only. The directorate of Urban Project Planning and the directorate of Project Follow Up collect many data for a database, but the use of these data for statistical purposes is limited. The existing geographical database is neither combined with statistical data nor are statistical data matched with the geography to produce thematic maps.

The function of the GIS section is to provide digital maps of the master plans – the one for Erbil was shown to us – and restricted to land use. Different urban functionality is assigned to certain areas. According to the master plan, most of these assignments are on a general level. The situation about water supply is not part of the maps.

Existing protocols and laws for classification and coding systems supporting the IS/SS modernization process could not be identified. The most important obstacle is the inappropriate legal situation referring to 1972. CSO is not perceived as an important or relevant institution. The legal foundation and the organisational structure do not uphold international practices. As a result, KRSO is not able to perform to the expectation of the Kurdistan Regional Government.

Generally, remedial action requires that a centrally fully functional server for thematic classifications in official statistics be established. An example is Eurostat:

<http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/metadata>

The semantic structure could be obtained from the European Directive INSPIRE (Infra-structure for Spatial Information for Europe), which fulfils all statistical requirements.

Recommendations

Training needs in classification and coding

There are several unmet demands when it comes to classification and coding in both CSO and KRSO. First, the importance of implementing international coding practices must be appreciated both within and outside of the statistical environment. For this reason, workshops dedicated to advertising the importance of classification and coding should take place with participation from both the CSO and the KRSO as well as from ministries and other entities dealing directly or indirectly with official statistics. It is suggested that the workshops be dimensioned so that they address partly statistical staff (discussions would then be somewhat technical) and staff from other entities (discussions would then be of a more general nature not requiring any previous statistical knowledge).

It is of importance that authorized translations of the classification and coding systems are available to CSO, KRSO and other relevant entities. The United Nations provides such translations and server downloading capabilities. If there is additional need for translation, this matter should receive priority recognition. It is also advisable to include a workshop on the essential functionality of databases. The training requirements in classification and coding are given below.

It is strongly recommended to hold workshops on classification and coding, focussing on the following:

1. Workshop on international practices in classification and coding.
2. A review of how server based classification operates. An exposition of server based thematic and regional classifications.
3. Workshop on thematic and geographical classification;
4. Workshop on database technology with special reference to classification and coding;
5. Workshop on application of the international classification of diseases; and,
6. Workshop on the full potential of EMIS

Gender Statistics

Introduction

The history of gender statistics is of recent origin, often said to have begun in the First World Congress of Women in Mexico, 1975. A Second World Congress of Women in Copenhagen, Denmark, reaffirmed the findings of the first congress. At the time of the Third World Congress on Women in Nairobi in 1985, some early efforts had been made to produce statistics on gender gaps. It is sometimes noted that perhaps Statistics Sweden (the National Statistical Office in Sweden) in 1983 came first in establishing a special unit for collecting, analysing and disseminating data on gender issues.

Fundamentally, gender statistics refer to the collection and compilation of sex-disaggregated data on various socioeconomic phenomena, in order to support their analyses. Gender statistics are designed to illuminate the conditions of women as well as men in order to generate awareness of the present situation, to guide policy, to mobilize action and to monitor progress towards improvement and to reveal the issues that need to be confronted.

Gender statistics may include quantitative and qualitative data for examining the socio-cultural context of sex differences, sectoral data in the fields of population, health (including reproductive health), education, economically active population etc., and the indicators for measuring the gender impacts of policies and programs.

A central statistical office is usually bound up by a code of practice that stipulates objectivity, transparency etc. For this reason the role of a central statistical office is to collect data on gender issues without engaging in political, religious, social or economic disputes. Statistics may range from being traditional to serving specialized purposes. It is a statistical area which is under development and, indeed, in most countries non-existent.

The main purpose of the mission was to assess the existing situation and identify needs and priorities with respect to the production of gender statistics, and their compliance with United Nations recommendations and standards as well as the potential for using administrative data sources particularly those of the pilot ministries. In particular, information regarding technical issue and capacity buildings needs were explored. Furthermore, details of indicators and sex-disaggregated data and gender analysis were researched.

