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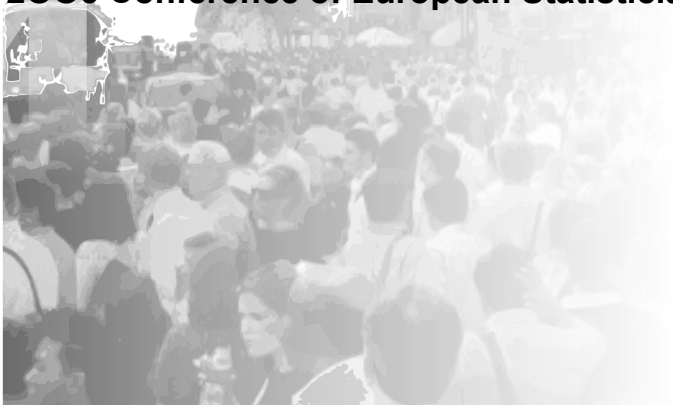
CZECH STATISTICAL OFFICE

HUMAN RESOURCES AND TRAINING

Proceedings of the Seminar Session of the 2006 Conference of European Statisticians



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Note

The views expressed herein are those of the authors and do not necessarily reflect the views of the United Nations.

FOREWORD

At the 54th plenary session of the Conference of European Statisticians (CES) held in Paris, 13-15 June 2006, one of the two seminars was devoted to the issue of human resources and training. The seminar was organised and chaired by the Czech Statistical Office. Since the seminar was regarded as very fruitful the Conference recommended that the proceedings of the seminar be published.

The management of human resources is a key element of any modern statistical office and statistical system, and continuous training of staff is a prerequisite for efficient production process. Statistical authorities have to produce and disseminate statistics in an independent, objective, professional and transparent manner. Therefore, the human resources available to the statistical authorities must be adequate in both magnitude and quality in order to meet the current national statistical needs. Furthermore the statistical offices have a fundamental role in advancing the use of statistics in society, educating the public, and in preparing future producers and users of statistics. The management of human resources in official statistics has therefore some specific characteristics distinct from the management of human resources in the government sector as a whole.

This seminar was the first international event where senior statisticians could exchange their experience and views on the issue of management of human resources. The publication includes all papers presented at the seminar, both invited and supporting. It presents the experience of statistical offices of various countries in managing the human resources and their training. The need for further collaboration and sharing information on issues related to the management of human resources was emphasized at the seminar. The Conference agreed for follow-up work on management of human resources. In October 2006 the Bureau of the Conference set up an Organising Committee, co-chaired by the Czech Statistical Office and Statistics Canada, to prepare a forum to exchange views and know-how on human resources management to take place in 2008.

Heinrich Brüngger
Director, Statistical Division
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INTRODUCTION

by Jan Fischer, Czech Statistical Office

Within the framework of the preparation of the programme of the Conference of European Statisticians for 2006, the Czech Statistical Office supported the theme "Human resources and training in official statistics," and volunteered as the possible main organiser of the seminar. The Czech Statistical Office chose to support this topic not only because it is rarely discussed by the representatives of statistical institutions, but also because human resources and training is important for the success of statistical institutes´ goals. The Czech Statistical Office has had concrete experience of the exceptional importance of this theme in the course of the recent transformation of Czech statistics when demands on statisticians regarding their competence, attitude and performance results changed to a large extent. Supported by other statistical offices and international organizations, human resources and training finally became one of two key themes discussed by the Conference of European Statisticians in 2006.

Chapter I focuses on the human factor, which is considered by managers to be the key and most valuable component of any organization. In conditions of constantly increasing demand for a higher quality of products and services, qualified and motivated staff is a basic precondition for the success of any institution. In this respect, official statistics is no exception. Moreover, due to the role of official statistics in a democratic society and their financing from public funds, all this is twice as important.

Therefore, staff selection, motivation and training were chosen as the topic for the first section of the seminar.

However, the concept of the seminar was even wider. Chapter II covers external aspects of statistical education arising from the fact that in statistics, training is important not only for statisticians themselves, but also for users of statistical data or students as future producers of statistics. The process of statistical education is being realised in cooperation with universities and other partners, and new forms and procedures are introduced.

Finally, Chapter III covers the international aspect of the theme, as international training projects and cooperation of statisticians within the international statistical community contribute to higher effectiveness and comparability of statistics in the worldwide context.

Many national and international statistical institutions contributed to the preparation and subsequently the discussion during the one-day seminar. Many interesting findings and rich experiences were presented, thus contributing to the great success of the seminar. Consequently, the Conference, in its conclusions, confirmed the importance of this topic, particularly stressing the continuing exchange of experience in this field. The Conference became an important milestone in the process of directing international activities of the representatives of statistical institutions at the significant topic of human resources and training in statistics.

CHAPTER I: HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

I.1 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

Summary of the session
by Ivan P. Fellegi, Statistics Canada

The session was organised by Mr. Ivan Fellegi (Canada). Mr. Jan Plovsing (Denmark), Mr. Luigi Biggeri (Italy), and Ms. Irena Krizman (Slovenia) served as the Discussants. The session was based on invited papers by Australia, Canada, Finland, Germany, Spain, Sweden and Ukraine, and a supporting paper by Japan.

The Conference discussed the management and development of human resources and the integration of human resources work in the overall development of statistical organizations. Different strategies for the development of human resources in national statistical offices were considered, as regards general and job-specific capabilities, and formal versus informal learning processes. The Conference also addressed issues related to the development of the learning organization, human and organisational competencies, and the evaluation of the work on human resources. The session was divided into three segments, focusing on how to select the right employees, how to retain and develop staff, and vocational training.

In concluding the first session, Mr. Ivan Fellegi highlighted the following key points:

- investment in human resources is critical for the whole office, and cannot be based on cost-benefit considerations only. One should keep in mind whether one can afford not to invest in human resources;
- integrating the human resources management into the corporate plan is vitally important;
- direct responsibility for human resources rests with the management. Their activities should be supported by the human resource departments. Tools need to be put in place to allow line managers to acquire direct responsibility for the management and development of human resources;
- statistical programs have to adapt to changing societies. Therefore, flexibility and adaptability of human resources within official statistics should be leading principles. This requires that most professionals should be generalists (managers of statistical surveys and processes), while a smaller but still crucial proportion should be specialists;
- in recruiting new staff, national statistical offices should always aim at selecting the best individuals and give them opportunities to develop;
- retention of staff is as important as recruitment. There are many ways to encourage staff to stay in the office, such as offering training opportunities, job satisfaction, healthy working environment, work-life balance, being part of a learning organization, etc.;
- national statistical offices should strive to create a culture of continuous learning, based on different forms of training, career guidance, mobility and rotation of staff;
- teamwork should have an essential role, both within the statistical office and with outside partners. All training and development activities should put emphasis on teamwork;
- measurement of performance of human resources management is important, including benchmarking, evaluation and corresponding adjustments; and

- the leadership in human resources management has to come from the head of the office. There should be consistent and unwavering support for human resources policies and practices.

I.2 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

Statistical excellence through capability development and planning – ABS Organisational People and Learning System

by Dennis Trewin, Australian Bureau of Statistics

Introduction

About every 5 years the ABS revises its Corporate Plan. This is the culmination of an extensive strategic planning process that involves consultation with all staff.

Not surprisingly, staff development figures highly in all strategic planning processes. But in the most recent strategic planning exercise, it was agreed that workforce planning, including staff development activities, shall increase in prominence. Why is this so? There are a number of reasons:

- the nature of the work of National Statistical Offices (NSOs) is changing. The demand for staff with specialist skills (e.g. statistical analysis, information modelling and management) is increasing;
- at the same time, (i) The number of staff retiring is increasing (baby boomers
- reaching 60); (ii) The demand for staff with these type of skills is increasing more broadly across public and private sectors. NSOs are not the only organizations requiring staff with these skills; and (iii) the supply from tertiary institutions is not keeping up with the demand;
- there is need to develop many of these skills in-house;
- furthermore, it is important to give current staff the opportunity to develop new skills. They have the advantages of loyalty and experience, and, without reskilling, their ability to contribute to the organization could diminish quickly.

The focus of this paper is on the steps that have been put in place to improve our staff development activities and set us up for the future, not just the present. Some of the activities are innovative, which is why we thought they might be of interest.

This paper sets out the ABS' people capability development strategy. Recent initiatives demonstrate how capability development planning is integrated into workforce planning. Capability development planning also provides direction and focus to the formal and informal development activities offered to employees.

The corporate plan and human resource development

One of the key strategies for the ABS to achieve its mission, in the changing and dynamic environment in which it operates, is to build and leverage the capability of its people. Developing ABS employees to have the right capability to respond to and capitalise on these demands into the future is increasingly important and critical to the sustainability of the ABS.

In recognition of its strong learning culture, the ABS affirms its commitment to developing its employees in the ABS Corporate Plan. One of the most important objectives of the Corporate Plan is for the ABS to be:

"An organization that builds capability to continually improve its effectiveness".

The Corporate Plan sets out a series of strategies to achieve that objective. Some of the key strategies are around providing learning and development activities and include that the ABS will:

- ensure we have a capability framework that provides a clear specification of the skills expected of employees;
- support ABS employees to acquire new skills and knowledge throughout their career with the ABS;
- ensure learning and opportunities support the development of required capabilities;
- provide opportunities and support for ABS employees to develop leadership abilities;
- and aim to continually improve our learning and development systems and processes.

The ABS capability framework

Over the last decade, there have been numerous attempts to develop capability systems in the ABS. Corporate efforts in the early to mid nineties focused on developing competency models, however these models were not widely accepted as relevant to the workforce and were only partially implemented. The ABS' Business Divisions have routinely developed role and skill profiles as part of their internal performance development strategies, with moderate success.

In 2003, a project team was formed to develop an ABS-wide capability framework. The project goals were to have an agreed organization-wide framework which defined the skills, capabilities and knowledge required of employees to achieve the ABS' work program. By defining the capabilities required by employees, the ABS would take a systematic approach to the definition of key capabilities and developing them in its workforce.

Structured and clearly defined capabilities also assist employees in the identification of individual capability gaps and provide a framework that supports performance management, personal development and career management.

In consultation with all business areas of the ABS, the project team defined a framework consisting of Core capabilities applying to all employees, and Job-specific capabilities applying to particular roles and business areas.

Stakeholders involved in the development of capability framework include all ABS employees, supervisors, team leaders, managers and union representatives. Focus groups, workshops and drop-in centres were utilised to make the process truly consultative and focused on client expectations and requirements.

The capability framework is dynamic and evolutionary. It will be reviewed every 6 months to ensure alignment to the business and to incorporate new and emerging skill requirements and disciplines.

Core Capabilities

Core capabilities are defined as those capabilities required of all employees in the ABS, regardless of role or business unit. These are generic capabilities defined by classification level, and form the foundation for statistical excellence. Core capabilities were researched widely, and ultimately drew heavily on the Australian Public Service Commission's leadership capabilities (Integrated Leadership System). A brief example of the Core capabilities defined by capability level is included in section X. The ABS Core capabilities are:

- People and Communication
  This capability details the required level of knowledge, skills and abilities associated with such concepts as interpersonal communication, negotiation, written communication, leadership, teamwork, people management, employee development, professionalism and development of internal and external client relationships.
- Achieving Results
  This capability includes project management, corporate governance, meeting deadlines, adjusting to change, task prioritisation and completion, time management, appropriate meeting behaviours, sharing planning between strategic and operational tasks.
- Thinking
  This capability groups a wide range of thinking skills and behaviour including conceptual thinking, analytical thinking, strategic thinking, research ability, decision making skills,professional judgement, problem solving and application of theory to practice.
- Understanding the Business of Statistics
  Behaviours associated with this capability would include basic statistical cycle knowledge,general awareness of ABS statistical business and knowledge of basic statistical principles, tools and methods.
- Understanding the ABS Environment Behaviours associated with this capability would include corporate knowledge and awareness, ability to operate effectively within the ABS technical environment and alignment of work behaviours with the Australian Public Service (APS) and ABS values.

Job-Specific Capabilities

Job-specific capabilities are applied to specific roles, job groups and functions and have been developed after extensive consultation across the ABS. Focus groups and individual work teams contributed to the development of these capabilities which cover Statistical and Methodological, Information Technology and Client and Corporate roles. These capabilities are endorsed and reviewed by business areas in partnership with HR.

The most critical set of Job-specific capabilities are the statistical capabilities which aligned to the ABS' Statistical Cycle:

- Stakeholder Engagement
  This capability relates to identifying information needs and understanding the broad context in which information is required.
- Statistical Planning
  This capability relates to assessing information needs, how these needs can be addressed and how decisions made at different parts of the process flow through.
- Methodology
  This capability relates to using information and decisions made during Statistical Planning to finalise a collection. Where appropriate, this includes assessing methodological parameters, designing and allocating a sample, and non-sampling considerations such as frames, editing and imputation.
- Collection Development
  This is the link between methodology and the implementation of samples, collections and forms.
- Data Collection
  This is the process of bringing data into the ABS. It includes collecting information as well as accessing administrative data sources.
- Processing
  This involves getting the data into a more useable form. This includes estimation, editing,imputation, sample maintenance and frame maintenance.
- Data Analysis
  This includes analytical techniques such as summarising, exploring and identifying issues; reconciliation/validation with other sources; interpretation of concepts, data sources and methods; and where appropriate using analytical techniques which require application of theory, such as modelling, time series and demographic techniques.
- Dissemination
  This involves turning the data into information, which may include: tables, graphs and publications; providing a framework in which data is collected; or application of time series.
- Decision Support
  This involves evaluating statistical collections and outputs to determine if they have met information needs.
- Managing Quality and Processes
  This relates to managing those processes which impact throughout every stage of the statistical cycle and ensuring objectives are met, including data management and application of the data quality framework.

ABS' Organisational People and Learning System

Officially launched on 14 February 2006, the ABS Organisational People and Learning System (OPALS) brings the organization-wide ABS capability framework to life.

For employees, the system enables them to identify their capability strengths and development needs, and access formal and informal learning linked directly to their individual capability development requirements.

One-on-one discussions between managers and employees are encouraged in order to assess employees' capability, including the identification of skill gaps, and development opportunities to meet those gaps. Prior to these discussions, employees and managers are encouraged to review their capabilities in OPALS to form a consistent basis for the development planning discussion.

At an organizational level, these individual capability development requirements form a complete picture of the organization's strengths and weaknesses, and can influence workforce planning, learning and development investment and succession management.

Within OPALS, employees have a capability profile consisting of Core capabilities at their classification level, and Job-specific capabilities drawn from their role or job function. Employees identify their development requirements against the framework using the following scale: Can't do at all, Requires development, Can do, Can do well, Expert.

Employees can view related learning for each capability. For example, if an employee indicates they required development in Collection Development, OPALS offers learning options specifically tailored to that capability. This learning might be a combination of formal classroom training, e-learning and/or reference material.

Structured formal learning activities linked to capabilities.

The ABS provides learning and development opportunities aligned to our Core capabilities and Job-specific capabilities. OPALS allows employees to access these development opportunities through linking courses with particular capability development needs.

The Learning and Development Section is responsible for the provision of learning and development opportunities against the Core capabilities and non-statistical Job-specific capabilities. The scope of the work covers management and leadership development, business and general professional skills and information technology training.

These programs are integrated to provide development options focused at each level of management responsibility, from frontline supervision, through middle management to executive leadership.

In June 2003 the ABS created the National Statistical Training Institute (NSTI) to focus and deliver statistical skills development in the ABS. The NSTI created a framework for delivering and developing a cohesive curriculum based statistical program to provide people with knowledge, understanding and skills to meet the organization's current and future statistical needs. It works in conjunction with the Learning and Development Section to address the whole of agency capability development needs.

One of the primary objectives of the NSTI is to provide a "learning pathway" for economic and social statisticians. The NSTI offers ABS employees opportunities that can enable them to progress from the entry level statistical skill set, through a series of intermediate and

practitioner development activities, up to the most sophisticated advanced professional/statistical leadership learning activities.

Section IX details the Formal Learning Activities offered by the ABS through the Learning and Development Section and the National Statistical Training Institute.

Unstructured informal learning activities

In order to equip ABS employees with the skills required to meet business priorities, formal development opportunities are accompanied by increased investment in learning support strategies such as coaching, job rotations, mentoring and project work within the statistical program areas.

The coaching process is a familiar concept to the ABS. The basic principles of utilising coaching to improve performance is a common theme in all national Leadership and Management development programs and in various specific coaching products available within the ABS.

By developing the overall skills of managers, the benefit is the enhanced effectiveness of work areas to develop skills on-the-job. Effective coaching skills of team leaders and team members return the focus of on-the-job development to "helping to", rather than "telling how".

The Senior Executive Coaching program is offered as a one-on-one process where participating senior managers and an Executive Coach, sourced from outside the ABS, will work towards identified development needs.

This type of informal development is becoming increasingly popular because of its tailored and specific approach to develop needs, and particularly the ability to enhance strengths as well as address deficiencies.

Mentoring is also encouraged through the ABS leadership and management programs. Participants on programs are encouraged to identify and establish relationships with mentors before participation on the programs.

The ABS has tried to establish formal mentoring programs. The ABS experience, like many organizations is that this process is difficult, including but not limited to finding the right 'fit' between mentor and mentee.

With the release of OPALS, employees are able to explore the capability requirements of areas elsewhere in the ABS, providing a useful tool for career planning. This may facilitate internal job rotations, possibly on a temporary basis, balanced with the need to maintain high degrees of skill in particular areas. It is hoped that this will enable people to gather a broader set of skills to bring to any job they hold within the organization.

Another development initiative that the ABS has invested in is e-learning. At present, e-learning is provided as an adjunct to many face to face training programs and has not yet been

integrated into formal blended solutions. The ABS has made a significant investment in e-learning, with over 100 hours of content available to employees through the OPALS system.

E-learning is presented through the OPALS system as a valid form of learning activity alongside traditional formal courses. The e-learning being used by the ABS moves beyond traditional e-book style e-learning and encourages interaction and engagement with real-life scenarios utilising audio and video simulations. Topics covered by the ABS e-learning catalogue include task and time management, coaching, interpersonal skills, business skills and planning.

OPALS and informed human resources planning and decision-making in the ABS

OPALS provides a useful tool for the organization to define the capability requirements of the workforce into the future. It also focuses our attention towards investing in the right learning and development areas to build agreed capability needs.

The structure and clarity of the ABS Capability Framework provide a framework for their individual development and career management. This approach will also assist Learning and Development and the NSTI in consultation with Business Units to design and implement relevant learning activities for ABS employees to build individual capability. This bottom up identification and addressing of capability requirements will complement and offer validation of the top down succession planning initiatives.

The workforce capability information that is provided by OPALS gives the ABS great scope and opportunity to shape its workforce into the future. The ABS is about to commence a workforce shaping project, looking at developing a robust workforce planning framework and strategy. While it is too early to pre-empt the outcomes of this project, it is fair to say that the aging ABS workforce means that a more strategic approach towards managing the ABS workforce is required. By combining capability data with workforce demographics, analysis of the workforce capability and probability can be undertaken.

Succession planning is expected to be further strengthened by the implementation of OPALS, which will provide an enhanced capacity to identify the capability gaps of the current workforce against anticipated future requirements. While knowledge of workforce capability is, to some extent, retained anecdotally at the business and work group level, implementation of OPALS will provide a more strategic, organization-wide view of current capabilities and future requirements.

Conclusion

The paper briefly describes formal and informal activities the ABS is undertaking to improve the capability of staff. The ABS see staff as its most important asset – most NSOs would expend more of their budget on staff costs than other items. Accordingly, NSOs need to invest to enhance the value of this asset. Informal development is particularly important. The value of excellent mentoring and coaching should not be forgotten. Nor the value of different work experiences. When we reflect on career development, these are often the things that are most important.

It is also important to emphasise "mutual obligation". Whilst it is important for NSOs to provide the environment and facilities to support staff development, there is also an obligation on staff to take advantage of these opportunities. In particular, a lot of the initiative for staff development lies with them. One of the advantages of OPALS is that it provides a framework for staff to understand what capabilities are expected of them and how to go about enhancing those capabilities.

Formal learning activities

New Starter Suite	**Intermediate Statistical Suite**	**Advanced Statistical Suite**
Discover the ABS Employee Responsibilities Work Teams in Action ABS Desktop Fundamentals E-learning compliance courses Code of Conduct, Harassment and Bullying Workplace Diversity ABS Statistical Process Basic Statistical Analysis Collecting Data in the ABS Introduction to Population Surveys and Statistics Introduction to Statistical Collections **Leadership and Management Suite** Personal Development Program Supervisor Development Program Management Development Program Strategic Management Program Leadership Program	ABS Information Warehouse Cognitive Interview Workshop Economic Collection Design Introduction to Questionnaire Design for Household Surveys Overview of ABS Dissemination Process Accounting for Non-Accountants Economics for Non-Economists Introduction to Macroeconomic Statistics: Module 1-5 Making Quality Informed Decisions Research Skills Training Package Statistical Writing Training Program Thinking Analytically, Problemsolving & Story-telling Understanding Demographic Data **IT Desktop and General Training Suite** Microsoft Office Lotus Smartsuite Lotus Notes	Advanced Questionnaire Design Advanced Questionnaire Design for Household Surveys Economic Collection Design in Practice Professional Statistical Program Labour Statistics Training Systems for ABS Social Statistics **Project Management Suite** Managing Projects for Outcomes Project Management Estimation Project Management Managing Risks **Business Learning Suite** Preparing For Promotion Implementing Workplans and Goals Coaching in the Workplace Training & Presenting in the Workplace Systems Thinking Introduction to ABS Business Process Analysis and Mapping Designing Recruitment and Selection processes Recruitment and Selection essentials for panels

Example of the difference between core capability descriptions for different classification levels of employees

People and Communication Interpersonal Skills ABS Officer Level 6	People and Communication Interpersonal Skills Executive Level 1
Demonstrates strong oral communication skills.	Demonstrates strong oral communication skills, enabling effective communication in a wide variety of challenging situations.
Ensures self and others are informed on progress and issues.	Ensures self and others are well informed on progress and issues.
Listens carefully to others, checks to ensure their views have been understood and is prepared to respond	Listens carefully to others, anticipates their reactions, checks to ensure their views have been understood and is prepared to respond.

I.3 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

Statistics Canada's human resource management strategy

Invited paper by Ivan P. Fellegi and E.W. Lee Reid, Statistics Canada

Introduction

Statistics Canada is Canada's national statistical agency. It is required under the Statistics Act to collect, compile, analyze and publish statistical information on the economic, social and general conditions of the country and its citizens. The information produced by the Agency helps to clearly illuminate issues. This information is used by public sector departments, both at the federal or provincial levels, as direct input into decision-making and policy development; other users include private sector organizations, unions, interest groups and academia. The majority of issues facing Canadians are discussed using Statistics Canada data and analyses, as evidenced by the media coverage it receives. Such coverage helps Canadians' awareness of important social and economic developments revealed by new statistics.

As a scientific research agency, Statistics Canada publishes a wide range of statistical analyses and contributes substantially to the development of statistical methodologies at the national and international levels. It operates as the hub of the nation's statistical systems and conducts special surveys funded by other federal departments and agencies, provincial government departments, or private sector clients.

A total of 5500 employees hired under Canada's Public Service Employment Act work at the Agency, mostly at our head office in Ottawa. Our highly educated public service workforce is composed of about 100 executive managers, some 1000 economists and sociologists, most with undergraduate university degrees in economics or sociology and some with graduate degrees, 300 mathematicians/ statisticians with undergraduate or graduate university degrees in mathematics or statistics, 900 computer systems design specialists, 1500 technicians, 1200 clerical and secretarial staff and 800 administrative staff. In addition to this workforce of public servants, under the Statistics Act, the Agency employs approximately 2000 interviewers who are managed from 3 regional offices and work in 8 locations across the country and are primarily involved in the Agency's data collection activities.

Human resources management objectives

In the mid to late 1980's, human resource management activities were driven by some forty individual program divisions (health, education, labour, manufacturing etc.), based on their local operational needs. Recruitment was carried out to fill a specific vacancy, and new employees were provided with on the job training that was related to the specific subject matter area. During this period, promotions and career expectations were limited to the narrow career path within the employee's specific subject matter area. This approach to human resources management produced a workforce that was highly specialized in specific subject matter areas, but lacked the knowledge and experience required to move to other program areas. The result

was a lack of corporate awareness and career mobility outside an immediate area of specialization. Three critical factors led senior management to the realization that it was not in the best interests of the Agency to continue to manage its human resources using this approach:

- a demographic analysis of the Agency's workforce indicated that the top five levels of management and most of the senior specialists were aging. The impact of employing a workforce comprised of baby-boomers meant that, at the turn of the new millennium, a vast majority of the Agency's workforce would be eligible to retire within 10 years. It was evident that Statistics Canada would have a succession problem if we continued to manage our human resources in the traditional manner;
- demands for statistics were changing rapidly. As a statistical agency, we needed to have the flexibility to rapidly adjust our programs to changing client needs. It was therefore imperative that our workforce be adaptable, multi-skilled, and have transferable knowledge, skills and experience so that they could be redeployed when program and priorities were changed or when there were fluctuations in budgets. A related benefit of employees' becoming multi-skilled was that we could offer them job security – even if their specific project had to be discontinued; and this, in turn, made it very cost-beneficial to invest in their long-term development;
- increasingly, clients were seeking cross-cutting information rather than data based on the results of individual surveys. Our traditional approach to developing subject matter specialists had produced highly competent staff, but they were rather narrowly focused and did not have the breadth of experience needed to work harmoniously on cross-cutting projects or statistical outputs.

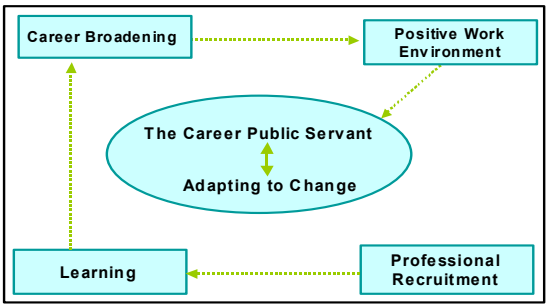
The Agency realized that, given these factors, what was needed was an adaptable workforce, one that was flexible, multi-skilled. A more holistic, corporate and long-term human resources strategy has since that time gradually evolved at Statistics Canada. This human resources strategy is aimed at:

- incorporating recruitment, development, retention and succession strategies that sustain HR capacity over the long term;
- increasing organizational efficiency through the effective management of human resources, given that expenditures for salaries represent 80% of the Agency's budget;
- facilitating organizational adaptability and developing staff that are multi-skilled and flexible so they can be moved amongst the divisions to address priorities, work well on teams, and possess a broad range of knowledge to meet current and future client demands;
- providing opportunities and guidance for staff, encouraging continuous learning and career development for employees so they can enjoy a long term career at Statistics Canada and thus ensure a healthy succession. Investing in the career of employees has the plus of enhancing staff morale;
- increasing opportunities for employees to work on project teams and actively encouraging employees to work together on cross-cutting issues. The net effect has been to increase harmony and organizational cohesion by breaking down vertical barriers.

Human resources management strategy

Statistics Canada's

HR Management Strategy



Since the early 1990's, Statistics Canada has established a number of human resources policies, practices and mechanisms that have evolved into a Comprehensive Human Resources Management Strategy. This holistic strategy is based on four pillars that cover all aspects of human resources. It consists of:

- hiring the best and brightest employees;
- promoting a culture of continuous learning, training resulting in cohorts of flexible, versatile and mobile employees at each level to form pools that will provide qualified replacements for future departures at the next level up;
- developing long term career potential through career broadening assignments;
- creating a positive work environment that is conducive to employment and career opportunities for all employees.

This strategy has helped to create a sense of community which motivates and promotes productivity and encourages career development and retention. Under the umbrella of this strategy, many initiatives and mechanisms have been put in place, such as: centralized recruitment of university and college graduates; a two year internship program for all new professional recruits that involves at least three managed rotations; mentoring programs; career path guides; workplace wellness initiatives; and the creation of an on-campus Training Institute which provides long duration training designed by the Agency for Agency employees. Fundamental to this strategy is the tradition of a "no lay-off policy", a practice which fosters trust, a sense of community within the organization and encourages retention of career employees.

Professional recruitment and development

At Statistics Canada, the level of investment in each employee is high, so it makes sense to select entry-level professionals wisely and to nurture these new hires carefully. A corporate Recruitment and Development Committee annually forecasts the total demand for new professional and technical staff, including economists, sociologists, mathematicians, statisticians, survey technicians and computer specialists. Subsequently, working groups are tasked, by this committee, to conduct university recruitment campaigns and internal competitions to identify

and hire the targeted number of new staff in each profession. The working groups, which are comprised of senior line managers representing all statistical program areas of the department, are supported by human resources professionals.

Newly hired graduates are not placed immediately into a regular position. Instead, they are placed in a corporate managed pool for two years. During this period, they participate in an apprenticeship program which provides them with broad exposure to the Agency. New recruits rotate among three or four assignments in various program divisions and participate on compulsory courses related to the Agency's business. Mentoring and coaching are fundamental elements of the apprenticeship program. New recruits are assigned mentors to help guide them for the duration of their program. Mentors are seasoned senior managers who would have received training in mentoring. They have a broad knowledge of the skills required by the Agency and their role is to help the recruit gain an overall perspective of the Agency. The mentor also helps the recruit select assignments and training, and guides and supports the recruit's integration into the organizational culture. Upon completion of their developmental program, recruits graduate and are then assigned to a regular position in one of the statistical program areas.

Continuous learning

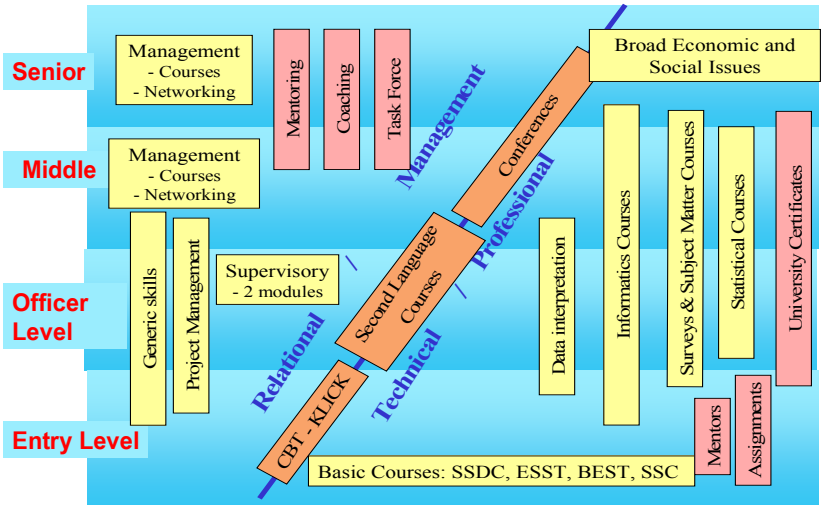
Statistics Canada places the highest priority on learning and invests heavily in formal training, regardless of volatile swings in financial budget levels. Over three percent of the Agency's salary budget is invested in training, with an ensuing average of six days of formal training annually per employee.

The Agency provides a full range of professional, technical, computer, management and human relations training opportunities at our on-campus Statistics Canada Training Institute, opened in 1993. Some 30 full-time trainers, professionals who are on temporary assignments to the Institute, and a further 200 'guest lecturers' donate their time to performing training functions in addition to their regular jobs.

The scope and thrust of learning activities is determined by the Learning and Development Committee. This committee is chaired by an Assistant Chief Statistician (ACS) and is comprised of a cross-section of senior program executives, who determine the Training Institute's curriculum and provide overall management and direction to learning at the Agency. On an ongoing basis, this committee identifies training needs and provides direction to teams of subject matter experts and course design specialists involved in the development and delivery of courses. By means of this committee, training content, scope, and overall thrust is entirely in the hands of those who will supervise its beneficiaries.

The Statistics Canada Institute has a full range of courses in its curriculum. The aim is to provide continuous learning activities which span an employee's career. The following illustration highlights the major thrusts of the learning program.

Promotion of Learning at Statistics Canada[1]



At entry to Statistics Canada (STC), all statistical employees have compulsory professional courses in household and business survey taking and data analysis. Some of the flagship training courses that recruits participate on include: a 6-week Survey Skills Development Course (SSDC); a 6-week Data Interpretation Workshop; a 6-week Business and Economic Statistics Course (BEST); and a 4-week Economic Statistics Course (ESST). These basic courses are extensive in nature and are designed to simulate how the fundamental work at STC is carried out. Beyond the entry-level, the Agency provides a full range of optional professional and technical courses on such topics as computing, sampling, and questionnaire design, to name but a few. In addition, the Agency provides management training tailored to each managerial level. All new supervisors, middle managers and senior managers are required to take a number of formal courses and seminars as well as participate on corporate task forces or working groups tasked with addressing a corporate cross-cutting issue. This process provides exposure to senior management's decision-making process.

Statistics Canada has a formal Learning Policy that requires the establishment of divisional learning plans and encourages each employee to develop an individual learning plan. Across the Agency, a network of divisional learning champions supports the development of these plans. Statistics Canada uses the opportunity provided by the annual performance review to encourage employees to each create a learning plan. At this point in the year, each employee discusses with their supervisor their training needs, both for their current job and for planned career moves within the Agency. We have also instituted another step to help employees plan for the longer term. Employees are offered a biennial 'skip-level interview' with their supervisor's supervisor to discuss longer range training in order to meet career goals. This meeting provides a unique opportunity for employees to gain a broader perspective on corporate requirements and career opportunities than might be available from a first level supervisor.

[1] We would be glad to share the curricula of these courses with other statistical agencies.

Career broadening

Career broadening is a prime focus for the Agency. Flexibility to quickly adapt to changes in the environment is fundamental to an effective organization. Statistics Canada encourages employees to acquire a firm grounding in a subject area, and then to develop their versatility by broadening their experiences and enhancing their long-term potential. The Agency has adopted a number of mechanisms to ensure that we have large pools of qualified and mobile employees who are willing and able to move to new and demanding work assignments.

