

## *Developing Professional Capability for National Statistical Systems*

### *Country Paper of Turkey*

Prepared by the Turkish Statistical Institute (TurkStat)

#### **Introduction:**

The success of modern national statistical systems is linked to how well its managers ensure the integrity and credibility of data, build up the relevant knowledge base, organize the use of information technology, promote effectiveness, and carry out strategic planning.

In order to anchor professionalism in their national statistical systems, many countries have found it useful to develop a specialized cadre of well-trained, professional statisticians at the core of their system, who embody the professional values of objectivity and neutrality. National statistical systems strive to retain their professional cadre by offering opportunities for career development within the statistical system.

#### **Part A:**

##### **Recruitment Policy of Turkish Statistical Institute (TurkStat)**

A decisive factor in the internal capability of a statistical agency is the calibre of its staff. An agency can only function well if qualified people are available to make it work. Organizational arrangements may contribute to enabling qualified people to do their best; but it is essential to give utmost attention to building up the right kind of staff in organizing and managing a statistical agency.

The recruitment and retention of professional staff is now being regarded as a key success factor for a national statistical system. In the ‘peer review’ of the European Code of Practice, professional independence, quality assurance frameworks, and human resources are key factors in the assessment.

In TurkStat, personnel management fosters high professional standards. Recruitment and promotion are decided on credentials, ability, and performance. The Turkish Statistical Law, adopted in 2005, introduced clear guidance for recruitment, promotion, and performance appraisal. The Law also comprises the articles concerning the improvement of the property rights and salaries of employees, and new cadre definitions.

For the appointment of the high level posts (including president), specific criteria exist. Only people having a specific university education (statistics, economics, administration, mathematics, etc) and having sufficient foreign language skills are eligible to be nominated as the president, vice presidents, heads of department, regional directors, and

statistical advisers. President is nominated for 5 year term and can be nominated twice in his career.

In addition, at most 10 statistical advisors may be appointed to assist the Presidency in issues of special importance and priority which fall into the working area of the Institute, and to take part in the work conducted by advisory boards, special expertise commissions, research and analysis groups, data quality control board, and publication and dissemination board.

According to Law, at TurkStat, contracted personnel are employed for the following positions; Turkish Statistical Institute Expert, Turkish Statistical Institute Assistant Expert, Statistician, Mathematician, Engineer, and Programmer provided that he/she has graduated from a 4-year university.

To be appointed as the assistant expert of TurkStat the followings are required:

- to graduate from university which provides at least four years education in statistics, mathematics, physics, sociology, psychology or departments of economics, management, administrative and economic sciences, political sciences, engineering, communication and law.
- to have performed satisfactorily in proficiency tests taken in relevant branches and foreign language.
- to be under age 35 in January of the year when the exam is taken.

The recruited staff possesses the professional skills generally needed by TurkStat. However, there is still need the vocational trainings for the staff in order to provide their orientation to the institutional jobs. These facilities are explained in the organizational strategies part of this paper in detail.

TurkStat works closely with universities especially in the context of **Statistical Research Symposium**. Statistical Research Symposium has been organized by TurkStat since 1990 with the support of universities, public institutions and related non-governmental institutions.

Statistical Research Symposium, which acts as an important scientific platform within its field aims to gather the scientific society, experts, users of official statistics, researchers and to equip the background of information flow and application.

In order to ensure the contribution of the presentations to the development of official statistics, the main theme is determined one year prior to the Symposium and it is aimed to lead the interest and studies of the researchers to particular issues.

Since the year 2005, “Official Statistics within the EU Process”, “Data Quality and Reliability”, “Socio-Economical Development and Statistics”, “E-Government and Statistics”, “Sectoral Developments and Statistics” and “Administrative Registers and Statistics” were handled as main themes respectively. The web casting of Symposium

was available on TurkStat website lively and the video-conference system was used for the regional offices.