Gender statistics in Iraq

The national statistical system in Iraq has always, when feasible, produced official statistics by sex. For example, past censuses and surveys have always brought out data by sex. Tabulations such as population, labour force, educational attainment and school attendance by age and sex have always been produced. There is also lots of information regarding reproductive health. These are traditional statistics which although they enable basic analysis of gender issues fail in providing the detail that contemporary studies require. For example, preferably some data collection methods should capture stereotypes and social and cultural factors that may produce gender biases. Hence, in conclusion, while statistics have been aggregated by sex whenever feasible and in compliance with older standards, there is now a demand for upgrading these statistics so that become more aligned with international standards. Notwithstanding these rather general and non-specific findings, it needs to be added that the current availability of statistics on gender is unacceptably low. Whereas data collection already provides some possible sources for gender specific analysis, this is currently inadequately covered and does not harmonise with the information demands of today's Iraqi society.

Main Findings

Among the main findings are:

1. CSO and KRSO are strongly committed to engendering the national statistical system. They confirmed an increasing need for gender-statistics, especially for meeting demands among current users;
2. The existing statistical system focuses on collecting and processing information, but gives inadequate emphasis to analysis;
3. Generally, statistical services do not have adequate knowledge of recent development in gender statistics, international standards and, more importantly, development in definitions and classifications in other Arab countries;
4. Low awareness and understanding of gender beyond sex-disaggregated data;
5. Lack of opportunities for dialogue and confrontation with gender statistics users. Most of the targeted users of statistical reports are the internal planning departments and the ministries of planning;
6. Need to work towards integrating gender data production, analysis, dissemination into organizational directives, structures and business processes of the statistical and information systems;
7. Need for a national unique framework for producing reliable and quality data that contains standard operating procedures in collecting, exploiting and disseminating data on men and women in all statistical sectors;
8. Express need of modern computer networking facilities and storage of data in databases for easy retrieval; and
9. Need to develop human resources and skills of personnel employed in statistical services, in the line ministries as well as in the regional and provincial offices.

Recommendations

The recommendations and suggested priorities focus on two main principles, namely:

1. Embed and develop the gender statistical system within the framework of the on-going statistical reform;
2. Create awareness and consensus regarding the importance of engendering the national statistical system, not only for international standards compliance, but also mainly for meeting the Iraqi development challenges.

Accordingly, in furtherance of a modern statistical system, it is recommended to:

1. Develop the capacity of the national statistical system and optimize and improve the existing data collection infrastructure in the line ministries;
2. Raise awareness and understanding of the Engendering Statistical System Concept; objectives, approach, process and methodologies.

More specifically, it is suggested to:

1. Examine the possibility of including the requirement for the collection and reporting of sex-disaggregated data in the forthcoming Iraqi national statistical legislation;
2. Provide key staff in the national statistical system with the rules, tool kits, materials and information on definitions, statistical indicators, classification, developed by the ESCWA on Gender Statistics;
3. Develop and improve of available sex-disaggregated data whether from administrative or statistical sources;
4. Design and implement a National Capacity Building Program on Gender Statistics; and,
5. Engendering the forthcoming census and surveys data collection process.

Human Resources and Statistical Production

Introduction

A modern national statistical system serves several purposes. It provides parliament with information required for administration, policy making and legislation. The establishment and maintenance of such an information system is a long-term and often costly undertaking. There is much evidence, however, that countries with such information systems are more innovative than those without it. The Era of Information, in which we live, has brought with it the need for much enhanced national statistical systems. The many workshops and seminars given by the International Statistical Institute (ISI) highlight these contemporary conditions.

The Iraqi Public Sector Modernization Initiative serves many objectives one of which is the establishment of a modern national statistical system. The Core Technical Team, now renamed the Working Group, is bestowed with the task of finding ways and means of implementing the recommendations made in the mission reports on (i) legislation, (ii) code of practice, (iii) classification and coding, (iv) information and statistics system, (v) gender, and (vi) dissemination.

The present mission reviewed previous mission reports and, in addition, undertook structured interviews in Baghdad and Erbil. These were held with selected units in CSO and KRSO. Units from the pilot ministries Health, Education, Higher Education, Labour and Social Affairs, Municipalities Planning, and Water Resources were also involved. The major questions concerned:

1. Organizational structure and website;
2. Contact persons;
3. Work carried out by statistics departments;
4. Statistics disseminated or otherwise transmitted;
5. Data collection and processing methods; and,
6. Internal team structure and assigned activities.

Staff numbers and structure were reviewed with respect to:

- (i) Management;
- (ii) Professional statisticians;
- (iii) Mid-level statisticians; and,
- (iv) Other personnel.

