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**UPDATING THE INTERNATIONAL STANDARD CLASSIFICATION
OF OCCUPATIONS, ISCO-08**

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Updating the International Standard Classification of Occupations, ISCO-08



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The International Labour Office (ILO) is the custodian for the *International Standard Classification of Occupations (ISCO)*. This classification serves as model for the development or revision of corresponding national classifications and facilitates international communication on occupational information, in particular the production and presentation of reasonably comparable statistics for different countries. ISCO is a member of the international family of economic and social classifications (see <http://unstats.un.org/unsd/class/default.htm>).

As the custodian for ISCO, the ILO is responsible for ensuring that it is regularly up-dated and developed to reflect the occupational realities in the world, and to provide guidance on its effective use for the production of reliable statistics.

ISCO is adopted by the International Conference of Labour Statisticians (ICLS) in the form of a resolution, which is later approved by the Governing Body of the ILO. The first version of ISCO was adopted in 1958. This version was later revised in 1968. The current version of ISCO dates back to 1988 (see www.ilo.org/public/english/bureau/stat/download/res/isco.pdf). The ILO has since then provided advisory services in more than 60 countries and territories for users of ISCO-88 and to those developing, revising or using national occupational classifications (NOCs)¹.

Reasons for updating ISCO-88

ISCO-88 needs to be updated for a number of reasons. One relates to its relation with the United Nations' International Standard Industrial Classification of all economic activities (ISIC). Revisions of ISCO have since the 1958 version followed a similar cycle of revisions as ISIC. A new version of ISIC is expected to be finalised in 2007, in time to be taken into account for the 2010 round of population censuses. In accordance, the United Nations Statistical Commission requested in March 2003 that a revised ISCO should also be available at that time (see page 18 of <http://unstats.un.org/unsd/statcom/doc03/report-english.pdf>).

¹ Visited: Argentina, Bahrain, Belarus, Brazil, Bulgaria, Costa Rica, Colombia, Croatia, Cuba, Dominican Republic, Estonia, Indonesia, Kenya, Kyrgyzstan, Paraguay, Peru, Russian Federation, Slovenia, Sweden, Thailand, Tunisia, United Kingdom and the United States. Visitors came from Somalia, Switzerland and Ukraine. Development work in Fiji, Mauritius, Namibia, Tanzania and Trinidad & Tobago was supported by an ILO sponsored or backstopped resident expert.

Another reason for updating ISCO-88 relates to its age. More than sixteen years have passed since the 14th ICLS adopted ISCO-88 and there have been a number of developments in the economies of countries all over the world, most notably of ICT. It can be expected that changes of some type are necessary in ISCO-88 to reflect them.

A third reason is related to the experience gained in applying ISCO-88 in countries. Most national classifications of occupations (NOC) in the world are in fact adaptations of ISCO-88 (see Annex 1 at the end of this paper). And because ISCO-88 is an international classification, there are inevitably problems of adaptation. Some of these problems are common in many countries and an updated ISCO will try to tackle them.

A final reason relates to the recommendation made by the 17th ICLS, which adopted a resolution endorsing the updating and overall improvement of ISCO-88 to reflect the important changes that have taken place in the world of work. The resolution adopted by the 17th ICLS is presented as Annex 2 to this paper.

What will be changed

The 17th ICLS recommended that ISCO-88 should be updated, which entails only minor changes, primarily at the lower levels of the classification structure. This means that the changes that will be carried out to ISCO-88 are mainly of three types:

- New categories of jobs that warrant separate groups in ISCO will be introduced at the appropriate level in the classification structure;
- Existing groups that no longer warrant separate identification will be combined with other occupational groups or deleted, as appropriate;
- Existing definitional descriptions will be redrafted.

What will not be changed

The 17th ICLS recommended that the basic principles and structure of ISCO-88 should not be revised. This means that the classification units, variable and criteria will not be modified, nor will the hierarchical structure of ten major groups at the first level of the classification.