### **Developments in the Turkish Statistical System**

TurkStat has staff development plan that is linked to goals and objectives of its long term strategic plan. In this context, TurkStat has begun the efforts on capacity building and developing professional capability in 2000. The first detailed analysis of the statistical works of TurkStat has been undertaken in the “Global Assessment” exercise by the European Union (EU) consultants in 2002. Then, a general framework of EU pre-accession strategy has been drawn, having taken into account the priorities in the Accession Partnership and National Plan. The **High Level Committee** has been set up to evaluate the situation at TurkStat and EU requirements for the statistical compliance to the European Statistical System. The committee determined the strengths, weaknesses, opportunities, and threats during the process.

The capacity building initiative of Turkstat focused on four main areas. These were (a) *legal infrastructure* (which was behind meeting the requirements of a modern statistical system), (b) *programming and coordination among the actors* (a lot of public institutions producing statistics in a non-systematic way; different methodologies and classifications; duplication, confusion, repetition and thus, waste of limited resources.), and (c) *institutional strengthening* (focus on center and regional offices, human, financial, and IT resources), (d) *statistical domains* (problems in methodology, revisions, missing data sets, comparability, timeliness, etc).

As a first step, a **general strategy** was adopted of which its strategic aim was to reform and modernize the statistical system as a whole by strengthening the capacity to cope with the new challenges and undertake the responsibilities of the European Statistical System. This general strategy gave way to a **pre-accession strategy** that focused on the subjects of classifications, business registers, farm-animal registers, national accounts, labor market, income and living conditions, business statistics, agricultural statistics, macroeconomic statistics, transport statistics and regional statistics.

The major tools to achieve these strategic aims were the “Strategic Plan of Turkstat,” the “Official Statistics Program of the Turkish Statistical System,” the “Upgrading the Statistical System of Turkey Program” (funded by EU) and temporary/permanent national committees consisting of various data provider organizations.

Statistical Law clearly mandates Turkstat as the main data producer and coordinating authority among all institutions, having role in the system. All these tasks are regulated by “*Official Statistics Program*” for five years period. The Program enlists which data shall be produced by which institutions (including Turkstat), at which classification, at which level, at which periodicity and at what time.

For its organizational progress, TurkStat has prepared its “Strategic Plan, 2007 – 2011” for five year period. The vision of TurkStat is determined as “to be the information manager in official statistics of Turkey” At the same time, the mission of TurkStat is

defined as "to produce and disseminate statistics which are qualified, timely, reliable, objective and comparable data with the aim of presenting economic and social structure of the country, and meeting the data expectations of decision makers, researchers and other users." The Plan includes 9 strategic goals and 121 objectives targets to undertake its mission and to achieve its vision. Our strategic goals are as follows:

1. Adopting New Methodologies and Producing New Statistics and Indicators
2. Improving Content of Surveys and Increasing Data Variety
3. Realizing Improvements Related to Compilation and Timeliness of Data
4. Improving Data Quality
5. Improving Register and Information Systems
6. Decreasing Response Burden
7. Improving the Role of the Institution in the Field of Statistics
8. Strengthening the Technical Capacity and Technological Infrastructure
9. Increasing Use of Statistics in the Public and Facilitating Access to Data

There is a monitoring process. The progress towards reaching the goals and objectives set by the strategic plan is followed and reported periodically. Reporting is the major output of the monitoring process. The report covers the explanations and reviews obtained from the responsible departments and units as regards the degree of attainment to strategic objectives.

Performance evaluation is the comparable analysis of the performance goals with implementation outcomes in the light of monitoring reports. In other words, evaluation of the institutional performance, namely it's the process in which the method used to reach the performance goals and the activities and projects as well as outcomes of these are evaluated.

Performance evaluation is realized by using performance indicators which are determined during the preparation of performance programs. The comparison between the real performances with the "envisaged" performance allows the evaluation of the strategic plan periodically. At this point, the continuous feedback process begins which brings in dynamism to strategic management. The aim of the feedback process is to enable the revision of the strategic plan and if unexpected circumstances occur, ensure that the related authorities re-evaluate the plan, make the necessary changes and continue its implementation.

Training concept of TurkStat is the continuous training at every level, taking into consideration that the rapid changes in socio-economic life have direct impacts on statistics (strategic management trainings, modular statistical trainings, courses and seminars for the development of technical, managerial and personal skills of the staff, etc.). In this context, main means used for development of professional skills of staff are the courses, training programs, study visits and consultancy activities funded by EU.