The interviewees were asked about their views on the strengths, weaknesses, opportunities and threats facing their department or service; and also about the competences that they consider their staff need to carry out their tasks. Many interviewees supplied further information, for example CDs disseminated by their organization.

The “National Strategy for the Organization of Statistics 2011 – 2015”, prepared by the National Statistics Strategy Committee, served as an important source of information for the mission.

Main Findings

The interviewees were all cooperative with the mission and positive about their respective organizations. Most interviewees from line ministries represented statistics units within planning departments. A few interviewees in KRG represented planning units that had a statistics functions. It is understood that all line ministries, both in Baghdad and in Erbil, have agreed to create statistics units. In KRG, funding conditions hamper this development.

The units interviewed in line ministries were generally responsible both for compiling official statistics, for internal statistical reporting on behalf of their organization and/or for compiling statistical information as part of the organization’s internal planning and monitoring function. This range of responsibilities is quite normal, as administrative statistics are often a by-product of other activities.

The statistics that were compiled for dissemination often used historical classifications that are not directly related to current international standards (see Coding and Classification). One exception is the Ministry of Health, which uses a version of the International Classification of Diseases.

The frequency of statistics compilation is mostly annual, even though in many cases data is collected on a monthly basis. This means that statistics are only transmitted regularly to other government agencies on an annual basis. Statistics for which the annual record for all provinces was incomplete were rarely transmitted within the administration. Some ministries did not disseminate their data publicly, although in some of these cases the data is published by the CSO (and possibly the KRSO where applicable) in the statistics yearbook.

The study did not manage to verify absolutely that some official statistics are not disseminated publicly at all but this could well be the case. Most ministries stated that they additionally compiled statistics for transmission within the administration in response to official requests.

In principle, some of the statistical information compiled could be used for planning purposes. But, given the delays in data compilation, whether this actually occurs was sometimes unclear. Senior officials interviewed were asked the question, “When you talk with your minister, what are the statistics that you quote most often?” In most cases, the response was unclear. Staff numbers appeared, with a few exceptions, to be generous relative to the tasks undertaken. Personnel were often university educated, although not always in subjects related to statistics.

The compilation process was fairly similar across line ministries. Questionnaires for administrative returns, sometimes consisting of a multi-page book, are sent out from the national ministry or the Kurdistan Regional office. They are distributed by provincial offices to district offices. Here, typically, one and at most two staff members administer the questionnaires to reporting bodies such as schools and health centres. The completed questionnaires are collated at district level and a first verification is undertaken at provincial level. Where province offices are computerized, data entry is performed at province level. In some cases, provinces submit only final tables to the central office. In other cases,

a second level of data checking is under-taken at the central office. Completed Kurdistan data is sent to Baghdad.

Most interviewees shared a common concern about the compilation process: the initial data collection and its transmission to provincial level were considered to form a weak link. In general, communication between offices was seen as open to improvement. A lack of understanding of statistical aims and processes was considered to lead to incorrect completion of questionnaires. Data checking and data entry at province level was seen as a secondary problem. Staff skills were often seen as being generally not up to date. As a result of these deficiencies, reports were seen as being poorly presented and insufficiently disseminated, especially via the Internet.

Another common theme among interviewees was their pride in their unit's work ethics. Similarly, interviewees were confident that their work processes could be successfully improved and, in some cases, that the range and quality of data compiled could be extended and improved.

A number of interviewees were concerned about the potential loss of experienced staff, either to better paying jobs or to retirement. The competences that were identified by a number of interviewees as being needed by their staff were as follows:

- (i) Modern statistics skills: a comprehensive introduction to statistical methods, especially report preparation and dissemination;
- (ii) Network computing: using the computer network to work collaboratively; some people also need initial computer training and in office software tools;
- (iii) Statistical analysis and data handling; and,
- (iv) Interest was also expressed in international statistics standards.

Conclusions

The main conclusion related to training is that the statistics currently collected are not always useful to policy discussions. Since, often they are not compiled in accordance with international standards, they are often not comparable with those of other countries. To an extent, training of existing staff can help to improve this situation. In general, training and workshops could facilitate:

- (i) Helping staff perform their existing tasks better
- (ii) Helping staff to work on new tasks or in different jobs

Both of these results would be desirable in the current context of Iraq. Training in statistics by itself, however, will not deliver significant improvements in the quality of data. In particular, there needs to be a greater willingness across many ministries to make more statistics available to the public in a timely fashion. Improved working relationships are needed, not only between administrations but also often within them. The expected outcome of improved relationships would be much improved transmission rates and sharing of data.