The basic principles

ISCO-88 classifies jobs into occupational groups according to the similarity in the *skill level* and the *skill specialisation* of the tasks and duties performed. Thus:

- the classification units in ISCO-88 are the **jobs**,
- the classification variable is the **kind of work done** (that is, the tasks and duties), and
- the classification criteria are the **skill level** and **skill specialisation**.

A job is defined as a set of work tasks and duties performed by one person or designed to be performed by one person (in the case of unfilled jobs). Jobs which have the same set of main tasks and duties are aggregated (grouped together) into occupations. Occupations are grouped together into narrowly or broadly defined occupational groups on the basis of similarity in the *type of work done*, defined as similarity in the tasks and duties performed.

The *skill level* concept used for ISCO-88 is defined as a function of the complexity and range of the tasks and duties involved. It uses the educational categories and levels of the *International Standard Classification of Education* adopted in 1976 (ISCED-76) as an approximation to the skill level of jobs. It is an approximation in the sense that if the necessary skills required for the performance of a job could be acquired through formal education or training, the ISCED level would indicate the level at which such education and training would have been undertaken. The *skill level* concept in ISCO however goes much beyond ISCED to include skills which are acquired through experience and informal training and the decisive factor for determining how an occupation should be classified is the nature of the skills required for the job it covers - not the way in which these skills have been acquired. In operationalizing *skill level* at the national level, countries need to use information **not only** regarding national education and training systems to the extent that **these play a large role** in skill acquisition (mostly at higher skill levels), but also other type of information regarding the skills required, specifying the type and level of training and experience which new entrants into the occupations are typically expected to have.

The *skill specialisation* reflects: type of knowledge applied, tools and equipment used, materials worked on, or with, and the nature of the goods and services produced. It is related to subject matter areas, production processes, equipment used, materials worked with, products and services produced, etc. The words used to describe subject matter, production processes, etc. therefore have to be used as labels for the core sets of skills with which occupations are concerned. The same type of words may be used to describe the type of activity, i.e. the *industry*, of the production unit. For some workers it will therefore be possible to "predict" the occupation in which they are working with a fairly high degree of success, knowing how they are classified by industry. This does not mean that ISCO-88 is using industry as a classification criterion (except in a few cases where it is directly relevant), only that skills in fact are linked to products, materials, etc. which are the determinants of the industry of the establishment in which the work is carried out. The conceptual difference between the two types of classifications should not be forgotten, even though it may be partly obscured by the correlation between them and by the terminology used.

The main structure

On the basis of the classification criteria, ISCO-88 organizes occupations in a hierarchical structure which consists of 10 major groups at the top level of aggregation, subdivided into 28 sub-major groups, 116 minor groups and 390 unit groups as described in the figure below.

Table 1. ISCO-88 with number of subgroups and skill levels

	Major groups	Sub- major groups	Sub-groups	Unit groups	ISCO Skill level
1	Legislators, senior officials and managers		8	33	-
2	Professionals	4	18	55	4th
3	Technicians and associate professionals	4	54	73	3rd
4	Clerks	2	7	23	2dd
5	Service workers and shop and market sales workers	2	9	23	2nd
6	Skilled agricultural and fishery workers	2	6	17	2nd
7	Craft and related trades workers	4	16	70	2nd
8	Plant and machine operators and assemblers	2	20	70	2nd
9	Elementary occupations	3	10	25	1st
0	Armed forces	1	1	1	-
Totals		28	116	390	

Source: ILO, ISCO-88, Geneva 1990.

Areas to be updated

Based on the discussions at the 17th ICLS as well as on requests received from a number of organisations, a number of areas will be targeted on a first stage of the updating process. These areas are not exhaustive and other areas may also be examined based on suggestions that countries may want to raise. Some of these issues are general in nature, while others identify particular occupational groups.