Career Streams

Within each of the mainstream occupational groups employed at the Agency, there are 'streams' or clusters of jobs that serve a somewhat similar function and require similar competencies but at different levels of the hierarchy. The Committee on Career Streams is made up of senior managers who champion career development. One of the initiatives of this committee has been to create unique electronic career path documents to help guide employees, supervisors and mentors in planning and selecting options for career development. These tools are available on the Agency's Internal Communications Network (ICN). These career paths explain the methods of selection for each level in a group, the knowledge, experience and abilities as well as the training and the rotation traditionally used to build such competencies.

Corporate Assignments Program

The Corporate Assignments Program is designed to broker assignments, and provide fast service with minimum red tape to fill human resource requirements on a temporary basis to meet workloads or to facilitate redeployment when programs and priorities change. A Corporate Assignment provides the opportunity to acquire new work experience, practice second-language skills, explore different areas in the Agency or participate on an assignment outside the Agency. This program enables employees to gain experience that may lead to a transfer, promotion or even a fresh start. All employees are eligible to apply for a Corporate Assignment with their director's approval. After four years in the same position, employees need no formal approval to participate. At any one point in time, approximately 10% of the entire Agency's staff is on a Corporate Assignment. The risk to both the employee and manager is reduced by two key rules: employees are guaranteed the security of returning to their home positions; and the host division can terminate the assignment with two weeks notice if the employee is not suited for the position. The program has been in existence since 1983. It is a generally accepted fact that those who have been on corporate assignments often have a higher rate of subsequent career success – which contributes to the program's reputation.

Generic Competitions

Career progression in the Agency is based on selection through a competitive process designed to ensure that the most qualified person is selected. The norm is to hold a competition for a specific position in a given subject matter area. However, Statistics Canada made a major shift to 'generic competitions', a process that staffs many positions through one large

competitive process for a specific level of a given occupational group. This generic approach has many benefits: it offers more opportunities to a larger group of potential candidates; it is very transparently managed, ensuring real fairness as well as its perception; and, since successful candidates are typically assigned to a job in a division which is different from their home base, it reinforces our message about breadth of orientation and skills. Exceptions to the generic process are made about 10% of the time, when individual jobs require specialists, such as highly qualified subject matter analysts.

A Senior Steering Committee on Staffing oversees the generic staffing activities and helps ensure that there is consistency between competitions. Generic competitions encourage employees to develop beyond their original field of expertise because they require candidates to have a broader appreciation of corporate issues affecting Statistics Canada. Generic processes are used for the full range of levels including the top three senior management levels: Director Generals, Directors and Assistant Directors positions. Successful candidates from these executive generics are placed in a 'pool'. To facilitate broadening, every attempt is made to ensure the initial assignment is a placement outside of the executive's home division. The executive's performance is reviewed annually by the senior executive committee and consideration for rotation is discussed. Generally, after three to four years a rotation is made to further the development of the executive.

A positive work environment

The creation of a positive work environment is an essential pillar in Statistics Canada's Human Resource Management Strategy. Ensuring that our employees have a strong sense of the value we attach to them helps to encourage commitment, increase retention and facilitate mobility and versatility. A positive work environment helps the Agency achieve this goal. Over time, a series of practices and support services have gradually been implemented to demonstrate the Agency's commitment to our employees and has served to create a positive work environment. These practices form part of Statistics Canada's Workplace Wellness Strategy. This strategy is guided by the Wellness Committee which is chaired by a senior line manager and comprised of representatives from the senior ranks across the organization. The Wellness Strategy focuses on five key areas: open communication, valuing people, investing in employee facilities, providing activities and enabling a positive work-life balance.

Open communication

A workplace is more positive and productive when there is effective two-way communication. The following are examples of a few of the mechanisms the Agency has in place to ensure that such communication takes place:

- in January, the Chief Statistician presents the annual 'State of the Union Address'. This address highlights the accomplishments of the past year and identifies the priorities and challenges for the upcoming year to senior managers. This presentation is videotaped and a written version is also made available so that all employees can have access to this information;

- weekly meetings of the Executive Committee are followed by 'trickle down' debriefings by committee members to ensure that critical information is passed quickly to all senior managers and their staff. In addition, the Chief Statistician meets semi-annually with groups of the executive cadre to discuss topics of interest and concern;
- an Employee Opinion Survey is conducted every three years, and the results are used to guide and monitor management initiatives. The survey's primary role is to engender 'shop floor' discussions between employees and managers. All managers are mandated to follow up on the results and must find a suitable way to investigate what lies behind the survey results for their areas. The results of the survey thus serve as a tool for dialogue and interaction between employees and managers concerning issues in the local workplace;
- every two years, each division prepares a Biennial Program Report which details the main program elements, performance measurements, current challenges, goals and progress since the last report. These reports are key communication tools with top management. The Chief Statistician personally responds to each report. His feedback often contains requests for clarification and suggestions for new priorities and goals for the next two years. Every fourth year, a more strategic Quadrennial Program Report is prepared and presented to the Executive Committee. Again, the feedback often requests clarification or may contain suggestions for new priorities and goals for the next two years. The Biennial and Quadrennial Program Reports and the Chief Statistician's feedback are occasions for divisional stock-taking and are typically posted on an internal website. Reporting on human resource issues is a required feature of these program reports.

Valuing people

A number of practices and employee support services demonstrate Statistics Canada's commitment to employees, including:

(a) since 1979, despite periods of severe budget cutbacks, the organization has maintained a 'no layoff policy'. Simply stated, this policy states that, should it become necessary to reduce or eliminate a program due to budget reductions or changes in priority, the affected employees will be moved to other areas requiring staff: they will have absolute preference in staffing;

(b) a network of senior Harassment Prevention Officers is in place to provide confidential support to employees on issues related to harassment or discrimination;

(c) an Employee Assistance Program, staffed by professionals, helps employees deal with personal or work related problems;

(d) an Informal Conflict Resolution Program provides mediation services to help employees and managers resolve conflict in a non-threatening environment;

(e) a formal Awards and Recognition Program recognizes and celebrates outstanding employee achievements. The program consists of Instant Awards that can be given anytime to acknowledge specific contributions and of more formal awards presented annually, such as those for long service, (25 and 35 years of service), individual and group Merit Awards, Employee of the Year, Marketing Award, Official Languages Award, Wellness Award and a Career Excellence Award for retired employees in recognition of an outstanding career at STC. The awards are presented annually in December at an Awards Day Celebration presided by the Chief Statistician.

Investment in employee facilities

Beyond a safe and healthy environment, Statistics Canada offers facilities that support active living as well as an impressive number of on-site services. The Agency has made an investment in facilities to support the active lifestyles of our employees. For example, the Agency has a fitness and cardio facility, nursing services, and a day-care centre.

Providing employee activities

Statistics Canada promotes good health practices and provides information on healthy living. A few examples of activities organized for employees by teams of managers and volunteers are: the annual influenza immunization clinic; an annual Employee Appreciation Day that encourages fun at work and fosters a sense of belonging to the organization; lunch information sessions with speakers on topics such as nutrition, exercise, stress management etc. In addition, the Agency provides support for over 100 employee clubs, organizations and committees.

Enabling a positive work-life balance

To help employees achieve work-life balance, the Agency offers employees a number of options. In addition to the normal leave provisions for vacation, sickness and family responsibilities, Statistics Canada offers a truly flexible work environment with options such as flexible time, part-time, job sharing, compressed time and telework.

Broad human resource management principles

Statistics Canada's corporate, holistic and strategic approach to the management of human resources is possible because the Agency instituted a fundamental change in our approach to managing human resources. Three key elements were critical, and once in place, enabled us to translate our strategy into operational plans and to evaluate and monitor our progress so we can meet the needs of managers and employees:

- a formal HR Management infrastructure to carry out these responsibilities and ensure comprehensiveness and coherence among components of the strategy;
- delegation of authority and accountability for human resources management to line managers. At Statistics Canada, human resources management truly is a line management responsibility. Line managers take ownership of HR functions, have HR delegated authority and are held accountable for their contributions;
- strong, long term human resources planning capacity is in place and is integrated with the business planning process of the Agency.

HR management infrastructure of committees

For many years now, human resources management has long been accepted as a primary responsibility of line managers at the Agency. Human resources management is driven by a network of committees of executive line managers, and each committee is tasked with leading a

major human resources program, such as recruitment, learning, internal staffing, career management, awards, wellness etc. Our Human Resources Development Sub-committee oversees the work of these HR management committees, guiding and assessing proposals and initiatives, and determining which should proceed for review and approval by the uppermost committee, the Human Resources Development Committee (our Senior Departmental Executive Committee). This uppermost committee is chaired by the Chief Statistician. This committee is the decision-making body which provides strategic direction on emerging HR issues and guidance to the HR management committees. The majority of executive line managers are involved in at least one HR committee, in addition to their program responsibilities. HR committees have very specific mandates and outputs which are reported on regularly to the senior committee. The Agency's Human Resources Branch which is staffed with human resources professionals provides expert HR strategic advice, operational support and coordination for the hands-on work of the network of line management committees.

HR management ownership and accountability

Statistics Canada's approach to human resources results in decisions made on the basis of what is best overall for the Agency rather than on the basis of local need. One of the most positive results of this committee work is that, over the years, these committees have reinforced a culture of working to achieve corporate objectives rather than individual divisional needs. With our approach, individual managers do not make local decisions on recruitment, training or promotion based on individual positions or transactions. Instead, they participate on the corporate HR committees and contribute to the overall effective management of the Agency. Managers are expected to make innovative contributions to these HR committees in addition to carrying out their statistical program responsibilities, and their contributions are factored into their annual performance reviews and career success depends on contributions in both areas. The degree of empowerment is high. Statistics Canada gains from this, as proposals to create, modify and improve have direct input from the managers who are the beneficiaries of the changes. The committee system enables this balancing between corporate and local needs and ensures that there is a built-in incentive for managers to do what is best for the Agency.

Integrated human resources planning with business program planning structure and process

Statistics Canada's long term business planning process is well established. The annual planning process is designed to regularly assess the Agency's programs and resources in order to adjust them to meet changing client needs and priorities and to respond to opportunities and operational pressures. It is a process that provides opportunities to identify broad cross-cutting issues which may have an affect on technical and management policies and practices. It also provides the opportunity to monitor performance of ongoing programs and major initiatives.

For purposes of business planning, the formal organization is structured in a matrix fashion with five Planning Syndicates under the direction of the Corporate Planning Committee, which is comprised of the most senior executives and the Director of the Corporate Planning Division. Four of these Planning Syndicates are business syndicates and are associated with the statistical program and the technical and management infrastructure which supports them. The fifth

Syndicate is responsible for corporate human resource management planning. It is the same committee that coordinates the work of the HR committees. Program changes, including new programs, program reductions, reallocations etc. and their resultant impact on human resources are identified by business syndicates and communicated to the HR syndicate. At the same time, the HR Planning Syndicate identifies corporate human resources priorities for input to the business planning deliberations. It is through the interaction of the business planning syndicates and with the human resources planning syndicate that the human resources issues and priorities are established.

Strategic planning is the first formal step in the planning cycle and takes place in the spring and summer. Planning Syndicate deliberations, priorities and issues are presented, discussed and planning priorities are established at the Senior Management Strategic Planning Conference in October. Following this meeting, Syndicates regroup and develop multi-year operational plans to respond to the established strategic priorities. Current programs and projects are identified for possible elimination or reduction and proposed new projects are identified. In January, all the Planning Syndicates reassemble to review the results of this operational planning phase. The proposals are discussed and probed for relevance and the net impact of the "inputs" and "outputs" are assessed for their impact on the overall statistical program as well as their financial and human resources implications. Final decisions as to which projects will be funded are made in March by the Corporate Planning Committee and appropriate adjustments are made to program and infrastructure budgets.

Human resources planning component

Data on human resources is vital to the planning process. The HR Planning Syndicate ensures the Agency has the data required for informed decision-making. In preparation for the Fall Senior Management Strategic Planning Conference, under the direction of the HR Planning Syndicate, an HR workforce analysis is conducted by STC professional analysts using a micro simulation model (PERSIM) that was developed by agency experts.

PERSIM uses historical human resource data, to calculate historical probabilities for retirements based on age and years of service. Other separation probabilities are estimated as a function of age and work experience; promotions are projected on the basis of work experience; and the characteristics of new hires are simulated on the basis of the demographic profile of previously hired employees. These probabilities are applied to the current workforce distribution to project the 1 to 3 year recruitment and promotion rates, by profession and level, in a manner that will hold employment levels constant.

The baseline projections produced by PERSIM are used as a starting point to determine the recruitment and promotion targets that will be necessary over the next three years to meet operational needs. Outcomes of decisions from the planning process are added (or subtracted in the case program reductions) to the PERSIM baseline projections to determine the number of new professional and technical staff the Agency will need to hire in the recruitment campaign and the number of positions that will need to be staffed through generic or specific competitions. In addition to determining the recruit and promotion rates, PERSIM is used to analyse the number and maturity, or years of experience, of each of our pools of employees to determine if

these pools are sufficiently robust to replace departing staff at the next level up (departing either because of separations or as a result of promotions).

Following the planning decisions in March, the annual STC Human Resources Strategic Plan is generated. It documents the result of the integrated planning process, identifying the human resources priorities for the coming year, indicating the recruitment targets, as well as outlining the staffing plans and associated schedules needed to respond to the demands that statistical programs have set out. This Human Resources Strategic Plan provides the basis from which the network of HR Management Committees set up action plans as well as the foundation for Human Resources Branch Business Plan. Progress against these action plans of the HR committees and the Human Resources Branch are monitored regularly throughout the year.

Assessment of the overall HR strategy

The policies, programs and mechanisms that have been put in place to support Statistics Canada's Human Resources Strategy require constant monitoring and evaluation to assess their effectiveness, so the necessary adjustments can be made should they be needed. Some of the mechanisms used to measure the success of our human resources programs include:

Employee Opinion Surveys

Since the beginning of the implementation of the current approach to Human Resources Management, Statistics Canada has utilized Employee Opinion Surveys to obtain feedback and assess the success of the programs. The first internal survey was conducted in 1992 and was followed by similar subsequent ones in 1995 and 1998. The Canadian Public Service requested that Statistics Canada broaden this program and conduct a Public Service wide employees survey in 1999, 2002 and most recently in 2005.

The results of the employee surveys are taken very seriously and are the primary mechanism used to assess the effectiveness of the strategy. Analyses of the responses are carried out in a number of ways. First, at the aggregate level, the responses to the over one hundred questions are grouped under four major themes: sharing information and goals, equitable work environment, work and workload, and training and career development. The results are compared to previous internal survey results and to the overall results for the public service as a whole. The highs and the lows are explored to determine the reasons and appropriate action is taken to correct the identified issues. For example, in one of the early surveys, respondents felt that they were not being given fair access to developmental assignments by their local managers. In response, as previously mentioned, a new policy was implemented that gave the right for employees to go on a corporate assignment after four years in the same job. Subsequent surveys showed increased satisfaction in this area. Similarly, an early survey identified fairness of promotional opportunities as a concern; it was in response to this finding that we introduced our generic competition system.

Second, a more in depth analysis of the four major themes is carried out and the results referred to the line management HR committee responsible for follow-up action. Follow-up often includes the use of focus groups composed of employees to explore the issues in depth. Action

plans are developed to deal with identified issues. These plans are approved and progress monitored by Statistics Canada's senior executives. As a result, new learning programs have been implemented, new policies initiated and continuous improvements to the generic competition process have been implemented.

Finally, and perhaps most significant, survey results are compiled for and are provided to each of the divisions. The results reflect the responses of the employees within the particular division compared with the overall employees of Statistics Canada and with those of the public service at large. Care is always taken to ensure confidentiality of individual respondents. Divisional directors are expected to provide feedback on the results to their employees, pinpoint areas that require attention, and engage employees in finding and implementing appropriate solutions. Line directors are required to report their action plans, follow-up mechanisms and improvements. Divisional results are taken into consideration in the annual performance review of each director.

How do Statistics Canada's survey results compare with those of the public service at large? In the 2002 Public Service-wide survey, Statistics Canada's results were significantly above those of the Public Service wide norm on the vast majority of questions. Our overall results were the best in the Public Service. Beyond this comparison, the 2002 results represented an overall improvement in the generally very good results of the previous 1999 survey.

Central Agency assessments

Successive Human Resources Management reviews and audits conducted by the Central Agencies of the Canadian Federal Public Service, to establish and monitor Statistics Canada's implementation of public service wide policies and guidelines, have been extremely positive. Statistics Canada is considered a 'best practices' organization in areas of recruitment, learning and human resources planning.

Human Resources External Awards

Since 2000, Statistics Canada received a number of prestigious external awards for various aspects of our human resource management strategy and programs, including such awards as:

- the International Personnel Management Association (IPMA) "Gold Star Agency Award" for our Human Resources Strategy;
- the Office of the Commissioner of Official Languages Leadership Award for bilingualism;
- the National Managers' Community Leadership Award was awarded for our Management Development Program;
- the APEX "Grand Award Winner" in the category of Newsletters (Not for profit) was awarded for our internal employee electronic newsletter @Statcan;
- the "Healthy Workplace Award" was awarded from the National Quality Institute. Statistics Canada was the first public institution to receive this award;
- the Head of the Public Service Award, for the category of "Valuing and Supporting People";
- the Public Service Award of Excellence, for Employee Health and Well-being.

Observations and conclusions

It has taken many years for Statistics Canada to develop and implement our integrated and comprehensive Human Resources Management Strategy and it continues to evolve. Three fundamental precepts guide our approach:

- senior line managers are required to take the lead and are held accountable for managing human resources. They receive advice and support from a team of highly qualified human resource professionals;
- a strong long term human resources planning capacity is in place and needs to be integrated with the business planning of the organization;
- consistency of broad philosophy and approaches are essential because they help build the trust and commitment of employees.

Statistics Canada has some distinct advantages over many organizations. Our mandate is clear and non political. The majority of our employees are concentrated at head office in one complex of buildings. Beyond this, the senior management cadre has been stable over the years and are committed to the value of sound human resource management as a prerequisite for achieving Statistics Canada's mandate.

Our Human Resources Strategy has served us well. Statistics Canada's is responding effectively to the strategic issues that were identified in the early 1990's. Over fifty percent of the senior executives have now retired and been replaced from internal succession pools. Our succession pools are sufficiently robust to replace the retirements yet to come. We have a flexible workforce that enables us to address budget fluctuations and changing client needs and priorities in a quick and efficient manner. Employee survey results reflect that our workforce is satisfied and find Statistics Canada an excellent place to work. Our strategy has enabled us to be at the leading edge, providing Canadians with statistical data that illuminates issues and provides input for evidence-based decision-making.

I.4 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

Strategy-based human resources management in practice

Invited paper by Hanna Bärlund, Heli Jeskanen-Sundström and Anna-Leena Reinikainen, Statistics Finland

Introduction

The areas of emphasis in Statistics Finland's strategy are high-quality statistics production, customer-orientation, development of web-based services, improvement of the efficiency and productiveness of activity, continuous development of processes, development of uniform practices throughout the agency, and development of human resources and leadership. The goals are translated into actions in the context of annual planning. The targets for the coming year and the measures describing their attainment are decided in annual performance agreements between the Director General and the statistics departments. At the same time, agreements are made about the resources that the departments will have available.

The scope of management by results also extends to matters concerning personnel. Directors of the statistics departments are responsible for the maintenance and development of the competence and wellbeing of personnel in their own departments in line with the agency's policy. A centralised personnel unit is responsible for the development and uniformity of processes related to human resources management throughout the agency, and for personnel development programmes and information systems. All employees of Statistics Finland have an annual personal appraisal discussion with their own superior. This procedure has a major bearing on the planning of personnel development measures and analyses of achievements.

As well as through continuous development, improvements to Statistics Finland's activities are sought through special projects, and strategic development programmes and projects spanning the whole organization. An example of these is the Personnel 2010 programme (ratified in 2003, Figure 1) that is based on the strategic plan of Statistics Finland. The programme sets out the lines and points of emphasis for Statistics Finland's personnel policy for the immediate future. The main elements of this programme relate to competence management, rewarding policy, wellbeing of staff and improvement of management and supervisory work. The paper describes these goals in detail and explains how these targets are met and what kinds of monitoring and follow-up mechanisms are in use.

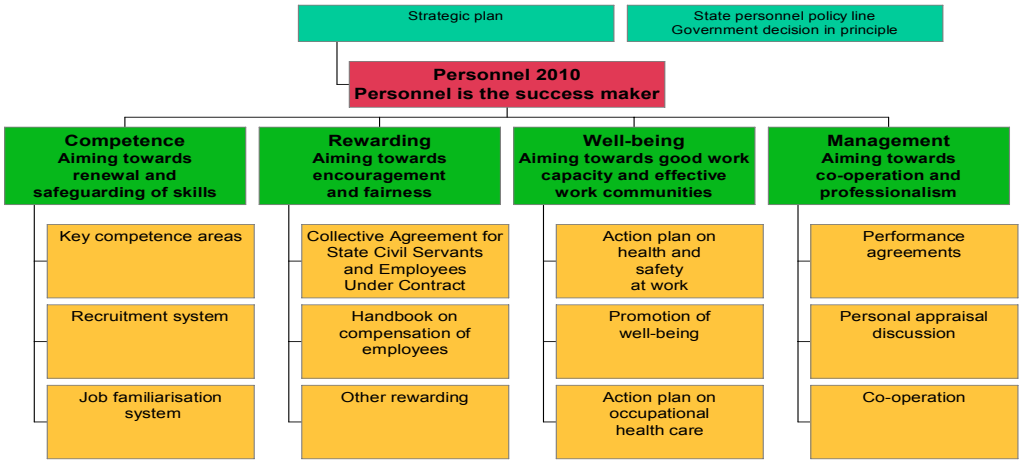


Figure 1. Personnel 2010 programme

Competence development - aiming at renewal and safeguarding of skills

Renewal and safeguarding of skills in areas that are strategically important to Statistics Finland is one of the targets set in the Personnel 2010 programme. Statistics Finland must ensure that its key competences are up-to-date and developed by means of goal-oriented training, challenging job tasks, internal mobility, recruitment of new talent and special expertise, and by supporting personnel's voluntary pursuits of further training. In addition, Statistics Finland must safeguard knowledge transfer and develop methods to serve this purpose.

Activities are developed as a learning organization that is capable of managing its processes of knowledge and know-how, that is, generation and processing of knowledge, sharing of innovations and best practices, and learning. Skills requirements vary by task or personnel group. Groups are: statisticians (about 47 per cent of personnel, totalling 1090), interviewers (20 per cent), IT/Automatic Data Processing experts (12 per cent), information service staff (9 per cent), administrative staff (7 per cent) and managers and supervisors (6 per cent). In all, 67 per cent of the personnel (excluding interviewers) had attained lowest tertiary level or lower university level qualifications. 47 per cent had completed masters degree or doctorate level.

Key competencies and development of personnel

A Competence Strategy was drawn up in 2001 to support systematic personnel development. The strategy defines the agency's key competencies (Figure 2), and tools for the management and development of knowledge.

Statistics Finland's key competencies describe the skills that are critical to the challenges, strategy and core processes of Statistics Finland. They depict the competence requirements that are made both of Statistics Finland and of individual employees. The competence strategy will be updated this year.

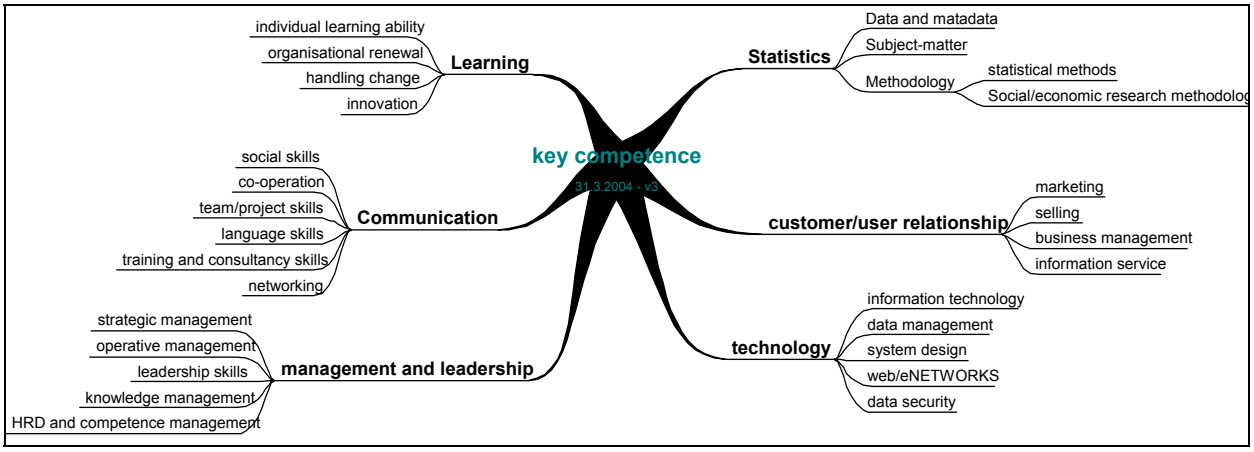


Figure 2. Statistics Finland's strategic capacities and abilities. (Competence strategy)

Personnel development plans are drawn up utilising the competence analyses made in each department, and the individual career and training plans agreed during personal appraisals. The plans examine recruitment needs from the competence angle, requirements for course-format personnel training and competence development measures, such as job familiarisation, job rotation, civil servant exchange, mentoring, and group, team and pair working (learning opportunities). The procedure has promoted better planning and helped in identifying competence gaps.

The personnel development plans are used in putting together a human resources development plan for the whole agency, detailing training programmes that support Statistics Finland's key competences. Goal-oriented personnel training focuses on statistical skills, leadership skills, skills relating to international tasks, information technology and network know-how, customer management, and quality and project work skills. An in-house training series was arranged in 2004 and 2005 on Statistics Finland's products and services to support diversification of the competence of experts and facilitate serving customers more comprehensively. The personnel may also participate in customer training courses. Web-based methods are exploited in Statistics Finland's personnel training, whether it be multi-form training or voluntary self-studies.

Training programmes and their contents are planned and developed by utilising predictive analyses of target group needs, annual inquiries conducted among the statistics departments, and received feedback on past courses. The training programmes in statistical skills (Figure 3), and leadership and supervisory work are currently under review. The personnel participate widely in training. In 2005, the average attendance in training was 8 working days per staff year. Exclusive of pay during training, expenditure on training accounted for 2.5 per cent of the wage-bill, or EUR 1,057 per staff year in 2005.

By nature, the compilation and development of statistics is group or project work. Cooperative capacity, and interactive and communication skills are elements of professional competence. The work community is a learning environment that offers everybody the opportunity to increase their knowledge and develop their working and cooperative skills. Doing

things together is the most important means of transferring knowledge, for knowledge multiplies through sharing. This becomes concretised not only in the statistics departments, units and teams but also in working groups and development projects. Learning and knowledge transfer are also given due consideration when members are selected to working groups and projects. Projects are set up, planned and implemented, as well as monitored and steered according to models given in the Project management databank. Courses on basic skills in project work and on project leadership are provided as personnel training. Knowledge and best practices are also shared in internal networks, such as those of coordinators of official statistics, research liaison persons, website updaters, intranet editors, customer segment teams, quality management network, secretaries of statistics departments, and developers of wellbeing and health and safety at work.

Voluntary study, for example for a professional qualification or an academic degree, can be supported with flexible arrangements of working hours and by granting paid or unpaid leaves of absence for studies. The scope and type of support granted for studying depends on the extent to which the studies concerned advance professional skills and improve performance of job tasks and promote exploitation of Statistics Finland's data files or methodological development. Over the 1994-2005 period, support for further studies was granted to 38 members of Statistics Finland's staff.

Acquisition of new skills and knowledge is also sustained through close cooperation between Statistics Finland and universities. University researchers and professors act as scientific advisers and consultants in many methodologically demanding development projects. This kind of cooperation also encourages young statistical professionals to pursue careers in research and further university studies.

Likewise, development of the personnel's competence is supported by granting leaves of absence or study leaves for the purpose of acquiring work experience at home and abroad. Statistics Finland has annually seconded two to four employees to Eurostat for traineeship periods of five months. This has improved knowledge of the European Statistical System, and has enhanced professional competence, as well as strengthened and deepened statistical expertise. Statistics Finland's experts have also participated in the Nordic civil servant exchange programme and in other international personnel exchange and traineeship programmes.

Learning through work and sharing of knowledge are also fostered by offering challenging job tasks and encouraging internal mobility. For instance, to support career planning, a career path model is being devised, depicting supervisory and expert career paths and the skills they require. The career path model is intended to enable provision of equal benefits and rewards to those in expert and supervisory positions and to promote internal mobility, both horizontally and vertically. The need for the model arose when some supervisors of the statistics departments moved to posts of experts in the structural re-organization of Statistics Finland in 2005-2006.

Recruitment system

According to the seniority study made in 2003, an increasing proportion of the personnel will be retiring in the next few years. These will include statistical experts, IT professionals, supervisors and directors. Sufficiency of skilled personnel will be secured with the Human

Resources Plan drawn up for the 2007-2011 period, by documented description of the recruitment process, by improving the agency's image as an employer and by collaborating with universities and other educational institutes.

At Statistics Finland, recruitment is a transparent process based on the agency's recruitment policy and general legislation on civil servants. The process begins with a qualitative and quantitative analysis of human resources needs in a statistics department, justifying the procurement of personnel from the perspective of the department and from that of Statistics Finland.

The skills required from a recruited person in key competences (Figure 2) are determined by current and future tasks. All posts are filled by an open application procedure. The most qualified and suitable applicants on the basis of received written applications are invited to an interview with identical contents for all interviewees. The interviews are conducted by at least two persons from the recruiting department, who represent the sought-for key competencies, such as those in certain aspects or areas of statistics. A recruitment expert from the Management Services Department also often attends the interviews. This ensures that the best possible person is recruited, that is, the most suitable applicant with the best skills, taking future competence needs into consideration. When recruiting managers or supervisors, special concern is given to ensure that the applicants possess not only sufficient substance knowledge but also show proven leadership and supervisory skills, as well as the desire to work in a managerial or supervisory position.

Personal estimations can be used to support the interviews. The estimations are undertaken by specialist external service providers who are knowledgeable about Statistics Finland's activities and management policy, and the recruitment need involved. Depending on the demands and requirements of the post, the selection is made either by the director of the statistics department concerned or by the Director General upon his/her presentation.

The selection process is documented as a written memorandum containing a brief description of the applicants, the grounds for his/her selection and the decision on appointment. The application documents and the appointment memoranda are public documents, except where an application contains information that may not legally be disclosed. The statement of the personal evaluation consultant and the results from possible psychological tests are only released to the director of the statistics department concerned and to the evaluated applicant.

Directors are appointed through a similar process. Then the Director General, who makes appointment decisions concerning managers, also participates in the selection of interviewees and in interviews.

Open posts have attracted sufficient applicants. When needed, adequate good skills have been found from outside and Statistics Finland is viewed as an interesting employer. The average number of applications received for any given open post has exceeded 20 during recent years.

Trainees, of whom Statistics Finland accommodates 50 or so per year, represent important recruitment potential. These trainees are often at the final stage of their university studies and are

given the opportunity to combine their theoretical knowledge with practical statistical work. In turn, Statistics Finland gains new talent in statistical skills and methodology, maintains good relationships with educational institutes and sustains its image as a good employer. As a rule, traineeships are arranged through the trainee programmes of universities.

Statistics Finland has separate agreements with a couple of universities whose study programmes include statistical science and methodology. Students preparing their theses at these universities are employed for a fixed period, usually five months. The subjects of their theses are agreed so as to benefit the development of statistics and the activities of the agency. Many of these students have subsequently become permanent employees of Statistics Finland.

Internal mobility, in which members of staff switch (permanently or for a fixed time period) between units or departments, creates career advancement opportunities and is an efficient means of transferring knowledge and sharing best practices. Possibilities offered by internal mobility are also studied when recruitment needs are analysed. Targets set on internal mobility are monitored against scorecards. Internal mobility has doubled in five years. Last year, just short of ten per cent of the personnel (excluding interviewees) switched tasks.

Information about recruitment is available on Statistics Finland's web site and is disseminated through diverse networks, and at educational institutes and recruitment fairs. Open vacancies are announced, if necessary, in the newspapers.

Orientation of newcomers

New recruits are introduced thoroughly to their job tasks and to the agency's activity. Statistics Finland's job orientation system is comprised of general orientation and introduction of the employing statistics department. General orientation is provided through material available in Statistics Finland's internal network and during special training days arranged for newcomers. In the introduction of the employing department, new recruits are familiarised with the organization, activities of their specific department and with their own job tasks. Those responsible for this part of orientation are the new recruit's supervisor and a work trainer/tutor appointed by him or her for the newcomer. The trainer's work is supported with intranet pages on job orientation. The new recruit's participation in his/her own familiarisation is encouraged with a familiarisation plan that the newcomer draws up together with his/her supervisor.

Besides job orientation, as of 2006, all new recruits will participate in the training programme in statistical skills, which is divided into a basic part and a specialised, or advanced, part (Figure 3). The aim is that as many of the present staff as possible also complete the programme. The trainers include best experts from Statistics Finland and lecturers from outside the agency. The aims are transfer of knowledge from experienced employees to their juniors, increase of internal mobility within the agency and learning by doing.