These issues could be addressed and remediated by management training. The Working Group could address these issues.

The two most salient issues underpinning a serviceable national statistical system relate to (i) the creation of computer networks, social and professional networks, and (ii) dissemination of national statistics. Stated differently, the lack of a fully functional computer network is a major hindrance for the national statistical system to perform in tune with modern expectation. Dissemination deserves much attention since, at the moment, it is not operational at a desirable level.

Working group

The main task of the Working Group is to guide the implementation of the Statistical Reform Program. This program has two major dimensions, namely

1. To support the design and implementation of methods to communicate data between offices and organizations in a rapid and appropriate manner; and,
2. To improve the relationship between the National Statistics System and its users within and outside government, through improved dissemination and explanation of statistics.

These roles are primarily technical. They are therefore distinct from the role of the National Council for Statistics, which is understood to outline objectives of the National Statistics System and, therefore, in extension, the legal framework.

Nevertheless, the Working Group cannot simply have a technical outlook, since a statistical reform would require changes to administrative practice and, indeed, legislation.

The statistical reform programme is intended to:

1. Support the development of an Iraqi national statistical system;
2. Support changes in Iraqi official statistics so that they can provide relevant, reliable and timely information.

In passing, it may be noted that it is necessary to adopt a modern code of practice for official statistics.

A salient role of the Working Group is to ensure effective communications between its member organizations during the process of change in working methods and institutional relations.

Recommendations**Overview**

The recommended strategy for immediate training is:

- (i) To establish work relations by means of a computer network.
- (ii) To disseminate statistics to the Government and the public.

The network must here be understood as referring both to building the human network of relationships between people working on compiling and using statistics in different locations and administrations, as well as to training in cooperative work using the computer network.

Everyone will need to participate in this training for it to be effective. Three main areas of training are identified:

1. Training in computing using a network;
2. Training in modern statistics, focusing on disseminating statistics; and,
3. Training in statistical analysis.

As an accompanying measure, training is required for:

- Establishment and maintenance of a network

Because staff have different levels of knowledge, careful attention needs to be given to the training process. The core approach is recommended as follows:

- The language of training will of course be Arabic.

A number of accompanying measures are required:

- CSO will need to make a decision on supported database and other standards prior to the training program.
- Installation of a network should precede training so that trained staff can make immediate use of their knowledge.
- The implementation of the training program is a major task. Part of this is the mobilization of trainers and trainees. The trainers will preferably be drawn from the staff of the CSO, KRSO and the ministries involved in the project. Alternatively, available university graduates of

numerate subjects could be used. Trainees will also need to be mobilized in such a way that the work of their units is not seriously affected. It is very important that personnel from the province and district offices are involved in the training.

- The training rooms will also need to be prepared, software and computer equipment installed and networked.
- The organization is likely to require a full-time training manager and secretary within the CSO and additional resources from the KRSO.
- It is expected that this first phase will require between 18 months and two years to complete. However, this estimate is subject to some considerable uncertainty and to circumstances outside the control of the national statistics system.

Training in computing using networks

Trainees should complete the course with a practical, operational understanding of core computer issues in statistics at the following five levels:

1. How to use a Windows computer interface in everyday operations.
2. How to enter and correct data using a data entry screen
3. How to use standard office tools
4. How to work cooperatively on a shared statistical database
5. Using a network to carry out common database operations.
6. How to use computing tools for statistics: SDMX.

The tasks required of the consultant are:

1. To prepare training materials
2. To conduct training of trainer courses
3. To provide a follow up help line for trainers and trainees by e-mail and by tele-phone

The training target group is likely to be very disparate, with some trainees encountering a computer for the first time, while others are likely to be experienced users.

The training materials should provide practical exercises relevant to statisticians that cover the full range of the course subject at each of the levels.

Working group configuration

In order to ensure effective communications between its member organizations during the process of change in working methods and institutional relations, the membership/configuration of the Working Group will need to represent the various areas of national statistics system that are involved with the Modernization Plan. At the same time, the need for rapid decision-making means that the Working Group should be as small as possible.

The corollary of the coordination role in the NSS given by the draft Statistics Law to the CSO and to the KRSO in the Kurdistan Region is that change needs to be led by these organizations. Hence, it would appear appropriate for the Working Group meetings to be presided over by representatives of the CSO and, when meeting in the Kurdistan region, KRSO.

