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**SURVEY ON STATISTICAL EDUCATION AND TRAINING IN  
THE MEMBER STATES OF ECLAC \***

\* This document contains the final report on the survey. It is submitted to the third meeting of the Conference for discussion.

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## A. INTRODUCTION

At the third meeting of the Executive Committee of the Statistical Conference of the Americas of the Economic Commission for Latin America and the Caribbean (ECLAC) (Santiago, Chile, 24 and 25 May 2004), the representatives of Statistics Canada, the National Institute of Statistics of Chile, the National Statistical Institute of Spain and the Department of Statistics, Surveys and Censuses of Paraguay agreed to carry out the survey that is analysed in this report, in order to collect information on the statistical education and training needs of the member States of ECLAC and on the availability of human, financial and technical resources for the management and organization of training activities. This report contains information updated as at 19 March 2005, provided by the Statistics and Economic Projections Division of ECLAC. The Division constructed a database for that purpose, which has been used to update the results. The member States which were added to the November 2004 report are Grenada, Jamaica, Mexico, Nicaragua and Portugal. The tables have been updated with the new information received and may be consulted in reference document DDR/2, which is available in electronic form from the web site of the Conference.<sup>1</sup> Four summary tables have been added which contain information relating to the current availability declared by all the countries surveyed and the priority needs indicated, in order to facilitate the planning of courses and education and training activities in the near future. Information was also added on the estimated costs of current activities and those scheduled for 2005, on the basis of the data provided by those responsible for the centres which have experience in these activities.

## B. STATUS OF THE SURVEY ON EDUCATION AND TRAINING IN THE MEMBER STATES OF ECLAC AS OF 19 MARCH 2005

### 1. Availability of resources: infrastructure, in-house policies, human and financial resources for education and training

(a) At the closing of this technical report, 28 surveys had been received from 25 countries. The United States reported on four institutions, including the Census Bureau, which carry out statistical training activities in the country. These institutions are the Bureau of Labor Statistics, the United States Census Bureau, the National Agricultural Statistics Service, and the National Center for Health Statistics (see table 1 of reference document DDR/2).

(b) For the purposes of the report, the countries have been grouped into five subregions. The results for each region in terms of their response to the survey and the percentage of replies received are:

**North America** (Canada, United States and Mexico). The response rate was 100%.

**Central America and the Caribbean** (Bahamas, Costa Rica, Cuba, Dominica, El Salvador, Grenada, Guatemala, Haiti, Honduras, Nicaragua, Panama, Saint Kitts and Nevis and Trinidad and Tobago). The response rate of the countries was 85.7%. Information was not received from Haiti and Honduras.

**Southern Cone** (Argentina, Brazil, Chile, Paraguay, Uruguay). The response rate was 100%.

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<sup>1</sup> See <http://www.eclac.cl/deype/ceacepal/index.htm>.

**Andean region** (Bolivia, Bolivarian Republic of Venezuela, Colombia, Ecuador, Peru). The response rate of the member States in this subregion was 40%. Information was not received from the Bolivarian Republic of Venezuela, Colombia and Ecuador.

**European countries** (Spain, France, Italy, Portugal and the United Kingdom). The response rate was 60%. France and the United Kingdom sent explanations for why they had not returned the survey forms.

**Conclusion:** When the information was updated on 19 March 2005, 78.2% of the forms sent out had been returned. These are the responses which have been included in this report. The percentage of forms not returned is 21.8% (7 countries). Consequently, the data analysis in this report refers to 32 countries. The United States provided information from four centres, including the Census Bureau.

(c) Infrastructure: countries with education and training centres

Of the national offices which responded to the survey, 48% reported that they had a specialized centre for the training of their statistical staff. This availability is concentrated in the institutes of North America, which accounted for 38% of all positive responses, followed less than closely by the countries of the Southern Cone, with 23%. As for the institutes which lack these specialized centres, 79% of them are in the subregion of Central America and the Caribbean (see table 2 of reference document DDR/2).