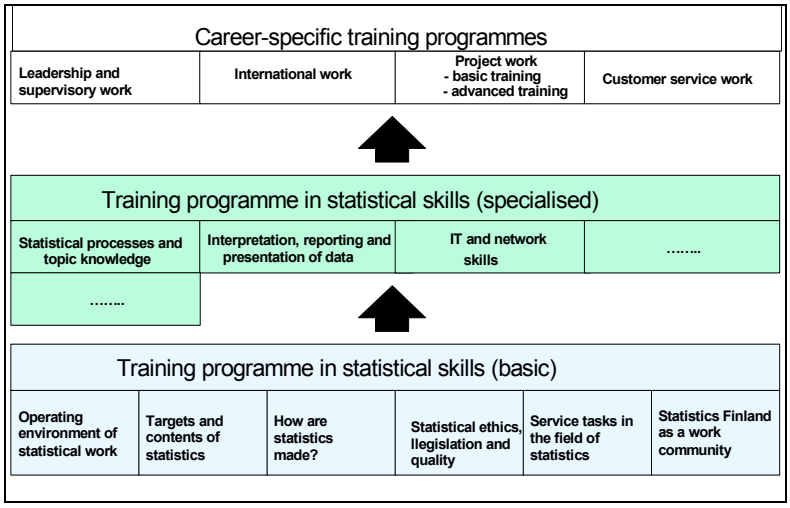


Figure 3. Training programme in statistical skills

Rewarding - aiming towards encouragement and fairness

Fair and encouraging rewarding forms part of the agency's management policy. It is based on the State's general personnel and pay policy and on Statistics Finland's own operative targets. Rewarding is both material (pay, pay supplements, one-off bonuses) and immaterial (non-monetary awards and acknowledgements). Rewarding is linked with the giving and receiving of feedback for productive work. Feedback is also given as part of the daily work and activity of the work community. Overall feedback on the activity of the previous period is given in annual personal appraisal discussions.

The current pay system of Statistics Finland was introduced in 1998. Pay is scaled according to the competence requirements of work, which are determined by the demands imposed by it on its performer and its relative value compared to other job tasks and results from activity (fairness). Pay is also dependent on the work performance and qualifications of an individual (encouragement). A better performance at the same competence requirement level must result in higher remuneration. So-called researcher's supplement is paid to persons who have improved their competence during employment by completing academic degrees at the licentiate or doctorate level.

The principles governing the application of the remuneration system have been specified and are openly available to everybody in the Handbook on compensation of employees. Managers and supervisors are responsible for ensuring that the remuneration system is applied and functions efficiently. The competence requirements of a task are assessed when a new task is being defined or when essential changes are being made to an existing one. Competence requirement assessments are made in the statistics departments by a working group led by the director of the department. Personal work performances are assessed annually in personal appraisal discussions between supervisors and subordinates.

Statistics Finland's pay system and pay policy are monitored and developed by a working group comprised of representatives of the agency and the trade organizations of its employees.

Wellbeing - aiming towards good work capacity and effective work communities

Supervisory work is decisive to the productiveness of activities and to the balanced development of the personnel's wellbeing. The management and supervisors are responsible for building the preconditions and structures for activities. Their task is to create working conditions that maintain and nurture the physical and mental work capacity of people.

Approximately 92 per cent of Statistics Finland's personnel have permanent employment contracts. Security of employment now and in future helps in reconciling work and family life, and thereby maintains and promotes coping and wellbeing at work. Work can be organised through flexible hours and leaves of absence. The personnel are committed to their work, for the exit turnover has stayed low. Around 35 per cent of the personnel have been at the service of Statistics Finland for over 24 years (average number of years of service in 2005 was 16.2), so abundant experience-based knowledge has accumulated through the years.

Efficient measures on health and safety at work require cooperation. The responsibility for their implementation is dispersed among all members of the work community, but with varying contents. Statistics Finland has a two-year Action plan on health and safety at work, which is a general plan conforming to the Finnish Occupational Safety and Health Act for the management of health and safety matters at work. The Action plan is put into practice by annually drawn up implementation plans, which comprise an action plan on occupational safety, an action plan on occupational health care, and performance agreements.

Statistics Finland gives strong support to the maintenance of the physical wellbeing of its personnel by providing physical exercise services coordinated by an exercise instructor, such as exercises during breaks from work, lunch-time exercise groups, gym instruction, personal training, and compilation of fitness programmes and monitoring of progress in them. Projects on wellbeing are prepared by diverse working groups, such as those on wellbeing at work and on rehabilitation and ergonomics. Physical exercise and leisure activities are also coordinated by the personnel's own cultural and sports club.

The personnel are entitled to preventive occupational health care and medical care for an illness paid for by the employer and offered by an external provider of occupational health care services. Apart from medical care, occupational health care also includes workplace inspections, health check-ups of new recruits and periodic, voluntary check-ups of employees over the age of 40, and recommendations for rehabilitation and physical exercise for diverse employee groups according to their special needs.

Statistics Finland also has a long history in concerted efforts to improve mental wellbeing at work. The first action plan to improve coping at work was drawn up in the 1990s, and at the turn of the millennium this was then refined into a set of intranet pages under the heading "Lifesaver", forming an operative model and databank for mental wellbeing. Its purpose is to assist in solving at an early stage problem situations arising at work on different topics. The Lifesaver has since been expanded to a set of pages entitled "Port of wellbeing at work", which contains all guidelines, plans and monitoring measures relating to wellbeing at work. In 2005,

Statistics Finland received an honorary mention for excellent and enduring work on improvement of wellbeing at work in the State administration's competition on the subject.

Leadership - aiming towards cooperation and professionalism

Since the turn of the millennium, Statistics Finland has been systematically developing leadership and supervisory work towards cooperation and professionalism. In 2003, the Director General launched a project on the development of leadership and supervisory work, which defined the tasks, roles, responsibilities and mandates relative to supervisory work and its competence model. Based on proposals made, measures aimed at improvement of leadership and supervisory work were initiated in 2005.

The focus in the development has been on people management, especially supervisory work within a unit and improvement of preconditions for it. The following measures were implemented in 2005:

- organization of departments into units was reviewed to better match the requirements of professional supervisory work, and two departments were reorganised completely;
- the document "Management policy at Statistics Finland – Together towards a common goal" supporting uniform management culture was ratified;
- responsibilities of supervisors were clarified and their power of decision in personnel matters was increased in rules of procedure;
- criteria and guidelines were specified for evaluating supervisors' personal work performances;
- supervisors' skills were evaluated with 360-degree analyses;
- supervisors attended personal sparring events;
- practice of joint meetings of managers and supervisors was started;
- coaching programme for supervisory work was started.

The coaching programme for supervisory work will continue in 2006. The first version of a manual on supervisory work was published on the intranet in March 2006 to support supervisors in their work and to consolidate uniform practices. Evaluations of supervisory work will be made from time to time with 360-degree analyses and with the annual personnel surveys. Results from the development efforts will be evaluated at the turn of year 2006-2007, when decisions will also be made about further measures.

Managing is cooperative. The personnel are given the opportunity to use their expertise to develop their work in line with the set goals. Managing also entails giving the personnel the possibility to access public information and to participate in public debate on work, working conditions and management. For this reason, separate goals have been set for interaction, information flow and communication: regular meetings must be held at the department and unit levels to discuss matters relating to cooperation, work contents and development. Additionally, units are to perform annual self-evaluations to maintain and improve the quality of their activity and processes.

Monitoring of the personnel 2010 programme

A scorecard of personnel strategy has been drawn up to support monitoring of the Personnel 2010 programme. It contains the twenty key actual and predictive measures derived from the personnel strategy, together with their target levels, and time series describing development. The target levels are set by the agency's Management Group, which also makes regular analyses of development and decisions about measures.

The agency's annual report contains a summary about personnel matters. A human resource account is appended to the annual report and describes activities in the reviewed year with abundant quantitative measures and qualitative accounts by the areas of emphasis set in the Personnel 2010 programme. The source data derive from the personnel management's extensive information systems.

The personnel's job satisfaction and views are measured with a web-based Personnel Survey, which has been conducted annually since 1998. The survey contains questions from the common job satisfaction barometer of central government agencies and supplementary questions compiled at Statistics Finland. As well as Statistics Finland, the barometer is also utilised by other organizations of State administration, so it generates useful comparison data on development in central government in general. The results from the Personnel Survey are analysed extensively both at the level of the whole agency and in its departments. The results are utilised in the development of activities and setting of new targets.

In conclusion

The Personnel 2010 programme with its areas of emphasis has proven to function well as a strategic policy outline for Statistics Finland's human resources management. The programme has been used systematically as a basis in the planning and implementation of diverse measures concerning the personnel. Information obtained through monitoring and the performance measures with their target levels have also proved to be good solutions for evaluation and further development of human resources management.

The timeliness and efficiency of the programme is scrutinised continuously and revisions will be made to it as necessary.

References

Personnel 2010 programme
Management policy at Statistics Finland - Together towards a common goal

I.5 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

Conceptual approach to human resources development at the Federal Statistical Office

Invited paper by Walter Radermacher and Anja Gühnen, Federal Statistical Office of Germany

Introduction

Staff are the central resource for increasing quality and efficiency. For this reason, the Federal Statistical Office has addressed the issue of human resources development. A project group comprising representatives of the Federal Statistical Office's (FSO) specialised and administrative departments, and of various bodies, was set up in March 2000. It was commissioned to elaborate a concept for a systematic and target-oriented human resources development; the concept was submitted in April 2003. In the meantime, the issue has become well established in the FSO and the former project group has developed into an organizational unit, namely the Human Resources Section. The section of this paper on Modular structure (section II B.) describes, from the perspective of the former project group, the modules which have been successfully implemented in the FSO.

General aspects

Definition and goals of human resources development at the Federal Statistical Office

Human resources development (HRD), as part of the FSO's corporate culture and Total Quality Management, is a systematic and continuous process allowing to identify, maintain and promote the individual performance and learning potential of any staff member at any level. From the FSO's point of view, HRD should meet the qualitative and quantitative demand for human resources in a sustainable way. From the staff members' point of view, the task of human resources development is to give weight to their skills and interests. The goal is to reconcile these two target components to permit the best possible fulfilment of the tasks of the FSO.

This definition contains the main goals of HRD. Any other goals can be derived thereof as sub-goals, while any effort here is subordinate to the principle that staff must be provided to ensure the best possible fulfilment of tasks at the FSO. This is why HRD starts with recruitment, involves all staff members and accompanies processes of change. It is important to maintain and develop the qualification of the staff members. This is the only way to meet future challenges for official statistics.

Therefore, HRD is not a single subject aimed at short-term effects. HRD follows the strategic goals of the office and the corresponding organizational developments. It takes up new issues and helps to make management decisions for the future. HRD involves efforts and cost. Practicing HRD means that everyone involved has to make greater efforts. Time and

commitment is invested in the people. Such investment is for the benefit of the FSO and of every individual.

Modular structure

Any HRD measure is based on seven job profiles, which have been derived from practical work at the FSO.

HRD modules are based on job profiles. Each module describes a consistent HRD measure. Depending on the requirements of the job and the staff member concerned, modules may be supplemented, omitted or re-weighted, without changing the overall concept.

Human resources development as a management task

HRD take place "on the spot", i.e. it is a task for the higher management. It is they who can best identify the requirements of a specific job and the potential or possible deficiencies of their staff. It is the joint responsibility of the staff and their superiors to agree upon required and suitable HRD measures. It is one of the duties of managers to actively support HRD and to contribute to transparency and acceptance of HRD measures.

Modules of human resources development at the federal statistical office

Efficient recruitment

HRD starts with recruitment. Errors in recruiting suitable staff are almost impossible to correct later through HRD.

In order to draw the attention of as many potential candidates as possible to the FSO as an employer, the following measures are important.

- Improving Internet presentation
  The FSO intends to increase its publicity as a potential employer by intensifying its presence in the media, in order to attract more qualified applicants.

- Increased use of trade fairs and information events
  The FSO makes use of its participation in trade fairs to increase public awareness of possible jobs at the Office.

- Granting traineeships and diploma dissertations
  It is intended to grant traineeships and diploma dissertation themes to students of institutions of higher education. This will allow the FSO to become better known as a potential employer and thus facilitate contact with suitable candidates.

- Optimising the selection procedure
  The quality and efficiency of the FSO’s selection procedure has been considerably improved. A crucial factor, apart from subject-related skills, is social competence. Social

competence can be assessed through the following criteria: ability to work in a team; social behaviour in a group; active listening; using arguments; ability to moderate; assertiveness; persuasiveness; and self-confidence.

Career start programme for the higher service employees

The purpose of the career start programme for the "higher service employees" is to integrate the new staff members in the Federal Statistical Office and to prepare them for their further career. It should also:

- contribute to the staff members' identifying themselves with the Federal Statistical Office;
- increase mobility, flexibility, and range of potential employments;
- allow solid assessment of the new staff regarding their permanent employment; and
- promote the Office's attractiveness as an employer.

The programme consists of courses and seminars, in which all new staff members in the higher service have to take part, and of other measures supporting integration.

Feedback to superiors/staff inquiries

The purpose of feedback to superiors and staff inquiries is to obtain information on the management situation and staff satisfaction at the Federal Statistical Office, so that well-aimed improvement measures can be taken.

- Feedback to superiors
  In giving feedback to superiors, staff members anonymously assess the personnel management behaviour of their superiors, following a given pattern. The aggregated assessments are revealed only to the superior concerned and, where appropriate, discussed with him/her by third parties; this should help him/her to identify his/her strong and weak points in personnel management behaviour and to take well-targeted improvement measures (help for self-help). Personnel management behaviour may be improved, for instance, by participating in personnel management courses or by holding (maybe moderated) discussions with the staff members. The feedback aggregated for a group of superiors is circulated within the Office. Drawing conclusions on individuals is not possible here. The personnel management situation is thus examined in general. Any superior may compare his/her self-image with how he/she is seen by the group, and the President/Vice-President may identify weak points to be remedied.

- Staff inquiries
  The FSO has - as part of TQM - committed itself to "demonstrably" improve staff satisfaction. To measure staff satisfaction, staff inquiries are therefore conducted at regular intervals (every 2 years, starting in 2005). Among other things, they provide information on how staff motivation and performance can be improved.

Staff management interviews and individual planning of advanced training

Staff management interviews are of major importance for practical HRD. In such annual interviews, the superiors and their staff members discuss, negotiate and plan in a binding manner the items that are important to both parties. Annual and formalised interviews aim at a contract between staff members and their superiors. They are very important for the implementation of target-oriented management.

An important basis for staff management interviews is the annual planning of the organizational unit concerned, from which the targets for the concrete jobs are derived. A brochure on staff management interviews sets requirements and provides assistance for such interviews.

Another important element of staff management interviews is the individual planning of advanced training. The goal here is that superiors and staff members agree in a well-informed and binding manner on advanced training and that both groups commit themselves to contributing to successful advanced training. All staff members should acquire the knowledge they need to fulfil their present and future tasks.

Setting up individual plans of advanced training is facilitated by the job profiles. They provide information on the knowledge and skills required to fulfil the tasks. When a staff member takes over a different job, the individual advanced training plans have to be adjusted to the new requirements.

To make advanced training planning more concrete, a selection of suitable advanced training themes is offered for each job profile component in a standardised IT procedure. Superiors and staff members discuss what training measures might be suitable and agree on a maximum of 4 seminars to be attended in the following year. It is also possible to propose seminar themes that are not contained in the seminar catalogue. The result of the discussion is documented in writing and transmitted to the department responsible for training matters. There, the total of individual advanced training plans forms the basis for planning the advanced training programme of the FSO for the following year.

Specialists in the higher service

Staff members who, due to their suitability and qualification, are to be entrusted with functions in important strategic areas of the Office - without necessarily the intention or requirement of also entrusting them with staff management responsibilities as superiors - should be promoted.

Such staff members take over permanently or for several years a special function, or they participate in or manage a large-scale project. They function as heads of fixed organizational units (heads of section, heads of division, heads of department) and are classified in salary brackets according to the requirements of the task to be performed.

Changing between functions is possible. This requires, however, that the criteria of the relevant job profile be met. In concrete terms, this means, for instance, that before a candidate

can take over the function of head of division, he/she must prove to have acquired experience in staff management (as specified by the job profile).

Outlook

Apart from the above-mentioned successful modules of human resources development, a trainee programme for higher service employees is currently under discussion, which will ensure the introduction of a transparent and performance-oriented procedure for "Selecting the best" to fill management and specialist positions.

Basically, the trainee programme will include the following components:

- changing between different work units and appraisal of work results by the superiors of the relevant spheres of work;
- potentials analysis;
- team work and appraisal of the results by the head(s) of the Office.

I.6 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

INE-Spain's experience in vocational training of employees

Invited paper by Carmen Alcaide, National Statistical Institute of Spain

Introduction

In a statistical office, the staff's vocational training is one of the main pillars of the quality of its products. In a fast-changing world and constantly evolving society, governments and other statistics users have an increasing need for information of an ever more demanding quality. Any of the developed countries need only look back to see the major advances achieved in the past fifteen years in both statistical quantity and quality.

In Europe, the output of national statistics has been greatly affected by the demands of European Union membership – and, more particularly, membership of the European Monetary Union – which requires that the European Statistical System produce macroeconomic data to standards of availability and timeliness comparable to those attained in the United States. Ongoing improvement of statistical systems requires, among other things, constant reinforcement of the reliability and credibility of official data; statistical services therefore need to be technically and professionally independent, as set forth in the Quality Declaration of the European Statistical System and the Code of Practice.

On 24 February 2005, the Code of Practice was unanimously endorsed by the Statistical Programme Committee with the dual purpose of, on the one hand, improving trust and confidence in statistical authorities by proposing certain institutional and organizational arrangements and, on the other hand, reinforcing the quality of the statistics they produce and disseminate, by promoting the coherent application of best international statistical principles, methods and practices by all producers of official statistics in Europe.

Both the Code of Practice and the Quality Declaration of the European Statistical System expressly recognise staff – and staff training – as the main asset of a statistical office. Principles 3, 4 and 7 of the Code of Practice relate to staff training and skills, which in turn underlie the scientific and methodological soundness of the statistical office's information products. Ongoing improvement of quality is only feasible if coupled with appropriate programmes for the continuing training of personnel. Training should thus be viewed as a normal and standard activity of the organization.

Overview of vocational training at the National Statistical Institute of Spain (INE)

INE's concern for staff quality and professional development is reflected in the latest National Statistical Plan 2005-2008 enacted by the Government under Royal Decree 1991/2004 of 17 September 2004. The Plan's overall aims include institutional actions for (i) quality assessment of statistics and the statistical units producing them, (ii) research and new techniques

and technologies for data collection, processing, analysis and results dissemination, and (iii) training programmes and skills update for human resources.

Vocational training at INE has for years taken the form of annual skills update programmes run by two specific units: the Human Resources unit, which organises vocational training and development courses of a general nature (IT, languages, temporary staff training, special courses for career development, etc.), and the Public Administration Statistics School (Escuela de Estadística de las Administraciones Públicas). The School runs more specific courses on statistical methodology and techniques.

Human resources unit

The general training provided by the Human Resources Unit includes annual programmes of courses and seminars – several of which have become firmly established and are run year after year, while others are created in a given year to meet new needs detected in: (i) job position and job occupant assessment; (ii) changes of methods and processes, staff replacement or rotation, work schedule changes, etc.; and (iii) specific problem areas (low productivity, excessive errors, poor inter-personal relationships, lack of interest in a job, and so forth). When a training need is detected, it is then assessed and prioritised for coverage in the following year.

Some courses are fixed and are run every year, such as language courses – English and French particularly – which are aimed mostly at technical staff who attend international meetings, courses and conferences to share experiences and learn the best international practices. The programme of established yearly courses also includes several specialised IT subjects – programming and communications – adapted each year to specific needs, such as database systems, mainframe operating systems, electronic data interchange protocols, advanced SAS courses and others.

Particular emphasis is laid on management courses for senior executives and middle managers. These courses are run yearly to foment and extend best practices in management and human relations: leadership, negotiation techniques, meeting and working-group management, effective communications and presentations, etc.

We also have specific seminars aimed at particular professional groups, such as interviewers and other specialist data collection staff. Training programmes available to all staff include multimedia office IT courses and other self-learning modules, which are also available to temporary staff as required. As an indicator of the training intensity of the courses organised by Human Resources, the number of people taking a course last year (about 3,100) was close to three quarters of our total staff (including temporary employees).

Public Administration Statistics School

The Public Administration Statistics School, which forms part of INE, plays an important role as provider of courses and seminars on statistical methodology and techniques. The School's purpose is the statistical training of employees across all government levels (central, regional and local) and of other social groups that may need statistical training. The courses relate to the

surveys and statistics produced by agents of the national statistical system, statistical methods and techniques, the legal framework of public statistics and related subjects. The teaching staff is made up of statisticians working at INE and other statistics institutions, and a body of statistics professors, lecturers and experts. The Statistics School also runs orientation courses for newly recruited technical staff.

Every year, we hold around 20 courses and seminars on a range of topics, such as time series analysis, INE survey sample design, national and regional accounts, and monographs on changes and updates in specific statistical operations. In 2006, for instance, we have scheduled a course on the main new features in the social statistics system; we shall look at the living conditions survey, the homeless persons survey and the survey on the transition from education to the job market. A semi-novel course scheduled for 2006 will address the European Statistical System from the point of view of the present organizational structure and functioning of official statistics in the European Union. This course will be provided in partnership with Eurostat and the Central Bank of Spain.

INE's participation in Eurostat task forces and working groups can also give rise to training courses on new skills and experiences. For example, INE took part in the project EURAREA (Enhancing Small Area Estimation in Europe), which was the springboard for a special course on small area estimation – of particular interest to statisticians in Spain's Autonomous Communities (self-ruling regions).

Finally, and although this topic has more to do with Session II of the Seminar on human resources and training, mention should be made of the training imparted to potential public statistics employees through INE's Master's degree in Applied Statistics and Statistics for the Public Sector. This is run jointly by the University of Alcalá and INE to provide advanced specialised training in the applied statistics field, with a special emphasis on public sector information. This Master's qualification is aimed at university graduates wishing to become statistics specialists at an equivalent level to that required in the statistical units of public bodies, as well as in market research companies, financial institutions and large corporations.

I.7 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

Beyond vocational training – competence management at Statistics Sweden
Invited paper by Jan Frankenberg, Statistics Sweden

Summary

Traditional training is undoubtedly very important for the competence development at Statistics Sweden. Nevertheless, probably more than 90 percent of all professional learning takes place in daily work situations. In consequence, Statistics Sweden has launched a competence strategy with different measures for improving everyday learning in focus and becoming a learning organization as a goal.

Background

Statistic Sweden is a decentralized organization with twelve relatively independent departments. It is a flat organization with comparatively few hierarchies and managers, where employees are expected to take responsibility for their own work to a large extent. Commitment and involvement are keywords in this philosophy. Statistics Sweden is not a unique organization in this respect in Sweden, where the process of empowerment of employees and flattening the hierarchical structure began in the late 70's.

Within ten years, almost 50 percent of Statistics Sweden's current staff will have resigned, mainly because of age. At the same time, requirements made of and challenges on Statistics Sweden are increasing: we are to be available 24 hours a day, more timely statistics should be produced, we will face increased competition and our unique position will no longer be clear and obvious.

For Statistics Sweden to continue as a competitive organization in the future, efforts at different levels and in different areas are required. In our Competence Development Policy we state:

> "We shall all contribute to creating a favourable learning environment since this is the basis for competence development. The largest part of competence development occurs during the daily work."

Statistics Sweden has a staff with high qualifications. The percentage of staff with a university degree or equivalent is almost 60 percent.

Applicants for more advanced positions should have a university degree including at least 40 points of statistics (40 points is equivalent to a full year of studies). In every organizational unit involved in statistical production, there are methodologists available with no less than 60 points of statistics. They have an important role to assure the product quality and to implement quality thinking in the production processes.

Statistics Sweden as a learning organization

In his book ”The Fifth Discipline”, Peter Senge writes that the basic meaning of a learning organization is that it is continually expanding its capacity to create its own future - a future with the results it truly desires. Another central feature of a learning organization is that managers and co-workers within it have the time and awareness to facilitate, encourage and support each other's learning. Managers have a key role to play here.

> ”Evaluation discussions between manager and employee play a central role in the annual planning cycle. The discussion should result in an individual plan for development. The employee has a responsibility for seeing that the plan is carried out while the manager should provide time for competence development and should follow up the plans”. (Extract from Statistics Sweden’s Competence Development Policy)

Statistics Sweden tries to enable individuals to learn, but they themselves must take responsibility for their own learning. A prerequisite for learning is that employees may affect how their work tasks are performed to a large degree. Managers are encouraged to give their co-workers room for new ways of thinking and to take responsibility for planning their own work.

An annual staff survey is carried out in order to provide a basis for improvements in the working environment. Important aspects of this are the employees’ satisfaction with their influence on their own working situation and the possibilities for training and development. The results from the survey are discussed within the units and action plans are formed.

The learning organization is based on an open climate where exchanges of experiences and communication between organizational units occur without hindrance. Operations are organised for both learning and performance.

A determining factor in meeting Statistics Sweden's requirements for the sound competence management supply is the building of a learning organization. In addition to specific requirements and efforts, substantial involvement and commitment on behalf of all co-workers is required. It is very much the initiatives of the individual employees which will drive the process forward step by step.

Building a learning organization involves the following, among other things:

- to organise operations for learning as well as for performance purposes;
- to inventory and strengthen the desired and necessary know-how;
- to improve each employee's ability to resolve and perform their work tasks - to do the right things in the right way;
- to create meaningful opportunities for the transfer of know-how while carrying out the daily work;
- to make everyone aware about competence development in the daily work situation.

Agents for change

One step in competence management was taken in 2001 when 15 ”agents for change” from Statistics Sweden took a university course on Learning Processes. These agents established a network with the task of piloting Statistics Sweden toward continuous learning. The intention is that they should work in a non-bureaucratic way and inspire others to act.

The studies provided important knowledge for the continuing implementation of learning organizations at Statistics Sweden. The resulting research papers have been presented at Management Seminars. The practical work involved in building a learning organization was also initiated at these Seminars.

Commitment, involvement and collaboration

Collaboration also involves managers acting as leaders and demonstrating the ability to encourage and strengthen their co-workers’ capacity to be actively involved in the development of operations. Relations and the capacity to support become more important than going forth and showing the way. We must learn how to learn.

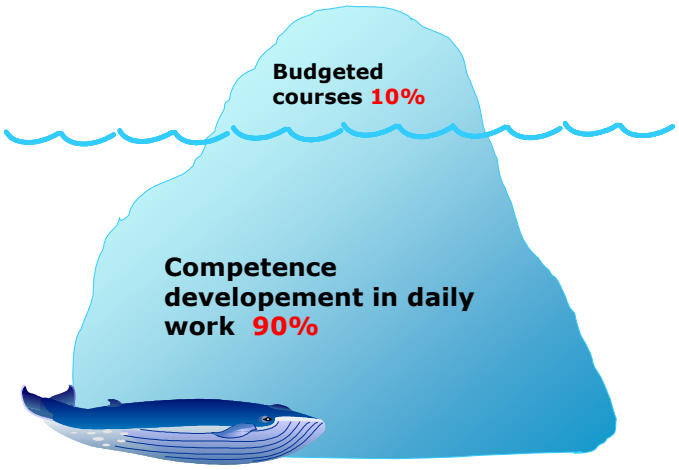
Quickly changeable requirements from the surrounding world also affect learning. The majority of all learning involves improving and refining our ways of performing different tasks within the bounds of current understanding. This is reason enough to seek completely new ways of learning that may involve abandoning ingrained patterns of thinking. This requires another way of learning - something that we must also learn. Managers are therefore systematically trained to use a “Solution focused leadership”, which helps us to avoid obstacles and to realize new ideas more easily.

Creating learning opportunities

In a learning organization, a steady transfer of knowledge occurs between co-workers through dialogue and the exchange of experiences. Therefore we strive to have at least one inexperienced employee in every project and that all those given new tasks are also assigned a coach. Other efforts involve assessing what is needed in each recruiting effort rather than simply setting unnecessarily high requirements for formal education out of habit.

Everyday learning

Courses and training are without doubt important for our competence development. It is easy to forget, however, that the greatest part of our professional role is learnt by carrying out the daily work. We should therefore improve our ability to consciously exploit the learning situations we encounter in the course of doing our job. It is about learning to learn.



We often associate the concept of competence development with courses and training. It is easy to overlook that we are actually continually learning – not least of all at work.

In order to learn from our everyday work, we must take the time to stand and reflect over what has happened. It is not always easy to discover what has been learnt since learning often occurs in small, barely noticeable steps. It is only when we are involved in some dramatic event that a clear trace memory is created. We can nevertheless establish that these small steps gradually bring us a long way towards a new and deeper level of understanding. This is the learning that we need to strengthen and become aware of.

We must exercise our ability to understand what and how learning occurs beyond the usual venue of a course. This requires time for reflection and consideration: What did I do? How did it go?

Several units at Statistics Sweden have developed their method of communication through weekly staff meetings. Recently it has become more common for one employee to explain his/her current assignment in greater detail. In this way, such meetings have become more learning intensive.

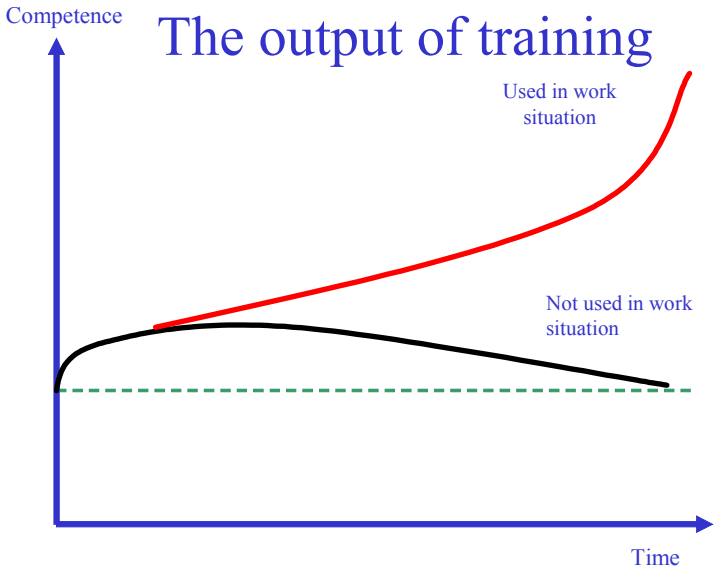
Everyday learning occurs in networks, via mentors and coaches, in projects or with work rotation and training programmes. Learning also takes place during daily discussions with the users of statistics and the survey respondents.

When it comes to statistical skills, one of the most important ways of learning at Statistics Sweden is the transfer of knowledge from more experienced specialists to younger employees. The supply of in-house training courses in this field is deliberately limited, although seminars on statistical methodology are frequently arranged.

A lot of knowledge and information is more or less readily available in our systems and databases. We get increasingly smart solutions through systems that eliminate the need for (unnecessary) human competence. This provides us with more time for learning and development work.

Should we discard courses?

No, courses are required in several situations in order to get started with the development of new capabilities. However, courses in themselves seldom increase competence dramatically. It is not until we apply newly gained knowledge to our work that the actual growth in competence occurs. This means that we must ensure that conditions in the workplace are ripe for the application of new knowledge to the usual work. There are many good examples of how this is applied at Statistics Sweden in the IT-area.



We soon forget what we have learned in a course unless we have the opportunity to transform the knowledge into reality. It is the combination of courses with the application of the new knowledge in the performance of the daily work that makes the biggest difference to competence development.

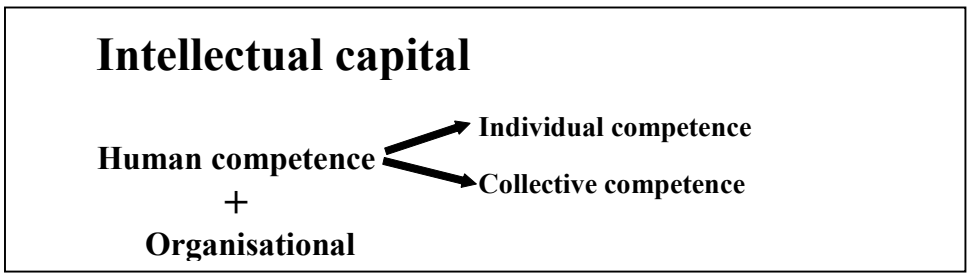
The competence concept

Statistics Sweden defines competence as the capability to perform work tasks in a desirable way. Important building blocks related to this capability are knowledge, skills, experience and networking abilities. Competence emerges only when the volition and desire to use it are present. Therefore, Statistics Sweden has tried to create the preconditions, rewarding systems, etc. that encourage and support this volition.

Human and organizational competence

Every organization needs access to know-how as well as money and other resources. Know-how consists of both human and organizational competence. Human competence consists of individual skills and collective skills where the latter represent our capacity to solve problems

together with colleagues or customers. Organizational competence consists of the knowledge found within the systems, equipment, software, network, culture, etc.



The sum of human and organizational competence - the intellectual capital, is the potential competence of the organization. Lack of human competence may be replaced by organizational competence and vice versa.

It takes the human brain work to provide the organizational competence. It is through building up organizational competence, among other things, that we can facilitate the transfer of competence to new employees. In addition, it is by creating user-friendly systems which eliminate the need for unnecessary competence that we can create room for learning and development.

More and better documentation

One way to accomplish this is to document processes and work methods so that they are available to all. Statistics Sweden is continually improving documentation, tools and methods of working. In this way, our competence and know-how is converted into organizational and lasting competence - a means of ensuring quality in the processes. Well-documented processes simplify the induction of new employees and diminish the vulnerability of the organization by enabling more people to perform critical tasks. To date, about a third of the statistical processes and products are thoroughly documented, not always without difficulty due to situations of scarce resources.

The documentation in itself may occur in different forms. At Statistics Sweden we have started producing web-distributed information with the help of authoring tools for multimedia purposes. This information comes with moving pictures as well as sound, which in most cases makes it much easier to understand than simple text.

Intangible/tacit knowledge

A great deal of our competence and skill is not so easy to document or describe. We usually refer to intangible, implicit or tacit competence - that competence which is built up through accumulated experiences over long periods of time. To describe the ways in which a skilled professional differs from a less-skilled professional can be difficult. It is, in other words, through observation and study of the more experienced professional's methods of work that we can attain tacit knowledge.

The transfer of tacit knowledge requires that we actively consider involving new colleagues when such work as customer visits are carried out. Also in the field of international consulting work, we find good opportunities to practice these principles of learning. Statistics Sweden strives to create opportunities for junior staff to absorb our ways of working, methods and culture. This is something that is stressed in the management training programme.

