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**Updating the International Standard Classification of Occupations (ISCO)  
Summary of major changes between ISCO-88 and ISCO-08 (Feb 2007 draft)**

International Labour Organization





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Organisation internationale du Travail  
Organización Internacional del Trabajo

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**Paper for discussion by the United Nations Expert Group on  
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# Updating the International Standard Classification of Occupations (ISCO)

## Summary of major changes between ISCO-88 and ISCO-08 (Feb 2007 draft)

### Introduction

1. This paper describes the major differences between the current version of the International Standard Classification of Occupations (ISCO-88) and the draft updated version (ISCO-08) circulated for comment in early 2007. The full draft ISCO-08 structure together with a correspondence table to ISCO-88 and comments on the nature of the change in selected cases can be found on the ILO Website and is linked here: <http://www.ilo.org/public/english/bureau/stat/isco/docs/draft08.pdf>. Readers are invited to send comments on the draft to the ISCO team by email to the following address: [isco@ilo.org](mailto:isco@ilo.org).

2. The proposed changes have been made on the basis of the responses to questionnaires circulated to all countries in 2004 and 2006, and of advice received from the UN Expert Group on International Economic and Social Classifications, the ILO Technical Expert Group on Updating ISCO-88, and a variety of international and other agencies with an interest in particular aspects of ISCO. Information about the two questionnaires and the process of updating ISCO can be found on the ILO Website at: <http://www.ilo.org/public/english/bureau/stat/isco/index.htm>.

### Overview of changes and the reasons for them

3. The 10 major groups at the top level of the draft ISCO-08 are the same as those used in ISCO-88. It should be noted, however, that the names of some of the major groups have been changed slightly so as to more clearly indicate their contents and that some occupational groups have been moved from one major group to another.

4. Although the conceptual model underpinning the draft ISCO-08 has not been changed from that used in ISCO-88, there has been a slight change in the way this model has been used to design the classification. Most notably, in determining the skill level of an occupation, the nature of the work performed (in relation to a set of characteristic tasks associated with each skill level) has been given more emphasis than the formal education and training required. This means that there is no need in ISCO-08 for parallel groups in different major groups to cater for cases where the education and training requirements for a particular occupational group differ between countries. It has therefore been possible to adopt the principle that all jobs that require the performance of identical, or very similar, sets of tasks are classified in the same group in ISCO-08, regardless of the formal qualifications held by an individual or generally required in a particular country.

5. ISCO-88 is seen to be seriously out of date in some areas, most notably as a result of the impact of developments in technology on professional and technical work with computers and telecommunications and on clerical work. Some categories in ISCO-88 have therefore been merged, split or moved to reflect occupational and technological change in the labour market, or to address known problems with ISCO-

88. New categories have been created to allow for the identification of new or emerging occupational groups. To assist time series analysis, we have avoided splitting ISCO-88 unit groups have unit groups and joining them to parts of other ISCO-88 Unit groups, except where this was essential.

6. Other changes in the classification structure have been made to reflect concerns that ISCO-88 is excessively detailed in some areas and inadequately detailed in others, and that there was a wide variation in the size of some sub-major and minor groups. Wherever possible, efforts have been made to ensure that the level of detail provided is appropriate and useful considering the main purposes of an international classification. Given the nature of the occupational distribution of the labour market at the international level, and the variety of uses of ISCO, the issues of size and level of detail were seen as important, but not overriding, considerations.

7. The result of these changes has been a modest increase in detail at each level of the classification except the top, which has not changed. These changes are not distributed evenly across the classification structure however. Table 1 below shows, for example, that the number of unit groups in Major group 2, Professionals and Major group 5, Service and sales workers has increased significantly, whereas the number of unit groups in Major group 8, Plant and machine operators, and assemblers has significantly decreased.