**Conclusion:** It is clear from the final data that in priority in the programming of education and training should be given to the specialized centres of the countries in the subregions of North America and the Southern Cone, as they have more centres available.

(d) Type of instructors who are responsible for staff education and training

Overall, 55% of the institutions have in-house instructors, of which 32% are nationals and 13% are foreign. The percentages of in-house instructors by subregions are as follows:

- North America: 67%
- Central America and the Caribbean: 44%
- Southern Cone: 67%
- Andean region: 67%
- European countries: 67%

The proportion of in instructors within each region and even in each country tends to be constant, with the exception of the Central American region (see table 3 of reference document DDR/2).

(e) Institutional policies on education and training in the centres

The heads of the training centres in the countries were asked about their in-house education and training policies. Of those interviewed, 58% reported that they had a policy for extended training (programmes of more than two weeks duration) and 42% reported that they had postgraduate programmes (see table 4 of reference document DDR/2). In terms of percentages, the centres offering extended and postgraduate courses to their staff are distributed as follows:

- North America: 37%
- Central America and the Caribbean: 11%
- Southern Cone: 32%
- Andean region: 11%
- European countries: 11%

**Conclusion:** An institution with a policy that gives priority to extended training oriented to postgraduates may help and facilitate the planning of courses with a schedule and contents clearly oriented to meeting the increasingly complex needs of the use and teaching of statistics. The institutes with policies for extended programmes oriented to postgraduates are concentrated in the countries of North America and the Southern Cone (see table 4 in reference document DDR/2).

(f) Availability of distance education programmes

Of the countries which sent information on this point, only Chile (in the Southern Cone group) reported having this type of programme and also financing for the year 2005. In the North American region, the National Institute of Statistics, Geography and Informatics (INEGI) of Mexico and the United States Census Bureau reported having such education and training programmes, with the necessary financing. Of the European countries, Italy reported that it had that type of training, but did not report on its financing (see table 5 of reference document DDR/2).

**Conclusion:** The National Institute of Statistics (INE) of Chile, INEGI of Mexico and the United States Census Bureau are probably the institutions which have centres where this type of training could be initiated, as they already have a vision of this type of training and are willing to invest in it.

(g) Economic resources to finance education and training activities

Overall, 69% of the cases reported have financing for their activities. Accordingly, 1 in 3 does not have it.

The institutes in North America have financing in 83.3% of the cases. Financing in the case of the United States Census Bureau has tended to be stable over the past three years.

In Central America and the Caribbean, 54.5% of the institutes have an annual budget. Financing has been stable in 50% of cases over the past three years.

The countries of the Southern Cone have annual budgetary assignments in 60% of cases reported. Their budgets have remained stable or without change over the past three years in 68% of cases.

In the Andean region, only Bolivia and Peru responded (see table 6 of reference document DDR/2).

Lastly, with regard to the European countries, Italy reports that its annual budget has diminished over the last three years. Spain reports that its annual budget for training and education has tended to be stable. On this point, the Office for National Statistics (ONS) of the United Kingdom reported that the survey questions were not applicable as it does not have its own training centre, although the Department

for International Development (DFID) of the Government of the United Kingdom does offer resources for improving infrastructure (including statistical capacity-building) in low-income Latin American countries.

**Conclusion:** The Central America and Caribbean countries form the group with the most cases of a lack of an annual budget for education and training of statistical staff, which is the situation of 45.5% of the institutes reporting. It is very closely followed by the Southern Cone group, with the significant level of 40% (see table 6 of reference document DDR/2). The budgets of the institutions in the latter group have remained stable for the past three years in 100% of cases.

## 2. Gaps in the area of education and training

In the survey, informants were requested to indicate the statistical areas in which they noted gaps in education and training of their human resources, that is, their education and training needs. In order to structure the responses, a classification was established with nine areas subdivided into 50 statistical topics.