Competence analysis

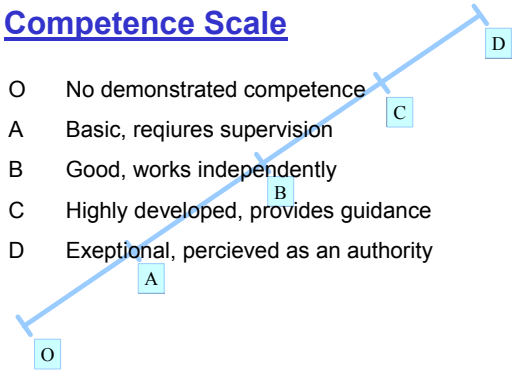
In 2002, Statistics Sweden implemented a thorough competence analysis process including mapping of the existing competence as well as making forecasts of the expected future needs. The work occurs at the level of the different units and all employees take part in the process. This work method was experienced as dynamic and creative and yielded much in the way of new thinking and reflection on both the personal and collective planes. The work was led by specially trained moderators.

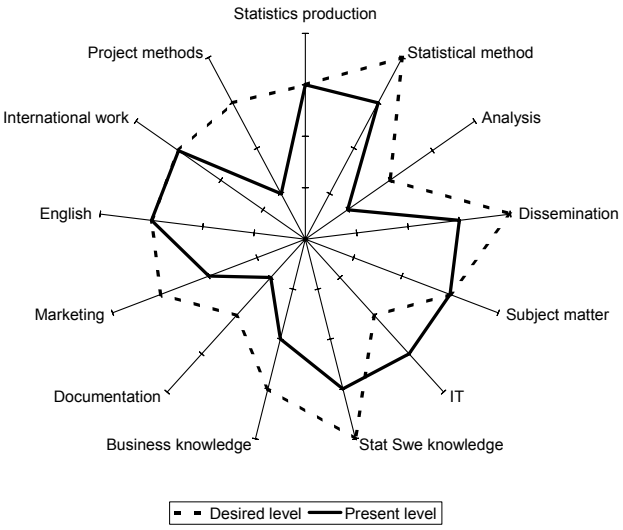
The mapping process

The work itself begins with managers presenting their views of coming needs, development and the future. Then all members of the group work further through the following steps.

- SWOT-analysis of operations. With the managers' vision for the future as a starting point, a closer look is taken at the unit’s existing Strengths (S), Weaknesses (W), Opportunities (O) and Threats (T). This is the first step in competence mapping required in order to identify the prerequisites for coming work assignments.
- Our desired position in 3 to 5 years. What will distinguish us then? What measures have to be taken to achieve our goals?
- Inventory of work assignments. This is a brainstorming phase during which participants with similar work assignments work together to list all the tasks that they can think of without any value judgment.

- Identification of competence areas. Work tasks are sorted into different competence areas which are important to operations, for example statistics, subject matter, IT, language skills, etc.
- Estimation of desirable and existing competence levels. In order to indicate how much know-how is required for a certain work task, a five-point scale is used. Future required competences are estimated as well as the present competence situation. In this way, competence profiles can be created for both organizational units and individuals. Competence gaps, the difference between desired and existing competence, are visualised using polar diagrams.





An example of a gap analysis made at one of the units

- Analysis and action plan. The competence gap is analysed from the organizational as well as from the individual's perspective. The unit has a foundation for an action plan including competence development plans. The gap analysis also provides a basis for further discussions during appraisal/development interviews.

Up to 2004, almost all organizational units went through these steps. They have also started to fill the gaps by attending courses, work in other parts of Statistics Sweden, studies of user work and so on.

Competence database

All employees are encouraged to register their competence in a web-based competence database system. There are four good reasons for having such a register:

- statistics for strategic decisions;
- finding specific competences i.e. for projects;
- individual competence- and career planning;
- finding unused competences.

The intention is that everyone should register their education, training and job experiences and in addition to this language skills and other competences that may be valuable in different job situations. A limited number of persons can search the whole database for a specific competence profile. All managers have access to information about their own staff members. Individuals can only see their own record.

Future perspective

The rapid generation change will affect Statistics Sweden in different ways and we will face considerable risks of loosing advanced and important core competencies. On the other hand, there is a golden opportunity for improvements if the organization is ready to handle the necessary transfer of knowledge in an intelligent way. One aspect of this is to really choose which competencies to transfer. Not all knowledge is good knowledge and it is not worth transferring bad habits. It is a matter of forming an organizational culture where coordination and standardisation can live hand in hand with possibilities for creativity and individual initiatives in the daily work situation.

I.8 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

Planning of human resources within the system of substantive planning by the national statistical office – Ukraine's experience

Invited paper by the State Statistics Committee of the Ukraine

Introduction

The implementation of the tasks before the statistical authorities depends on a range of factors, one of them being the availability of highly qualified specialists. This determines the priority of the human resource policies regarding the work of national statistical offices. In this document, we present information on our system of substantive planning and the development of human resources, the issues that the Ukrainian statistical authority is faced with regarding this task, and the approaches that we have adopted in order to solve these issues.

Pursuant to the Ukrainian law "On State Statistics", the State Statistics Committee of Ukraine (SSCU) is a specially authorized central authority of the executive branch of the government responsible for the implementation of government policies in the area of statistics and responsible for carrying out SSCU activities in accordance with long-term programs for the development of statistics and the annual plans of state statistical surveys.

Strategic planning of work of the national statistical office

The basis of statistical activities is laid out in long-term programmes which determine strategic directions of development of state statistics, taking into account both internal and external factors. The long-term programs (Ukraine has a tradition of 5-year strategic planning) have a complex character and they concern the entire range of statistical activity. In the development and implementation of the programs, not only the statistical bodies, but also other ministries and agencies, as well as scientific and research institutes and academic institutions take part. As a rule, the preparation and implementation of long-term statistical programs is accompanied by the review of the departments of the State Statistics Committee of the Ukraine and the regional branches with an aim to align them with the goals of strategic objectives and the tasks. Therefore, in the course of the development of the programs, we conduct an analysis of existing human resources on the level of individual departments, of regional branches, and of the statistical system as a whole; proposals are prepared concerning the development of human resource base and requirements regarding resources necessary for implementation of the program. The implementation of long-term programs is carried out on the basis of annual plans of activities which, after they are approved in detail first by the national statistical office and then by other government ministries and agencies, i.e. by the producers and users of statistical information, are approved by a special decree of the Cabinet of Ministers of Ukraine.

Each long-term program contains a special component regarding the development of human resources from the standpoint of increased levels of qualification and the competency of cadres to fulfill the tasks outlined in the programs. At present, a third such program is being

implemented in Ukraine. In the framework of two previous programs, a whole complex of activities has been implemented concerning the training of employees in modern statistical methodology, which has allowed us to create a rather strong base of qualified specialists in the State Statistics Committee of Ukraine. The current program envisions carrying out further measures directed toward development of a modern system of management and training of personnel based on the previously achieved results, as well as on modern methods used by other national statistical offices. In particular, we aim for the development of a comprehensive strategy of human resource development, which would include:

- creation of a system of continuous training of statistical personnel, as well as data users and respondents;
- development and implementation of more effective procedures for the management of labour resources;
- introduction of motivational strategies for the achievement of among others, higher qualification levels and productivity of work.

Short-term planning of work of our national statistical office

The system of short-term planning includes an annual plan of statistical surveys, in which all current activities of our national statistical office are reflected, as well as duties of other government ministries and agencies with respect to the collection and processing of certain types of data and the transfer of obtained results to statistical bodies. For the internal use of statistical bodies, a technical plan of performing statistical surveys is introduced in order to regulate each concrete task as to periodicity, and stages and deadlines for implementation. The technical plan also defines, for each concrete task a concrete person responsible for its execution. To maintain work regarding automated data collection and processing of the data on the central as well as regional levels, in accordance with the plan of statistical surveys, a plan is annually introduced for the development and use of complexes for electronic processing of statistical data. The annual plan of statistical surveys is further complemented by semi-annual plans of economic and organizational activities. The plan for economic activities regulates the list and deadlines for the release of documents, bulletins, statistical compendia and other statistical releases (publications). The plan for organizational activities stipulates, among others, main measures regarding activities such as organizing meetings and seminars, reviews of activities of the authorities in the regional branches, and review of quality of data. Furthermore, for each year separately, we create a separate annual calendar plan of scientific and research activities in the area of statistics that are funded by the federal budget and implemented by the science and technology complex for the statistical research of the State Statistics Committee of Ukraine.

The short-term planning of statistical activities involves comprehensive study and analysis of the efficiency of the use of not only the material and financial resources but also of the human resources, the main results of which serve as the basis for the development of annual plans for the following period. This planning work involves:

- monthly analysis of data produced by the automated accounting system for employees' monthly work periods, for departments of the SSCU, and for the regional branches;
- quarterly review of the results of work of the regional branches;

- review of reports on results of activities of departments of the SSCU and the regional branches at the meetings of the boards, budget committees, and so on;
- regular review, in the framework of special internal committees of the SSCU, of the proposals of employees of statistical bodies, directed at reducing working time and the economy of means for the preparation of statistical data;
- annual evaluation of performance of employees with respect to their tasks and duties;
- creation of a human resource pool, and planning of the human resource requirements regarding qualified personnel.

The development of an annual plan of statistical surveys is preceded by the work of the Commission for the Improvement of the Government Statistics Reporting and Accounting Documentation of the State Statistics Committee of Ukraine (SSCU). This committee takes into account the proposals of the regional branches and main users and makes decisions on the necessity of introducing changes into the system of reporting for the coming year. Based on the results of the Committee, proposals are made to include the statistical surveys in the annual plan, identifying additional resources, including human resources that will be necessary for implementation of the task. On the basis of this information, we send the Ministry of Finance a detailed budgetary proposal displaying the intended use of funds sought and substantiating the necessary budgetary financing for the coming year. One of the main items is the salaries and wages. However, the volume of budgetary allocation does not always correspond with the demands of statistical bodies and this dictates the necessity of a reduction of set tasks to the level corresponding with current levels of financial and human resources.

The SSCU has the right, in the course of implementation of the annual plan of statistical surveys, to apply a mechanism of internal redistribution of human and financial resources, in the framework of existing staff levels and allocated assignations, with an aim to secure fulfillment of priority tasks.

To secure the implementation of strategic plans, as well as short-term plans for activities of statistical bodies, such mechanisms as employing external experts on a contractual basis, and collaboration with scientific institutions (affiliated or external) for conducting necessary scientific projects are also used.

One of the key tools used today by statistical bodies in the system of planning, is the automated system of recording hours worked, allowing us to obtain detailed information on the work loads of personnel of statistical bodies, as well as to determine the cost of statistical production and to substantiate the budgetary requests for financing statistical surveys. In 2002, Ukraine switched to the program-and-goal oriented method to form the state budget. Therefore, with an aim to study the efficacy of the utilization of budget means and to determine the planned volumes of expenditure necessary for securing activities of statistical bodies, the SSCU, based on its own experience and with consultative support of statistical services of Sweden and Latvia, has developed and implemented, at the beginning of 2004, on all levels of their statistical service, a special automated system of accounting.

After two years of using this system, we have obtained information which enables us to analyze in detail the efficiency of utilization of human resource potential in the statistical system

as a whole, as well as in individual regional branches, and to conduct necessary redistribution of labour resources between the departments of the SSCU and the regional branches in the framework of set staff levels in order to remove the existing disproportion in the levels of work load, and by doing this increase efficiency of labour as a whole. The work concerning the monitoring and optimization of distribution of labour resources is carried out on a continuous basis and the results are taken into consideration when developing annual plans of statistical surveys, and thereby determining priority for individual activities as well as improving organizational structure and management of production procedures and organization of labour in the statistical system.

Evauation and planning of human resources

As we have already mentioned above, in the course of developing the plans of statistical activities and in order to secure their implementation, we conduct special analyses of existing human resources and plan separate strategies for the utilization of human resource base. In the State Statistics Committee of Ukraine, as well as in the public service as a whole, work on planning the utilization of human resources is part of the substantial planning regarding human resources, and is regulated by the Ukrainian legislation entitled "On Public Service," as well as by other lesser legislative acts.

In order to obtain detailed data regarding the human resource base of the statistical bodies and to determine the number of vacant positions and expected personnel changes, the personnel service directorate of the SSCU carries out, at the beginning of each year, a quantitative and qualitative analysis of the composition of staff in different job categories (managers and specialists) and in different professional specialization (employees of statistical units or service units).

In order to obtain information on the professional potential of employees, and the existing need for upgrading qualifications of personnel, we conduct an annual evaluation of performance of duties and tasks of personnel of statistical bodies, the results of which are used in the planning and organization of labour for an individual employee and for a statistical body as a whole. The evaluation is conducted by managers of the departments of the SSCU in accordance with results of the previous year on the basis of individual work plans of public servants, which are formulated at the beginning of each year in accordance with the work plan for the particular department of the SCSU. In the course of the evaluation, we analyze the public service employee's performance with respect to the job description and his individual work plan. On the basis of this, as well as on the basis of the employee's self-evaluation, an interview with the employee is conducted, in the course of which the work of the employee is evaluated, the tasks are determined and an individual plan for the following year in accordance with priorities of the department is set out. Also determined is whether there is a need to upgrade the employee's qualifications. Results thus obtained are used for determining annual and long-term requirements regarding human resources, formulation of public service requests for the training, re-training and qualification upgrades of public servants in the statistical sector, as well as in their career growth. The results of the evaluation are used by the managers of the departments of the SSCU as well as human resource services for the analysis of issues such as promotion of individual employees, assigning the appropriate job categories, determining salary increases and other

monetary rewards, creating human resource pools, and extending period of employment for individual employees in the public service.

Planning of utilization of human resources

One of the basic instruments of planning of the utilization of human resources is the creation of human resource pools for the public service. The aim of creating human resource pools is to effectively fill vacant positions with trained specialists and to forecast personnel promotions in the service. The human resource pools are created by the goal-oriented method to fill in managerial positions (in accordance with current Ukrainian legislation on public service, there must be two candidates for each managerial post) and, also, specialist positions, if necessary. In order to select candidates to be included in the human resource pool, the managers of individual departments of the SSCU take into consideration the results of annual evaluations of activities of employees of the statistical bodies and employees' qualifications, such as professional competence, work experience, organizational skills, and initiative.

The employees, included in the human resources pool of the public service, make their personal annual plans, which are confirmed by managers of departments of the SSCU. These plans include, for example, systematic familiarization of an employee with the legislation governing the activities in the statistical sector, the foreign and national scientific research and practical experience, and the participation in various seminars, meetings and conferences. How well the employee fulfils his personal plan is given consideration at the time of the annual performance evaluation.

The effectiveness of the human resource pools in the system of statistical bodies for past years is 40 to 50 % of all promotions to higher posts. After the post for which the pool has been created has become vacant, we conduct an analysis of the level of training of the candidates in accordance with their personal plans for training. The candidate who shows the best results will have the opportunity to take up the vacant position and achieve the career growth that was envisaged by the institution of a human resource pool.

The recruitment of new employees for vacant positions is carried out in accordance with general laws on labour relations, the legislation "On Public Service" and, through open competition, during the course of which general knowledge in statistics is verified, as well as through knowledge in the area of a particular division for which the potential candidate plans to work, and through the knowledge of specific work conditions in the public service. For this purpose, a special permanent Hiring and Competitions Committee has been founded at the SSCU, which is led by the deputy chairman of the SSCU and comprises directors of the departments of the SSCU.

Planning of requirements with respect to qualified personnel

The high standards of modern statistics significantly increase the need in highly qualified personnel. Therefore, one of the most important aspects of planning of development of human resources in the SSCU is the training and re-training of specialists. This issue is one of the most problematic in the area of activities regarding personnel because there is a great deficit in the

volume of budgetary financing for this purpose. At present, about 60 % of employees serving in the statistical sector are in need of upgrades of qualification. Related to this is the important role of programs of technical cooperation within whose framework the personnel of statistical bodies in Ukraine have opportunities to obtain necessary knowledge in the area of contemporary statistical methods.

With respect to the issues of the re-training of personnel, i.e. obtaining additional specialized education by employees, this task is carried out, at the request of the SSCU, by the State Academy for Statistics, Accounting and Audit, who offer a program titled "Statistics". However, the volume of re-training does not correspond yet with existing requirements.

The process for planning the utilization of human resources in the statistical sector also includes long-term planning for requirements regarding the training of specialists in public service management. Training in this specialty is offered by the "National Academy of Public Administration, the President of Ukraine." The Academy responds to the needs of the central government and local governments by training specialists in public administration. The graduates of the Academy's master's program are given priority when there are management vacancies in the statistical sector to fill, because, as well as higher specialized education (in this case in statistics), they are trained as professional managers. In the planning of requirements regarding graduates of the public administration program, by the management and human resources division, not only is the value of all individual public servants for statistical bodies considered but also their real chances of career growth.

Human resource planning has a lot in common with other types of planning; however, it has its own specifics which are associated with the complexity of forecasting the labour conduct of employees. Further, in the statistical bodies of Ukraine, employees are almost all women (93 % of the total; from those 61 % are in the productive ages) which also, to some degree, has an effect on forecasting the utilization of human resources. Even though, nowadays, in our statistical system we can observe a relatively low turnover of personnel (around 55 % of employees work in the statistical field for more than 10 years, and every fifth employee works for more than 20 years), the stress of the job and dissatisfaction with the compensation for work (which is lower than in some other sectors of the public service, or in the banking or business sectors) forces some employees, particularly young specialists, to search for new jobs to which they could apply their knowledge.

Issues regarding planning of the utilization of human resources arise also in work with special groups, such as those of youth or workers of pre-retirement age. In view of the fact that the public service has not reached a desirable level of prestige and is characterized by relatively low levels of pay, it is difficult to avoid employment vacancies created by employees who decide to leave for better-paid jobs. However, the SSCU conducts policies directed at a maximum attraction of young cadres through collaboration with universities that train specialists in the field of statistics and economics. Also, in the framework of stipulations of the legislation "On Public Service", in many cases we allow our most valuable employees to work beyond their retirement age, with an aim to have the important previously started projects finished, and in order to train appropriate replacements.

Summary

The system of planning of human resources is an indelible part of a general system of substantive planning of activities of statistical services, both strategic and short-term. As to the long-term strategic planning, the main attention should be paid to forecasting possible organizational and human resource changes in accordance with the tasks standing before the statistical bodies, and with an aim to secure the timely training of necessary personnel. For countries with transformational economies, this issue is extremely important because the reforms that are introduced and which lead to the socio-economic changes need a speedy adaptation to the changing conditions and the mastering of appropriate statistical methods. This, in turn, gives rise to higher requirements regarding training and qualification upgrades of personnel in the statistical services.

The training of personnel and upgrading of their qualifications is one of the most cost-demanding activities of the statistical services, particularly for the countries with transformational economies and those countries that have only recently attained the status of market economy states. In this respect, a vital role is played by programmes of international technical cooperation, which require, in our opinion, a substantial increase in the share of funding allocated for these purposes, and, which should, simultaneously, increase coordination work in this area, to be carried out at the expense of both the countries with a transformational economy and the various international programmes.

In the process of short-term planning of statistical activities, the key role is performed by the continuous analysis of efficacy in the utilization of human resources. The tools such as the automated system of recording hours worked and the monitoring of results of activities of individual statistical departments of the SSCU, allowing us to obtain detailed information on work loads and quality of work performance, are therefore very important in the work of statistical services. The issues of the creation and development of systems of this type are very topical and could therefore become one of the topics for discussion at future sessions during the Conference of European Statisticians.

For successful solutions to all of the complex issues associated with the planning and the development of human resources in the statistical system, it is necessary to have a national strategy. It is important also that such a strategy is supported by the top level of government to facilitate its implementation and financial support. Countries that plan or have already developed such strategies, may find it useful to learn about the experience of statistical services of other countries, which have applied, with positive results, modern approaches to the implementation of human resources policies. In this respect, it would be desirable to consider the issue of preparing a manual for the countries of the UN EEC region. The manual would include materials on the positive experiences of various national statistical offices regarding the planning of human resources (in the context of the corresponding chapter of the Handbook of Statistical Organization published by the United Nations Statistics Division). Such a manual would be very useful not only for national statistical services but also for other international organizations in order to exchange information regarding this topic.

I.9 HUMAN RESOURCES AS A MAIN ELEMENT OF THE MODERN STATISTICAL OFFICE; VOCATIONAL TRAINING OF EMPLOYEES

An outline of statistical training activities at the Statistical Research and Training Institute in Japan

Supporting paper by Shozo Inami, Statistical Research and Training Institute, Japan

Introduction

The statistical system of the Japanese government is decentralized in that, while the Statistics Bureau conducts fundamental censuses and surveys, other ministries produce statistics for their own administrative and policy purposes. In this statistical system, the Statistical Research and Training Institute (SRTI) is the only government statistical training institute in Japan and also plays a key role as a special statistical training institute.

The predecessor of the SRTI was founded in 1921 as the Statistics Staff Training Institute with the purpose of training statistical staff. In those days, training courses were available only to personnel belonging to statistics sections of national and local governments. In 1971, the Institute opened its courses to all personnel of national and local governments and public corporations and as of 2005, the number of statistical trainees has reached 20,000.

The SRTI has a close relationship, in terms of personnel and financial affairs, with the Statistics Bureau, which is responsible for producing fundamental statistics on the state of the nation by carrying out major censuses and sample surveys, such as the Population Census, Establishment and Enterprise Census and Family Income and Expenditure Survey.

Responsibilities

The SRTI aims to promote the development and dissemination of statistical knowledge and to contribute to the development of statistical systems in Japan. The SRTI is part of the Ministry of Internal Affairs and Communications (MIC) and has four main functions:

- statistics research;
- statistical training;
- compilation and publication of statistical compendia; and
- statistical library services.

Statistical training program

The SRTI provides various statistical training courses exclusively for the personnel of national and local governments and public corporations with the aim of imparting statistical knowledge and skills such as those required for compilation of statistics, statistical analysis and use of statistical data. All persons who wish to attend the course must be recommended by the organization employing them. All training courses are free of charge with the exception of textbook costs.

The SRTI plans to conduct 17 statistical training courses in FY2006. These are categorized into four types as follows:

- general course;
- comprehensive courses;
- specialized courses; and
- an international statistics course.

General course

This course provides comprehensive and basic statistical knowledge and extensive applied skills. Course participants may expect to acquire statistical knowledge and theory, and analytic methods for policy planning and evaluation as well as to develop the wide-ranging practical capabilities needed in various administrative fields.

Basic subjects are categorized into the following five areas:

- basic knowledge and skills: the role of statistics and its importance, basic mathematics, hands-on training in Excel, statistical graphs and presentation methods;
- statistics: descriptive statistics, inferential statistics and multivariate analysis;
- statistical surveys: planning and designing surveys, including designing questionnaires and statistical tables, and sampling surveys;
- population and labour statistics: population analysis, labour and employment analysis and regional analysis;
- economics statistics: basic economic analysis theory, price and consumption analysis, production-distributive analysis, national accounts and regional national accounts and input-output tables analysis.

Duration: 3 months Enrollments limited to: 36

Comprehensive courses

These courses are designed to give trainees specific statistical knowledge/skills on their administrative and policy plans. The following are the titles of each course:

- planning and designing surveys (duration: 2 weeks);
- population estimates and projections;
- economic prediction;
- introduction to statistics using table tabulation software (Excel);
- statistical analysis using table tabulation software (Excel);
- national accounts and regional national accounts;
- ripple effect analysis by input-output tables.

Duration: 1 week Enrollments limited to: 36

Specialized courses

These courses are classified into two types: a course on particular subjects, and a course on statistics in general, and are shorter than other courses. Lectures on particular subjects are on:

- statistics;
- population and labor statistics;
- economic statistics;
- statistical methods for administrative evaluations.

The other type of course consists of two options for personnel inexperienced and experienced in statistical work and both courses provide trainees with the necessary statistical knowledge/skills for their duties.

Duration: 3 - 4 days Enrollments limited to: 36 - 70

International statistics course

This course was newly created in 2005 to develop better international communications skills in statistics. Trainees may expect to acquire the basic special statistical knowledge used in international organizations and foreign statistics agencies, and presentation skills. Major subjects are: introduction to statistics, population statistics, labour statistics, economic statistics, national accounts and presentation skills. English is partly used, but lessons are basically in Japanese.

Duration: 6 days Enrollments limited to: 10

E-learning (Basic course on statistical surveys)

This course gives a basic understanding of statistics to personnel new to statistical work, through the Internet. The course includes an introduction to statistics, statistical surveys and use of statistical data.

Duration: 3 weeks, plus 2 days schooling Enrollments limited to: 50

The e-learning system has advantages for both the SRTI and trainees as follows:

- it makes it easier to study anytime, anyplace;
- it allows trainees to acquire a good understanding through further comments and answers to short tests embedded in the lesson;
- it allows trainees to work easily to their own learning schedule;
- it allows the SRTI to easily analyze the progress of each trainee.

However, the course does have disadvantages as well, such as a lack of communication between the SRTI and trainees, and a limit to the amount of information provided.

Development of the e-learning system commenced in 2002 to meet the needs of local governments. The system and the training textbooks were completed in 2003. The course was run twice a year provisionally with a two-day session in 2004. Since 2005 the course has been offered every month with the exception of March and August.

Timetable

From Monday through Friday, lessons are conducted according to the following time schedule. Each period is 70 minutes. Between the periods there are 10-15 minute breaks, plus a 70-minute lunch break.

1st period 09:30 – 10:40
2nd period 10:50 – 12:00
3rd period 13:10 – 14:20
4th period 14:35 – 15:45
5th period 16:00 – 17:10

Teaching staff

Lessons are mainly given by professors or assistant professors of universities or other experts. Staff of the STRI and the Statistics Bureau with broad experience and knowledge in the field of training also work as instructors.

Assessment

Evaluation of the basic course is according to the rule stipulated by the SRTI and the score for each subject and attendance of the class are considered as important assessment points. Trainees in other courses are mainly assessed by coursework. Certification of each course will be given to all trainees after their assessments.

Recent number of trainees

The number of trainees by institution and course are as follows:

By institution

	National government	Local governments	Public corporations
2005	386	351	34
2004	210	360	70
2003	196	355	89

By course

	General course	Comprehensive course	Specialized course
2005	22	252	246
2004	15	299	253
2003	20	338	290

E-learning (basic course on statistical surveys) trainees numbered 73 in 2004 and 243 in 2005. Eight people attended the international statistics course in the first year, 2005.

Facilities

The SRTI is a four-story building located in the center of Tokyo on the Statistics Bureau site. For the courses, there are two classrooms for ordinary courses and one special room for the international statistics course. PCs are installed in each room. For multipurpose use, there is one lecture hall. A comfortable lounge and reading room are also available for trainees. Accommodation without meal service is also operated by the SRTI for local government attendees.

Conclusion

Recently, the ongoing stagnation of the Japanese economy has impacted on the number of participants. Financial and human resource constraints have limited the ability of national and local governments to dispatch trainees to the SRTI. Extra attention must therefore be paid to user needs and requests to improve the current statistical training program.

To improve the curriculum, the SRTI has regular contact with the statistics divisions of national and local authorities in order to identify their needs in various ways, such as sending a draft annual statistical training schedule for their comments; regularly visiting the statistics divisions of local governments to obtain information on the schedule and other requests, and canvassing their needs at the regular meetings held by the Statistics Bureau in April every year.

As a whole, modulating and shortening the training courses have been growing concerns. Therefore, the SRTI has been considering modular courses on specific subjects to allow trainees to attend courses more easily. For instance, the former courses on statistical analysis using table tabulation software (Excel) for beginners and those for intermediate users have been changed to an introduction to statistics using table tabulation software and statistical analysis using tabulation software, and their duration set at one week each. Users are able to choose both courses successively or take a more advanced course on another occasion.

On the other hand, information technology (IT) has developed recently and been utilized in numerous scenarios, not only at governmental but also private institutions. The SRTI has developed an e-learning system since 2003 and further improvement has been required to meet user needs. Improvement of the system is still required in terms of new courses, applying the system to other training courses and follow-up of trainees' studying using only this system.

This self-study method has some limitations, however. Careful consideration would be required before applying this system to other current statistical training courses. As a follow-up program, the SRTI plans to conduct a new e-learning introduction to statistical analysis in the latter part of FY2006.

The following are the major issues in statistical training at present:

- organizing the training curriculum to meet user needs;
- maintaining a suitable number of trainees in each course; and
- expanding e-learning to other courses and improving their contents.

Brief history and organization

As mentioned above, the former SRTI was established in 1921 as the Statistics Staff Training Institute within the Census Office (Kokusei-in) with the purpose of training government statistics staff and became a permanent body attached to the Statistics Bureau of the Prime Minister's Agency in 1948. The Institute was renamed the Statistical Training Institute of the Statistics Bureau in 1971. In the 1984 administrative reforms, the Institute became a subsidiary body of the Statistics Center of the Management and Coordination Agency.

In 2001, the Ministry of Internal Affairs and Communications (MIC) was newly established following administrative reforms and the Institute also reorganized its roles by integrating its research and publishing functions as well as the statistical library services and was renamed again, becoming the present Statistical Research and Training Institute (SRTI). In April 2003, the SRTI was designated an independent educational institution of the MIC.

The Statistical Research and Training Institute is composed of the following divisions and the total number of officials in the Institute is 71 as of April 2006:

- Administrative Division;
- Planning Division;
- Research Office;
- Statistical Data Center; and
- Statistical Library.

The Planning Division is in charge of planning and operating statistical training programs and has a staff of nine.

Other statistical activities

Statistics research

The Research Office leads the following activities:

- research on advanced use of statistics;
- acquiring a clear understanding of trends in research on statistical technology;
- research for planning new statistical training courses.

Several joint research projects are currently underway in collaboration with guest professors and research fellows using micro-data. These research results are published as "Research Paper

Series" and their summaries are available through our website:

URL: http//www.stat.go.jp/training/2kenkyu/research.htm

In addition, the Research Office staff not only conduct research activities on their specific themes in statistics but also work as instructors for statistical training.

Compilation and publication of statistical compendia

The Statistical Data Center compiles statistical compendia covering economic and social statistics and other statistics to meet a wide variety of statistical needs. The major statistical compendia include the Japan Statistical Yearbook (in Japanese and English), Statistical Handbook of Japan (in English), Japan in Figures (in English), and Historical Statistics of Japan (in Japanese and English). Data are also available through the website:

URL: http://stat.go.jp/training/3henshu/3.htm and
http://www.stat.go.jp/english/data/index.htm

Statistical library services

The Statistical Library, established in 1881, is a special statistical library designed to hold an extensive collection of statistical publications and materials published by various Japanese statistical organizations and overseas organizations. The collection comprises over 26,000 volumes and includes valuable statistical materials compiled in the early years of the Meiji period, which extended from1868 to 1912. The overseas collection contains statistical yearbooks and reports from around 120 countries and international organizations. The library is open to the public and also provides advice upon request to promote the wider use of statistical data. Visitors are able to access the database of the library collection and retrieve the books they want with ease. Inquiries can also be made by telephone or by e-mail through the website:

URL: http://www.stat.go.jp/training/toshokan/statlibrary/

There are also two facilities outside the SRTI: the Statistical Museum and Statistical Plaza, designed to disseminate and promote the importance of statistics to the public.

CHAPTER II: THE ROLE THE STATISTICAL OFFICE HAS TO PLAY IN EDUCATING THE PUBLIC, IN PREPARING FUTURE PRODUCERS AND USERS OF STATISTICS

II.1 THE ROLE THE STATISTICAL OFFICE HAS TO PLAY IN EDUCATING THE PUBLIC, IN PREPARING FUTURE PRODUCERS AND USERS OF STATISTICS

Introduction to the session

By Heli Jeskanen-Sundström, Statistics Finland

The session was organised by Ms. Heli Jeskanen-Sundström (Finland). Mr. Dennis Trewin (Australia) served as the Discussant. The session was based on invited papers by Estonia, the United States, and Eurostat, and supporting papers by Finland and Poland.

Promoting the use of statistics in society is one of the fundamental responsibilities of statistical institutes. Understanding and efficient use of statistics require statistical and numerical literacy. In recent years, statistical institutes in different parts of the world have embarked on active measures aimed at improving statistical literacy and educating present and future users and producers of statistics. The papers presented during this Session discuss this issue and related good practices.

Interest in statistics should be awakened at an early stage of education. Statistical institutes have developed new tools and methods for arousing interest among schoolchildren and students. The provision of systematic education to young people to improve their ability to understand statistics requires active cooperation and interaction between statistical institutes, teachers, schools and educational institutes.

Many statistical institutes offer training to their customers and other users of statistics in the form of specially tailored courses and programs. A growing number of statistical institutes and international organizations have also knowingly developed their web-based services in order to offer to the general public and mass consumers of statistics tools for learning, with virtual schools and visual communication of statistical data as just a couple of examples of this.

Besides training their own staff and the users of statistics, statistical institutes are also anxious to educate potential future employees for official statistics. Close cooperation with universities forms the cornerstone for this work.

II.2 THE ROLE THE STATISTICAL OFFICE HAS TO PLAY IN EDUCATING THE PUBLIC, IN PREPARING FUTURE PRODUCERS AND USERS OF STATISTICS

Direction of youth in using official statistics following the example of School Corner
Invited paper by Birgit Hansson, Statistical Office of Estonia

Introduction

The Statistical Office of Estonia considers schools an essential target group, because students are future consumers of statistics. Educational institutions account for 15% of the clients of the Statistical Office.

User surveys

Since 1996, several user surveys, ordered by the Statistical Office, have been conducted in educational establishments to find out the needs of data users for statistical information, and their vision of products and services provided by the Statistical Office.

In the surveys, much attention was paid to customer satisfaction - the presentation of data, its comprehensibility and simplicity. The surveys conducted revealed that the need for electronic access to statistical data is growing. In 1998, 88% of survey respondents preferred to obtain statistical data through printed publications and 58% preferred the Internet, while, according to the results of the 2003 survey, 80% of respondents used electronic channels to find statistical information. The most frequently mentioned reasons for preferring data presented on the website were convenience, availability and promptness. The non-users of electronic channels pointed out problems such as profusion of data and lack of personal contact. The result reveals that some users cannot handle the information since they have no practice in using statistical data. They cannot interpret the data; it appears simply as a line of numbers. Therefore, attention has to be given to encouraging people to use data.