**Table 1: Numbers of groups at each level of draft ISCO-08**

(Numbers for ISCO-88 are shown in brackets where different)

Major group	Sub-major Groups	Minor groups	Unit groups
<b>1 Managers, senior officials and legislators</b>	4 (3)	11(8)	28 (33)
<b>2 Professionals</b>	6 (4)	24(18)	89 (55)
<b>3 Technicians and associate professionals</b>	5 (4)	20 (21)	87 (73)
<b>4 Clerks</b>	2	9 (7)	28 (23)
<b>5 Service and sales workers</b>	2	12 (9)	40 (23)
<b>6 Skilled agricultural, fishery, and forestry workers</b>	2	6 (6)	18 (17)
<b>7 Craft and related trades workers</b>	5 (4)	16	66 (70)
<b>8 Plant and machine operators, and assemblers</b>	3	13 (20)	42 (70)
<b>9 Elementary occupations</b>	6 (3)	11 (10)	33 (25)
<b>0 Armed forces occupations</b>	3 (1)	3 (1)	3 (1)
<b>Total ISCO-08 (ISCO-88)</b>	<b>38 (28)</b>	<b>125 (116)</b>	<b>434 (390)</b>

8. In addition to the changes to the main classification structure, a set of standard ‘thematic groupings’ or ‘views’ of ISCO-08 are being developed for certain groups of occupations, where there is a need to group occupations according to a particular theme. These occupations are not grouped together in the ISCO main structure because skill level takes precedence. Thematic views are a standard alternative way of aggregating occupational data classified at the 4-digit level of ISCO.

9. It is proposed to develop thematic groupings for the following groups of occupations:

- Health
- Teaching
- Agriculture
- Information and communications technology
- Tourism occupations

## **Specific areas of major change**

### **Managers, senior officials and legislators**

10. Managerial occupations classified in Major Group 1 have been reorganised so as to overcome problems with the distinction between Corporate managers and General managers experienced by users of ISCO-88. These changes also address problems caused by the use of categories based on classifications of industrial activities and a number of other technical and practical concerns.

11. ISCO-88 Minor group 121, Directors and Chief Executives has been renamed as Managing Directors and Chief Executives and has been moved to Sub-major group 11, now termed Chief executives, senior officials and legislators. This means that all jobs that require leadership and management of large and complex organisations, that typically have a hierarchy of managers, are classified in a single Sub-major group, with more detailed breakdowns at minor and unit group levels. This approach also helps to address problems experienced in the use of ISCO-88 when only small numbers of jobs were classified to the original Sub-major group 11, Legislators and senior officials.

12. The remainder of ISCO-88 Sub-major group 12 Corporate managers, and Sub-major group 13 General managers are replaced by 3 new Sub-major groups resulting in the following sub-major group structure for Major Group 1:

- 11 Chief executives, senior officials and legislators
- 12 Administrative and commercial managers
- 13 Production and specialised services managers
- 14 Hospitality, shop and related services managers

13. Sub-major group 12, Administrative and commercial managers, is intended to include the managers of organisational units that typically provide services or support functions across organisations. They may be managers of departments within companies or government departments, or the managers of small companies that provide these services to other organisations. The recruitment manager of a large corporation and the manager of a small company that provides recruitment services to

other organisations would both be classified, for example, in ISCO-08 Minor group 1213, Human resources managers, as they have primary skills in common. In ISCO-88 the former would be classified in Sub-major group 12, Corporate managers, and the latter in Sub-major group 13, General managers.

14. Sub-major group 13, Production and specialised services managers, is for managers responsible for producing the goods or services provided by the organisation. Jobs in both of Sub-major groups 12 and 13 generally require qualifications and experience related to an occupation in Major Group 2, Professionals.

15. Jobs in Sub-major group 14, Hospitality, shop and related services managers generally, although not exclusively, involve management of relatively small organisations that do not have a hierarchy of managers and do not require formal educational qualifications at professional level.

16. It should also be noted that the ISCO-88 Unit groups 1221, Production and operations department managers in agriculture forestry and fishing and 1311, General managers in agriculture forestry and fishing have been removed from Major Group 1 in the current draft. The occupations included within this category have been moved to Sub-Major Group 61 and have been merged with the relevant supervisory groups. The distinction between this group and farmers that do not have a significant management function is not feasible in a number of countries where large scale farming is prevalent (Eg Australia, Canada). Before this change can be finalised, however, further consultation is necessary with both the United Nations Food and Agriculture Organisation and with countries in Africa, Asia and the Americas where both large scale plantation style and small scale traditional agricultural production are common.