TurkStat's head of departments together with technical staff realized a number of missions to Eurostat in order to develop a road map on priority areas such as Agricultural

Statistics, Business Statistics, National Accounts, Social Statistics and Business Registers.

The employees who will participate in training or other capacity building activities abroad are nominated by the head of the departments who are the high level manager after the Vice Presidents of TurkStat. A list of nominees for the trainings is collected by Foreign Relations Department and submitted for approval to the Assessment Committee of TurkStat. Foreign Relations Department also checks the eligibility of the nominee in terms of language skills. Main eligibility rule for the participation of abroad activities is to have a sufficient language degree from international examinations like TOEFL, TOEIC etc. The Assessment Committee composed of three high level directors of TurkStat (president, vice president and head of foreign relations department) evaluate and approve the list if the suitable and relevant employees are selected to participate in training or other capacity building activities.

The effectiveness of capacity building efforts of Turkish Statistical System is measured by the studies of EU Compliance of Turkey. The developments in the statistical capacity of Turkish Statistical System have been evaluated recently in February 2010 in the 10<sup>th</sup> meeting of EU-Turkey Subcommittee No.4 on Economic and Monetary Issues, Capital Movements and Statistics which were organized six times before and four times after the screening process of EU.

On the other hand, in reply to Eurostat's requests, regarding "Compliance Assessment for the Statistical Management Information System (SMIS)", TurkStat provides Eurostat with a full scale assessment on the compliance database taking into account the data requirements and the assessment questions. The compliance monitoring involves a self-assessment of the countries in line with EU statistical requirements and consultation with Eurostat technical units on these self-assessments. The compliance monitoring is undertaken once a year. TurkStat is asked to make a self-assessment of the development of the statistical system in Turkey by submitting on-line information into SMIS. As a result of this exercise, SMIS generates assessment report used for the accession process as well as for the monitoring of compliance by TurkStat themselves. These reports are important inputs for the annual assessment missions conducted by Eurostat. The last assessment mission by Eurostat has been realized in July 2010.

### **Organizational strategies**

TurkStat also provides special career path with the assistant experts. The assistant experts must have been working for at least three years, have a good service record and have their thesis accepted in order to be entitled to take the proficiency test for the expert status. The people who are successful in this test are assigned as the Turkish Statistical Institute Expert provided that they have attained at least grade (C) in the Foreign Language Proficiency Examination for State Employees in one of the languages of English, French and German.

The contracted personnel (Turkish Statistical Institute Expert, Turkish Statistical Institute Assistant Expert, Statistician, Mathematician, Engineer, and Programmer) are paid a bonus, which is proportional to their working days in the amount of monthly contract wage in the months of January, April, July and October. The ones, who perform more successful studies compared to their counterparts, are given an inciting payment to the extent of the monthly contract wage in the months of June and December. Foreign experts may also be employed on a contractual basis for the services requiring special expertise.

TurkStat staff is also encouraged to become member in the professional associations particularly in the field of statistics such as The Turkish Statistical Association (TSA) that was established in 1990 by the initiatives of TurkStat in order to introduce, develop and progress statistics and probability science in Turkey, to contribute the improvement of the country's economy, society and technology by means of statistics, to maintain the cooperation between the statisticians at international level.

There is a formal regular program for the staff to broaden their knowledge and skills. Based on the Regulation on Foundation, Duties and Study Principles of Education and Research Center of Turkish Statistical Institute, Training and Research Center (TRC) was established in 2006. The TRC is a non-profit international vocational training center which was organized with the aim of training the participants, from the statistical community by means of statistical training activities, on-side training courses, seminars and meetings at TurkStat. The responsibilities of TRC are summarized as below:

- To prepare and carry out programs for candidate employees in TurkStat,
- To prepare and carry out expertness area training program for the assistant experts,
- To organize training programs in the context of Official Statistics Program for the institutions or establishments,
- To organize seminar, conference and training activities by international protocols.

The Board of Directors is the competent authority of decisions about all training activities of TRC. President of TurkStat directs the Board and the members are the related Head of Departments. The Board determines the main policies about training programs, courses and researches, main targets, basic approaches and the principles of training activities and methods.