Table 7 of reference document DDR/2 was constructed on the basis of the information contained in the replies from the countries, including Grenada, Jamaica, Mexico, Nicaragua and Portugal, and on the basis of the frequencies of the topics within each statistical area. The main conclusions follow below, with indication of the topics assigned a high degree of importance by the informants.

**North America:** The priorities of these countries, and particularly of the United States, are mainly in labour and social statistics (19.1%), followed by other statistics (17.0%). The area given least priority is population and cadastre censuses (6.4%), followed by price and national accounts statistics, with lesser frequencies.

**Central America and the Caribbean:** For this group, 56% of the high priority topics for education and training needs are concentrated in the areas of national accounts (15.9%), labour and social statistics (15.5%), other statistics (13.6%) and industrial, construction and agricultural statistics (11.2%). Meanwhile, the statistical areas considered less important are methodology, techniques and sampling frames (7.9%) and price statistics (7.4%).

**Southern Cone:** This group of countries is most interested in the areas of service statistics (17.4%) and other statistics (15.1%). The area least mentioned was population censuses, with 4.7% of all responses assigning them high priority.

**Andean region:** High priority is given to the areas of national accounts (19.1%) and other statistics (17.2%). The areas least often assigned this degree of importance were population and cadastre censuses (6.4%) and methodology, techniques and sampling frames (6.4%).

**European countries:** The areas which attract a high degree of interest are statistical methodology and techniques (21.9%) and price statistics (17.8%), in contrast to the area of population censuses, with a frequency of 8.2 %.

Table 1 shows a selection of the training available, with the subjects of the courses and their general contents, arranged by centre and country. The countries were selected on the basis of the information provided for the survey. They include those who reported having a training centre suitable for receiving international students and which have experience in providing courses, or are carrying them out at present or plan to do so in the future.

In addition, the following aspects have been considered: language, geographical location, level of economic, technological and social development, domestic security, agreements with local or international universities, and others.

The heads of the centres were contacted and most of them provided the additional information required to make the table. This information will be compared with the high priority needs reported by the national statistical offices of the countries that took part in the survey.

Table 1  
**MEMBER STATES OF ECLAC (8 COUNTRIES): STATISTICAL EDUCATION  
AND TRAINING OFFERED TO FOREIGNERS**

Country	Institution	Name of centre	Subject matter of courses	Observations
<b>United States</b>	United States Census Bureau	International Program Center	Courses on the collection and processing of population, economic and agricultural censuses and sample surveys	See list of courses by level for 2005 and their costs
<b>Spain</b>	National Statistical Institute (INE)	European Training Centre for Economist-Statisticians from Developing Countries	Continuous training programme for statisticians in the region of Latin America and the Caribbean	Response received
<b>Brazil</b>	Brazilian Geographical and statistical Institute (IBGE)	National School of Statistical Sciences (ENCE)	<ul style="list-style-type: none"> <li>• Bachelor's programme in statistics</li> <li>• Master's programme in population studies and social surveys</li> <li>• Courses on developing survey skills</li> </ul>	Does not have a centre for the training of foreign statisticians. All the courses are held in Portuguese.
<b>Argentina</b>	National Institute of Statistics and Censuses (INDEC)	Does not have a specific centre for education and training of its statisticians. The National Department of Human Resources and Organization is responsible at the internal level.	<ul style="list-style-type: none"> <li>• Lecture room of the Japan International Cooperation Agency (JICA)</li> <li>• Annual course (duration – one month) on sociodemographic subjects</li> <li>• Master's programme in generation and analysis of statistical information</li> </ul>	
<b>Italy</b>	National Institute of Statistics (ISTAT)	<ul style="list-style-type: none"> <li>• Department of external affairs</li> <li>• Human Resources Development Unit</li> </ul>	<ul style="list-style-type: none"> <li>• Statistics</li> <li>• Management</li> <li>• Organization</li> <li>• Laws and administration</li> <li>• Foreign languages</li> <li>• Labour safety</li> <li>• Communication</li> </ul>	<ul style="list-style-type: none"> <li>• Postgraduates</li> <li>• Specific programmes for trainers</li> <li>• Special programmes for statisticians from official offices</li> </ul>
<b>Mexico</b>	National Institute of Statistics, Geography and Informatics (INEGI)	In house training centre. Hosts international courses and workshops.	Statistics and geography	
<b>Chile</b>	National Institute of Statistics (INE)	Department for in house education and training	Annual programme for education and training of statisticians from the Institute in statistical subjects.	In 2005 an applied statistics training programme using the <i>e-learning</i> format is being implemented.
<b>Colombia</b>	National Administrative Department of Statistics (DANE)	National Administrative Department of Statistics (DANE)		Training centre for countries in the Andean region