## Supervisory occupations

17. In ISCO-88 supervisors are generally classified in the same unit group as the workers they supervise. Many countries, however, consider it important to distinguish supervisors from other workers, including managers, in specific sectors where supervisors do not mainly perform the same tasks as the workers supervised. To reflect this concern, unit groups for supervisory occupations have been included in the draft classification in selected areas. These areas include:

- Manufacturing
- Construction
- Mining
- Retail
- Cleaning and housekeeping
- Farming
- Administration

18. Due to the additional skill level requirements for some supervisory jobs, a new minor group has been created in Sub major group 31, Science and engineering associate professionals, for supervisors in manufacturing construction and mining. For the same reason a unit group for office supervisors has been included in Minor group 334, Administrative and specialised secretaries. The remaining supervisory unit groups are:

5121	Cleaning and housekeeping supervisors
5221	Shop supervisors
6111	Crop farm supervisors and managers
6121	Livestock farm supervisors and managers
6131	Mixed crop and livestock farm supervisors and managers

19. Enhanced definitional material will also be provided to ensure that the distinction between managerial and supervisory occupations in ISCO-08 is as clear as possible.



## Information and communications technology

20. ISCO-88 was seen to be particularly out-of-date due to technological change with respect to occupations involved in the provision of goods and services related to information and communications technology (ICT). There has accordingly been a significant update and expansion of categories for these occupations, allowing for the identification of professional and associate professional occupations in ICT as sub-major groups at the second level of the classification, as follows:

<b>25</b>		<b>Information and communications technology (ICT) professionals</b>
<b>251</b>		<b>Software and applications developers and analysts</b>
	2511	Systems analysts
	2512	Software developers
	2513	Web and multimedia developers
	2514	Applications programmers
	2519	Software and multimedia developers and analysts not elsewhere classified
<b>252</b>		<b>Database specialists and systems administrators</b>
	2521	Database designers and administrators
	2522	Systems administrators
<b>253</b>		<b>ICT network and hardware professionals</b>
	2531	Computer network professionals
	2532	Telecommunications engineering professionals
	2539	ICT network and hardware professionals not elsewhere classified
<b>35</b>		<b>Information and communications technicians</b>
<b>351</b>		<b>ICT operations and user support technicians</b>
	3511	ICT operations technicians
	3512	ICT user support technicians
	3513	Systems testing technicians
<b>352</b>		<b>Web technicians</b>
	3520	Web technicians
<b>353</b>		<b>Communications technicians</b>
	3531	Broadcasting and sound and vision recording technicians
	3532	Telecommunications engineering technicians

21. The growing convergence between information and telecommunications technologies has been reflected by:

- including unit groups that are specific to telecommunications (including broadcasting) in the same minor groups as other occupations in ICT; and
- creating some unit groups that cover both information and telecommunications technologies where there appears to be real convergence in the skills required in the labour market (Unit group 7423, ICT installers and servicers is one such example).

22. The thematic view for ICT occupations will include the occupations listed above as well as a number of other unit groups that primarily involve the production of ICT good and services such as:

1330	Information and communications technology service managers
2156	Graphic and multimedia designers
2355	Information technology trainers
2434	Information and communications technology (ICT) sales professionals
7422	Information and communications technology (ICT) installers and servicers

## Health Services Occupations

23. The coverage of health services occupations has been extended to provide sufficient detail to allow ISCO-08 to be used as the basis for the international reporting of data on the health work force to the World Health Organisation. The changes also seek to address problems of comparability between countries caused by difficulties in distinguishing between certain occupational groups, particularly in nursing.

24 To improve the visibility of statistics on the health work force, new sub-major groups for health occupations have been created in Major groups 2 and 3. The structure of these new sub-major groups is presented below:

<b>22</b>		<b>Health professionals</b>
	<b>221</b>	<b>Medical doctors</b>
		2211 Generalist medical practitioners
		2212 Specialist medical practitioners
	<b>222</b>	<b>Nursing and midwifery professionals</b>
		2221 Nursing professionals
		2222 Midwifery professionals
	<b>223</b>	<b>Paramedical professionals</b>
		2231 Paramedical practitioners
		2232 Emergency paramedics
	<b>224</b>	<b>Other health professionals</b>
		2241 Dentists
		2242 Pharmacists
		2243 Environmental and occupational health and hygiene professionals
		2244 Physiotherapists
		2245 Dieticians and nutritionists
		2246 Audiologists and speech therapists
		2247 Veterinarians
		2249 Health professionals not elsewhere classified
<b>32</b>		<b>Health associate professionals</b>
	<b>321</b>	<b>Medical, pharmaceutical and veterinary technicians</b>
		3211 Doctor's assistants
		3212 Medical and pathology laboratory technicians
		3213 Pharmaceutical technicians and assistants
		3214 Veterinary technicians and assistants
	<b>322</b>	<b>Nursing and midwifery associate professionals</b>
		3221 Nursing associate professionals
		3222 Midwifery associate professionals
	<b>323</b>	<b>Other health associate professionals</b>
		3231 Dental assistants and therapists
		3232 Medical records and health information technicians
		3233 Community health workers
		3234 Optometrists and opticians
		3235 Physiotherapy technicians and assistants
		3236 Medical equipment technicians
		3237 Environmental and occupational health inspectors and associates
		3238 Traditional and complementary medicine practitioners
		3239 Health associate professionals not elsewhere classified