The Board of Trainers works on the training programs and their applications in the framework defined by the Board of Directors. The Board prepares proposals on training activities for offering to The Board of Directors and TRC. President of TurkStat or the Vice President who is responsible from TRC also directs this Board and the members are the trainers of training programs. These trainers are from experts of TurkStat and university professors.

The following four types of training activities are rendered by TRC in collaboration with the other units of TurkStat:

**Training Programs for TurkStat Staff:** (Short or long term courses, seminars and conferences on the statistical methodology, data analysis, classifications, computer science, foreign language (English), newcomers etc..) TRC arranges these courses in collaboration with the other units of TurkStat, universities or national/international organizations. TurkStat has been carrying out Training of Expertness Area (TEA) for the Assistant of Experts since 2007. TEA program has two semesters. Autumn semester starts at the beginning of October and lasts three months. Spring semester starts at the beginning of May and also lasts three months. Seven different Expertness Areas were created. Each expertness area consists of minimum 20, maximum 25 lessons. Almost each expertness area has equal assistant experts, because the distributions of frequency were analyzed before the preparation of program. At the end of the each semester a satisfaction survey is applied and a detailed evaluation report is prepared. These reports are shared with participants and Regional Offices.

TEA program given in the context of e-learning system is called Interwise. Traditional voice, web and video conferencing tools are too expensive and too limited to meet company-wide needs. Interwise Connect changes that with a highly-scalable native IP software architecture, centralized management, efficient network performance and a full breadth of communication and collaboration features, Interwise Connect turns conferencing into an integral workplace application that is used internally by executives, employees and teams as well as externally with customers, partners and suppliers.

**Computer Science:** The aim of this program is to improve and renew the knowledge and experiences of technical staff about information technologies and its applications. Regular courses are organized on the subjects of Windows, Word, Excel, Access, and Power Point.

**Newcomers Training:** The newcomers to the TurkStat during the first two/three months adapt certain basic rules and regulations. This program is organized by the TurkStat in cooperation with the Presidency of the State Personnel and Information and Communication Technologies Department. It includes topics like state organization, law, and organizational structure of TurkStat, etc. Also Interwise training method is also being used in this type of training program.

**Modular Training:** The purpose of the courses is to provide necessary information on data collection methods, statistical methodologies and techniques and data analysis and to improve capabilities of the participants within the Official Statistics Program. 4 different training programs are being organized by TRC as Module-1 household, Module-2 business statistics, Module-3 agriculture and Module-4 administrative registration.

The professional requirements of TurkStat are acknowledged in Turkish Government. It can be followed by the increasing of budget allocation of TurkStat from 2006 to 2010 which is given in Annex. In addition to the budget allocation, Turkish Government supported TurkStat by providing the new cadre for the 350 new staff (university graduated) in the last four years.

## **Improvement of Information and Communication Technology**

Developments in IT have made the development and maintenance of the capability of TurkStat' services easier. The results of the projects which have been implemented in the context of USST Programmes are as follows:

### Results of Software Projects:

- ✓ Web-based applications have been developed in data production and dissemination processes.
- ✓ Essential infrastructure has been established for the standards in software development processes.
- ✓ Web- based Help Desk Application has been installed in order to monitor problems and service requests in IT processes.
- ✓ The usage of Institutional Management Software and e-signature in business processes has been provided.
- ✓ Institutional metadata system modeling has been developed.
- ✓ Application and Security infrastructure of TurkStat portal has been established.

### Results of Data Warehouse Projects

- ✓ The data previously stored in distributed platforms, has been transferred to central databases with necessary storage, security and backup systems.
- ✓ Data harmonization studies have been completed.
- ✓ Multi-dimensional Analyzing and Reporting facilities have been presented to the internal users. ("1985, 1990, 2000 Census", "Environmental Expenditures", "Livestock Statistics")
- ✓ Institutional/Dissemination Databases (55 statistical main titles, 649 statistical subtitles, 10 000 variables are disseminated dynamically in external user through Turkstat web site. <http://www.tuik.gov.tr>)
- ✓ Address Based Population Registration System (ABPRS, 2007-2008) has been presented as Dashboards (Graphics).
- ✓ Thematic maps have been developed by using ABPRS internal migration data for the internal user.