Based on the information obtained through the consumer surveys, best practices of other countries and the need to direct young people towards statistics, making it easier for them to understand statistical data and to use it in the future, the Statistical Office decided to create a School Corner.

It should also be noted that many students enter introductory statistics courses with low confidence and motivation, which also impacts the type of assessments that will be effective and informative to both the students and the instructors. Students are generally anxious when first attending statistics courses, so the Statistical Office wanted to make statistics more accessible and less daunting.

In autumn 2003, the Statistical Office started cooperation with Junior Achievement (the main activity of JA Estonia has been the training of economics teachers). The idea of a School Corner was introduced to them, and they were offered an opportunity to cooperate with the Statistical Office. As the next step, meetings with the economics teachers were organised, and the programme for the future activities was worked out:

- to provide schools with statistical data, and not only the economics teachers but also teachers of economic geography, civics, mathematics, etc.;
- a target group was selected – students of basic and middle level, and their teachers.

Some basic problems were pointed out, e.g. difficulties in finding the most recent information concerning the economic situation of Estonia and comparable statistics of other countries. There were also difficulties concerning terms and definitions in the field of statistics and economy. After consulting with teachers of economics and mathematics at secondary schools, the School Corner was opened in 2004.

The School Corner is on the web site of the Statistical Office at:

http://www.stat.ee KOOLINURK (School Corner).

School Corner is presented only in Estonian.

The concept of the School Corner

The aim of School Corner is to introduce statistics in a simpler form, as well as the possibilities of using them, mainly to pupils of secondary schools, but also to teachers. School Corner helps to understand the essence of statistical indicators, principal methods and concepts of statistics, providing fresh statistics and guides for students in using statistics.

The presented data are just a selection of those being constantly updated. Most relevant annual data have been presented on the country as a whole and by counties. On the basis of nine indicators, one county can be compared to similar indicators for the whole country. Thematic maps on different indicators allow a visual comparison between counties. School Corner provides an overview of the socio-economic life of European countries. Statistics discussing youth aged 15-24 have been presented separately, providing information on study, employment, crime, etc.

An overview of the 2000 Population and Housing Census is available under the heading "About the Census". The layered analysis of the results of the last census has been presented in text, tables and diagrams using plain terms. Answers are provided to questions about the population size of Estonia, which ethnic nationalities live here, which foreign languages the Estonian population speaks, etc. Historical background of the censuses and the main facts about the organization of the last census are also given. Accounting of statistical indicators relating to social and economic life, their legal or historical background, organizational aspects or problems are explained under the

heading "Help to understand statistics". It is easier to understand, interpret and analyse information displayed in tabular or graphical forms. Students need to recognise how information may be displayed in a misleading manner resulting in false conclusions. The skill of using statistics and interpreting the data is very useful for secondary school students in their school life and while choosing their future profession. The glossary includes definitions of the main statistical indicators.

The Statistical Office tries to bring statistics closer to students and to develop School Corner in cooperation with schools.

Useful comments received from teachers and students will be taken into account in updating the website. The Statistical Office of Estonia cooperates with the national library, where training sessions are carried out once or twice a year.

The stages involved in introducing the School Corner

Here is a sample of how the School Corner was marketed:

- news release on opening the School Corner;
- information sheets introducing the School Corner were sent to schools by e-mail;
- the fair - Key to Future 2004. Target group - the graduates of the secondary school and first- and second-year students of universities. The aim was to introduce the School Corner of the Statistical Office and to introduce statistical publications. Visitors to the fair participated in a statistics quiz where they could use the School Corner to find the answers to the quiz questions. Those who gave correct answers were presented with publications of the Statistical Office;
- interview introducing the School Corner in the Teachers' Gazette;
- organising of an annual day of statistics in Suuremõisa Technical School. The main idea was to introduce the products and services of the Statistical Office, including the School Corner, lectures on statistical data and they ways the data can be used;
- cooperation with Junior Achievement - in-service training for economics teachers at gymnasiums;
- an information day for librarians where the availability of the products and services of the Statistical Office was introduced. The main focus was on the availability and use of electronic data, so that the employees of libraries can supervise pupils who come to the library to research statistical information;
- information day for school librarians: the purpose was to introduce the products and services of the Statistical Office;
- lectures in Tallinn University where the Statistical Office was introduced, an overview of the products and services was given, as well as the ways in which statistical data can be used.

There is a link to the School Corner on the websites of several schools, on the education portal www.koolielu.ee and on the home page of the Ministry of Education and Research.

The number of visitors increased after the introductory sessions, and decreased in the summer months while students are on summer holidays.

Future prospects

- Conducting of the survey at schools each 3–4 years to specify the needs of teachers and students and to improve the product.
- Continuous introduction of the School Corner and products and services of the Statistical Office at schools and on information days for teachers. The training of teachers plays a key role in this, because educational institutions raise future users of statistics, decision-makers and data providers as well as producers of statistics.
- Continuous updating of the School Corner using the feedback from users.
- Uploading the School Corner links onto the homepages of educational institutions.

II.3 THE ROLE THE STATISTICAL OFFICE HAS TO PLAY IN EDUCATING THE PUBLIC, IN PREPARING FUTURE PRODUCERS AND USERS OF STATISTICS

The joint program in survey methodology and survey training in the United States
Invited paper by the Joint Program in Survey Methodology, University of Maryland, and the Institute for Social Research, University of Michigan, United States

Introduction

The Joint Program in Survey Methodology (JPSM) at the University of Maryland was established in 1993 to support the U.S. federal statistical system by providing advanced training in survey statistics and methodology. The goal was both to provide training to current employees of the system, to employees at the private survey firms who serve the system by carrying out major federal surveys, and to other students who could be recruited to join one of the federal statistical agencies. Because it was clear from the outset that no one organization had the resources needed to accomplish this goal, the founders of JPSM brought together unprecedented collaboration of organizations, disciplines, and researchers. Because the theory and practice of survey methodology has drawn on a broad array of older disciplines with divergent traditions and approaches, survey methodology does not fit easily into any single academic department or program. Moreover, prior to the development of the instructional program at JPSM, no one had designed a comprehensive curriculum for training survey researchers. The blending of specific aspects of the traditional statistical and social science disciplines into a new discipline was the focus in the initial stages of development of the JPSM, and it remains the foundation of the program.

An essential step in the creation the JPSM was the development of partnerships among several organizations. Because JPSM was first and foremost an educational endeavor, the academic objectives and goals of the program were of paramount importance; still, the practice of survey methodology is not purely academic. It also requires knowledge and expertise in the efficient conduct of surveys and understanding of the federal statistical system and its needs. Since no one organization could provide all of these perspectives, the teaming of organizations was deemed critical to the program's success. The original members of the consortium — the University of Maryland, the University of Michigan, and Westat — brought some of the essential ingredients with them and found cooperative partners with federal agencies to fill in the missing pieces.

This paper discusses how collaborations at various levels have contributed to the success of the Joint Program. We begin by reviewing the history of the program and its initial efforts. We discuss the different types of collaboration that have formed and show how they have enhanced survey methodology over the first 12 years of the program. We conclude with some thoughts on efforts that are being made to strengthen the program and provide a more integrated research environment for the future.

History of the program

JPSM is the oldest and largest program in the United States that offers graduate training in survey methodology. JPSM offers both master's and doctoral degrees in survey methodology. It began accepting students into the master's program in 1993, following the award of a grant from the National Science Foundation to a consortium consisting of the University of Maryland, the University of Michigan, and Westat. The first students were accepted into the Ph.D. program in 1999.

From the outset, the JPSM has aimed to strengthen the U.S. statistical system and the field of survey research more generally, by offering advanced training in survey methodology to staff of both the federal statistical agencies and the survey firms that serve the statistical agencies. Another goal is to attract new entrants to the field who might ultimately join the federal statistical system or its private contractors. Wallman, Groves, Parsons, Davis, and Lapham (1994) give the background on the founding of the JPSM. This article is also notable because the first author is from the federal government, the second is from JPSM, and the remaining three were students in the first cohort of the program. As one of the first descriptions of the JPSM it provides insight into the collaborative nature that has always been a hallmark of the program.

Currently, the main educational packages of the JPSM are:

- a master's degree program with concentrations in social science and statistical science;
- a Ph.D. degree in survey methodology;
- certificate programs in intermediate survey methodology and survey statistics;
- citation programs in introductory survey methodology and economic measurement;
- an array of short courses;
- and a summer internship program, the JPSM Junior Fellows Program.

We describe each of these briefly below.

Because of the history of JPSM and its overriding goal of strengthening the federal statistical system by training survey practitioners, the master's program remains the core of the program. Of the 51 students currently seeking degrees at JPSM, 41 are master's students. The course offerings are designed to support part-time enrollment to accommodate students who are currently employed (typically, at one of the federal statistical agencies). For example, almost all of the classes start at 3:30 pm or later. As of the spring of 2006, 31 of the 41 master's students were part-time students; this has been typical of the mix over the life of JPSM. Similarly, 23 of the 41 master's students are in the social science concentration, and the remaining 18 are in the statistical science track. This is also typical of the mix between the two concentrations. A total of 123 students have graduated with a Master's degree since the inception of the program. More of than a third of them have gone on to work at the U.S. Census Bureau.

The Ph.D. program is aimed largely at full-time students; its purpose is to strengthen the overall infrastructure of the field by creating the next generation of researchers and teachers. As of the spring of 2006, ten students were pursuing Ph.D.'s at JPSM; nine of them were full-time. We expect five or six more to enter the Ph.D. program in the fall of 2006.

The certificate programs are tailored to students who already have advanced degrees in some other field but are seeking to enhance their survey methods skills. For example, many of the staff at the Bureau of Economic Analysis or the Bureau of Labor Statistics have advanced degrees in economics but limited exposure to survey research. Currently, 13 students are enrolled in one of the certificate programs and 16 have completed the certificate. The certificate is conferred by the University of Maryland and is a credential recognized by many of the federal statistical agencies. It consists of roughly half the course work involved in obtaining the master's degree (and all but one of the courses in the certificate program also counts toward the Master's degree). All of the courses making up the certificate programs are semester-length graduate courses.

The citation programs are less intense and more introductory than the degree or certificate programs. The main citation program is the citation in survey methodology. It consists of a bundle of short courses — four core short courses and four electives — a single, semester-length course. The short courses are one or two-day courses on specific topics that are taught by experts on the topic. Recently, we have developed a second citation program in economic measurement that focuses on establishment surveys rather than household surveys. Currently, 13 students are enrolled in the two citation programs. The citation programs and the short courses more generally are designed mainly to serve persons who are already part of the statistical system; their goal is to upgrade the skills of current survey staff at the statistical agencies and their contractors. Some of the agencies use them to help orient new staff. About 615 persons attended short courses in the 2004-2005 academic year.

The Junior Fellows Program is JPSM's only undergraduate program. One of its aims is to recruit promising undergraduates to the field of survey methodology. Highly qualified undergraduates are placed in internships at the various statistical agencies for the summer, where they work on methodological and statistical projects. In addition, the fellows attend a weekly seminar at JPSM. There were 33 junior fellows in the summer of 2005, bringing the total number to more than 210. Nine of the fellows have returned to the Joint Program as master's students.

Although JPSM was created in order to provide advanced training in survey methodology, implicit in this mission was the conduct of cutting edge research on survey methodology. Research and teaching are often seen as intertwined, but for several reasons this relationship is especially close for JPSM. First, it is difficult to provide training in research methodology without including extensive hands-on experience in conducting such research. Second, with almost all of JPSM's educational programs aimed at the graduate level, its courses deal with the most advanced techniques for conducting surveys and survey methods research. Thus, it is essential that the faculty be intimately familiar with new developments in the field. Third, the field of survey research is undergoing profound and rapid changes brought on by larger societal, technological, and

theoretical developments. The speed of these changes means that, more than in most fields, only active researchers can provide adequate instruction in the new methods being developed and adopted.

We discuss the current state of these educational packages in more detail below in the context of the collaborations that they entail.

Types of collaboration at JPSM

Two main types of collaboration take place at JPSM—collaborations between organizations and collaborations between disciplines. Below, we discuss ways these collaborations take place, and the effects they have on the program and its products.

Organizational relationships

The special relationship between two organizations — the JPSM and the Census Bureau — provides the key link between JPSM and the federal statistical system. Currently, 17 of the 41 master's students at JPSM are Census Bureau employees and more than 40 JPSM graduates currently work at the Census Bureau. These employees benefited from a special program developed by the Census Bureau as part of its Census Corporate University. The students work half-time, go to school half-time, and receive full-time pay and benefits. This enables most of the students to complete the master's program in three years. The Census Bureau also supports to research assistants who are not employees of the Census Bureau but intern there while enrolled in the program. These research assistants are paid through the JPSM, like other research assistants there.

The partnership goes well beyond these arrangements. Groves and Clark (2001) discuss the relationship between the JPSM and the Census Bureau in detail and Clark, Donnelley, and Tourangeau (2004) provide an update. They describe the procedures developed to meet the specific needs of the Census Bureau, the feedback that the Census Bureau provides regarding the training of the JPSM students, and the impact of the JPSM on the Census Bureau workforce. In many respects, without this collaboration it would be impossible to effectively accomplish the goals of the JPSM.

One of the challenges that the Census Bureau initially faced in taking advantage of JPSM was that some of the employees interested in the master's degree program did not have the academic qualifications for graduate work. The employees had gained on-the-job experience in survey operations and methodology, but it was not clear how that knowledge would transfer to the JPSM academic environment. At the request of the Census Bureau, JPSM developed a senior level undergraduate course — Fundamentals of Survey Methodology — designed to provide an introduction to the discipline for employees. This course was also envisioned as a screener course for admission to the JPSM master's degree program. Individuals without the JPSM academic qualifications who performed well in this course then were given serious consideration for admission to the degree program. This has allowed more Census Bureau employees to participate

in the graduate program. In addition, the absence of a textbook for the class led to a collaboration of seven authors, each of them experts in some aspect of survey research. The resulting text, Survey Methodology, was published by Wiley in 2004.

The Census Bureau also had individuals whose career needs and goals were not met by either of the Master's degree programs. Some of these needs are now being met through the Citation in Introductory Survey Methodology, the Certificate in Intermediate Survey Methodology, and the Certificate in Survey Sampling — begun in 1999. Mid-career professionals often found the citation program was a good way to update their knowledge in a number of areas. The two certificate programs have been used by Census employees from varied backgrounds — with bachelor's or master's degrees in a number of disciplines — to gain knowledge of the academic literature in survey data collection, questionnaire design, applied sampling, statistical computing, and an elective area. In total, 28 certificates and citations have been awarded, ten to Census Bureau employees, with five Citations in Introductory Survey Methodology, three Certificates in Intermediate Survey Methodology, and two Certificates in Survey Sampling.

On a broader level, the collaboration with the federal government has been mutually beneficial. One example of this is that of the 123 students who completed master's degrees at JPSM, more than half are currently working in the federal government. The first Ph.D. in Survey Methodology was awarded in 2004 to Ken Copeland, whose dissertation examined nonresponse in a Bureau of Labor Statistics survey. During part of his tenure at the JPSM, Copeland had a fellowship at the Bureau of Labor Statistics to study the problem.

Other federal agencies also participate actively in the JPSM, some of them by employing research assistants (RA) from JPSM. The National Center in Health Statistics currently supports a JPSM student as an RA; the Census Bureau employees two JPSM RA's. Another means of participation is the survey design seminars and the JSPM Practicum. Survey researchers from several federal agencies, including the National Center for Health Statistics, the Bureau of Justice Statistics, and the Bureau of Labor Statistics have presented problems to the design seminar class, in which the students serve as consultants on survey problems presented to the class. The students actually carry out a survey in the Practicum class. In recent years, the JPSM Practicum has conducted surveys on behalf of the National Science Foundation and the Bureau of Labor Statistics.

In addition to the federal government, other survey organizations play an important role in the JPSM. Research assistantships, summer internships, or both have been provided by Westat, Arbitron, Mathematica, Gallup, and the Pew Center, all leading private survey organizations. These stints in survey organization provide both financial support and a base of experiences greatly enriches the training for the students who partake in them. Obviously, these assistantships and internships also have benefits for the survey organizations get the services of talented newcomers.

From the beginning, the founders of JPSM saw it as the hub of a national system of graduate training in survey methodology, increasing the impact of the JPSM both on the field at large and on the federal statistical system in particular. To accomplish this goal, the JPSM has developed

relationships with other universities to further the field of survey methodology. The relationships have helped other universities develop their own programs in survey methodology. These organizational collaborations began with consortium members from two academic institutions and one commercial survey research firm, but have expanded over time. Most directly, the JPSM has been able to expand its reach and improve its course offerings by sharing courses with other universities through the use of distance learning technology. Courses have been jointly offered with the University of Michigan at Ann Arbor, the University of Nebraska at Lincoln, and the University of North Carolina at Chapel Hill. Responsibilities for teaching in the shared courses are typically divided among the instructional staff at the universities sharing the classes. For both students and faculty members, this arrangement provides a richer and more diverse environment than is available in a single institution.

Disciplinary relationships

As noted earlier, the curriculum at JPSM was built on ideas from the statistical and social science disciplines. However, both sets of disciplines are themselves large and bringing them together raised some complicated issues. This feature of the problem has been discussed for a long time (e.g., Bishop 1964; Eldridge et al. 1982) and is still an important topic (e.g., Groves 1996; Kalton 2002).

To better understand the problem, consider the issue of deciding on the curriculum for training in statistical sciences concentration. A standard statistics curriculum might consist of courses in probability theory, the theory of estimation, large sample theory, analytic methods, and design methods. Survey methodologists from the statistical sciences concentration must be comfortable with these topics, but they must also be trained in relevant social science concepts and theories. The role of the behavioral and cognitive sciences in any training program for survey methodology is critical. These disciplines provide theories that can lead to a better understanding of the origins of survey error and the interactions in surveys between the interviewers, respondents, questionnaires, and other factors that contribute to errors in surveys. Thus, choosing what specific components of the statistical and social sciences should be included in the master's degree program has been difficult. At JPSM, integrating pertinent aspects of the social sciences and the statistical sciences into a coherent academic program in survey methodology is an on-going activity. We discuss a few courses below to illustrate the choices we have made.

A central course in the master's degree program is the Practicum. This two-semester course involves the students in all aspects of a survey beginning with conceptualization and planning, questionnaire development and testing, data collection and processing, and all the way through the analyses stages after the data have been collected. This course helps to ground the master's students' with a common experience and highlights the complimentary nature of the social science and the statistical science disciplines in surveys. Both are essential in the design and implementation of the Practicum.

The Survey Design Seminar is another course that highlights the need for the students to have at least some familiarity with both the social sciences and statistical sciences. This course is designed for students nearing the completion of their training and exposes them to real survey problems on problems ranging from classic sample design issues, to improving response rates, to estimating coverage, to developing questionnaires, to devising unbiased estimation procedures. The class applies and links concepts drawn from the various disciplines to the problems of a particular survey.

JPSM has also actively sought to serve the needs of economic surveys; the improvement of economic statistics in the United States was one of the main goals that led to the establishment of the Joint Program. Many large-scale federal government surveys deal with economic issues directly or indirectly. Both household surveys and establishment surveys measure factors related to employment and unemployment, government services and products, and economic indicators that play a vital role in government policies. JPSM has developed full-semester and short courses to cover these issues, which have never been adequately in other academic settings. Thus, to address the special issues raised by economic surveys and to enhance the expertise of its its faculty in economics, JPSM recently added a senior economist, Katharine Abraham, to the faculty. Dr. Abraham is the former Commissioner of the Bureau of Labor Statistics.

One of JPSM's major contributions to the survey profession has been the establishment of its short course series. The short courses serve a wide audience, bringing experts from a variety of disciplines together with survey practitioners to share experiences and perspectives that otherwise might never be possible. The number and diversity of the topics covered in the short courses offered by the JPSM is impressive. The instructors for these short courses are the pre-eminent scholars and researchers in a variety of disciplines. They come from many different academic as well as commercial and nonprofit organizations.

Plans

JPSM has periodically re-evaluated its programs. The last such evaluation was completed last year. In addition, in preparation for a paper presented at the 2004 Joint Statistical Meetings, Clark, Donnelley, and Tourangeau (2004) conducted focus groups with JPSM graduates at the U.S. Census Bureau, getting additional feedback on the program's strengths and weaknesses. In the process of conducting these self-evaluations, we have identified several areas where we could improve the program's ability to meet its objectives. Several specific activities have been proposed as a result. All the activities are related to making sure that the research and educational environment at JPSM is at the highest possible level.

One such initiative is expanding the number of courses shared by the program with other universities. Currently, we are examining opportunities for sharing courses with Iowa State. As described earlier, our experience indicates that sharing courses is helpful to both students and faculty. The students get training from world-class instructors at other institutions; the instructors get to teach classes with a critical mass of students, a critical mass that would be unavailable at a

single institution. A second proposed initiative is to develop and offer more advanced seminars aimed primarily at the Ph.D. students. The Ph.D. program is still in its early stages and advanced seminars are one method identified to enhance the research environment and to stimulate high quality dissertations from the students.

Other proposed activities intended to improve the research environment involve encouraging top-notch researchers to spend some time at the JPSM in various ways. To this end, a Distinguished Lecture series was launched in 2004 to bring internationally recognized experts in survey statistics and survey methodology to JPSM, where they give lectures and discuss research topics with the faculty and students. The first Distinguished Lecturer was Chris Skinner of the University of Southampton, who visited JPSM in September 2004. Subsequent lectures in the series have been given by Jon Krosnick of Stanford University, Don Rubin of Harvard University, and Nora Cate Schaeffer of the University of Wisconsin.

A visiting faculty program is also being considered to bring in outstanding researchers to spend one or two semesters in residence at the JPSM. During their stays, the researchers will give seminars and engage in discussions with other faculty and students about their research interests, thus enriching the research environment. A related idea is to establish affiliated faculty positions to take advantage of local area researchers, especially those employed in the federal government, who have expertise in survey methods or related topics. These affiliated faculty positions would provide a more formal mechanism for fostering the collaboration between the federal government and JPSM.

All of these enhancements to the program are designed to enrich JPSM as an environment for students, researchers, and faculty and to encourage further collaborations among the diverse actors who have contributed to the success of the program.

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II.4 THE ROLE THE STATISTICAL OFFICE HAS TO PLAY IN EDUCATING THE PUBLIC, IN PREPARING FUTURE PRODUCERS AND USERS OF STATISTICS

Educating the public – the role of e-learning and visual communication of official data
Invited paper by Hans-Joachim Mittag, Eurostat

Increasing public interest in data from official statistics

Reliable statistical data are indispensable for evidence-based policy making. They play a crucial role in planning political decisions, in quantifying goals to be benchmarked against the real-world observations and in assessing the performance of political strategies. Public institutions at international or national level (European Commission, European Parliament, ECB, OECD, UN agencies, ministries and other government bodies) as well as further players in society closely monitoring political developments (trade unions, employers' associations, political parties) have for a long time been almost the sole customers of information disseminated by statistical offices. In the past, producers of statistics at international level traditionally geared their services to the needs of this important group of data users and left it more or less to the media to communicate relevant statistical information to the public at large. Hence, official data have long been a public good that was not fully exploited. The available statistical information has been either not directly accessible or even unknown to the potentially interested lay public, such as the school teacher, the student or the self-employed.

In recent years, this situation has changed dramatically. National and supranational statistical offices have experienced a fast transition of their dissemination strategies towards a policy giving open web access to statistical information. This development has been driven by advances in ICT and by the requirements and expectations of today's knowledge- and information-based society. Making data available via the Internet free of charge creates new demands and attracts new groups of customers. Eurostat, for example, switched to a free online dissemination of publications and non-confidential data in October 2004. The monthly number of user sessions involving Eurostat's web site amounted to over 930,000 in February 2006 – an increase of more than 530 % since the beginning of the free dissemination. The immediacy of online access to data and publications obviously attracts additional users and places the data producers increasingly under the spotlight. This opens a window of opportunity to attain greater visibility in society, to become a trusted agent for the citizen in general and to be a key contributor to statistical literacy.

The flip side of the issue is that the homogeneity of the user community is fading away whilst sound empirical information about new groups of customers and their needs is rarely available. The existing information gap involves a risk which again refers to public trust. A non-professional data user will not consider a data producer as really trustworthy and credible if the disseminated data are not presented attractively in a user-friendly way, easy to understand and accompanied by a minimum of meta information and guidance. Clear and understandable statistics are trust-enhancing factors for official statistics or even a precondition for public trust ([12]). The European Statistics

Code of Practice ([4]), an embodiment of the UN Fundamental Principles of Official Statistics for the European Statistical System, addresses this item under the quality dimension "accessibility and clarity". Nowadays, with a multi-user group framework, it becomes more difficult to attain the goal of providing statistical information which is comprehensible for everyone.

Addressing the needs of the non-professional user

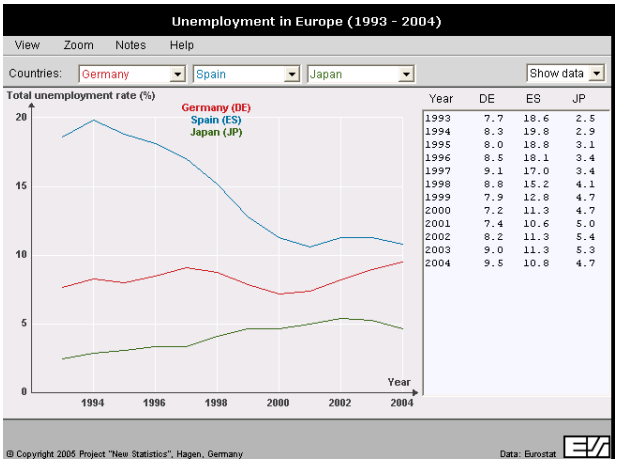
In order to meet the expectations of such a broad audience, statistical offices have started to identify evolving new target groups and to learn about their needs by implementing suitable strategies for measuring user satisfaction with data and services. Some offices, for example that of Finland, evaluated the level of trust and confidence in official statistics by means of questionnaires. Others, such as those of New Zealand and Latvia, tried to identify the composition of its audiences and to learn about their expectations from the dissemination of official data.

It is indisputable that successful communication with the increasingly important group of non-professional customers requires that statistical offices go far beyond the simple provision of tables and other purely static information. The visual presentation of data through comprehensible and flexible graphical tools, possibly embedded in a story-telling environment and connected with maps for the presentation of spatial data, crucially contributes to meeting the needs of the non-expert. This is not meant as a plea for turning official statistics into "infotainment" but as an appeal for exploiting hitherto unexploited potential by making use of complementary dissemination channels. Communicating statistical information in a way easily understood not only by the traditional customers will lead to a broader interest in work done in statistical offices. Official data will be more often applied in educational settings if they are presented by means of interactive visualization tools that offer space for ad-hoc exploration and communicate messages behind statistical information at first glance.

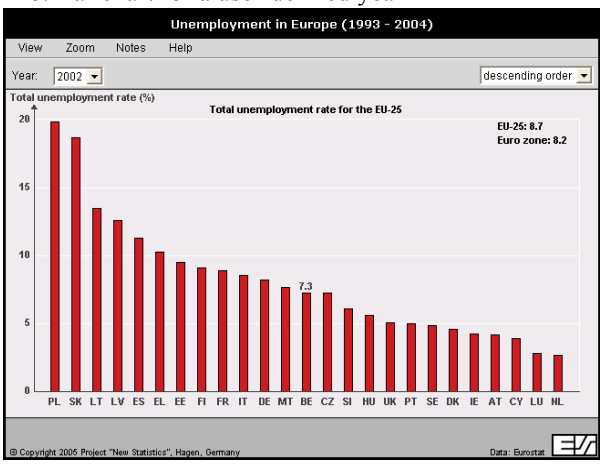
Figure 1 illustrates this by means of a prototypical interactive visualization tool, applied to a time series on unemployment rates for European countries, Japan and the United States, showing how user-controlled environments for the display and spontaneous exploration of data could appear. The Java-based tool is a result of adapting developments from a non-commercial German multimedia initiative aiming at improving the quality of statistics education ("New Statistics" project [1]). The tool is ready for online and offline use, for example as an integral part of a PowerPoint presentation in a press conference. The example presented in Figure 1 and further applications are publicly accessible [2].

Figure 1: Self-contained interactive visualization of unemployment rates

a. Time series for user-selected countries



b. Bar chart for a user-defined year



The actual data can be either displayed, as shown in Figure 1a, or suppressed, depending on the user's choice. The visualization tool is self-contained with built-in meta information accessible via a second layer. Furthermore, it offers the option of viewing the data from different perspectives by applying different graphical instruments, for example time series graphics, bar charts or boxplots. Figure 1b refers to a bar chart presentation for a reference year which has to be selected via a menu window. The user may re-order the countries or slot in the numerical value defining a specific bar as illustrated for Belgium. Screenshots of any of the multitude of potentially available graphics can be saved, for example by using the "Paint" functionality of Windows or a specialized screenshot capturing program, and exported to other working environments. In principle, the tool presented in Figure 1 is applicable to any data set and can be directly connected via an appropriate interface to a database, thus enabling automated regular updates.

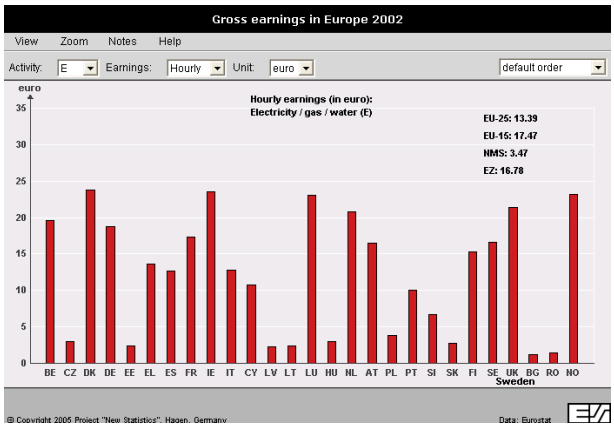
Figure 2 provides a second example illustrating the flexibility of the same visualization tool, but now applied in different settings. Figure 2a uses the tool as a self-contained element for communicating European earnings data (for details see [10]). The screenshot in Figure 2a presents a bar chart referring to gross hourly earnings, expressed in euro, for a user-selected economic activity. Again, the user can re-order the countries, display the numerical value belonging to a bar or slot in the country code as shown for Sweden. Furthermore, the user is free to apply different styles to the way the data is presented.

Figure 2b illustrates that the visualization tool can be likewise embedded into an online publication, thus opening up a completely new dimension for web-based publication. The incorporation of dynamic graphs into hypertext environments leads to interactive publications with obvious added value compared to traditional online publications. The reader of such a publication is invited to choose a personal path for data exploration and discovery within a predefined framework. The screenshot in Figure 2b shows an excerpt from a publicly accessible experimental Statistics in Focus edition recently disseminated by Eurostat (see [3], first entry) concerning the main results of

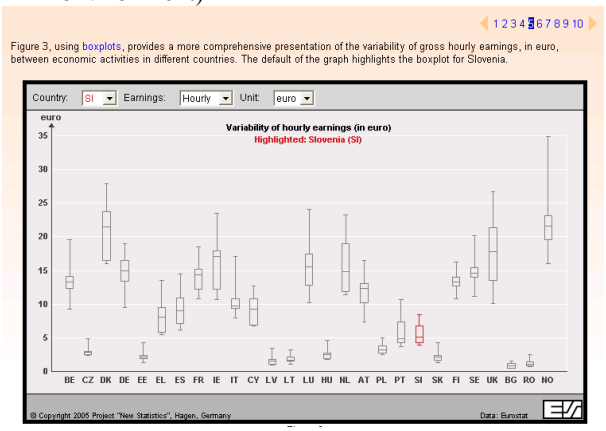
the recent European structure of earnings survey. This interactive publication offers graphics defaults which can be changed, providing access to a multitude of further user-selected graphics. Embedding interactive graphics displaying official data into hypertext environments will certainly be applied to a large extent by online journalists if statistical offices are ready to provide the graphics.

Figure 2: Visualization of data on gross earnings in different environments

a. Bar chart for a user-selected economic activity (self-contained element for online and offline use)



b. Box plots displaying earnings dispersion within countries (interactive graph embedded in a hypertext environment)



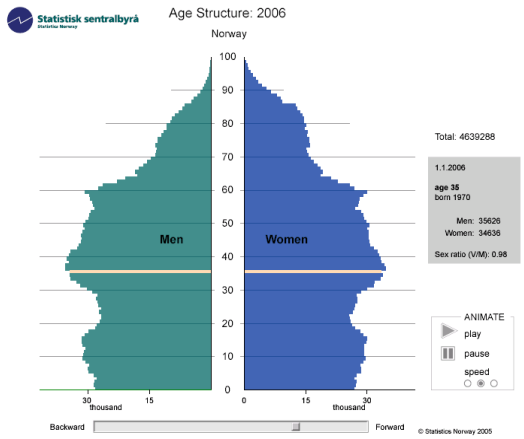
The data driven visualization tool presented so far represents a starting point for discussion, further reflection and refinement. There exist differently designed developments stressing visual data communication. An impressive example is the dynamic population pyramid, first developed for the population of England and Wales, later for that of Germany, Norway, Australia and a few more countries ([5]). The pyramid presented in Figure 3a refers to the Norwegian population and is based on scalable vector graphics (SVG), a promising and rather new web standard appreciated by the open source community. The Office for National Statistics of the UK has been a forerunner in successfully experimenting with this format. Unfortunately, a native support for the SVG format in web browsers is still not always ensured (for details, see ([13]). SVG graphs can be animated and enriched with highly interactive features. The Norwegian pyramid displays past and current population figures as well as projections into the future. The changes over time can be viewed like a movie but the user can also interact with the graphs, for example by displaying figures for a user-defined age group. This is illustrated in Figure 3a by means of the age class "35 years" for the reference year 2006.