25. A number of points of difference between ISCO-88 and the draft ISCO-08 in the treatment of professional and associate professional occupations in health should be noted. In the draft ISCO-08:

- separate unit groups are provided for generalist and specialist medical practitioners;
- separate unit groups are provided for nursing and midwifery occupations at both professional and associate professional level;
- the distinction between professional and associate professional nurses and midwives is to be made on the basis of the type of work performed and not on the basis of the qualifications held (or typically held) by individuals in the country concerned;
- a new Minor group 223, Paramedical professionals has been created;
- jobs that are classified to ISCO-88 Unit group 3221, Medical assistants, should be classified in the draft ISCO-08 Unit group 2231, Paramedical practitioners, if they involve the independent provision of primary health care services (Eg 'Feldschers' in Eastern Europe and Central Asia and 'Clinical officers' in some African countries);
- Veterinarians and Veterinary technicians and assistants will be included in the sub-major groups for health professionals and associate professionals respectively, because of the strong similarity in field of knowledge required and tasks performed (the veterinary occupations can be excluded from the thematic view for health occupations, however).

26. Additional detail is also provided for health occupations in Minor group 523, Personal care and related workers:

<b>513</b>	<b>Personal care and related workers</b>
5131	Child-carers
5132	Teachers' Aides
5133	Health care assistants
5134	Home-based personal care workers
5135	Ambulance officers
5139	Personal care and related workers not elsewhere classified

27. A number of other unit groups that were not separately identified in ISCO-88 may also be included in the thematic view for health occupations including:

1342	Health service managers
1343	Aged care service managers
3344	Medical secretaries

## Teachers

28. In ISCO-88 primary school teachers and pre-primary school teachers are classified in either Major group 2, Professionals or Major Group 3, Technicians and associate professionals, depending on the qualifications held by individuals or predominantly held in a particular country. This is not consistent with the principle adopted for ISCO-08 that occupations that require the performance of similar tasks should be classified in the same group. Although in a number of countries these teachers do not require the same level of education and training as secondary school teachers, it was agreed that, on the basis of the nature of the work performed and the

predominant requirements for higher education in many countries, they should be classified in Major Group 2.

29. Categories have also been provided for vocational education teachers and for a number of specialised categories of teacher. It is not practical, however, to provide separate categories for higher, vocational, and secondary education teachers according to the subject matter taught.

30. The following structure is proposed for teaching professionals:

<b>23</b>		<b>Teaching professionals</b>
<b>231</b>		<b>University and higher education teachers</b>
	2310	University and higher education teachers
<b>232</b>		<b>Vocational education teachers</b>
	2320	Vocational education teachers
<b>233</b>		<b>Secondary education teachers</b>
	2330	Secondary education teachers
<b>234</b>		<b>Primary school and early childhood teachers</b>
	2341	Primary school teachers
	2342	Early childhood educators
<b>235</b>		<b>Other teaching professionals</b>
	2351	Education methods specialists
	2352	Special needs teachers
	2353	Extra-systemic language teachers
	2354	Extra-systemic music teachers
	2355	Information technology trainers
	2359	Other teaching professionals not elsewhere classified

## **Arts, entertainment, design and sports occupations**

31. Occupations in arts, entertainment, design and sport are classified in ISCO-88 in Minor groups 245, Writers and creative or performing artists and 347, Artistic, entertainment and sports associate professionals. This means that musicians and dancers, for example, are classified in different major groups depending on whether or not they perform in classical or less formal settings. This does not reflect the reality of the modern entertainment industry. In response to this and a wide range of other concerns about the treatment of these occupations in ISCO-88, the following changes are proposed in the draft ISCO-08 structure:

- the arts and media related unit groups in Minor group 347 have been merged, where possible, with the equivalent unit groups in Minor group 245;
- journalists are identified separately from other writers and media presenters within the new group;
- Unit group 3471, Decorators and commercial designers has been split to form 3 new unit groups:

2153	Product and garment designers,
2156	Graphic and multimedia designers,
3452	Interior designers and decorators;

- a new minor group 215, Architects, planners, surveyors and designers has been created;

- photographers have been separately identified from other image and sound recording equipment operators (who are classified in Sub-major group 35, Information and communications technicians);
- a new minor group 344, Artistic and cultural associate professionals has been created and contains the new unit groups for photographers and interior designers and decorators as well as a group for gallery, library and museum technicians; and
- a new minor group 343, Sports and fitness associate professionals has been created.