The primary role of the Working Group is technical. Therefore the majority of its members will be technical staff. However, since the Working Group will need to discuss changes in working relationships between organizations, advisers to decision makers may sometimes be present. In sum, the Working Group membership is expected to be a blend of technical staff and international advisors.

Other organizations concerned with statistics change in Iraq should have a Working Group position, notably the UNFPA as the agency most closely concerned with the statistics Modernization Programme.

Recommendations and Actions for Improvement

A functional review focuses on a specified field (here official statistics) and inquires “which functions are carried out?”, “by which organisations?”, and “for what purposes?”. Additional questions concern the structure of implementing agencies and associated costs. Focus is given to whether the right people are involved, and whether they do the right things. In the present context, relevant questions concern whether the CSO and KRSO are doing the right things, involving the right people, and whether these assignments and implementations are cost effective.

The review that has been undertaken suggests that while the right people have been chosen, their work assignments often lead to unnecessary duplication. This, in turn, opens an avenue for cost-effectiveness that is not optimal. Are the two organizations CSO and KRSO following the right course into the future? Evidence would suggest that there is a need for significant change and re-orientation.

- The foundation for required change has been laid in the constitution and has now to be integrated in the legal framework by revision of the statistics law. The federal organisation of the statistical system has then to be strengthened not only in theory but also in practice, by creating an integrated comprehensive and harmonised statistical system with strong central and regional offices, applying statistical principles. This has to include the distribution of responsibilities from the central office to the governorates and regions, ensuring the overall coordination, planning and monitoring authority to rest within the central office.

An important requirement for the implementation of the above envisaged changes is the allocation of sufficient and sustainable budgets for the fulfilment of respective responsibilities, in the centre as well as in the governorates.

- Improving the data collection chain and strengthening the capacities of data providers will require strengthening the sectoral statistical system. Strong coordination of reform agendas within the overall public sector has to be considered. This does also include the design and implementation of combined training programs, workshops, and study visits.
- Capacity building has to focus on the statistical offices (centre and regions) as well as data providers (line ministries and other authorities), including active involvement of relevant stakeholders in working groups or technical committees.

This is not a dramatic finding. The industry of producing information, here official statistics, is constantly under pressure from users wanting new things. The basic attitude in both organizations is one of listening. There is in CSO and KRSO a constructive attitude that paves the way for change. The overwhelming finding is therefore that both organizations have a positive, energetic and constructive outlook on the future.

Nevertheless, the review identified the following key-areas that deserve attention:

- (iii) establishment of a new legal framework for statistics,
- (iv) adoption of an associated code of practice,
- (v) adoption of a modern production plan (business plan),
- (vi) re-shaping current computer configurations into a modern computer network, and,
- (vii) development of a modern database system for storage and retrieval of information.

It is necessary to define work programs that effectively address these areas. It is deemed preferable if this can be accomplished by pooling expert resources partly from the CSO, partly from international organizations. It is recommended to have study tours for staff in CSO and KRSO to a statistical office in the EU so that they can get first hand orientation in the performance of the above-mentioned key-areas of activity. It must be borne in mind that staff training is one of the foremost factors in the development of a modern statistical system.

Suggested Roadmap

The following roadmap is suggested for the implementation of the recommendations and improvement actions. The attached table provides an overview on suggested timing/ duration of the recommendations presented in this review.

Ongoing in-office activities

Modernizing database system: This is an in-office activity that unfolds during the entire project period. Activities will focus on in-service training relevant for the daily database duties. This activity will be aided by international expertise. Activities in CSO and KRSO will be parallel.

Building computer network for national statistical system: This is an in-office activity that unfolds during the entire project period. The objective is to provide all staff members with access to a computer network by which they can reach all members of the national statistical system. This activity will be aided by international expertise. Activities in CSO and KRSO will be parallel.

Building a production plan: This is an in-office activity that implements those parts of the generic business plan for official statistics that are relevant for the current production. This activity will be aided by international expertise. Activities in CSO and KRSO will be parallel.

Workshops

Workshops are suggested to be held on a frequent basis, monthly or bi-monthly, in Erbil as well as in Baghdad.

Workshop on functional review report: The Functional Review Report will be the basis for a workshop where its findings and general overview are discussed. Activities in CSO and KRSO will be parallel.

Workshop on legal framework: This workshop gives emphasis to the most salient features of modern statistical legislation. Activities in CSO and KRSO will be parallel. A Second workshop on legal framework should include a discussion on the draft statistical act. Activities in CSO and KRSO will be parallel.