## **Capability of the national statistical service**

The general level of professional capability of the TurkStat service is generally considered as high. More than 150 TurkStat experts (during 2000-2010 period) provided consultancy services to the statistical offices of some Central Asian, Islamic, Balkan and other countries. This is clear sign that the skills of TurkStat experts increased during the mentioned period.

## **Part B:**

### **Strategies with the aim of improving or maintaining professional capability**

Main strategy of TurkStat that has been used with the aim of the improving the professional capability is closely linked Turkey's accession period to the EU. In other words, the cooperation between TurkStat and the Statistical Office of the European Communities (Eurostat) constitutes an important triangulation point for the enhancement of the professional capability of the institution.

Following Turkey's nomination as a Candidate Country at the Helsinki Summit 1999, Eurostat and the TurkStat started to investigate in depth the current situation of the Statistical System of Turkey and identified urgent needs by considering the absorption capacity of the TurkStat. The TurkStat showed a strong commitment during the design process of the co-operation programmes. In all fields information was provided illuminating the currently applied methods, data collection procedures and the situation in terms of applied techniques and instruments. Based on these descriptions and combined with Eurostat's expertise and the experiences gained with other Candidate Countries the objectives and priorities of the Programme were defined to achieve harmonization with EU statistical standards in several steps or phases which built on each other.

Needs of the TurkStat are identified through "Compliance Assessment for the Statistical Management Information System (SMIS)" and data availability exercises. In line with these exercises, serial meetings inside the TurkStat have been organized in order to evaluate the results of these exercises and to determine the weak areas of the Turkish Statistical System. According to these evaluations, the lack of financial resources and the technical know-how were determined as the main constraints of the Institute to meet the necessities of the compliance with EU norms and methodology.

The Projects "Upgrading the Turkish Statistical System-USST" has been implemented in order to accomplish the short and medium term priorities of EU Accession Partnership and National Plan in two phase namely USST1 (between years of 2002 and 2004) and USST2 (between years of 2007 and 2009). These projects constituted financial base of all reform movements in the Turkish Statistical System.

In general, *the components* can be classified under four activities;

- Technical assistance
- Equipment
- Training, and
- Data collection

In the context of USST Program Phase I and II:

- 3428 TurkStat staff attended to 884 international and local activities. Details of the activities are as follows: 7 International Conferences, 488 International Meeting, 72 Local Meetings, 22 Local Training Courses, 187 Study Visits, 94

- more than 250 (5363 man-days) international and 350 (4063 man-days) local consultants provided TurkStat consultancy service, which increased technical skills of personnel at every level,
- Approximately 300 personnel was subjected to foreign language training, 210 personnel took English lessons in the framework of projects, 74 personnel took part in English courses given in the Institute.
- IT equipment (3 million Euro) was supplied to TurkStat (office equipment, computer, HW, SW and training, office support equipment and furniture for CATI, IT network infrastructure, pc hardware, storage (san) and backup, network hardware, data warehouse and analysis solution software).

USST Programme considered as the best EU Project in Turkey by the independent evaluators and received the highest grade by the Evaluation Report of EU Programmes that was prepared for the sectors of Development of Administrative Capacity and Civil Society in Turkey and Public Finance in 2005, 2006 and 2008.

TurkStat also participated in Phare 2005 Programme as well as in MBP 2006 Grant. These programmes have provided TurkStat with grant in order to finance the methodological studies with technical know-how that is necessary for the compliance process with European Statistical System. They have also contributed to improve the general capability of the Institute by providing technical assistance and tailor-made expertise. Mentioned programmes have also helped to maintain proximity to the European Statistical System, to fill residual gaps and to integrate quickly to new statistical Acquis when it arrives, according to EU policies and priorities as well as specific needs of the country.

**In the context of MBP 2006 Programme:** 278 TurkStat staff attended to 256 international activities. Details of the activities are as follows: 204 Eurostat Meetings, 8 Study Visits, 17 Traineeship Programmes and 27 Foreign Training Courses (abroad).