Figure 3b shows an interactive map for the German State Baden-Württemberg. The map represents the key element of a geographical information system applied by the statistical office of Baden-Württemberg for displaying information on spatial data related to numerous variables (see [6]). The final results of the German elections in September 2005 and that of the preceding elections have been officially presented by using an interactive map which has been linked to dynamic

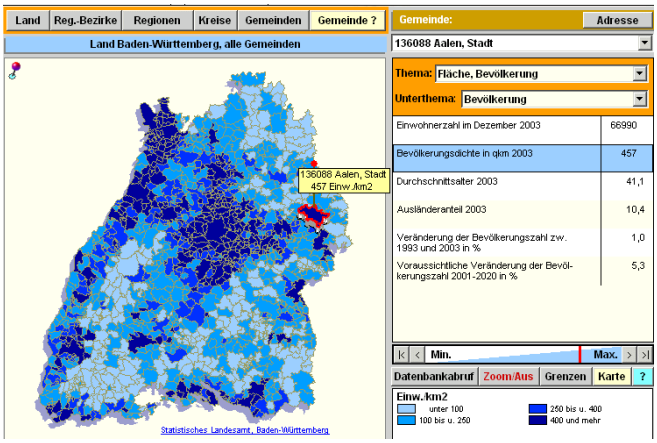
statistical graphics ([7]). The online editions of a well-known German weekly magazine made direct use of this attractive communication tool on its web site.

Figure 3: Visualization of population data by means of animated graphics or interactive maps

a. Animated population pyramid



b. Display of spatial data via an interactive map



Advanced visualization tools for communicating official data by means of graphics and maps, freely accessible via search engines and web sites of statistical offices, attract the lay public and contribute to promoting statistical literacy. It will be part of any efficient customer relations management in statistical offices to complement such eye-catchers by space for user feedback. The latter serves modern quality management strategies not only to meet but to exceed the expectations of customers via permanent improvement of products and services.

The added value of dynamic graphics and interactive maps goes beyond providing more user-friendliness and immediate availability of an almost unlimited amount of statistical information. Interactivity contributes to the discovery and unlocking of information which is more difficult or even impossible to grasp from tables or static graphics. Environments for user-controlled data exploration, as shown in Figures 1-2, enable the user to look at a data set from different perspectives and to better exploit the potential of information behind the data. An animated population pyramid as presented in Figure 3a communicates structural changes, such as the overageing of a society, in a way that is easier to remember by focusing on visual perception. The same statement holds for dynamic maps which are unbeatable in unlocking striking features behind regional data, such as concentration phenomena. Furthermore, modern visualization tools can be applied internally by statistical agencies for checking data consistency and for identifying processing errors.

Establishing virtual learning environments for education and training

Statistical literacy is part of the knowledge and information which represents the key driving force in today's fast-moving globalized economies. National and supranational statistical offices ought to be active players in the process of producing and distributing this part of knowledge. Modern environments for e-learning, complementing traditional modes of education and training, offer innovative and efficient ways of promoting the use of official data and fostering critical awareness as regards the appropriate presentation and interpretation of data. The media will continue to be important partners for attaining this task but the ubiquitous availability of Internet access enables statistical agencies to also address the public directly.

Therefore, statistical offices should offer, within the limitations defined by constraints in human resources, web-based statistical information tailor-made for important user groups, such as educational institutions and the media. The goal is to build up closer partnerships, to increase visibility in public life and to promote statistical literacy. With a view from Eurostat, an appropriate measure could be to establish an "educational corner" on Eurostat's web site presenting, for example, by means of user-friendly visualization tools, selected data sets of general interest, complemented by didactical comments and meta information on methods or sampling frameworks. Several national offices have already gained experience with a web-based free dissemination of learning resources ([8]). The Canadian statistical agency offers a variety of learning resources for teachers, students, postgraduates and pupils ("kid's zone"). The repository contains traditional as well as new media, for example flash animations and slide shows, although most of them with rather moderate interactivity. Statistics Finland also successfully networked with the educational sector and offers a few e-learning modules presenting important areas of work in official statistics, such as population statistics or national accounts. For the time being, these modules only include a few dynamic elements, but they provide links to educational web sites of other statistical offices, such as those of Ireland or Portugal ([8]).

Close cooperation between educational institutions and official statistics, often neglected due to lack of interest or time, is of mutual benefit to all parties involved (see [11]). On the one hand, attractive and ready-for-use educational material from official statistics is highly appreciated by teaching staff at universities and schools. It helps to illustrate that statistical methods are of paramount importance for backing decision-making in all areas of life. On the other hand, statistical offices can make use of existing know-how as regards the development of e-learning content and virtual learning environments for the public.

The public multimedia project "New Statistics" ([1]) mentioned earlier in this paper gives an example of how cooperation can be organized. The project output contains a virtual library with three sub-libraries giving access to user-controlled experiments visualizing statistical methods and another sub-repository with interactive elements visualizing official data. The fourth sub-library, covering amongst others the data displayed in Figures 1a-b and Figure 2a, is shared by Eurostat and the project consortium of ten universities. It suggests that statistical offices can re-use and adapt

high-quality e-learning content originating from the educational world not only for addressing the lay public but also for vocational training of their own staff.

A plea for international cooperation

Any innovative framework to be built for promoting statistical literacy of the citizen and efficient statistical training inside statistical agencies will make use of current ICT technologies, advanced visualization tools and modern concepts for e-learning. An intensified cooperation between national and supranational offices as well as with mapping agencies and educational institutions is needed, aiming at a systematic exchange and re-use of self-contained e-learning components (Flash animations, Java- and SVG-based applications, complete learning modules). A far-reaching approach is the implementation of a document management system for non-proprietary e-learning components suitable for educating the public and for statistical training on the job. Such a system shall be based on international standards for learning object metadata (for a prototype of such a catalogue see [9]). The experiences of Korea in building up a nationwide information system for e-learning content including metadata can be studied in this context.

International cooperation between statistical agencies and close ties with educational institutions helps to avoid re-inventing the wheel and to increase cost-efficiency. Systemic cooperation might start with developing and sharing eye-catching elements related to issues of core interest for the public, the media and for the statistical offices. A potential eye-catcher is a population pyramid for the EU or another set of countries. Such a pyramid will go beyond that shown in Figure 2a by including the option to change the country or to simultaneously display the pyramids for two user-selected countries. The approach can be adapted to displaying other multinational data sets, for example data on labour forces, unemployment and job vacancies. Furthermore, one might visualize, similarly to Figure 1, statistical indicators for a set of countries but in connection with interactive maps and with the option of language change. Press releases can be complemented by web links providing access to such visualization tools.

Apart from visual communication of data via self-contained and regularly updated eye-catchers, statistical offices could cooperate in exploiting the potential connected with online publications that leave the user the ability to genuinely interact with the data. Interactive publications could incorporate not only dynamic graphics, as presented in Figure 2b, but animated elements or dynamic maps as well.

Web links and other references

[1] Web site of an interdisciplinary German multimedia project for statistics education: http://www.fernuni-hagen.de/newstatistics
[2] Virtual library illustrating interactive visualization of Eurostat data: http://forum.europa.eu.int/irc/dsis/wages/info/data/index.htm
[3] Web site with interactive publications dealing with Eurostat data: http://forum.europa.eu.int/irc/dsis/wages/info/data/interactive.htm

[4] http://epp.eurostat.cec.eu.int/portal/page?_pageid=2273,1,2273_47140765&_dad=portal&_schema=PORTAL
[5] Population pyramids for different countries or regions (United Kingdom, Germany, Norway and Australia):
http://www.statistics.gov.uk/populationestimates/svg_pyramid/PP6101_4.svgz
http://www.destatis.de/basis/d/bevoe/src/svg-01/start.php
http://www.ssb.no/english/subjects/02/03/folkfram_en/pyramid/
http://www.abs.gov.au/websitedbs/d3310114.nsf/home/population%20pyramid
[6] Interactive map displaying various statistics for the German State Baden-Wuertemberg:
http://www.statistik.baden-wuerttemberg.de/intermaptiv/archiv/home.asp
[7] Interactive map displaying German election results:
http://www.bundeswahlleiter.de/wahlen/bundestagswahl2005/onlineatlas/btwClientKarte.htm
[8] Learning resources offered by the statistical offices of Canada, Finland, Ireland and Portugal:
http://www.statcan.ca/english/edu/index.htm
http://www.stat.fi/tup/verkkokoulu/index_en.html
http://www.cso.ie/studentscorner/
http://alea-estp.ine.pt/ingles/index.html
[9] Repository for open source multimedia assets:
http://mmc.mmk-hagen.de/
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II.5 THE ROLE THE STATISTICAL OFFICE HAS TO PLAY IN EDUCATING THE PUBLIC, IN PREPARING FUTURE PRODUCERS AND USERS OF STATISTICS

Towards customer-oriented training at Statistics Finland
Supporting paper by Reija Helenius, Statistics Finland

Introduction

One of the basic functions of a statistical office is to advance the use of statistics in society. Statistics serve equally decision-making, research and ordinary citizens. Understanding and efficient use of statistics requires statistical literacy and user skills. Statistical literacy means the ability to understand statistical principles and regularities, concepts and methods (see e.g. Gal 2002, Wallman 1993, Watson 1997). Each citizen needs the basics of statistical literacy to understand everyday information flooding through the media. Most people in the information society also require more profound statistical knowledge for collecting, compiling and reporting information as well as for interpreting information and decision-making.

Statistical offices have various ways in which to advance the use of statistics, for example by developing easy-to-use products and services, by utilising various distribution channels and by efficient communication. One major way is to train customers.

The objective of Statistics Finland's customer training is to further statistical literacy and usage skills and increase people's familiarity with Statistics Finland's products and services. Training services are offered both as charged ready-made courses and as free seminars and online materials. Statistics Finland's eCourse in Statistics has become a very popular service that functions as an open learning environment on the Internet. Statistics Finland also aims to promote the use of statistics by networking with its key customer groups that distribute statistical information, such as educational institutions and the media. They offer a multi-dimensional network for disseminating statistical information. Compiled publications and periodicals are also used to communicate statistical information in an easy-to-understand way to all those needing information.

Service objectives derived from the strategy

Statistics are generally considered public commodities and they should be made available free of charge to those in need of information. In addition to this, new innovative products are being constantly developed as charged services.

Customer training – as well as any other service development – is based on Statistics Finland's mission and strategic objectives. Statistics Finland's mission is to combine statistical data and expertise into statistics and information services for the needs of society, to promote the use of statistics and to develop the national official statistics. Strategic objectives derived from the

customer perspective include creation of a positive public image, development of statistical services for customer needs and utilisation of information networks as the main distribution channel.

The reference framework used in Statistics Finland's customer work is the Customer Relations Management model, which is based on customer segmentation, knowledge of customer needs and product development derived from the needs. Statistics Finland's main customer segments are enterprises, local government, central government, research institutes, educational institutions and organizations.

One of the objectives of Customer Relations Management is partnership with the customer. In this way products can be developed to serve the ends of both the customer and the information provider.

Statistical literacy and user skills taught in customer training

Statistics Finland has been arranging chargeable customer training already for 20 years. Customer training originated from customer demand. Training was first arranged for local government employees and demographic statistics were then in focus. Now customer training covers all statistical topics and customers from all customer segments take part in the training provided. Around 30 courses are arranged every year on statistical methodology, sources of statistical information and topical themes (e.g. the state of the economy, consumption trends, unemployment, ageing).

The Customer Training unit is in charge of the training. The unit prepares the course programme for each spring and autumn and plans the courses together with Statistics Finland's experts. The courses are marketed by means of direct marketing, Statistics Finland's periodicals, homepages of statistics and other cooperation partners, email lists, letters to members of different associations, fairs and events. Tailored training is also arranged for various organizations. Such training is mostly offered about statistical methods and how they could and should be applied to each organization's statistical needs.

Most of the training events last one or two days. Some of the courses are given as multiform training, in which besides classroom teaching, the course includes web learning periods, during which students study in a guided e-learning environment together with other students. In 2002, Statistics Finland introduced a new learning environment application, OppiNet. The OppiNet e-learning environment allows group discussions and exercises and interaction between the students and the teacher.

In 2005, of the 500 course participants 37 per cent came from enterprises, 32 per cent from central government, 19 per cent from local government and 12 per cent from associations or other organizations. Typical course customers are employed in various research, education or communication tasks. The course instructors are Statistics Finland's experts, a total of 46 in 2005. In addition, specialists from outside Statistics Finland are used as instructors.

Feedback comments are collected from customers during each course. The feedback received is taken into account in developing the courses further. In 2005 the participants gave the overall grade of 3.93 to the course they participated in (scale 1 = poor, 5 = very good). According to Statistics Finland's Customer Satisfaction Survey, customer training was considered to produce the highest value for money of Statistics Finland's products (Statistics Finland's Customer Survey 2005).

The most popular courses in 2005 were:

- Statistical graphics with Excel;
- Basics of statistical graphics;
- Statistics Finland as provider of information;
- What new on the housing market;
- How to make a good data collection form;
- Market research;
- Basics of interpretation of statistics;
- PC-Axis product training.

eCourse in Statistics – open learning environment on the Internet

In addition to chargeable courses, Statistics Finland has developed free eCourse in Statistics available on Statistics Finland's Internet service for all those needing statistical information. eCourse in Statistics instructs how to read and use statistics; it provides a tool for understanding basic statistical concepts, for interpreting statistical information and for understanding the use possibilities of statistics. eCourse in Statistics also contains a number of examples from actual statistical data. Concrete examples can be used to illustrate how various everyday things are compiled into statistics and how statistical information can be exploited in everyday life.

eCourse in Statistics also contains exercises intended for self-study. The exercises can be used to assess one's knowledge of different statistical concepts or to practise how to calculate and interpret statistical figures. The exercises are multiple choice or discussion exercises. Statistics Finland's own data are used in part of the exercises, so the learning environment also has data-based exercises.

The course can be used in upper secondary studies as support material for mathematical and social subjects or in tertiary education as orienting self-study material. The course is appropriate for all those people needing statistical information at work. In addition to customers, Statistics Finland's personnel make use of eCourse in Statistics as part of job orientation, for example.

eCourse in Statistics was launched in 2001 on the basis of the measures presented in Statistics Finland's competence strategy. Development of web teaching coincided with Statistics Finland's need to diversify its training services and products in customer and personnel training. The idea was

to link the learning material also to Statistics Finland's other products and services, by which people's familiarity with Statistics Finland's services could increase more generally.

Statistics Finland's top experts have prepared the modules for eCourse in Statistics. One of the main reasons for developing this web-based course was the desire to transform the knowledge of the best experts into shared competence. The modules were produced as multi-professional teamwork and Statistics Finland's statistical experts, educators, graphic designers and Internet experts were involved in their implementation.

At the moment, eCourse in Statistics has the following nine modules:

- How to read and use statistics;
- Search for statistical information;
- Introduction to statistical thinking;
- Demography and population statistics;
- Labour market statistics;
- National accounts;
- Indices;
- Thematic maps;
- Statistical graphics.

The learning material consists of modules that are divided into lessons and lessons into topics. It also has examples and exercises. Apart from the exercises, the learning materials were produced using Statistics Finland's normal Internet publishing system (FastWeb).

eCourse in Statistics is one of the most popular of Statistics Finland's services and it constantly receives positive customer feedback. In 2004, eCourse in Statistics took part in an e-learning product competition arranged by the Association of Finnish eLearning Centre. Nearly 40 Finnish e-learning products, services or activities entered the competition. eCourse in Statistics was among the top ten as the only public administration service product, and it received commendation in the competition.

eCourse in Statistics is available in both Finnish and English. Appropriate parts of the course were translated into English, because Finnish educational institutions have a growing need for English learning materials. eCourse in Statistics has also aroused interest in the statistical offices of many countries. The English version is available at :

http://tilastokeskus.fi/tup/verkkokoulu/index_en.html

Future statistical experts trained in cooperation with educational institutions

Statistics Finland started systematic development of services for educational institutions in 2002. Educational institutions are one of Statistics Finland's strategic customer groups. Co-operation with educational institutions makes it possible to develop educational contents so that statistics are also taken into account there. Training of teachers has a key role in this, because educational institutions raise future users of statistics, decision-makers and data providers as well as producers of statistics.

Statistics Finland has placed educational institutions into the following sub-segments:

- universities and institutions of higher education;
- polytechnics;
- vocational education;
- upper secondary schools;
- comprehensive schools;
- early education; and
- general education.

At the moment, the cooperation focuses on universities and institutions of higher education, polytechnics, upper secondary schools and comprehensive schools. The long-term intention is to extend the measures to all education sectors.

This year a website was opened on Statistics Finland's Internet pages for educational institutions, which has services directed specifically to them and a selection of other useful services and products produced by Statistics Finland from the perspective of educational institutions. The website has received very useful comments from teachers and numerous suggestions for improvement, which will be taken into account in further work on the website.

Marketing of products and making them familiar are important. Statistics Finland markets its services to educational institutions by email and direct marketing, by taking part in fairs, by writing articles to educational periodicals, by arranging customer events for educational institutions, and by networking with various actors in the teaching sector, such as with the unions of teachers of mathematics and of history and social sciences. Cooperation has begun with the associations of head masters and principals. Statistics Finland's collaboration with Finnish universities is extensive and it is being developed further.

An example: Virtual Statistics Project

In recent years Statistics Finland has placed particular emphasis on cooperation with polytechnics within a separate project supported by the European Social Fund: **Virtual Statistics Project (VIRSTA)**. The project, coordinated by Statistics Finland, has produced e-learning materials and a number of courses for teachers together with three polytechnics in the Helsinki area

(Helsinki Business Polytechnic Helia, Helsinki Polytechnic Stadia and Arcada Polytechnic) and the City of Helsinki Urban Facts.

The e-learning materials and courses produced for polytechnics teachers were based on a needs survey made to teachers of the partner polytechnics. The web materials of the VIRSTA project are primarily meant as further training material for teachers, but students can also use them for self-studies. The e-learning materials are available to all Finnish polytechnics through Finland's virtual polytechnics network.

The **Find statistics** e-learning material introduces the basics of searching for statistical information and directs to the major Finnish and international sources of statistical information. The service has links to Finnish and international statistical data available on the Internet. The service is also available in Swedish. The **Economic data** e-learning material guides the user to the most important Finnish and foreign sources of economic and business statistics and key regional and demographic statistics. The e-learning material has examples of how to set up a business and how to utilise statistical information in concrete situations. The **Statistical data collection** material instructs how to make a questionnaire-type inquiry and interview survey.

The central topics of the courses arranged for teachers have been teaching of statistical literacy and user skills, sources of statistical data, statistical methods and different statistical topics appropriate for the subject concerned. One of the main objectives has been to integrate statistics into teaching in a practical manner.

Cooperation with the media – distributors of statistical information

The function of a statistical office is to produce understandable and easy-to-use statistics and instruct in the use of statistics and ensure that the background information related to the statistics are easily available to their users. It is particularly important to develop services and cooperation modes with the media, which as distributors of statistical information are essentially responsible for how people perceive and understand statistical information. The key service modes for the media include improvement of self-service possibilities on the Internet and provision of training services.

In addition to knowing the key data sources and the statistical concepts used there, journalists also need to be familiar with data collection methods and presentation modes, such as tables and statistical graphics. The hectic nature of journalistic work sets its limitations on presentation of statistical information; in all the rush, too little attention is given to methods and concepts, and they will not be transmitted to those following the mass media. According to Statistics Finland's Public Image Survey (Taloustutkimus 2005), every fourth Finn of working age feels that it is difficult to understand statistical information.

Statistics Finland targets courses to journalists, which often focus by practical examples, such as newspaper articles, on what should be taken into consideration when making news from statistics and what are the most typical errors in news about statistics. Instruction is also given on statistical

graphics and key concepts, and various service modes intended for journalists are introduced. In addition to training events, Statistics Finland's Director General invites representatives of different media to Statistics Finland every year. In this event journalists are told about particularly interesting statistics and topical issues connected to or described through statistics.

The feedback received from the training and visits has been very useful and it has helped to intensify cooperation with journalists and increase their readiness for self-use of statistics. The events also give valuable feedback to statistical experts on how to develop statistical products and services. It is important that journalists meet statistical experts and when necessary, they can contact directly the expert of each statistical topic when needing additional information.

Sharing of experiences and learning from best practices

Advancement of statistical literacy and user skills is a challenge for each statistical office. The educational content is the same for all statistical authorities: understanding of statistical thinking, statistical concepts, regularities and methods. The new technology enables learning from the experience of others and acquisition and distribution of open information on the kinds of services and learning materials that have been developed to support customer services of statistical offices. Statistics Finland's materials, which will also be translated into English and partly into Swedish, will be available worldwide to all those in need of statistical information.

Statistics Finland is involved in the international Statistical Literacy project coordinated by the IASE (International Association of Statistical Education), the sub-section of the International Statistical Institute. As a whole, the mission of the **International Statistical Literacy Project (ISLP)** is to provide those interested in statistical literacy with information and resources and to aid them in the development of statistical literacy around the world. At present the main focus of the project is on the development of a series of webpages that will provide users with resources that are useful for the development of statistical literacy at all levels from Primary/Elementary School through Adult Learners. There are also webpages for official statisticians and for journalists and the mass media. Further, there is a webpage devoted to useful datasets and a webpage listing statistical literacy projects, websites, and so on that have been developed by national statistical offices, national statistical societies and other non-profit organizations

http://course1.winona.edu/cblumberg/islplist.htm

National statistical offices have their own webpages within the ISLP project: Descriptions and links to training programmes and learning materials sponsored by national and international statistical offices. Statistics Finland coordinates these webpages. At the moment, the pages contain descriptions of the training programmes and learning materials produced by 27 national statistical offices or international organizations. More information is added to the pages all the time. The general tendency seems to be that more and more is being invested in services for educational institutions and different cooperation modes. The Internet and the web learning environment create

increasingly better opportunities for this. Several statistical offices already offer e-learning materials through the Internet.

Conclusion

To succeed in advancing people's statistical literacy and use of statistics, we have to actively develop various information distribution channels to inform and train our customers. Here, information technology such as web-based training can be one effective solution.

Recognising customer needs and satisfying them is not, however, all that simple. We understand that we still have plenty of work to do to determine customer needs and then to adapt to these needs and apply them to product development.

But even statistical professionals need to be trained and updated constantly so that they are sufficiently prepared for customer-oriented product development. We do not suggest that we are experts yet, we are still in the learning process ourselves, but we do understand that our customers need alternative training services. Our training services, as well as in-house training and web-based training, must be simple and effective, as well as user-friendly in adoption. It is particularly important to learn from each other's experiences.

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II.6 THE ROLE THE STATISTICAL OFFICE HAS TO PLAY IN EDUCATING THE PUBLIC, IN PREPARING FUTURE PRODUCERS AND USERS OF STATISTICS

The role the Statistical Office has to play in educating the public, in preparing future producers and users of statistics
Supporting paper by the Central Statistical Office of Poland

Apart from promoting statistical data and information, the Central Statistical Office (CSO) has to fulfil an educational role, concentrated on teaching society how to use the resources of official statistics. This task is particularly important due to the increasing number of significant decisions that every educated person has to make in everyday life.

Polish statistics has gained a lot of experience in this area over many years. However, we still continue our efforts in extending the educational role of statistics and a number of things still remain to be done.

This paper discusses the achievements and problems to be solved within the educational activities of the CSO, addressed to:

- a wide circle of statistics-users;
- children and the youth.

Internet

All new basic figures, indicators, and preliminary results are published on the Internet site of the CSO (www.stat.gov.pl) at 2.00 p.m. during the working day, and at 10.00 a.m. on days when Press conferences are held. Due to the growing popularity of the Internet, the CSO annually extends the scope of publications placed on its Internet site[1]. In the third quarter of 2006, plans are made to launch a site operating with the Content Management System (CMS), with an automatic assistance system for translation into English. The site will contain an educational model, assisting in quick access to information (including an efficient search-engine), linking numerical data with meta-information, methodological information and a special module for children.[2]

Press conferences

Apart from information placed on the Internet, regular monthly press conferences are important elements of information services provided to mass media.

[1] In 2004, 41.9% of all publications were placed on the Internet, in 2005 – 59.6%, and in 2006 it is planned to place 78.9% publications online, whereas in 2007 – 100% of publications.
[2] Discussed later in the paper.

The date of the Press conference depends on the publication date of the "Information about Socio-Economic Situation of the Country." As a rule, this is done on the 16th or 17th working day of a given month. The time when the conference starts (10.00 a.m.) is also fixed in advance. This approach has been successfully applied for a number of years.

A consistent application of clear, predictable and unchangeable rules has convinced the media that the CSO complies with the principle of publishing all results of statistical surveys which are in the domain of public accessibility in a rigorous and loyal manner, and that the CSO observes the principle of answering the queries "on the spot", fulfilling in this way its educational role.

The Press conferences are always chaired by the President or the Vice-Presidents of the CSO. An important feature distinguishing our conferences from other conferences organised by the central offices is the fact that they are generally accessible. It means that no accreditation is required for the journalists. The conferences are regularly attended by approximately 40 representatives of newspapers, radio, television, and press agencies, sometimes as many as 70-80 representatives of the media.

After entering the conference room, all conference participants receive materials related to the topic of the Press conference. Additional materials are also prepared which refer to the most recent results of statistical surveys. At the moment when the conference starts, the complete set of materials is also sent to the regular recipients of the information by fax and e-mail.

Despite the fact that the data are available on the Internet site, the conferences are popular among journalists as they give them an opportunity to pose additional questions. In a way they also play an educational role.

In the first part of the conference, a member of the CSO Management Board chairing the conference presents the socio-economic situation of the country in a given period. The information is richly illustrated with graphical information. In the second part of the conference, the journalists can ask questions. The answers are provided by the person chairing the conference, other members of the CSO Management Board and experts, whose participation in the conferences is mandatory. They are also available to the journalists after the conference, answering further questions and explaining the statistical methodology and other issues posed by the journalists. After the conference, there are radio and television interviews with the CSO Management Board and the CSO experts.

Information about the CSO Press conferences is published and commented upon in Press and many radio and television news programmes.

The CSO monitors the media reactions to information from the conferences, analyses the statements and in cases of misinterpretation of statistics, undertakes activities to rectify the information.

It can be said that the Press conferences organised by the CSO are one of the most appreciated information activities carried out by the public administration. The participants in those events particularly emphasise the openness and the educational role of the conferences and good contact with the media. The fact that the CSO makes use of the experience of other statistical systems, adapting it to the Polish environment and the needs of the national users, undoubtedly increases the positive reaction to the activities of the Polish official statistics. All those elements contribute to improving and promoting statistical knowledge among the journalists and consequently the society as a whole.

Problems to be solved

Too many mistakes made in the journalistic publications in which the CSO data are used constitute a problem. The CSO must consider the possibility of organising training sessions conducted by the CSO experts for journalists.

For a couple of years, the CSO has been cooperating with the EDUSAT educational television, which broadcasts all press conferences of the CSO. This is an open-access educational channel, belonging to the Warsaw School of Social and Economic Studies. The materials from the Press conferences are supplemented with specially prepared diagrams, illustrating the issues presented during a given conference. The conferences are broadcasted several times during didactic programmes, which are addressed mainly to students of higher economic schools.

Statistical Information Centres and statistical yearbook

One of the forms of educational activity of the CSO is the Central Statistical Information Centre and information centres at the regional statistical offices, which provide direct services for the statistical data users and telephone information services, also in the form of pre-prepared telephone recorded information.

The Central Statistical Information Centre provides statistical information to all users, both domestic and foreign. In its activity, it uses the following forms of communicating with the data users:

- providing statistical information on the phone or by electronic mail;
- providing information on the site by means of:
  - making the statistical data available;
  - providing explanations with respect to the subject matter and the scope of the statistical data, deadlines, frequency of their publication and forms of making them available (published – not published);
  - offering methodological consultations with respect to generating data and applied classifications;
  - offering advice and guidelines with respect to applying individual statistical indexes, places of publishing them (CSO Internet site, Monitor Polski, Official Journal of the CSO);

- offering advice on how and where to search for the published materials and how to order them (Statistical Publishing Establishment).

The largest group of users who makes use of the resources of statistical information available at the Central Statistical Information Centre are students and organizations carrying out business activities. For the former group, making use of the statistical data is not an easy task. Thanks to the educational support of the employees of the Centre, the students can be sure that the selection of data (with respect to subject matter and methodology) and their subsequent interpretation will be carried out correctly. In the case of economic entities, direct consultation with persons dealing with statistical data on the results of statistical surveys provides an opportunity to carry out more complex analyses and to make sure that they receive information that is relevant for their specific needs.

As well as the knowledge and skills of the employees of the Information Centre, the users have at their disposal a reference library containing the CSO publications and materials comprising data from the transformation period and the most recent years, as well as current publications of Eurostat. All the indices, announcements and communications of the President of the CSO are also made available (by means of recorded automatic telephone service) and news releases prepared by the Eurostat Press Office. In addition, access to the free-of-charge database of foreign trade is also provided. The statistical data presented there refer to commercial exchange between Poland and other countries and comprise data from 1994 on.

The employees in statistics provide assistance to the data users in finding the materials that are relevant for them. If required, copies are made or selected materials are sent by e-mail.

The Central Statistical Information Centre is also a place where the CSO spokesman meets with the journalists on the day when the "Current Information – Preliminary Results" and communications of the President of the CSO are published.

Apart from having access to the statistical data on the site, the users of the Information Centre have the possibility to provide themselves with free-of-charge promotional materials on official statistics such as:

- the publication offer of the CSO and regional offices (Editorial Plan of the Publications);
- folders (e.g. Women at the Job Market, Poland in Numbers);
- topical reports (monthly information about economic situation, communications about socio-economic situation in individual voivodships);
- information leaflets (e.g. about regional databases, how to order data);
- folders issued by Eurostat (e.g. basic social and economic data about the EU member states).

The promotional activities of the Central Statistical Information Centre also include regularly receiving visits from students of secondary schools and universities.

Problems to be solved

The current way of making data available on the Internet site of the CSO is gradually becoming insufficient due to the increased demand for statistical data in electronic form. For this reason, it is planned to modernise the Central Statistical Information Centre to make use of modern technological solutions, which could contribute to providing more efficient information service to the users.

The Statistical Information Bulletin has been published for almost fifteen years. It is an important source of information, providing users with knowledge on official statistics, services of official statistics and the organisational structure of the CSO, the role of the Statistics Council, and the consultative and advisory bodies to the CSO President. The Bulletin presents the publishing and information system and provides a list of publications issued in a given year. An extensive part of the Bulletin is devoted to the presentation of the most important statistical activities and surveys included in the programme of statistical surveys of official statistics for a given year, system of classifications and nomenclatures which are applied in statistics, registers used, supporting documents, methodology applied and information systems of administrations. The Bulletin also includes the information on the dissemination system and the principles of making the statistical data available and the ways in which assistance in obtaining statistical information is provided.

Promoting statistical publications – book fairs

The Central Statistical Office has been participating in the *EDUKACJA XXI* Educational Book Fair for a number of years, and in the last two years it also participated in the *ATENA* National Academic Book Fair and the Book Fair of Economic Publications.

The EDUKACJA XXI Educational Book Fair is the biggest showroom and fair undertaking of an educational character in Poland and it is considered an important meeting place for Polish and foreign book publishers. The main objective of the Fair is the presentation of a full and wide-ranging publishing offer that serves educational purposes in all its forms, for every age and level of education of the interested population.

The ATENA National Academic Book Fair has been the most important and the most prestigious review of academic and scientific literature for a number of years. The latest 12th edition of the Fair (November 2005) took place under the auspices of the Minister of National Education and Sport and the Minister of Science and Information Society. The publishing house *Wydawnictwa Naukowo-Techniczne* was the main organiser of the fair.

The Academic Association *MagPress* has been organising the Fair of Economic Publications for two years; the fair takes place in the building of the Warsaw School of Economics under the honorary auspices of the Rector of the Warsaw School of Economics. The fair concentrates on economic, business and legal issues, acquainting academic circles and entrepreneurs with economic publications.

The CSO presents statistical publications including the results of statistical surveys on living conditions, population and demographic processes, work and income of the population, agriculture, forestry and environmental protection, prices, trade and services, production, industry and construction, investments and fixed assets, company finances, and national accounts, including regional accounts. In addition to the sales of books, the CSO disseminates promotional materials on the CSO and the regional statistical offices in the form of information leaflets, folders, publishing plans, and the CSO *Yearbook*.

The active participation of the CSO in the fairs is not only a form of promoting publishing activity of statistics, but also constitutes a form of educating the society about the possible uses of statistics in the process of decision-making.

User data support as a new activity

One of the new educational activities in which the CSO participates actively is the project entitled "European Statistical Data Support", co-financed by the European Commission. The main objective of the project is educating the users about the resources and possibilities of finding statistical data on the Internet site of Eurostat. Every interested person, by means of e-mail or telephone, is able to obtain information about the selected subject. Assistance in this respect is provided by a two-person expert team that is engaged in promoting statistical information at the CSO and covers the following areas:

- providing statistical information about the EU member states;
- providing information about accessibility of individual statistical data in the Eurostat resources (Internet site, databases: New Cronos and Comext, publications);
- providing methodological explanations for the statistical data presented on the Eurostat site;
- providing technical assistance in servicing the Eurostat databases – in particular refers to the Comext database;
- circulation of popularising materials on European statistics received from Eurostat.

The interest of the data users in this form of assistance is considerable. In the course of two quarters from launching the activity, approximately 300 queries on statistical data were received, mainly from students.

The CSO has also started activities on streamlining the process of collecting reporting forms from economic entities by means of successive replacing of paper forms with their electronic versions. The new CSO portal will include electronic forms in the reporting section. It will be possible to complete such forms on the Internet and send them to the database of the reporting portal from which the data will be disseminated to the corresponding regional statistical offices. This module will comprise all stages of activities related to reporting, including a system of notifications about reporting obligations and control of correctness when the forms are being completed.

In order to reach this objective, within the framework of the project, new application servers and programming environment will be purchased to generate electronic forms. At the preparatory stage, necessary educational activities addressed to the respondents are scheduled, which will assist them in user-friendly use of electronic statistical reporting.