Workshop presentation of draft legal framework and code of practice: A final discussion of the operational objectives of the statistical act, code of practice and its implementation across all bodies participating actively in the national statistical system. This is a shared workshop for CSO and KRSO.

Workshop on production plan: This workshop discusses in detail the meaning of a modern statistical production plan. Activities in CSO and KRSO will be parallel. A second workshop on production plan gives focus to the feasibility of implementing a modern production plan reflecting the intentions of code of practice. Activities in CSO and KRSO will be parallel.

Workshop on classification and coding: Gives focus to how a classification and coding server is used. Activities in CSO and KRSO will be parallel.

Workshop on dissemination: Gives focus to desirable features of modern dissemination practices. Activities in CSO and KRSO will be parallel.

Workshop on report writing: This workshop gives focus to modern report writing meeting user demands. Activities in CSO and KRSO will be parallel.

Workshop on gender statistics: Gives focus to integration of gender in the overall production of statistics. Activities in CSO and KRSO will be parallel.

Workshop on demographic estimation: This workshop addresses demographic estimation when vital statistics and the census data are used versus when the estimation only makes use of retrospective reports in a census or survey.

Working groups

The working groups organise the details of the activities for the workshops, as mentioned above. They should meet prior to the workshops in Erbil and Baghdad.

Ongoing Capacity Building

A reform of the national statistical system requires continuous capacity building, among other things, because it will involve application of new technologies. Technical assistance is called for in several areas, notably in creating a modern computer network, updating and application of database practices including metadata, classification server applications, modernized report writing, etc.

It is suggested that working groups with members from CSO/KRSO, aided by a resident chief technical advisor, could address institutional, organisational and individual issues relevant in the context of reforming the current statistical system.

A1 Code of practice principles in the United Kingdom

| | |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Principle 1: Meeting user needs | The production, management and dissemination of official statistics should meet the requirements of informed decision-making by government, public services, business, researchers and the public. |
| Principle 2: Impartiality and objectivity | Official statistics, and information about statistical processes, should be managed impartially and objectively. |
| Principle 3: Integrity | At all stages in the production, management and dissemination of official statistics, the public interest should prevail over organizational, political or personal interests. |
| Principle 4: Sound methods and assured quality | Statistical methods should be consistent with scientific principles and internationally recognized best practices, and be fully documented. Quality should be monitored and assured taking account of internationally agreed practices. |
| Principle 5: Confidentiality | Private information about individual persons (including bodies corporate) compiled in the production of official statistics is confidential, and should be used for statistical purposes only. |
| Principle 6: Proportionate burden | The cost burden on data suppliers should not be excessive and should be assessed relative to the benefits arising from the use of the statistics. |
| Principle 7: Resources | The resources made available for statistical activities should be sufficient to meet the requirements of this Code and should be used efficiently and effectively. |
| Principle 8: Frankness and accessibility | Official statistics, accompanied by full and frank commentary, should be readily accessible to all users. |
| Protocol 1: User engagement | Effective user engagement is fundamental both to trust in statistics and securing maximum public value. |
| Protocol 2: Release practices | Statistical reports should be released into the public domain in an orderly manner that promotes public confidence and gives equal access to all, subject to relevant legislation. |

A2 Code of practice for national statistical institutes in the European Union

The European Statistics Code of Practice is based on 15 principles. Governance authorities and statistical authorities in the European Union commit themselves to adhering to the principles fixed in this code covering the institutional environment, statistical processes and outputs.

- PRINCIPLE 1:
PROFESSIONAL
INDEPENDENCE**
- The professional independence of statistical authorities from other policy, regulatory or administrative departments and bodies, as well as from private- sector operators, ensures the credibility of European statistics.
- PRINCIPLE 2:
MANDATE FOR DATA
COLLECTION**
- Statistical authorities must have a clear legal mandate to collect information for European statistical purposes. Administrations, enterprises and households, and the public at large may be compelled by law to allow access to or deliver data for European statistical purposes at the request of statistical authorities.
- PRINCIPLE 3:
ADEQUACY OF
RESOURCES**
- The resources available to statistical authorities must be sufficient to meet European statistics requirements.
- PRINCIPLE 4:
QUALITY
COMMITMENT**
- All ESS members commit themselves to work and cooperate according to the principles fixed in the 'Quality declaration of the European statistical system'.
- PRINCIPLE 5:
STATISTICAL
CONFIDENTIALITY**
- The privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and its use only for statistical purposes must be absolutely guaranteed.
- PRINCIPLE 6:
IMPARTIALITY AND
OBJECTIVITY**
- Statistical authorities must produce and disseminate European statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.
- PRINCIPLE 7:
SOUND
METHODOLOGY**
- Sound methodology must underpin quality statistics. This requires adequate tools, procedures and expertise.
- PRINCIPLE 8:
APPROPRIATE
STATISTICAL
PROCEDURES**
- Appropriate statistical procedures, implemented from data collection to data validation, must underpin quality statistics.
- PRINCIPLE 9:
NON-EXCESSIVE
BURDEN ON
RESPONDENTS**
- The reporting burden should be proportionate to the needs of the users and should not be excessive for respondents. The statistical authority monitors the response burden and sets targets for its reduction over time.