**In the context of Phare 2005 Programme:** 275 TurkStat staff attended to 240 international activities. Details of the activities are as follows: 197 Eurostat Meetings, 3 Study Visits, 10 Traineeship Programmes and 30 Foreign Training Courses (abroad).

In addition, in the context of the IPA 2009 Programme on Statistical Cooperation, technical units and the Regional Offices of the TurkStat producing statistics and relevant institutions in Turkish Statistical System are determined as the target groups. These technical units and the Regional Offices are supported by the project inputs in order to better meet the European and universal norms and methodology in the field of statistics.

As a result of EU projects;

- Knowledge of TurkStat experts about the statistics being compiled by the EU countries and their compilation methods, standards and terminologies increased via service contracts and training grants,
- Cooperation and coordination between TurkStat and main data providers enhanced by the increased communication with the main actors of the Turkish Statistical System,
- Better and faster provision of statistical information was realized,
- Information and Communication technology infrastructure of the TurkStat was renewed and developed,
- Institutional capacity was strengthened,
- Classification Server was set up and opened for external users via TurkStat website,
- Regional database was set up,
- Infrastructure of Business Registers System was established,
- English levels of TurkStat and main data providers' personnel were improved,
- Comprehensive data collection activities were realized in 8 main statistical fields in line with EU norms and standards.

As for the institutional rearrangements of TurkStat, as a first step a project “strengthening the regional offices of TurkStat” was launched in 2003. The overall aim of the project was to increase the data collection capacity of regional branches in the short term, and set up infrastructure for producing regional data in the medium term. It had four component; reorganization of the regional offices, increasing human and financial resources, renovating technological hardware and software, and training. First off all, number of regional branches was increased from 21 to 26 in line with the new statistical classifications of the regions of Turkey (NUTS of Turkey). Then, internal organization of the regions was changed (household, business, agriculture, administration and IT groups).

Until 2007, more than 350 new and young staff having university degree was recruited for the regional offices and some experienced staff was transferred from center to the regional offices. Important amounts from the institution's budget were allocated for the use of regional offices. Additionally, all IT technology were renewed, its capacity increased, new software was installed. To give an example, about 1000 hand-held computers were distributed to the regional offices to collect data through electronic devices directly from the sources (respondents).

The departments of the central office were rearranged to undertake new duties and responsibilities. Rather than vertical organization, a horizontal type relation was determined in the daily activities of the departments, focusing only in the field of expertise and statistical domains. It is now much flexible and may be adapted according to the new developments and needs. New study groups can easily be formed or dismissed within departments, for producing parallel solutions to the changes in socio-economic life.

Technical and financial difficulties were the main constraints both in the country and in the Institute to improve the production, collection and dissemination of high quality statistics comparable with Community methods in key areas mainly related to new and/or changing acquis. In this context, USST Projects and IPA 2009 Programme which are financed by EU have been very beneficial in terms of both technical and financial assistance.

Compliance with the EU requirements as comparable and reliable statistical information are needed during the pre-accession process, is currently the main challenge for TurkStat which has been producing, evaluating and publishing statistics related to the economic, social and cultural aspects of Turkey according to international standards and other producers of official statistics in Turkey.

### ***Conclusion***

Capacity building and development of professional capability are the continuous efforts in the age of information and globalization. NSOs need to reform and modernize their infrastructure and adopt new developments in statistical arena. This is a dynamic process. Ceasing investment in statistical capacities and human resources will directly mean weakness in coping with the new challenges.

**ANNEX:**

**HUMAN RESOURCES OF TURKSTAT**

**Number of Permanent Staff:** 1581 (Central Office- 858; Regional Offices-723)

**Number of Temporary Staff:** 1677 (Central Office- 166; Regional Offices-1511)

**Total Number of Staff:** 3258

**FINANCIAL RESOURCES OF TURKSTAT**

Budget:

**Years**      **in Euro (app.)**

2006      31.868.000

2007      90.850.000

2008      57.436.000

2009      54.560.000

2010      53.720.000

**IT RESOURCES OF TURKSTAT**

	<b>Central Office</b>	<b>Regional Offices</b>	<b>Total</b>
<b>Servers</b>	59	26	85
<b>Personal Computers</b>	1385	1792	3177
<b>Laptop/Tablet Computers</b>	283	915	1198