Among the general issues, we are interested in having views and comments on:

- **The application of skill at national level:** the application of the *skill level* criterion at the national level for those countries which have a NOC based on skills, and the treatment that they follow when the skill level required for a particular occupation varies in time and across countries, or is different than the one assigned in ISCO-88.
- **The wording of titles:** proposals for new occupational titles that will not be interpreted differently in countries speaking the same language or that are better translations of ISCO-88.
- **The need for general occupations:** whether ISCO-88 should create occupational groups for general occupations. General occupations have tasks and duties which cut across more than one occupational group in the same higher level group in the classification because their tasks are less specialised and should not be confused with residual categories (of the “not elsewhere classified” type). ISCO-88 does not have general categories but recommends the use of priority rules to assign general occupations. These

rules state that a job with tasks and duties relating to more than one occupational group in the classification should be classified in the category which represents the highest skill level. Where more than one of the tasks is at the same (highest) skill level, the job should be classified in the occupational group of the task that accounts for most of the job's working time.

- **The treatment of “not elsewhere classified categories”:** whether ISCO should change its rules regarding “residual” unit groups, which currently cover jobs that belong to the more aggregate group but which are not similar enough to any of the specified sub-groups within it to belong in any of them and which in themselves are too small in numbers to warrant separate specified groups. They are not to be used to classify jobs whose description is too vague, general or is not covered by the classification.
- **The need to reflect globalization and deregulation:** the types of new occupations which have emerged because of globalisation and deregulation of the labour market.

Regarding specific groups, we are interested in having views and comments on:

- **IT occupations:** the need to create two new sets of occupational groups for web administrators and for call centre operators and to have any suggestions to add other groups or improve the descriptions of existing groups in this area.
- **Managers:** methodologies to improve the identification of managers as compared to workers who have management responsibilities; and of corporate managers as compared to general managers; and on whether it would be desirable to separately identify supervisors.
- **Female dominated occupations:** the possibility to further disaggregate secretaries and to have views on any other distinction among occupations where women predominate.
- **Informal occupations:** the possibility to create new groups for repairers of bicycles street vendors who cook the food they sell, persons who provide services in the street such as car watching and car washing and domestic gardeners; and regarding the usefulness of improving the visibility of domestic workers, an occupation which employs an important share of women workers in many countries of the world.
- **Agriculture occupations:** the distinction between managers of agricultural enterprises, farmers and other skilled workers in agriculture and labourers; and on the need to further disaggregate subsistence agriculture.
- **Production of goods and services for own consumption:** the treatment of persons who produce goods or provide services for the benefit of their household. These are persons who make clothes, furniture, pottery that will be used by the family, as well as persons who clean their own house, cook and take care of their own children. ISIC has recognised the importance of these jobs and has included groups for them.
- **Cooks:** the possibility and need to distinguish cooks who plan and prepare meals from basic ingredients from short order and fast food cooks.
- **Civil servants:** the possibility of creating a new group for professional civil servants, whose tasks and duties are mainly administrative in nature, for example, for implementing rules and regulations, and distinguishing them from other professional civil servants whose tasks and duties have an equivalent elsewhere in ISCO, for example, doctors and engineers.

- **Military occupations:** the possibility of classifying in the armed forces only those occupations which are specific to the armed forces, such as soldiers, and classify those occupations with an equivalent elsewhere in ISCO with their corresponding group.
- **Waste management and recycling occupations:** whether some occupational descriptions in ISCO-88 need to be modified to better reflect recycling activities, and on the need to create a new occupational group to identify sorters and collectors of paper, plaster and other recycling materials in dumpsites.

Updating methodology

The 17th International Conference of Labour Statisticians decided that the updated version of ISCO will be adopted by a tripartite *ILO Meeting of Experts on Labour Statistics*, to be convened at the end of 2007. This is a departure from the usual procedure of adoption of a resolution at an ICLS, which is then approved by the ILO Governing Body. It was a necessary compromise given the fact that the deadline for an updated ISCO is 2007 but the next ICLS cannot take place before 2008.