Source: Economic Commission for Latin America and the Caribbean (ECLAC), Survey on Education and training, 2004.

### C. PRIORITY TRAINING NEEDS

Table 2 indicates the statistical areas to which a high degree of importance is assigned in relation to education and training needs, and in respect of which the national statistical offices consider it necessary to take action .

Eight areas, divided into 50 topics, have been established. The frequency of response is an adequate indication of the priority needs for statistical staff education and training in the national statistical offices. This information has been tabulated by regions and countries, in order to provide information on the thematic contents that are most frequently mentioned. This will be useful when deciding on the first courses to be scheduled on the basis of the importance of statistical topics for the strengthening of each country's statistical office.

The information contained in table 2 shows which countries have the greatest thematic gaps in their priorities as declared in the survey. These gaps should be used as a guide for scheduling the education and training programmes for each region. The topics with the lowest frequency are also tabulated by country and region, that is, relatively less importance is assigned to them in the education and training of their statistical staff.

#### **Main conclusions**

**North America.** The thematic contents in which this region's countries have a high level of need for training are:

- (i) Labour and social statistics. Statistics Canada has the highest frequency in this area.
- (ii) Statistical planning.

**Central America and the Caribbean.** The statistical areas referred to for the education and training of national statistical staff, ordered from greater to lesser frequency, are:

- (i) National accounts
- (ii) Labour and social statistics
- (iii) Service statistics
- (iv) Industrial, construction and agricultural statistics

Costa Rica, Cuba, Guatemala, Nicaragua and Trinidad and Tobago are the countries which refer the most often to the thematic contents of national accounts (frequencies of 9, 9, 9, 8 and 9, respectively; see table 2).

Costa Rica, Grenada, Jamaica and Trinidad and Tobago are the countries of this subregion which show the greatest needs for education and training in labour and social statistics for their current statistics-producing staff. Cuba, El Salvador and Trinidad and Tobago also have significant gaps in the area of industrial, construction and agricultural statistics (see table 2).

Table 2  
**MEMBER STATES OF ECLAC (14 COUNTRIES): STATISTICAL AREAS ASSIGNED PRIORITY  
 FOR EDUCATION AND TRAINING**  
*(Frequencies, March 2005)*

Region/Country	Areas of education and training									
	Population censuses	Statistical planning	National accounts	Statistics on services	Industrial, construction and agricultural statistics	Statistics on prices and family budgets	Statistical methodology and techniques and sampling frames	Labour and social statistics		
North America										
Canada	2	4	4	7	6	3	4			7
United States (Census Bureau)	4	4	-	-	2	3	2			3
Mexico	1	2	-	-	-	-	1			1
<b>Total</b>	<b>6</b>	<b>10</b>	<b>4</b>	<b>7</b>	<b>8</b>	<b>6</b>	<b>5</b>			<b>11</b>
Central America and the Caribbean										
Costa Rica	3	4	9	7	4	1	4			11
El Salvador	4	4	4	6	5	4	3			6
Guatemala	4	3	9	3	4	4	4			4
Nicaragua	2	4	9	4	3	1	1			6
Panama	3	7	6	5	4	2	7			7
Bahamas	2	4	4	6	5	3	3			2
Trinidad and Tobago	4	4	8	4	6	3	4			8
Saint Kitts and Nevis	1	3	3	2	5	1	2			2
Cuba	5	4	9	7	6	4	4			6
Grenada	4	3	7	4	5	4	3			8
Jamaica	4	4	4	6	4	3	4			10
<b>Total</b>	<b>36</b>	<b>44</b>	<b>72</b>	<b>54</b>	<b>51</b>	<b>30</b>	<b>39</b>			<b>70</b>