- PRINCIPLE 10:
COST EFFECTIVENESS** Resources must be effectively used.
- PRINCIPLE 11:
RELEVANCE** European statistics must meet the needs of users.
- PRINCIPLE 12:
ACCURACY AND
RELIABILITY** European statistics must accurately and reliably portray reality.
- PRINCIPLE 13:
TIMELINESS AND
PUNCTUALITY** European statistics must be disseminated in a timely and punctual manner. Available statistics must meet users' needs. Statistics comply with European quality standards and serve the needs of European institutions, governments, research institutions, business concerns and the public generally. The important issues concern the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comparable across regions and countries, and readily accessible by users.
- PRINCIPLE 14:
COHERENCE AND
COMPARABILITY** European statistics should be consistent internally, over time and comparable between regions and countries; it should be possible to combine and make joint use of related data from different sources.
- PRINCIPLE 15:
ACCESSIBILITY
AND CLARITY** European statistics should be presented in a clear and understandable form, disseminated in a suitable and convenient manner, available and accessible on an impartial basis with supporting metadata and guidance.

A3 The fundamental principles of official statistics - the economic commission for Europe

1. Official statistics provide an indispensable element in the information system of a democratic society, serving the government, the economy and the public with data about the economic, demographic, social and environmental situation. To this end, official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlement to public information.
2. To retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data.
3. To facilitate a correct interpretation of the data, the statistical agencies are to present information according to scientific standards on the sources, methods and procedures of the statistics.
4. The statistical agencies are entitled to comment on erroneous interpretation and misuse of statistics.
5. Data for statistical purposes may be drawn from all types of sources, be they statistical surveys or administrative records. Statistical agencies are to choose the source with regard to quality, timeliness, costs and the burden on respondents.
6. Individual data collected by statistical agencies for statistical compilation, whether they refer to natural or legal persons, are to be strictly confidential and used exclusively for statistical purposes.
7. The laws, regulations and measures under which the statistical systems operate are to be made public.
8. Coordination among statistical agencies within countries is essential to achieve consistency and efficiency in the statistical system.
9. The use by statistical agencies in each country of international concepts, classifications and methods promotes the consistency and efficiency of statistical systems at all official levels.
10. Bilateral and multilateral cooperation in statistics contributes to the improvement of systems of official statistics in all countries.

A4 Annotated content of the statistical system

1. Accommodation, food, and other services: Wholesale and retail trade, transportation, communications, financial services, and recreation services. Data are classified by kind of business and cover sales or receipts, establishments, employees, pay-rolls, and other items.

2. Agriculture: Statistics on farms and farm operators; land use; farm income, expenditures, and debt; farm output, productivity, and marketing; foreign trade in agricultural products; specific crops; and livestock, poultry, and their products.

3. Arts, recreation and travel: Performing arts, arts and humanities.

4. Banking, finance and insurance: Data on the nation's finances, various types of financial institutions, money and credit, securities, insurance, and real estate.

5. Births, deaths, marriages, and divorces: Demographic estimates: mortality, fertility, marital status and migration.

6. Business enterprise: Place of the business firms and business initiative in the Iraqi economy. Data on the number, type, and size of businesses; financial data of domestic and multinational corporations; business investments, expenditures, and profits; and sales and inventories. Results from Economic Census.

7. Construction and housing: Data on the construction industry and on various indicators of its activity and costs; on housing units and their characteristics and occupants; and on the characteristics and vacancy rates for commercial buildings.

8. Education: Data primarily concerning formal education as a whole, at various levels, and for public and private schools. Data shown relate to the school-age population and school enrolment, educational attainment, education personnel, and financial aspects of education.