- Prior to that Meeting of Experts, the intention is to obtain feedback from all countries using two mechanisms. The first is through **questionnaires** to obtain general guidelines as well as concrete recommendations for the creation of new occupational groups and to improve the descriptions of already existing groups. We will be sending questionnaires to all countries through their:
 - National Statistical Agency,
 - Ministry of Labour,
 - Vocational Training Institute,
 - Employers Organizations, and
 - Workers Organizations

A first questionnaire will be sent in September of this year and will cover the topics mentioned in the previous section.

The second mechanism is to use a **web discussion** forum for particular issues. The web discussions will concentrate on some of the issues in the questionnaires, as well as any others that may arise. These discussions will start later in the year and be continuous up to 2007. You are most welcome to participate at:

www.ilo.org/public/english/bureau/stat/class/isco/webdiscussion.htm.

You are also invited to visit our website, which will be operational in September, at www.ilo.org/public/english/bureau/stat/class/isco.htm.

Annex 1: National classifications of occupations and ISCO (draft)*

<i>Country name</i>	<i>Based on ISCO-68, ISCO-88 or national structure (NS)</i>	<i>NOC developed/revised in (year):</i>	<i>Number of occupational groups</i>	<i>Link to National Website</i>
Albania	ISCO-88			
American Samoa				
Anguilla				
Antigua and Barbuda				
Argentina	NS			
Aruba				
Australia	ISCO-88			
Austria	NS, ISCO-88			
Bahamas				
Bahrain	ISCO-88			
Barbados	ISCO-88			
Belarus	ISCO-88			
Belgium	ISCO-88			
Belize				
Benin				
Bermuda				
Bolivia				
Botswana	ISCO-88			
Brazil	ISCO-88			
Brunei Darussalam				
Bulgaria	ISCO-88			
Burundi				
Canada	NS			
Cape Verde				
Cayman Islands	ISCO-88			
Central African Rep.				
Chad				
Chile				
China	NS			
Comoros				
Cook Islands				
Croatia	ISCO-88			
Cyprus	ISCO-88			
Czech Republic	ISCO-88			
Denmark	ISCO-88			
Dominican Republic	ISCO-88			
Ecuador				
El Salvador				
Eritrea				
Equatorial Guinea				

<i>Country name</i>	<i>Based on ISCO-68, ISCO-88 or national structure (NS)</i>	<i>NOC developed/revised in (year):</i>	<i>Number of occupational groups</i>	<i>Link to National Website</i>
Estonia	ISCO-88			
Fiji	ISCO-88			
Finland	ISCO-88			
France	NS			
French Guiana				
Honduras				
Gabon				
Gambia				
Germany	NS			
Gibraltar				
Greece	ISCO-88			
Grenada				
Guadeloupe				
Guam				
Guatemala				
Hong Kong	ISCO-88			
Hungary	ISCO-88			
Iceland	ISCO-88			
India	ISCO-68			
Indonesia	ISCO-88			
Iran, Islamic Rep. of	ISCO-88			
Ireland	ISCO-88			
Isle of Man	ISCO-88			
Israel	ISCO-88			
Italy	ISCO-88			
Jamaica	ISCO-88			
Japan	NS			
Jordan	ISCO-88			
Kenya	ISCO-88			
Korea, Republic of	NS			
Kyrgyzstan				
Latvia	ISCO-88			
Lithuania	ISCO-88			
Luxembourg	ISCO-88			
Macau	ISCO-88			
Macedonia	ISCO-88			
Madagascar				
Malaysia	ISCO-88			
Maldives	ISCO-88			
Martinique				
Mauritius	ISCO-88			
Mexico	NS			