Table 2 (concluded)

Region/Country	Areas of education and training									
	Population censuses	Statistical planning	National accounts	Statistics on services	Industrial, construction and agricultural statistics	Statistics on prices and family budgets	Statistical methodology and techniques and sampling frames	Labour and social statistics		
Southern Cone										
Argentina	1	3	1	7	2	1	2	3		
Brazil	1	1	1	2	3	1	1	1		
Chile	2	2	7	6	4	4	7	6		
Paraguay	-	4	9	7	4	3	1	2		
Uruguay	4	4	9	7	6	4	4	11		
<b>Total</b>	<b>6</b>	<b>14</b>	<b>27</b>	<b>29</b>	<b>19</b>	<b>13</b>	<b>15</b>	<b>23</b>		
Andean Region										
Bolivia	3	3	9	4	5	1	4	9		
Peru	3	4	9	7	5	4	3	4		
<b>Total</b>	<b>6</b>	<b>7</b>	<b>18</b>	<b>11</b>	<b>10</b>	<b>5</b>	<b>7</b>	<b>13</b>		
European countries										
Spain	1	1	1	1	1	1	1	1		
Italy	1	3	-	-	4	3	3	2		
Portugal	5	4	9	7	6	4	4	11		
<b>Total</b>	<b>7</b>	<b>8</b>	<b>10</b>	<b>8</b>	<b>11</b>	<b>8</b>	<b>8</b>	<b>14</b>		

Source: Economic Commission for Latin America and the Caribbean (ECLAC), Survey on education and training, 2004. Special tabulation of March 2005.

### D. PROPOSED TOPICS

Table 3 contains a list of the topics that have been requested by the education and training centres of the national statistical offices surveyed. Taking into account the subjects of the courses of the Inter-American Statistical Training Center (CIENES) and the three levels of instruction offered, the main topics are arranged according to the following levels:

- Course A: Basic or descriptive statistics.
- Course B: Economic and social statistics, including basic sampling techniques and economic applications.
- Course C: Master's programme in mathematical statistics, at postgraduate level.

Table 3  
**MEMBER STATES OF ECLAC: LEVELS AND TOPICS OF EDUCATION AND TRAINING  
 REQUESTED AS A HIGH PRIORITY**  
*(March 2005)*

Training level and topic	Countries assigning high priority
I. BASIC STATISTICS	
Statistical planning	<ul style="list-style-type: none"> <li>• Canada, United States</li> </ul>
II. ECONOMIC AND SOCIAL STATISTICS	
Labour and social statistics	<ul style="list-style-type: none"> <li>• Canada</li> <li>• Argentina, Costa Rica, Grenada, Jamaica, Paraguay, Uruguay</li> <li>• Portugal</li> </ul>
National accounts	<ul style="list-style-type: none"> <li>• Costa Rica, Cuba, Guatemala, Nicaragua, Trinidad and Tobago</li> <li>• Bolivia, Peru</li> <li>• Portugal</li> </ul>
Statistics on services	<ul style="list-style-type: none"> <li>• Bahamas, Costa Rica, Cuba, El Salvador, Jamaica</li> </ul>
Industrial, construction and agricultural statistics	<ul style="list-style-type: none"> <li>• Bahamas, Cuba, El Salvador, Granada, Trinidad and Tobago</li> <li>• Portugal</li> </ul>
III. MASTER'S PROGRAMME IN STATISTICS	<ul style="list-style-type: none"> <li>• Information not available</li> </ul>