In addition, for all the persons interested in registering business activity in the REGON register (official register of business entities), the registration procedure has been simplified by delegating the necessary formalities related to the registration procedure to the lowest level of administration (the gmina offices). This activity was preceded by a cycle of courses for the local government employees in order to make them familiar with the procedures, including the appropriate application of the existing statistical classifications.

Educating children

Children of primary schools have recently been made subject to the statistical education. Special publications were prepared for them, which will serve as an introduction to statistical education, and provide the pupils with information about the country and the region in which they live, and about other EU member states in an easy, accessible and understandable way. These publications are helpful in the educational process, shaping skills in reading statistical information and its interpretation, teaching comparisons and inspiring the pupils to search for more extensive information about the presented issues. A series of such publications is: *A ja lubię… statystykę (I like… statistics), Statystyka… to lubię (Statistics…that's it) and Statystyka dla Smyka (Statistics for kids)*. The last book is an innovative solution for presenting statistical information as it is accompanied by a CD with a set of exercises for the pupils to carry out on their PCs.

School trips

Visits of young people to the CSO became a permanent element in making school pupils and students familiar with the issue of statistics. Those are meetings with pupils and students of primary and secondary schools and universities with the CSO experts. The level of presentation and discussion during the sessions that last a few hours is adjusted to the educational level of the participants. The trip programme comprises a visit to the Central Statistical Library and the Statistical Information Centre. In the last year, two meetings for handicapped and retarded children and youth were organised to help them to integrate into the society and the objective was to encourage their interest in statistics.

Competition for junior high schools on the Concise Statistical Yearbook

A National Statistical Competition for students of secondary schools has been organised since 1968 under the auspices of the President of the CSO. During this school year, its 35th edition will take place. There was a short break in the organization of the Competition in the years 1973 and 1976. The main objective of the Competition has been developing the skills and the knowledge of

youth in statistics acquired at school during statistics, mathematics, and geography classes on the basis of "A Concise Statistical Yearbook of Poland."

In the years 1968-1972 and 1977-2004, the students answered questions in the Competition questionnaire on the data published in the Concise Statistical Yearbook of Poland.

In 2004, the College Presidium of the CSO changed the Competition formula. Now it is more attractive for students and schools taking part in it. The task of the Competition in its new formula is not only to develop skills and knowledge on the basis of the "Concise Statistical Yearbook of Poland", but also to promote creativity among students, encouraging their ability to think and make logical analyses and syntheses.

At present the students have to prepare one out of three topics on the basis of their knowledge based on the "Concise Statistical Yearbook of Poland."

In 2005, the following topics, prepared by the Central Statistical Library in cooperation with the Dissemination Division of the CSO, were offered:

- on the basis of data included in Chapter 5 of the "Concise Statistical Yearbook of Poland 2004", characterise the national job market – evaluate employment and unemployment in Poland, taking into account place of residence, education, and age and sex of the population. Compare the economic activity of Poles with the selected countries of the world;
- evaluate the usefulness of the "Concise Statistical Yearbook of Poland 2004" in schools. Which information do you use most often and for which classes? Are the tables, diagrams, and explanations in this publication understandable and useful?
- what would you like to change in the subsequent edition of the "Concise Statistical Yearbook of Poland"? What kind of information should be added and which information is unnecessary and why? Are you satisfied with the graphic design of the publication (what should be changed in it)? Which form of the Yearbook do you use most often (book, CD, Internet) and why?

In 2006, the students will have a choice between the following three Competition topics:

- on the basis of Chapter 1 of the "Concise Statistical Yearbook of Poland", characterise the status of environmental protection in Poland;
- analyse the most important data regarding environmental protection included in Chapter 1 of the "Concise Statistical Yearbook of Poland" and evaluate the results of the state policy with respect to environmental protection;
- analyse and evaluate Chapter 1 of the "Concise Statistical Yearbook": "Natural Conditions and Environmental Protection." Are the data included in this Chapter and the manner of presenting them in tables and diagrams easily readable and consistent? According to you, which information is lacking and which information could be deleted?

According to the Competition regulations, the students have two months to prepare a paper on the selected topic. Each year, several hundreds of Competition papers are sent to the Library from more than 100 schools from all over Poland.

The jury appointed by the President of the CSO evaluates the papers sent in to the National Statistical Competition by the end of September.

The following criteria are taken into account during evaluation of Competition papers: originality in interpreting the topic, arrangement of the content, skills in analysing and synthesising the source knowledge, and the degree to which the "Concise Statistical Yearbook of Poland" is used.

The list of winners of the National Statistical Competition is published on the Internet site of the Central Statistical Library http://statlibr.stat.gov.pl at the end of September. The prizes in the Competition are: computer sets, DVD players, CD players, encyclopaedias and lexicons.

Awards are given to the authors of the best Competition papers, as well as schools that sent the greatest number of Competition papers.

It is worthwhile mentioning the fact that among the Competition winners are schools and young people from all over the country. This is proof that the Competition undoubtedly promotes statistics in schools. Some schools have been taking part in the Competition for several years without a break.

The National Statistical Competition is an excellent form of promoting statistics.

Student internships

A permanent educational element of the CSO is internships organised for senior year students of economic and social studies. The students become acquainted with legal bases, organization of the official statistics, organisational structure of the Office and the tasks of its divisions, programme of statistical surveys of official statistics, division of tasks and organization of work within the scope of providing information services for the users. In the course of three-day internships, the participants take part in the work of selected divisions of the Dissemination Division.

Cooperation with universities

One of the priority tasks implemented by official statistics is regular cooperation with universities with respect to making the statistical data available for scientific purposes. In particular, it is possible to observe an increasing interest of the scientific circles in the access to individual unidentifiable data that are indispensable for carrying out scientific research. Meeting this demand half-way it is permitted, upon the approval of the CSO President, to make such data available within

the scope of research listed in the EC Commission Regulation No. 831/2002 regarding access to confidential data for scientific purposes.

Apart from the traditional manner of making the data available (preparation of a study on electronic carriers), the CSO has also provided a possibility to use such data on the spot, in a room and on a computer specially adapted for this purpose. This was also a reaction to this group of users' need to carry out their own analyses on the basis of anonymised data generated for a specific topic.

CHAPTER III: STATISTICAL TRAINING AT INTERNATIONAL LEVEL FOR HIGHER QUALITY OF STATISTICS AND OF TRAINING ACTIVITIES

III.1 STATISTICAL TRAINING AT INTERNATIONAL LEVEL FOR HIGHER QUALITY OF STATISTICS AND OF TRAINING ACTIVITIES

Introduction to the session

by Josefine Oberhausen, Eurostat

Users of official statistics become increasingly demanding by putting pressure on official statistics to provide high quality data and related services. There is a need to define the profile of an "international official statistician". Statistical and related training activities at European and international level have an important role to play in this respect.

On the one hand, an official statistician should have formal qualifications (e.g. university degree) in statistics, but also in related subject matters (e.g. languages). This is, however, not enough: what is also needed is lifelong learning in statistics but also beyond statistics to cover areas such as negotiations, communication, project management and management skills. In addition, it seems increasingly important to establish a closer link between statistical education at universities and the working areas of official statistics. Work on the definition of a competence framework of an international official statistician is long overdue.

On this basis, it is important that training activities in the area of official statistics are coordinated and the exchange of experiences and best practises is assured. European and International Statistical organizations are key partners in this exercise. The papers presented in this session of the seminar therefore highlight the potential contributions that some of the key players in this field can make.

From a Eurostat perspective as organiser of the session, it is evident that a European Statistical Training Programme (ESTP) as managed by Eurostat should be more than just a series of courses organised in Eurostat or in the Member States. We should be more innovative and move from traditional training to learning and development. A new ESTP programme could have the following elements:

- European training: courses organised by Eurostat and the Member States;
- national Training: national training programmes to cover areas beyond statistics such as communication, management, language training, negotiation skills, teaching skills;
- on the job learning: this is a much underestimated area for potential development. Exchange of staff between Eurostat, National Statistical Institutes and other international Agencies;
- closer cooperation with the scientific world, and in particular Universities offering curricula in statistics. This has a beneficial effect for both sides if academics are involved in solving the practical statistical problems faced by official statisticians, and for students to get practical experience from the professional life;
- other opportunities offered by establishing networks for sharing experiences, using e-learning to complement traditional training courses, organising summer schools. These opportunities are numerous and should be exploited further.

The Committee for the Coordination of Statistical Activities (CCSA) has taken already an active role in that area and aims at setting up a website that would promote the coordination of training activities amongst member organizations. The main objective would be to foster the exchange of information, including training materials amongst the partners of this cooperation.

A move from a training programme to a learning and development programme that covers a multitude of tools and competences is a shared responsibility of all stakeholders. Such a programme will only succeed if it is driven and supported at the highest level.

The way forward is still a long one but certainly worth the effort!

III.2 STATISTICAL TRAINING AT INTERNATIONAL LEVEL FOR HIGHER QUALITY OF STATISTICS AND OF TRAINING ACTIVITIES

The role of international organizations in statistics training for member country officials

Invited paper by Robin D. Kibuka, International Monetary Fund

Abstract

This paper covers the findings of a survey, carried out by IMF staff, of select international organizations on issues in statistical training of member country officials. Broadly, the findings show that most of the international organizations that responded operate on small training budgets and have either no, or only small, access to external funding. English is, by far, the dominant training language, and computer training plays a part in overall statistical training. Organizations rank courses/seminars/conferences (as a group) as the most important aspect of their training programs. The scope and number of external training programs grew fairly rapidly during 2000–05, covering a broad range of countries, sometimes with regional emphasis. Europe and, in particular, countries in Central and Eastern Europe and in the Commonwealth of Independent States (e.g., Belarus, Moldova, Russia, and Ukraine) have had sizable participation in the IMF courses in statistics. Organizations have not yet taken full advantage of the Internet's potential for training. Demand for training is generated mainly by new mandates and working projects, as well as by countries' needs for training/technical assistance.

Introduction

This paper covers findings on statistical training of a number of international organizations surveyed recently by the IMF.[1] The information from this exercise has been combined with internal training data from the IMF to highlight some issues in statistical training and how European countries and institutions have benefited from the programs.

Broadly, the findings suggest that most international organizations operate on small training budgets. English is, by far, the dominant training language, and computer training plays a part in overall statistical training. Organizations rank courses/seminars/conferences (as a group) as the most important aspect of their training programs. This aspect covers external training targeted mostly at member country officials.

The scope and number of external training programs grew fairly rapidly during 2000 to 2005, covering a broad range of countries, sometimes with regional emphasis. Europe has been a major beneficiary from training in statistics, particularly at the IMF—judging by the steady increase in the number of officials who have participated in the courses.

[1] Details of the survey questionnaire are available upon request.

The emerging issues in external training entail mainly better coordination in providing training and technical assistance to countries—that is, avoiding duplication of efforts while enhancing the complementarities of support to the countries. In addition, organizations have not yet taken full advantage of the Internet's potential for training. Further, means must be found to address the demand for training, generated mainly by countries' needs for training/technical assistance and by new mandates and working projects in the organizations.[2] To address the demand for training, corrective measures need to be pursued both at the international and regional levels and would benefit also from the availability of training manuals and other materials in other languages.

The remainder of the paper is organized as follows. Chapter II covers the broad characteristics of training programs at various organizations. Chapter III covers the external training programs, and Chapter IV summarizes the training offered by the IMF to European officials. Chapter V provides the major conclusions of the paper; Chapter VI presents some issues for discussion. Appendix I lists the IMF's external training courses in statistics during 2003 to 2006, including at the IMF and other regional training centers.

General characteristics of statistical training programs

The majority of responding organizations specialize in macroeconomic statistics, while the rest focus on socio-demographic statistics and, to some extent, environmental statistics (Table 1). These areas of specialization are not necessarily exclusive; several organizations cover a broad range of statistical activities. However, details on further breakdown of the organizations' statistical specialization within the specific groups are not available. These details, including the titles and content of specific training courses, could prove useful for sharing training materials among international organizations and avoiding duplicative training efforts.

The size of external resources currently available for training in statistics in international organizations ranges from a few thousand U.S. dollars to US$3 million. The limited access to resources implies that, barring a major change, proposed reforms in this area should not entail large expenditures. Such reforms should focus on organizational changes, which could have a significant impact on realizing the desired outcome.

English is the dominant training language. It is followed somewhat closely by Spanish and French in that order. Portuguese is a distant fourth, while four other languages of instruction, namely, Arabic, Chinese, Italian, and Russian, were mentioned.[3]

An important aspect of statistical training is the computer courses in programs. Comments from various organizations indicate that this feature is important because of the need to familiarize

[2] Technical assistance usually requires a certain amount of training to enhance its effectiveness.

[3] The scope for these other languages may be significant, given the regional focus of some external training programs. Some comments highlighted that availability of training manuals, including their translation in to other languages, could be a significant way forward in several outreach training programs. Scope may exist to expand training in other languages, resources permitting.

the trainees with software packages, which form an integral part of data compilation and dissemination.

The questionnaire solicited the views of participating organizations on their ranking of importance of type of training program. Most organizations ranked courses/seminars/ conferences (as a group) number one. This validated the subsequent details requested in the rest of the questionnaire about this type of training program, as discussed in some detail below. Coming in a somewhat close second was outside training, entailing collaboration with universities and consulting firms. This was followed by others, including distance learning. Although the questionnaire did not pursue details of these other modes of training, some potential may exist for investigating further the use of distance learning in conjunction with better utilization of the Internet for overall training activities (see more details below).

Table 1. Key Aspects of Training Programs in Statistics for Select International Organizations (Number of Organizations)[1/]

Respondents to survey	14							
of which: Regional organizations	3							
Statistical specialization	Macroeconomic			Socio-demographic		Environmental		
	10			7		3		
Training budget size	(0-1)			(1-3)		(over 3)		
(millions of U.S. dollars)	10			--		1		
Access to external budget	None			Small		Medium	Large	
Resources	4			4		--	1	
Training languages [2/]	English	Spanish	French	Portuguese	Arabic	Chinese	Italian	Russian
External training	12	8	7	2	1	1	1	1
Training topics include computer training[3/]				8				
Order of importance of programs	Courses/seminars/conferences		Outside training[4/]		Internal mobility[5/]		Other[6/]	NA
Rank #1	9		--		1		1	3
Rank #2	--		6		1		--	7
Rank #3	--		--		--		3	11
Rank #4	--		--		2		--	12

Source: IMF survey of Select International Organizations, July 2005.

[1/] The totals may not add across rows because some categories do not apply to (or there were no responses from) some organizations.

[2/] Some organizations reported using more than one language.

[3/] Computer training, mostly in software packages, as part of an overall statistical training program.

[4/] Mostly with universities and, in some cases, consulting firms.

[5/] Internal mobility of staff within organizations.

[6/] Among the activities mentioned were country visits and distance/website training.

The external training programs

Data coverage for the external training programs is quite good, indicating that the international organizations provide a sizeable number of training events (e.g., courses, seminars) that have reached an increasingly growing number of member country officials.[4]

Specifics of the Training Programs

During 2000–05, the scope and number of external training programs grew substantially (Table 2). Training events almost doubled, while the number of people benefiting from training increased twofold. The dominant training activity appears to have been the structured courses, which had the most events over the period and tended to last the longest; thus, these courses may have had the greatest impact on the targeted audience. Seminars were the next most active form of training in terms of events but, on the whole, had a shorter duration in terms of number of days covered. As some respondents pointed out, conferences and symposiums, although used sparingly, can and tend to reach out to larger audiences, mainly comprising senior policymakers. They also tend to be short—not exceeding one day.

Organizations have extended the outreach of external training programs, as evidenced by the number of regions and countries covered. The average number of countries covered by training per participating organization grew by about 20 percent between 2000 and 2005, but this figure does not fully reflect the actual expansion in country coverage. Allowing for the fact that the number of organizations that undertook training in countries increased from 6 in 2000 to 10 during 2004–05, the total number of countries covered (some with multiple training programs) increased rather substantially.

The European region received a sizable amount of training—reflected by the average number of countries covered per year during 2002–03 and the slight increase in such country coverage during 2004–05. Nevertheless, Europe's participative share in training declined over the period. The overall growth benefited mostly developing and emerging countries in Africa and South and Central America. This growth was reflected in the total number of countries covered and the number of participating international organizations.

Participation in training programs was mostly by invitation, allowing the sponsoring organizations to target groups of officials already known to them. Admission by competitive application was an alternative mode, which evidently has been expanded since 2004. The objective of training was mostly to upgrade specific skills or build capacity, consistent with the selective access procedures. To a lesser extent, organizations also sought to provide general training—virtually all the conferences and symposia were geared to this endeavor.

[4] Since this paper focuses on external training, data for, and other information on, internal training are not covered in detail.

Table 2. External Statistical Training for Select International Organizations, 2000–05[1/]

	2000	2001	2002	2003	2004	2005[2/]
Number of conferences/symposiums with mostly external speakers	2	2	3	2	3	3
Minimum-maximum duration (days)	1	1	1	1	½-1	1
Number of seminars with mostly participant papers/discussants	22	19	21	31	36	46
Minimum-maximum duration (days)	1-5	1-15	1-9½	1-10	1-11	1-8
Number of structured courses with one or more lectures and/or homework	27	30	33	32	54	45
Minimum-maximum duration (days)	2-20½	2-18	2-17½	2-14½	½-15	½-16½
Total number of participants in courses and seminars	814	1,119	1,401	1,909	2,358	1,654
Total conferences/seminars/courses	49	51	65	65	93	94
Minimum-maximum number of participants	15-50	15-50	15-68	12-113	12-50	12-50
Number of countries of participants[3/]	33	35	46	54	41	39
of which:						
Africa (except North Africa)	9	11	25	26	21	23
Asia	15	12	16	18	10	12
Europe	13	13	13	12	15	15
Middle East/North Africa	16	18	13	10	9	13
North and South America	11	11	15	18	20	16
Number of participating organizations[4/]	6	6	7	7	10	10
	(Number of Organizations)[5/]					
Target audience (seminars/courses only)						
Participants						
By invitation	5	5	6	6	9	9
By competitive application process	1	1	1	1	3	3
Objective						
No. of courses/seminars on general training	2	3	3	3	3	3
No. of courses/seminars designed to upgrade specific skills and build capacity	6	6	7	7	8	8
Post-evaluation of course seminar (Yes)	5	5	6	6	9	9
On-site	3	3	4	4	7	6
Follow-up survey	3	3	3	3	5	6

Source: IMF survey of Select International Organizations, July 2005.

[1/] Calendar year.

[2/] Figures may underestimate totals, given that some organizations provided data through July 2005 rather than estimates for the whole year.

[3/] Average numbers of countries per participating training organization. Regional data may not add up to total because of differences in regional training emphasis of the organizations.

[4/] Some of the responding organizations provide only internal training.

[5/] Totals may not add for each group because of 'not stated' categories.

Essentially, all reporting organizations indicated some form of ex post evaluation of training programs. The preferred mode was on-site evaluation, but follow-up surveys have been quite important in some cases, complementing the on-site evaluation. This may indicate that feedback is an important feature for designing and implementing training activities.

Access to Training Materials

The distribution of training materials could be improved; only some reporting organizations have placed the materials on either the internal or external websites (Table 3). Several organizations still use only pamphlets and visual aids for distributing training materials. Very few reporting organizations indicated they have consolidated libraries or depositories for training materials, and only a few indicated they share their training materials with other international organizations.

Demand for Training

The organizations report that the demand for training is partly driven by the needs of member countries for training their officials. However, the main demand is reported to emanate from new work projects and changing mandates of the organizations. The new work projects are linked to internal efforts to adapt to changing circumstances, whereas the changing mandates reflect external forces that are internalized when member countries redefine the organizations' missions. The two factors may indeed be interlinked because new mandates are likely to lead to new work projects. Moreover, they are both, in turn, partly related to emerging forces unleashed by globalization and the information revolution, which have contributed to the substantial growth in the speed of access and requirements for information.

Organizations assess the demand for training mainly via surveys but also through focus groups and other sources—mostly human resource groups—as well as the number of course applications. More than 60 percent of respondents reported their organizations were not able to meet the training demand, and an even larger percentage (about 80 percent) of the group of organizations reported budgetary concerns as a major constraint to training.

Views on the nature of the training gap (the excess demand for training) vary across the organizations (Table 4). The responses were quite limited. On the whole, they appear to suggest that the gap ranges from small to medium and has a small-to-medium impact on the organizations' missions but a medium impact on the organizations' statistical missions.

Organizations, however, appear somewhat tentative or sceptical about the effect of internal/external efforts or the need for international cooperation in addressing the training gap.

Table 3. External Statistics Training Demand and Other Factors at Select International Organizations (Number of Organizations)

Respondents to survey	14
of which: regional organizations	3
Training materials available on:	
Internal website	4
External website	5
Other formats[1/]	8
Consolidated library/depository	2
Shared with other international organizations	5
Demand for training generated by:	
Changing mandates	4
New work projects	5
Membership[2/]	1
Upgrading staff skills	2
Demand assessed via:	
Focus groups	2
Surveys	9
Other[3/]	2
Able to meet demand:	
Yes	4
No	9
Budget as a constraint to training	11

Source: IMF survey of Select International Organizations, July 2005.

[1/] Pamphlets and visual aids.
[2/] Related to limited national capacity and demand for technical assistance.
[3/] Including Human Resources Department, an interagency task force, and the number of course applications.

Table 4. External Statistical Training Gap[1/] for Select International Organizations (Number of Organizations)

	Low/Small	Medium	High/Large	NA
Size of training gap	3	3	2	6
Impact of gap on organization's mission	4	1	1	8
Impact of gap on organization's statistical mission	1	5	--	8
Likelihood gap can be met via internal effort	4	3	1	6
Likelihood gap can be met via external effort	2	4	--	8
Need for international cooperation to fill gap	3	1	--	10

Source: IMF survey of Select International Organizations, July 2005.

[1] The gap is measured in terms of excess demand for training.

IMF statistical training in Europe

The IMF targets statistical training to European officials largely through (1) the IMF Institute courses, offered at both the IMF headquarters and the Joint Vienna Institute (JVI), and (2) the Statistics Department's outreach courses conducted in European countries, usually in collaboration with a local/regional training organization. During 2000–2005, a steadily growing number of officials—a total of 561 (Table 5)—have benefited from the training efforts under (1) above. Country and regional organizations (e.g., the Bank for International Settlements and the European Central Bank) have participated in the offered courses. The countries receiving the lion's share of training were mainly those in Central and Eastern Europe and in the Commonwealth of Independent States (e.g., Belarus, Moldova, Russia, and Ukraine), reflecting the JVI's mandate to train officials from the transition countries of Europe and Asia.

During 2003–06, the Statistics Department offered four courses per year at the JVI, covering a broad range of macroeconomic statistics. The most popular courses were in monetary and financial statistics and financial soundness indicators (FSIs, Table 6). The Statistics Department witnessed a rapid growth in its outreach program in 2004–06 (through January 2006), compared with the period 2002–03, and again the most popular courses covered monetary and financial statistics (Table 7). The recent surge in courses in monetary and financial statistics is related to three initiatives, namely: (1) the preparation of the compilation guide for monetary statistics; (2) the efforts to introduce standardized reporting forms; and (3) the outreach FSI program. The training efforts entailed with these initiatives is now winding down or has been completed, and future such training in Europe and elsewhere will be limited.

Conclusions

The major issues emerging from the analysis of partial information available on training is that international organizations operate on rather limited training budgets. Over time, an aggressive campaign to mobilize the desirable resources for training likely will yield benefits. In the meantime, concurrent efforts must be made to maximize the effectiveness of available resources. The rather limited use of the Internet and the limited sharing of information and training materials are obvious areas that need to be addressed.

Organizations might also consider a number of suggestions by respondents to the survey. These include: (1) promoting regional training centers (proximity to clients and common language facilitate greater outreach); (2) involving national statistical offices' experts in training sessions as trainers (they could then turn around and train local staff); (3) recognizing that some programs will yield results in the long run and that one-shot exercises may not solve the problem (thus, planning and implementation horizons should also focus on the medium-to-long run); and (4) developing joint e-learning facilities for international statisticians.

With regard to the IMF, it has not been meeting the overall training demand mainly because of resource constraints. As a result, the growth in its training program has catered mostly to

developing countries, although training in Europe has covered an increasing number of country officials, mainly those in transition countries. However, the adequacy (in terms of topics and countries covered and delivery mechanism) of the training program to European countries (indeed elsewhere) can best be judged by the recipient countries; such feedback is also critical in identifying areas of improvement.

Issues for discussion

Do CES members feel that international organizations provide adequate training in statistics for country officials in general and, in particular, in Europe?

Is the training appropriate in terms of (1) overall quality; (2) frequency; (3) coverage of topics; and (4) coverage of countries? How could training be improved?

Do CES members feel that there is adequate coordination among international organizations in providing training for member country officials?

Table 5. Participants from EUR in Statistics Department (STA) Courses Through the IMF Institute Training Program in Vienna and Washington, CY00–05[1/,2/]

	GDDS/ SDDS[3/]	2000	2001	2002	2003	2004	2005	Total
Total		76	78	84	104	105	114	561
Albania	GDDS	5	6	3	3	3	3	23
Aruba		-	-	-	-	2	-	2
Austria	SDDS	1	-	-	-	1	-	2
Belarus	SDDS	3	3	5	4	6	5	26
Belgium	SDDS	-	1	1	-	-	-	2
BIS		-	-	-	-	-	1	1
Bosnia and Herzegovina		3	3	3	4	5	1	19
Bulgaria	SDDS	4	3	4	2	7	7	27
Croatia	SDDS	4	6	3	5	5	8	31
Cyprus		1	-	1	-	-	-	2
Czech Republic	SDDS	1	6	4	6	3	4	24
Denmark	SDDS	-	-	-	-	1	-	1
ECB		2	-	1	2	-	1	6
Estonia	SDDS	4	4	3	5	2	4	22
Finland	SDDS	1	1	1	-	-	-	3
France	SDDS	-	-	-	-	1	-	1
Germany	SDDS	1	-	-	1	2	-	4
Greece	SDDS	-	1	-	-	-	-	1
Hungary	SDDS	3	2	4	4	1	1	15
Iceland	SDDS	-	-	-	-	-	4	4
Israel	SDDS	2	1	1	-	2	1	7
Italy	SDDS	-	1	-	1	1	1	4
Kosovo		-	-	-	3	5	1	9
Latvia	SDDS	4	4	4	6	4	5	27
Lithuania	SDDS	3	5	4	4	3	5	24
Luxembourg		-	-	-	-	-	1	1
Macedonia, FYR of	GDDS	4	3	3	5	4	4	23
Malta	GDDS	1	-	2	1	-	2	6
Moldova	GDDS	3	3	4	3	6	3	22
Netherlands	SDDS	1	-	-	-	-	1	2
Netherlands Antilles		-	-	-	-	-	1	1
Norway	SDDS	2	-	-	1	2	1	6
Poland	SDDS	2	3	3	6	2	6	22
Portugal	SDDS	-	1	-	-	1	-	2
Romania	SDDS	3	3	3	5	4	5	23
Russian Federation	SDDS	7	6	7	9	6	8	43
San Marino		-	-	1	-	-	-	1
Serbia and Montenegro		1	1	3	5	9	3	22
Slovak Republic	SDDS	4	3	4	6	3	5	25
Slovenia	SDDS	3	1	2	5	2	2	15
Spain	SDDS	-	-	-	-	-	1	2
Sweden	SDDS	-	-	1	-	1	1	3
Switzerland	SDDS	-	-	1	-	-	1	2
Turkey	SDDS	2	2	3	2	2	10	21
Ukraine	SDDS	1	5	5	6	7	7	31
United Kingdom	SDDS	-	-	-	-	2	-	2

Source: IMF Institute (INSAV) Participant and Applicant Tracking System (PATS).

[1/] Data from CY2005 and CY2006 is preliminary. Final data for CY2005 will be available in May 2006 and for CY2006 in May 2007.

[2/] Participants from EUR in STA courses through the IMF Institute attended training in the following locations during the reported period: IMF Institute, Washington D.C. (HQ), and Joint Vienna Institute (JVI).

[3/] General Data Dissemination System participant or Special Data Dissemination Standard subscriber.

Table 6. STA Courses Offered in Europe Through the IMF Institute Training Program 2003–06 [1/]

	2003	2004	2005	2006
	(Number of courses)			
Joint Vienna Institute				
Balance of Payments	1	--	--	1
Data Template on International Reserves	--	--	1	--
External Debt Statistics	--	1	1	--
Financial Soundness Indicators	1	--	1	1
Government Finance Statistics	--	1	--	1
Monetary and Financial Statistics	1	2	1	--
Price Statistics	--	--	--	1
Quarterly National Accounts	1	--	--	--
Total	4	4	4	4

Source: IMF Institute (INSAV) PATS System.

[1/] European officials also have access to training courses offered at Fund headquarters.

Table 7. STA Courses Offered in Europe Outside of the IMF Institute Program 2002–06

	2002-03	2004-06
	(Number of courses)	
Balance of Payments	2	6
Data Dissemination	2	1
Monetary and Financial Statistics [1/]	6	7
Government Finance Statistics	2	1
National Accounts and Price Statistics	2	4
Total	14	19

Source: IMF Institute (INSAV) PATS System.

[1/] Includes Financial Soundness Indicators.

Appendix 1: STA Courses Through the IMF Institute Training Program, CY03-06[1/]

Year	Course Location[2/]	Course Number	Course ID	Begin Date	End Date	Course Title
2003	BT	03.03	EDS	5/12/2003	5/23/2003	External Debt Statistics
	BT	03.06	FSI	10/6/2003	10/10/2003	Financial Soundness Indicators
	BT	03.08	MFS	10/27/2003	11/14/2003	Monetary and Financial Statistics
	CT	03.04	GFS	9/15/2003	9/26/2003	Government Finance Statistics
	CT	03.01	MFS	11/24/2003	12/12/2003	Monetary and Financial Statistics
	HQ	03.02	GFS	3/3/2003	4/11/2003	Government Finance Statistics
	HQ	03.03	BPS	3/17/2003	4/25/2003	Balance of Payments Statistics
	HQ	03.14	MFS	10/6/2003	11/7/2003	Monetary and Financial Statistics
	IT	03.401	INS-STA	11/21/2003	11/21/2003	The Environment and Its Implications for the Fund [2/]
	JA	03.09	FSI	11/17/2003	11/21/2003	Financial Soundness Indicators
	JV	03.09	FSI	4/22/2003	4/25/2003	Financial Soundness Indicators
	JV	03.15	QNA	7/7/2003	7/18/2003	Quarterly National Accounts Statistics
	JV	03.16	BPS	7/14/2003	8/1/2003	Balance of Payments Statistics
	JV	03.18	MFS	8/11/2003	8/29/2003	Monetary and Financial Statistics
	RT	03.04	PRS	4/27/2003	5/8/2003	The Construction and Analysis of Price Indices
	RT	03.07	MFS	8/31/2003	9/16/2003	Monetary and Financial Statistics
	ST	03.21	EDS	9/22/2003	10/3/2003	External Debt Statistics
	ST	03.27	PRS	12/1/2003	12/12/2003	Price Statistics
2004	BT	04.05	NAS	6/14/2004	6/25/2004	Quarterly National Accounts Statistics
	BT	04.07	GFS	11/1/2004	11/12/2004	Government Finance Statistics
	CT	04.06	QNA	9/13/2004	9/24/2004	Quarterly National Accounts
	HQ	04.02	GFS	3/8/2004	4/16/2004	Government Finance Statistics
	HQ	04.03	BPS	3/15/2004	4/23/2004	Balance of Payments Statistics
	HQ	04.13	MFS	10/12/2004	11/5/2004	Monetary and Financial Statistics
	HQ	04.15	QNA	10/25/2004	11/19/2004	National Accounts Statistics
	JA	04.02	BPS	2/9/2004	2/27/2004	Balance of Payments Statistics

Year	Course Location[2/]	Course Number	Course ID	Begin Date	End Date	Course Title
	JA	04.09	GFS	11/1/2004	11/19/2004	Government Finance Statistics
	JA	04.11	MFS	12/6/2004	12/10/2004	Monetary and Financial Statistics: Compilation and Reporting
	JV	04.07	GFS	5/3/2004	5/21/2004	Government Finance Statistics
	JV	04.14	EDS	7/12/2004	7/23/2004	External Debt Statistics
	JV	04.17	MFS	8/9/2004	8/27/2004	Monetary and Financial Statistics
	JV	04.19	MFS	9/6/2004	9/10/2004	Monetary and Financial Statistics: Compilation and Reporting Issues
	RT	04.01	GFS	1/11/2004	1/29/2004	Government Finance Statistics
	RT	04.06	FSI	4/25/2004	4/29/2004	Financial Soundness Indicators
	RT	04.11	NAS	9/5/2004	9/16/2004	National Accounts Statistics
	ST	04.06	MFS	3/15/2004	4/2/2004	Monetary and Financial Statistics
	ST	04.12	BPS	5/31/2004	6/18/2004	Balance of Payments Statistics and International Investment Position
	ST	04.14	FSI	7/5/2004	7/9/2004	Financial Soundness Indicators
2005						
	BT	05.01	BPS	2/28/2005	3/18/2005	Balance of Payments Statistics
	BT	05.12	FSI	7/25/2005	7/29/2005	Financial Soundness Indicators
	BT	05.10	MFS	11/21/2005	12/9/2005	Monetary and Financial Statistics
	CT	05.01	HLS	1/24/2005	1/28/2005	Use of Macroeconomic Statistics for Policy Analysis and Decision Making
	CT	05.08	EDS	8/8/2005	8/19/2005	External Debt Statistics
	CT	05.02	MFS	9/12/2005	9/30/2005	Monetary and Financial Statistics
	HQ	05.02	GFS	2/14/2005	3/25/2005	Government Finance Statistics
	HQ	05.06	BPS	5/16/2005	6/24/2005	Balance of Payments Statistics
	HQ	05.09	EDS	7/11/2005	7/29/2005	External Debt Statistics
	HQ	05.14	MFS	10/11/2005	11/4/2005	Monetary and Financial Statistics
	HQ	05.16	PRS	10/31/2005	11/18/2005	Price Statistics
	IT[3/]	05.304	INS-STA	6/14/2005	6/14/2005	External Debt
	IT[3/]	05.305	INS-STA	7/12/2005	7/12/2005	GFS Manual 2001
	IT[3/]	05.314	INS-STA	12/9/2005	12/9/2005	Workshop on Compiling Financial Soundness Indicators

Year	Course Location[2/]	Course Number	Course ID	Begin Date	End Date	Course Title
	JA	05.03	MFS	2/28/2005	3/18/2005	Monetary and Financial Statistics
	JA	05.12	MFS	7/11/2005	7/15/2005	Monetary and Financial Statistics: Compilation and Reporting Issues
	JA	05.10	EDS	11/7/2005	11/18/2005	External Debt Statistics
	JV	05.05	DTR	2/15/2005	2/18/2005	Data Template on International Reserves and Foreign Currency Liquidity
	JV	05.07	FSI	5/9/2005	5/13/2005	Coordinated Compilation Exercise for Financial Soundness Indicators
	JV	05.14	MFS	8/8/2005	8/26/2005	Monetary and Financial Statistics
	JV	05.15	EDS	9/5/2005	9/16/2005	External Debt Statistics
	RT	05.02	BPS	1/26/2005	2/10/2005	Balance of Payments Statistics
	RT	05.06	GFS	5/22/2005	6/7/2005	Government Finance Statistics
	RT	05.08	MFS	8/28/2005	9/13/2005	Monetary and Financial Statistics
	ST	05.06	CRI	3/14/2005	3/18/2005	Monetary and Financial Statistics-Compilation and Reporting
	ST	05.11	GFS	5/23/2005	6/10/2005	Government Finance Statistics
	ST	05.12	FSI	6/27/2005	7/1/2005	Financial Soundness Indicators
	ST	05.20	DTR	10/10/2005	10/13/2005	Data Template on International Reserves and Foreign Currency Liquidity
2006						
	BT	06.04	EDS	3/20/2006	3/31/2006	External Debt Statistics
	BT	06.08	FSI	7/3/2006	7/7/2006	Financial Soundness Indicators
	BT	06.12	GFS	10/30/2006	11/17/2006	Government Financial Statistics
	BT	06.13	MFS	11/27/2006	12/15/2006	Monetary and Financial Statistics
	CT	06.07	MBS	10/9/2006	10/13/2006	Banking Statistics on Cross-Border Flows: Compilation and Monitoring
	HQ	06.02	GFS	2/21/2006	3/31/2006	Government Finance Statistics
	HQ	06.07	BPS	5/15/2006	6/23/2006	Balance of Payments Statistics
	HQ	06.11	MFS	8/28/2006	9/22/2006	Monetary and Financial Statistics
	HQ	06.12	NAS	9/11/2006	10/6/2006	National Accounts Statistics
	JA	06.05	MFS	3/6/2006	3/24/2006	Monetary and Financial Statistics
	JA	06.07	GFS	5/15/2006	6/2/2006	Government Financial Statistics
	JA	06.12	BPS	11/27/2006	12/15/2006	Balance of Payments Statistics
	JV	06.05	FSI	5/1/2006	5/5/2006	Financial Soundness Indicators
	JV	06.14	GFS	7/24/2006	8/11/2006	Government Financial Statistics
	JV	06.20	PRS	10/23/2006	11/3/2006	Price Statistics

Year	Course Location[2/]	Course Number	Course ID	Begin Date	End Date	Course Title
	JV	06.24	BPS	11/27/2006	12/15/2006	Balance of Payments Statistics
	ST	06.05	BPS	3/20/2006	4/7/2006	Balance of Payments Statistics
	ST	06.04	MFS	3/20/2006	4/7/2006	Monetary and Financial Statistics
	ST	06.08	FSI	5/22/2006	5/26/2006	Financial Soundness Indicators

Source: IMF Institute (INSAV), PATS System.
Run Date: March 1, 2006.