<i>Country name</i>	<i>Based on ISCO-68, ISCO-88 or national structure (NS)</i>	<i>NOC developed/revised in (year):</i>	<i>Number of occupational groups</i>	<i>Link to National Website</i>
Mongolia	ISCO-88			
Morocco				
Namibia	ISCO-88			
Nauru				
Nepal				
Netherlands	NS			
Netherlands Antilles				
New Caledonia				
New Zealand	ISCO-88			
Northern Mariana Islands				
Norway	ISCO-88			
Pakistan	ISCO-88			
Panama				
Papua New Guinea	ISCO-88			
Paraguay				
Peru				
Philippines	ISCO-88			
Poland	ISCO-88			
Portugal	ISCO-88			
Puerto Rico				
Réunion				
Romania	ISCO-88			
Russian Federation	ISCO-88			
Saint Lucia				
San Marino				
St. Vincent and the Grenadines				
Samoa				
Sao Tome and Principe				
Saudi Arabia				
Singapore	ISCO-88			
Slovakia	ISCO-88			
Slovenia	ISCO-88			
South Africa	ISCO-88			
Spain	ISCO-88			
Sri Lanka				
Sudan				
Sweden	ISCO-88			
Switzerland	NS			
Syrian Arab				

<i>Country name</i>	<i>Based on ISCO-68, ISCO-88 or national structure (NS)</i>	<i>NOC developed/revised in (year):</i>	<i>Number of occupational groups</i>	<i>Link to National Website</i>
Republic				
Tanzania	ISCO-88			
Thailand	ISCO-88			
Trinidad Tobago	ISCO-88			
Tunis				
Turkey	ISCO-88			
Uganda	ISCO-88			
Ukraine	ISCO-88			
United Kingdom	ISCO-88/NS			
United States	NS			
Vanuatu				
Venezuela				
Viet Nam	ISCO-88			
Virgin Islands (British)				
Virgin Islands (US)				
Yemen				
Zambia				
Zimbabwe				

* Countries are invited to inform the ISCO team of any mistakes in this table and provide information regarding their national classification and websites, at isco@ilo.org or by fax at +41 (22) 799 69 57.

Annex 2. Resolution III, 17th ICLS

Resolution concerning further work on the International Standard Classification of Occupations

The Seventeenth International Conference of Labour Statisticians,

Having examined the report to the Conference of the International Labour Office's work with classifications,

Recognizing the valuable work that the International Labour Office (ILO) has carried out over the years to develop the current version of the *International Standard Classification of Occupations (ISCO-88)* and to advise on its use as a model for national occupational classifications as well as on their effective and reliable use for statistics and in client-related applications,

Recognizing that some countries have national occupational classifications that differ significantly from *ISCO-88* to well reflect their national circumstances,

Concluding that the basic principles and main structure of *ISCO-88* should not be changed, but that nevertheless modifications are necessary in some areas, both to make improvements in light of experience gained in many countries using *ISCO-88*-based classifications, and as a consequence of developments in the world of work over the last 15 years,

Observing that the custodians of national standard occupational classifications as well as the users of such classifications and of occupational statistics significantly benefit from the technical advisory services that the ILO is uniquely qualified to provide, and

Recalling the request made by the Statistical Commission of the United Nations at its 34th session (March 2003) that the timetable for the revision of *ISCO* should meet the needs of the 2010 round of population and housing censuses;

Requests the Governing Body of the International Labour Organization to:

- (a) ensure that the ILO, as the custodian of the *International Standard Classification of Occupations (ISCO-88)*, will have the capacity to:
 - (1) undertake the research and consultations necessary to formulate the modifications and updates of *ISCO-88* that are necessary to ensure that it can continue to serve as a good model for national occupational classifications to be used for statistics as well as for client-related applications;
 - (2) complete this work not later than the end of 2007 for the results to be taken into account in national preparations for the majority of population censuses that are to be undertaken in the 2010 round;
- (b) develop and implement mechanisms for this work to be done in cooperation and consultation with representatives of custodians of national occupational classifications as well as other experts and interested parties;
- (c) convene an ILO meeting of experts to evaluate and make appropriate recommendations on the results to the Governing Body; and
- (d) ensure that the ILO will have the capacity to provide the technical advisory services that will be needed particularly by the developing countries to ensure that national occupational classifications can be developed or improved correspondingly and be used effectively and reliably.