**Source:** Economic Commission for Latin America and the Caribbean (ECLAC), Survey on Education and training, 2004.

The goal is to identify the requests made by the staff of the national statistical offices of the countries, in order to facilitate the registration of candidates and the scheduling of the courses. The probable costs of these courses have also been estimated according to duration, travel, daily allowances for food and accommodation, and other factors. Unit costs are set (for a typical participant) and used to calculate the total costs, which must be adjusted for each course according to their goals, location, number of participants, location, language and other factors. The academic requirements for each course will have to be studied in order to create a participant profile ensuring optimum benefit from the course.

The subjects covered in the survey have been complemented by the suggestions of experts from Argentina, Brazil, Chile and Mexico in order to define some short courses and workshops, as well as methodological issues related to the levels that have been suggested in this report. This information will serve as a basis for the debate and the specific scheduling of the contents and objectives during the third meeting of the Conference in June 2005, in Santiago, Chile (see the following section).

## E. ESTIMATED COSTS OF EDUCATION AND TRAINING

Table 4 contains a list of topics and a preliminary breakdown by course, level and probable duration. In addition to the information obtained directly from the survey, some proposals have been included that emerged in the context of the United Nations Statistical Commission according to the classification of topics by the goals proposed by the United Nations Expert Group Meeting to Review Critical Issues Relevant to the Planning of the 2010 Round of Population and Housing Censuses.

Table 4  
**MEMBER STATES OF ECLAC: DEMAND FOR TRAINING BY LEVELS, TOPICS  
 AND COURSES BY DURATION AND COSTS**  
*(March 2005)*

<b>Level, topic and course</b>	<b>Duration</b>	<b>Unit cost (US\$)</b>
<b>I. BASIC STATISTICS (WORKSHOPS)</b>	2 weeks	5 250
Statistical planning		
1. Population and housing censuses towards the twenty-first century		
2. Method of outsourcing for census operations		
3. Digital mapping for small areas		
4. Use of global positioning systems (GPS), pocket computers and minicomputers		
5. Creation of the international integrated migration information system		
<b>Total cost of a standard course for 20 participants</b>		<b>105 000</b>
<b>II. ECONOMIC AND SOCIAL STATISTICS</b>	3 weeks	7 001
Labour and social statistics		
1. Construction of social indicators		
2. Methodology of master samples		
3. Migration statistics and population projection		
4. Demography and health planning		
National accounts		
Statistics on services		
System of local statistics		
Industrial, construction and agricultural statistics		
Techniques for surveying multipurpose censuses		
<b>Total cost of a standard course for 20 participants</b>		<b>140 020</b>
<b>III. MASTER'S PROGRAMME IN STATISTICS</b>		n/d

**Source:** United States Census Bureau, International Programs Center, 2005; United Nations, United Nations Expert Group Meeting to Review Critical Issues Relevant to the Planning of the 2010 Round of Population and Housing Censuses, Trust Fund for Population and Housing Censuses, March 2005.

Table 4 was constructed by calculating the actual costs per participant (according to the estimates of the United States Census Bureau for the year 2005). The fixed cost is US\$ 2,000 per two-week course and US\$ 1,000 for each additional week.

The total cost includes medical and accident insurance (50 dollars), which increases by US\$ 100 if the participant is over 50 years old.

The daily accommodation allowance for the Washington, D.C., area is US\$ 89 per night, while the food and sundry expenses allowance is US\$ 51 per day. The cost of transport (airport to hotel, daily transfers from the hotel to the place of training and back) is calculated as US\$ 200. Lastly, average cost of the air ticket is estimated at US\$ 900.