[1/] List of courses is preliminary. CY 2005 courses will be finalized in May 2006; CY 2006 courses in May 2007.
[2/] Abbreviations refer to the following course types: Joint Regional Training Center for Latin America, Brasilia (BT), Joint China-IMF Training Program (CT), IMF Institute, Washington D.C. (HQ), Internal Economics Training Program-IMF, Washington D.C. (IT), Joint Africa Institute (JA), Joint Vienna Institute (JV), IMF-AMF Regional Training Program (RT), and IMF-Singapore Regional Training Institute (ST).
[3/] IT 05.304, IT 05.305, and IT 05.314 were taught through the Internal Economics Training Program for IMF staff; all other courses were for external participants.

III.3 STATISTICAL TRAINING AT INTERNATIONAL LEVEL FOR HIGHER QUALITY OF STATISTICS AND OF TRAINING ACTIVITIES

The European Statistical Training Programme

Invited paper by Josefine Oberhausen, Eurostat

Background

Until 2004, the European Statistical System (ESS) had a common statistical training programme addressed to statisticians at European national statistical institutes, Eurostat and other countries and international organizations working with Eurostat. The coordination and realisation of the programme was entrusted to an external service provider contracted by the Commission. Participants had to pay fees.

After the Commission decision in 2003 to terminate contractual relations in this case, an (interim) strategy based on a dual approach was chosen. A number of European Statistical Training Programme (ESTP) courses were organised by Eurostat, while others were offered by member countries of the European Statistical System (ESS) at their national training sites and co-financed by ESTAT. EU Member States offering training courses received grants to cover part of their costs while EFTA – on the basis of the Gentlemen's Agreement – contributed with at least two courses to the annual programme.

The Working Group "Human Resource Management", established in 2005, received through its mandate a strong involvement in the preparation and implementation of the ESTP. The group, mainly composed of Human Resources (HR) heads of national statistical administrations and of Eurostat, favoured the creation of a network of national training managers (ESTP network). The members of this network were contact persons in technical or horizontal departments of national statistical institutes in charge of training and career development. In close collaboration with Eurostat, the network members aim at ensuring the necessary exchange of information to conceive, promote and efficiently support all ESTP related activities within the ESS.

During the ESTP implementation phase in 2004, the time schedule and limited internal resources in terms of staff and equipment only allowed for the organization of four in-house courses and for the preparatory work related to the award of grants to Member States interested in offering courses. At the same time discussions with the EFTA secretariat led to an agreement that also EFTA would contribute to the ESTP with additional courses.

ESTP courses organised by Eurostat in 2004/2005

The ESTP in-house courses held in 2004 and 2005 met with strong interest from almost all ESS countries. Given the large number of applications received for certain courses in 2004 and 2005, some of them, i.e. National Accounts, European Trade Statistics and Seasonal Adjustment,

have become standard elements of the internal programme. 260 statisticians from more than 30 countries participated in the 10 courses organised by Eurostat in 2004/2005 (see table 1 below).

With the internalisation, the lack of resources available to the project (formerly 6 full time equivalents, now 1,25) necessarily led to a slow-down of activities during the first years.

Nevertheless, the courses were immediately organised by Eurostat's training section in collaboration with the technical Eurostat units. From the beginning the administrative part of the ESTP has been managed entirely with Eurostat's training section. The training contents, the course description and the detailed course programme were agreed upon with trainers and staff responsible for the course development. For each course a course description as well as an application form was sent electronically to the heads of national statistical administrations and copied to the ESTP network for information and further dissemination.

The majority of lecturers and trainers involved in the provision of the courses were staff members of Eurostat's technical units. There were, however, a number of courses in which colleagues from other Directorates General of the Commission and from National Competent Administrations participated as lecturers, as well as experts from International Organizations (see Table 1). Their contributions completed the training on European concepts and definitions with presentations of application at national level or with international practices of common interest.

Table 1: ESTP in-house courses 2004 and 2005

Course title	Date	Trainers/ Lecturers	Number of participants	Countries represented
2004				
Economic accounts for agriculture	11.-13.10.2004	Eurostat/ DG AGRI	22	18
ESA95	18.-20.10.2004	Eurostat	33	19
Seasonal adjustment	15.-18.11.2004	Eurostat/ FR, ES, SI	18	14
External trade statistics	07.-10.12.2004	Eurostat/ BE, SK, SI	25	22
2005				
Educational statistics – hands on	20.-22.06.2005	Eurostat/ UNESCO	35	22
ESA95 – Goods and services	27.-29.09.2005	Eurostat	30	25
EU trade statistics	11.-14.10.2005	Eurostat NL, AT, SK	27	23
Dissemination: European Statistical Data Support (ESDS)	12.-13.10.2005	Eurostat/	42	26
Seasonal adjustment	12.-16.12.2005	Eurostat/ FR, ES, UN	28	24

ESTP courses held in member states and EFTA countries in 2004/05

Part of the ESTP courses are organised by National Statistical Institutes forming part of the ESS. These courses are either covered by grant agreements or provided as an EFTA contribution to the ESTP.

The first set of external courses offered through grants was delivered in 2005 by four Member States (Finland, Sweden, the Netherlands and Italy). EFTA organised 2 additional courses provided by the statistical offices of Norway and Switzerland. A total of 150 people from 30 countries participated in these 6 courses.

As for the choice of the proposed courses in 2005, most of them were based on standard courses already delivered in a similar way under the preceding (outsourced) programme. However, in order to re-assess training needs and priorities for 2006, a user survey was submitted to both ESS countries and Eurostat experts. The results of the survey were used for the drafting of technical specifications determining the reference framework for following course proposals.

The call for proposals launched in 2005 met with more response than the previous one. While in 2004 only four countries had replied offering four courses, the number of proposals increased to eleven courses in 2005 (from seven countries). However, due to legal and administrative restrictions some offers had to be withdrawn. Thus the external part of the 2006 ESTP programme finally comprises seven courses organised by five Member States (AT, NL, FI, IT and SE) and four by EFTA countries (NO, CH) (see table 2).

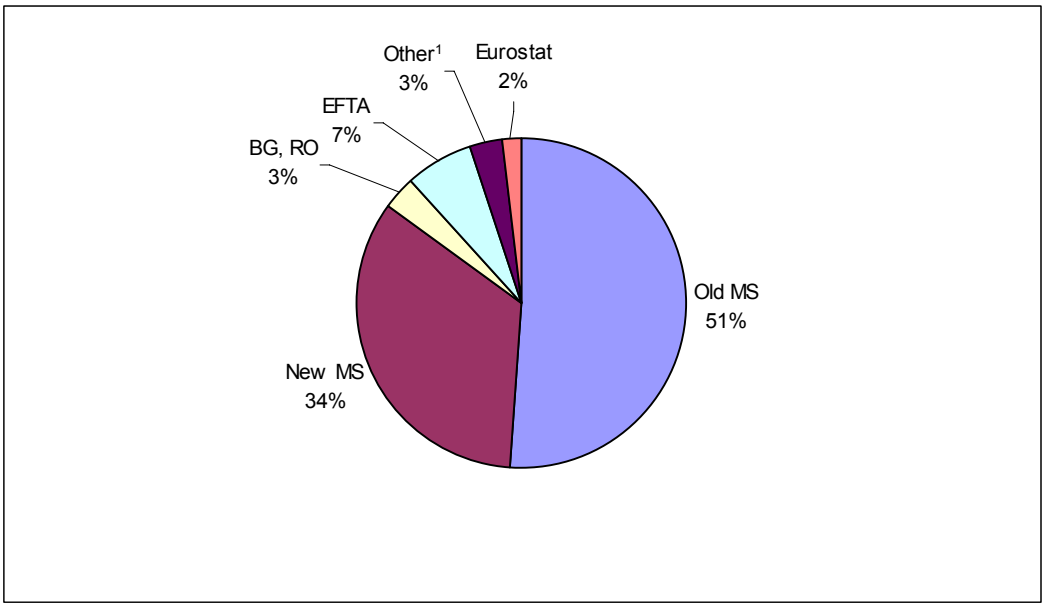
Table 2 : External ESTP courses offered in 2006

	Course	Days	Course date
AT	Nomenclatures, Classifications and their Harmonisation	3	29-31 March 06
AT	Quality Management in Statistics	3.5	10-13 April 06
FI	National accounts in practice	5	24-28 April 06
IT	Quality Measurement in Statistics	4.5	08-12 May 06
NL	Non-response in Household surveys	3	12-14 June 06
SE	Quality Management in Statistical Agencies	3	26-28 June 06
NL	National accounts in practice	10	30 Oct -10 Nov 06
CH	Data analysis and data modelling	5	To be specified
CH	To be specified		
NO	Use of administrative sources		To be specified
NO	Dissemination		To be specified

ESTP 2004-2007: overview and outlook

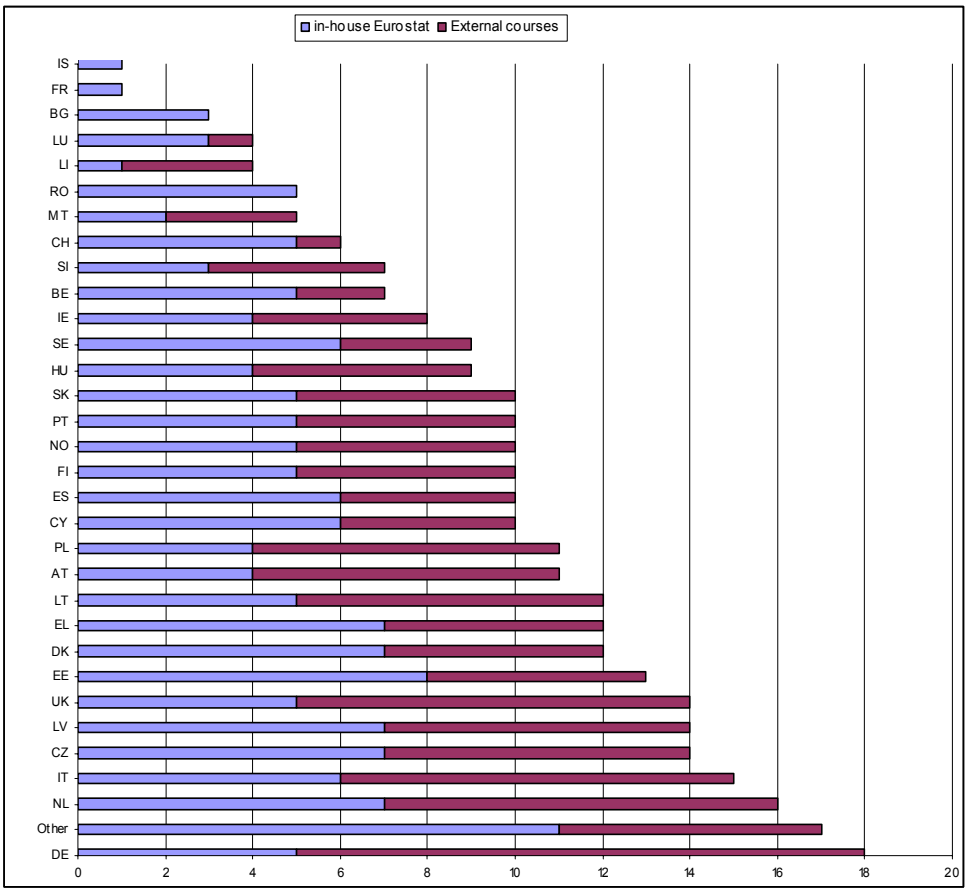
In 2005 a total of 309 statisticians participated in the European Statistical Training Programme, 150 of which attended courses organised by countries and 159 Eurostat courses.
Among ESTP beneficiary countries, EU Member States accounted for 85% of the participants, while 7% came from EFTA countries and 3% from the acceding countries Bulgaria and Romania. The remaining 5% were made up of by statisticians from Turkey, Croatia, the Ukraine, international organizations and Eurostat (see graph 2 below). Graph 1 describes the share of participants by beneficiary group while graph 2 shows their distribution in ESTP courses broken down by countries.

Graph1: Distribution of participants in ESTP courses in 2005 by beneficiary groups



[1] Turkey, Croatia, Ukraine, UNESCO, ECB, Eurostat.

Graph 2: Participation per country in ESTP courses in 2005



Over the past two years the exchange of information, best practice and experiences between the members of the ESTP network has increased considerably. The good collaboration with the ESS in the field of ESTP has certainly contributed to the fact that in only 3 years time the number of courses offered as part of the European Statistical Training programme has considerably improved. Whilst in 2004, only four in-house courses were organised, there were twelve courses organised in 2005 and twenty in 2006, an overall level of courses being offered comparable to that of 2003 (see table 3). However, these twenty courses include a few courses covering the same subject (e.g. National Accounts).

Table 3: ESTP course programme evolution since internalisation

Year	In-house	External	Total
2003			28
2004	**4**	-	**4**
2005	**5**	**6** 4 (2004 grants) 2 (EFTA)	**11**
2006	**9**	**11** 7 (2005 grants) 4 (EFTA)	**20**

Another reason for the increase of courses was the fact that the reimbursement of travel costs to participants, originally foreseen as an incentive to support the internalised programme, was made optional in the second year for external course organisers. The corresponding reduction of the administrative burden, but also financial implications had a positive impact on the number of courses offered by countries. EFTA, for example, will be in a position to offer four courses in 2006 instead of two by not offering reimbursement.

In various aspects grants proved to be an inadequate instrument for an efficient organization of a European Statistical Training Programme. The variety of the courses being offered also suffered from the administrative requirements of the grant procedure. The fact that certain courses offered by grant applicants were of similar content displays the strong dependency on proposals made by applicants and is impeding a more demand driven approach.

In order to promote a more demand-driven offer and thus better meet the training needs, Eurostat decided in 2006 to turn to a public procurement procedure. As from 2007, courses will be tendered as individual lots in a framework contract. It is expected that the possibilities for cooperation offered by a tender procedure will encourage a broader public of beneficiaries to apply for ESTP training services.

In parallel, Eurostat will continue to offer in-house training courses that proved to be an invaluable element of the programme.

Eurostat will also continue looking at complementary ways of providing training in the ESS and investigate further the national proposals. In addition, Eurostat will explore the possibilities of cooperation with other international organizations in the area of training.

III.4 STATISTICAL TRAINING AT INTERNATIONAL LEVEL FOR HIGHER QUALITY OF STATISTICS AND OF TRAINING ACTIVITIES

Introduction of statistical training activities in the United Nations Statistical Institute for Asia and the Pacific

Supporting paper by the Office of the Director-General for Policy Planning, Ministry of Internal Affairs and Communications, Japan

Introduction

The United Nations Statistical Institute for Asia and the Pacific (SIAP) is a preeminent institution for statistical training of government statisticians from developing countries in Asia and the Pacific. It was established in 1970 as the Asian Statistical Institute, and was given the status of a subsidiary body of the Economic and Social Commission for Asia and the Pacific (ESCAP) in 1995.

Mission

The mission of SIAP is to strengthen the capability of national statistical systems in the region and to enhance statistical training capabilities and related activities at the country level through practically oriented training of official statisticians in order to produce timely and high-quality statistics that can be utilized for economic and social development planning.

Organization

SIAP has a Governing Council which holds its session once a year to provide advice and guidance to SIAP. Members of the Council comprise the representative of the host government, Japan, and eight representatives of member and associate members of ESCAP elected by the Commission once every five years. The current Governing Council is composed of the representatives of elected members, namely China, India, Indonesia, Islamic Republic of Iran, Malaysia, Pakistan, Republic of Korea and Thailand, which were elected to a five-year term at the sixty-first session of the Commission held in Bangkok in May 2005, in addition to the host government, Japan.

The financial resources of SIAP are principally derived from the contributions of the host government and cash contribution from members and associate members of ESCAP.

The Government of Japan, as the host government, supports the work programme of SIAP through its cash and in kind contributions as determined on the basis of the relevant and applicable laws and regulations of the Government of Japan and in accordance with its annual budgetary appropriations.

The host government extends cooperation to SIAP through the Office of the Director-General for Policy Planning (Statistical Standards) of the Ministry of Internal Affairs and Communications (MIC) by providing administrative and infrastructure support such as the provision of office space, equipment, facilities and services of local personnel in addition to cash contributions. The Government of Japan also sponsors fellowship for the Tokyo Metropolitan Area (TMA)-based group training courses through the Japan International Cooperation Agency (JICA).

SIAP is located in Makuhari, Chiba Prefecture, which is within the Tokyo Metropolitan Area in Japan. It has modern premises, equipments and facilities including excellent personal computer facilities for participants, and training sessions are conducted with the latest technology and equipment.

Activities

SIAP regularly conducts training programmes such as (a) TMA-based group training courses conducted in Chiba, Japan and (b) a research-based training programme and specialized regional, sub-regional and country training courses, workshops and seminars conducted in collaboration with country partner institutions under the Outreach Programme. SIAP also collaborates with regional and international agencies especially in the conduct of their statistics training-related activities.

As of 31 March 2006, there were 9,893 statisticians who have been trained by SIAP. A total of 2,588 participants received their training in Japan while another 7,305 participated in the Outreach Programme with training activities organized at the country/sub-regional/regional levels.

The training directions and implementation strategies of SIAP have increasingly been aligned to the requirements for national and international official statistics arising from the programmatic themes of the UNESCAP and the agreements reached at the global Summit Conferences, particularly the commitment to monitor the MDGs. SIAP courses, whether in the Tokyo Metropolitan Area and outside, have actively integrated current priorities of UNESCAP to the extent the themes are logically relevant to the institutional mission.

SIAP is working on a partnership with the Korea National Statistical Office to collaborate with the e-Learning Center of the Korea National Open University (KNOU) in piloting the development of a prototype distance learning material on introductory statistics. The KNOU provides e-learning in, among others, graduate level education in public administration, business administration, information science, and continuing education.

Contents of training programme[1]

Programme conducted in Tokyo Metropolitan Area:

Regular training courses are conducted at the premises of SIAP and fellowships for attending group training courses are normally funded by JICA as follows:

- Group Training Course in Modules on Fundamental Official Statistics: this course provides training in fundamental statistical techniques and operations, statistical frameworks and methodologies on various fields of official statistics for statisticians with three to five years working experience in national statistical organizations (NSO). The modular approach is adopted to meet the different needs of countries. Currently the three modules are statistical and survey methods, national accounts and economic statistics, and demographic and social statistics. Tutorials, class exercises and case studies are employed to enhance the effectiveness of classroom teaching. The course is conducted annually and has a duration of six months.

- Group Training Course in Application of Information and Communications Technology to Production and Dissemination of Official Statistics: formerly the Statistical Computing Course for Trainers, this course has been realigned to train statisticians and its staff of statistical organizations in the use of Information and Communications Technology(ICT) in their daily practice. The main aspect of the curricula include computer applications covering areas such as data capturing, editing, processing, and tabulating; statistical analysis, dissemination, and data base construction; spreadsheets, graphics, and presentations; basics and consequences of the implementation of ICT in a statistical office, including system analysis, data base and quality management, and re-engineering of processes; and website design. Under the guidance of the faculty, participants will select specific topics for a project work/action plan as practical demonstration of applicable techniques. The course is conducted annually and has a duration of two months.

- Group Training Course in Analysis, Interpretation and Dissemination of Official Statistics: this course provides training in analysis, interpretation and dissemination of data for middle-level official statisticians. Since 1997, a particular subject or topic has been designated as the focus of the study through lectures, workshops, and case studies. A major component of the course consists of statistical project work/action plan undertaken by each participant using official data to prepare a report. The participants have to present their reports at the end of the course, demonstrating the application of statistical techniques and analysis. The course is conducted annually and has a duration of two months.

- Area-focused Training Course in Collection and Analysis of Official Statistics for Central Asian Countries: this course is intended to facilitate the transition to the market economy through improving economic statistics as basis for the development for the Central Asian

[1] Description of the Contents of training programme is quoted from the leaflet provided by SIAP.

countries. The training programme is structured to impart to the participants a good understanding of practical statistics with special focus on official statistics, covering the planning and designing surveys as well as field operations, compilation, analysis, and dissemination. The Course also aims to provide the officials with a sound grasp of statistical computing and to enhance their capability to write a report incorporating the results of analysis and interpretation of statistical data.

The Institute will introduce distance learning as a new initiative to provide training on official statistics through the use of the most recent ICT developments. This will enable the Institute to reach out to a wider clientele across the entire Asian and Pacific region.

Outreach Programme:

The outreach programme complements the courses conducted in the Tokyo Metropolitan Area and is carried out with the collaboration of national statistical offices, related training institutes, international organizations, and donor agencies. It has expanded considerably in recent years, thereby enriching the content and scope of training of SIAP. The courses, normally conducted at country, sub-regional and regional levels, are of short-term duration and cover a wide range of topics. The topics are, however, specific in nature and are in demand by some or a group of developing countries.

The manner in which these courses are conducted is cost-effective, with NSOs preferably providing the training facilities and administrative support. In several cases, the contributions from NSOs have been substantive, providing full board and lodging to foreign participants and resource persons. Where specialized expertise is lacking within the faculty, the services are sought externally and through collaborative arrangements with statistically developed countries of the region. This modality of training allows a larger number of statisticians to be trained. The backgrounds of the participants are more homogeneous as they come from the same country or countries with similar characteristics. When courses are conducted at country level, participants from neighbouring countries could be invited to participate with funds provided from their own sources.

The research-based training programme, implemented in 2001 with a view to raising the capacity of statisticians in undertaking independent research studies as well as producing quality statistical reports, was reformatted from a TMA-based course to a regional training course under the Outreach Programme, effective AY 2003. The new format has met both objectives of expanding the number of participants while maintaining cost effectiveness. In two courses conducted in 2004, 28 participants completed the programme under the intensive six-week outreach format compared to only 10 from 2001 to 2003 under the TMA-based course.

The United Nations Development Programme (UNDP) has been a major supporter of SIAP's outreach programme. In 2004, SIAP started implementation of a two-year data/statistical capability building for the promotion and generation of quality and reliable data to monitor the progress of the

Millennium Development Goals (MDGs) and contribute to accurate MDG Reports under the UNDP-supported MDG Initiative for Asia and the Pacific (RAS/04/060). As a member of the United Nations family of organizations, SIAP collaborates with regional and international agencies especially in the conduct of their statistics training-related activities.

Programme activities for 2005[2]

Tokyo Metropolitan Area (TMA) Based Course

- Sixth Group Training Course on Modules on Core Official Statistics, 4 October 2004-18 March 2005;
- First Group Training Course on the Application of Information and Communications Technology to the Production and Dissemination of Official Statistics, 11 May-12 July 2005;
- First Group Training Course on Analysis, Interpretation and Dissemination of Official Statistics, 19 July-16 September 2005;
- Area-focused Training Course on Collection and Analysis of Official Statistics for Central Asian Countries, 25 July-22 September 2005;

Outreach Programme

- Third SIAP/ESCAP Management Seminar for the Heads of National Statistical Offices(NSOs) in Asia and the Pacific, Bangkok, 31 January-2 February 2005;
- First Subregional Course on Statistics for Pacific Island Developing Countries, Nadi, Fiji, 28 February-23 March 2005;
- Eleventh Course/Workshop on Sample Design for Household and Establishment/Enterprise Surveys, Tehran, 11 June-6 July 2005;
- First Regional Course on Statistical Quality Management and Fundamental Principles of Official Statistics, Daejeon, Republic of Korea, 27 June-1 July 2005;
- Third Research-based Regional Course, Daejeon, Republic of Korea, 25 July-2 September 2005;
- First Regional Course on Price Statistics and the International Comparison Programme, Malé, 25-29 September 2005;
- Fourth Management Seminar for the Heads of NSOs in Asia and the Pacific, Putrajaya, Malaysia, 28-30 September 2005;
- First Regional Course on the System of National Accounts, Macao, China, 10-28 October 2005;
- Fourth Research-based Regional Course, Metro Manila, 2 November-9 December 2005;
- Country Course on Analysis of Statistics for Monitoring Millennium Development Goals, Thimphu, 3-7 January 2005;

[2] Description of the Programme Activities for 2005 is quoted from "Statistical Institute for Asia and the Pacific" of the Pre-session Document for the 62nd Committee session of ESCAP provided by the secretariat of ESCAP.

- Country Course on Geographic Information Systems (GIS) in the Philippines, Metro Manila, 24 January-4 February 2005;
- Country Course on Statistical Analysis of Cambodia Household Social Economic Survey, Phnom Penh, 14-25 February 2005;
- Country Course/Workshop on DevInfo and MS Access Software, Pyongyang, 4-15 July 2005;
- Country Course on Advance Techniques in Data Imputation for Processing Establishment/Enterprise Survey Data, Bangkok, 25 October-4 November 2005;
- Country Course on Computer-assisted Survey Data Processing, Bangkok, 7-11 November 2005;
- Country Course/Workshop on Statistical Analysis Using SPSS, Pyongyang, 30 November-9 December 2005;
- First Subregional Training Course/Workshop on Statistics for Millennium Development Goal Indicators, Tehran, 30 April-11 May 2005;
- Second Subregional Training Course/Workshop on Statistics for Millennium Development Goal Indicators, Beijing, 20 June-1 July 2005;
- Third Subregional Training Course/Workshop on Statistics for Millennium Development Goal Indicators, Hanoi, 4-15 July 2005;
- Fourth Subregional Training Course/Workshop on Statistics for Millennium Development Goal Indicators, Nadi, Fiji, 12-23 September 2005;
- Seminar/Workshop on Evaluating Capacity-Building Initiatives for Statistics for Millennium Development Goal Indicators, Chiang Mai, Thailand, 30 November-2 December 2005.

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ALCAIDE, Carmen, holds a degree in Economic Sciences in the Complutense University of Madrid. MBA of the IESE University of Navarra. Director of the Service of Studies of the "Banco Bilbao Vizcaya Argentaria" (BBVA). She is Director of the Service of Studies of the "Instituto de Crédito Oficial" (ICO). Currently, she is President of the National Statistical Institute of Spain (INE Spain), named by Royal Decree 1297/2000 of 30 of June.

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FELLEGI, Ivan P., was appointed Chief Statistician of Canada in 1985 and has been leading since that time what is ranked by The Economist as the best statistical office in the world. He has served the Agency since 1957 in positions of increasing responsibility. He has chaired the Conference of European Statisticians of the United Nations Economic Commission for Europe (ECE) (1993-97). He has been President of a number of statistical bodies including the International Statistical Institute, the International Association of Survey Statisticians, and the Statistical Society of Canada. In 1978 he was seconded to the Commission on the Reorganization of the US Statistical System, established by President Carter. He has been the Chairman of the Board of Governors of Carleton University (1995-97), which conferred upon him its first Ph.D. in 1961, and is Vice Chairman of the Board of the Canadian Institute of Health Information. Dr. Fellegi holds the Order of Canada, the Outstanding Achievement Award of the Public Service of Canada, the Order of Merit of the Hungarian Republic, the Career Achievement Award of the Canadian Policy Research Initiative, La Médaille de la ville de Paris, Member of the Hungarian Academy of Sciences, an Honorary Doctorate from Université de Montréal, an Honorary Doctorate from Université du Québec (Institut national de la recherche scientifique), an Honorary Doctorate of Law from Simon Fraser University, an Honorary Doctorate of Law from McMaster University and an Honorary Doctorate of Science from Carleton University. He is an Honorary Member of the International Statistical Institute and an Honorary Fellow of the Royal Statistical Society. Also in 1997, he was awarded the Gold Medal by the Statistical Society of Canada and awarded the Robert Schuman medal by the European Community. He has published extensively on statistical methods, on the social and economic applications of statistics and on the successful management of statistical agencies.

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GUHNEN, Anja, has been Head of Section within the Human Resources Unit of the Federal Statistical Office since 2002. She studied business administration at the University of Münster in Germany. Before she joined the Federal Statistical Office, between 1994 and 2002 she was in different positions as Human Resources Manager of various companies and as Head of Section, responsible for education policy, in the German Association of Chambers of Commerce and Industry.

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MITTAG, Hans-Joachim, is teaching at the University of Hagen. His teaching experience involves statistics and econometrics. In 2002-2006 he was on secondment with Eurostat, Luxembourg as national expert. At Eurostat he was responsible for the evaluation and analysis of structural surveys in social statistics, new strategies for statistical training / e-learning, new tools for user-friendly data dissemination and data presentation in official statistics. He has a PhD and “Habilitation” (post-doc qualification) from the University of Hagen.

OBERHAUSEN, Josefine, is the training manager in the Statistical Office of the European Commission (Eurostat). In this function she is responsible for the training programme for Eurostat staff and the European Statistical training programme for the statisticians in the European Statistical System (ESS). Before taking up this position 2 years ago she has been working in a variety of statistical domains and in Eurostat as well as in the area of Geographical Information Systems (GIS).

RADERMACHER, Walter Josef, is the President of the Federal Statistical Office of Germany. After studying business administration at the Universities of Aachen and Münster in Germany, he became a member of the academic staff of the University of Münster where he worked in the field of business mathematics (operations research) from 1975 until 1978. He joined the Federal Statistical Office in 1978 and worked in different statistical areas before his appointment as President. These areas include service industry statistics and land use statistics, and development of environmental accounting. He has taken various positions, including Head of the Organization Division, Head of the Administration Department, and Vice-President of the Federal Statistical Office. During his career, Mr. Radermacher had teaching assignments in statistics and

environmental economy at the specialised college of higher education (Fachhochschule) in Wiesbaden and the University of Lüneburg in Germany.

REID, E.W. Lee, is the Director of Human Resources Development at Statistics Canada. For over 20 years, Mr. Reid has been responsible for supporting Statistics Canada management in identifying and addressing HR issues and challenges and facilitating the creation of HR development policies and programs to evaluate the current and anticipated future needs of Statistics Canada. Mr. Reid coordinates the design, development, implementation and evaluation of the programs and mechanisms that make Statistics Canada's Comprehensive Human Resources Development Strategy operational. Mr. Reid's primary focus includes learning and development, career streaming, employee recognition, HR strategic and operational planning integrated with business planning and workforce analysis and projections used for analysis and evidence-based decision making.

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TREWIN, Dennis, is the Australian Statistician and head of the Australian Bureau of Statistics. He has occupied that position since 2000. He has been a member of the CES Bureau since 2003. He is also Chairman of the Global Executive Board of the International Comparison Program. He is a former President of the International Statistical Institute and the International Association of Survey Statisticians."