9. Elections: Results of elections.

10. Energy and utilities: Statistics on fuel resources, energy production and consumption, electric energy, hydroelectric power, nuclear power, solar and wind energy, wood energy (biomass), and the electric and gas utility industries.

11. Federal government finances and employment: Statistics relating to the financial structure and the civilian employment of the federal government.

12. Foreign commerce and aid: Data on foreign assistance programs.

13. Forestry, fishing, and mining: Data on the area, ownership, production, trade, reserves, and disposition of natural resources.

14. Geography and environment: Information on the physical environment, basic area measurement and climatic data. Water consumption, air pollutant emissions, toxic releases, oil spills, hazardous waste sites, municipal waste and recycling.

15. Health and nutrition: Statistics on health expenditures and insurance coverage, medical personnel, hospitals, nursing homes and other care facilities, injuries, diseases, disability status, nutritional intake of the population, and food consumption.

16. Income, expenditures, poverty and wealth: Data on gross domestic product (GDP), gross national product (GNP), national and personal income, saving and investment, money income, poverty, and national and personal wealth.

17. Information and communication: Statistics on the various information and communications media: publishing, including newspapers, periodicals, books, and software; motion pictures, sound recordings, broadcasting, and telecommunications; and information services, such as libraries. Statistics on computer use and Internet access are also included.

18. International statistics: Global statistics on population, births and deaths, social and industrial indicators, finances, agriculture, communication, and military affairs. These statistics are usually published in statistical abstracts or yearbooks.

- 19. Labour force, employment and earnings:** Statistics on the labour force; its distribution by occupation and industry affiliation; and the supply of, demand for, and conditions of labour.
- 20. Law enforcement, courts, and prisons:** data on crimes committed, victims of crimes, arrests, and data related to criminal violations and the criminal justice system.
- 21. Manufacture:** This section presents summary data for manufacturing as a whole and more detailed information for major industry groups and selected products. The types of measures shown at the different levels include data for establishments, employment and payroll, value and quantity of production and shipments, value added by manufacture, inventories, and various
- 22. National security and veterans affairs:** Data for national security, benefits for veterans, national defence and its human and financial costs; active and reserve military personnel.
- 23. Population:** Statistics on population by age and sex, region and socioeconomic characteristics. Population forecasts.
- 24. Prices:** Indexes of producer and consumer prices, actual prices for selected commodities, and energy prices.
- 25. Science and technology:** Statistics on scientific, engineering, and technological resources, with emphasis on patterns of research and development (R&D) funding and on scientific, engineering, and technical personnel; education; and employment.
- 26. Social insurance and human affairs:** Data related to governmental expenditures for social insurance and human services.
- 27. State and Governorate finances and employment:** Data on revenues, expenditures, debt, and employment of state and local governments.
- 28. Transportation:** Data on civil air transportation, both passenger and cargo, and on water transportation, including inland waterways. Statistics on revenues, passenger and freight traffic volume, and employment in various revenue-producing modes of the transportation industry, including motor vehicles, trains, and pipelines.
- 29. Wholesale and retail trade:** Statistics relating to the distributive trades, specifically wholesale trade and retail trade. Data are classified by kind of business and cover sales, establishments, employees, payrolls, and other items.

A5 Costing of Activities

The following is a tentative indicative estimation for the minimum budget that could be envisaged for a three-year implementation period on the basis of the detailed recommended improvements mentioned in each sub-functional reviews in the seven areas covered in the functional review exercise and the expected data collation activities required to monitor the progress in the health, education and watsan sectors over the course of the I-PSM implementation phase:

| Item | Unit cost | Total units | Total US\$ |
|-----------------------------------|-----------|-------------|------------------|
| International team leader | 15000 | 36 | 540,000 |
| National coordinators | 5000 | 72 | 360,000 |
| Support staff | 3000 | 72 | 216,000 |
| Consultants | 15000 | 60 | 900,000 |
| Equipment | 200000 | 3 | 600,000 |
| Workshops | 15000 | 30 | 450,000 |
| Data collection | 100,000 | 3 | 300,000 |
| Publications, manuals, tools, etc | 12000 | 18 | 216,000 |
| Study tours | 25000 | 9 | 225,000 |
| Training courses | 25000 | 20 | 500,000 |
| Security | | | 200,000 |
| Other | | | 293,000 |
| Total | | | 4,800,000 |