## **Administrative occupations**

32. New unit groups have been created in Major groups 1, 2 and 3 to allow for the better identification of occupations that involve the development, implementation and administration of government and corporate policy, and of administrative occupations requiring highly specialised skills. These include:

<b>121</b>	<b>Business services and administration managers</b>
1211	Corporate services managers
1212	Finance managers
1213	Human resource managers
1214	Policy and administration managers
<b>122</b>	<b>Sales, marketing and business development managers</b>
1221	Sales and marketing managers
1222	Advertising and public relations managers
1223	Research and development managers
<b>242</b>	<b>Administration professionals</b>
2421	Management and organisation analysts
2422	Policy administration professionals
2423	Personnel and careers professionals
2424	Training and staff development professionals
<b>334</b>	<b>Administrative and specialised secretaries</b>
3341	Office supervisors
3342	Legal secretaries
3343	Administrative and executive secretaries
3344	Medical secretaries
3349	Administrative and specialised secretaries not elsewhere classified

## Sub-major and minor group structures for Major groups 2 and 3

33. The changes discussed in the sections above, combined with the provision of additional detail in a number of other areas classification, necessitated a significant reorganisation of the structures of Major group 2, Professionals and Major group 3, Technicians and associate professionals. This reorganisation was also guided by a desire to avoid having groups at the second and third levels of the classification hierarchy that were excessively small in terms of the total number of jobs counted in each group. The Sub-major and minor group structure of ISCO-88 and the current draft are compared in Tables 2 to 5 below:

**Table 2: Sub-major groups in Major group 2, Professionals - ISCO-88 and draft ISCO-08**

ISCO 88 code	Title	ISCO 08 Code	Title
21	Physical, mathematical and engineering science professionals	21	Science and engineering professionals
22	Life science and health professionals	22	Health professionals
23	Teaching professionals	23	Teaching professionals
24	Other professionals	24	Business and administration professionals
		25	Information and communications technology (ICT) professionals
		26	Legal, social and cultural professionals

**Table 3: Sub-major and minor groups in Major group 3, Technicians and associate professionals - ISCO-88 and draft ISCO-08**

ISCO 88 code	Title	ISCO 08 Code	Title
31	Physical and engineering science associate professionals	31	Science and engineering associate professionals
32	Life science and health associate professionals	32	Health associate professionals
33	Teaching associate professionals	33	Business and administration associate professionals
34	Other associate professionals	34	Policing, legal, social, cultural and related associate professionals
		35	Information and communications technicians

**Table 4: Sub-major and minor groups in Major group 2, Professionals - ISCO-88 and draft ISCO-08**

<b>ISCO 88 code</b>	<b>Title</b>	<b>ISCO 08 Code</b>	<b>Title</b>
<b>21</b>	<b>Physical, mathematical and engineering science professionals</b>	<b>21</b>	<b>Science and engineering professionals</b>
211	Physicists, chemists and related professionals	211	Physicists, chemists and related professionals
212	Mathematicians, statisticians and related professionals	212	Mathematicians, actuaries and statisticians
213	Computing professionals	213	Life science professionals
214	Architects, engineers and related professionals	214	Engineering professionals
		215	Architects, planners, surveyors and designers
<b>22</b>	<b>Life science and health professionals</b>	<b>22</b>	<b>Health professionals</b>
221	Life science professionals	221	Medical doctors
222	Health professionals (except nursing)	222	Nursing and midwifery professionals
223	Nursing and midwifery professionals	223	Paramedical professionals
		224	Other health professionals
<b>23</b>	<b>Teaching professionals</b>	<b>23</b>	<b>Teaching professionals</b>
231	College, university and higher education teaching professionals	231	University and higher education teachers
232	Secondary education teaching professionals	232	Vocational education teachers
233	Primary and pre-primary education teaching professionals	233	Secondary education teachers
234	Special education teaching professionals	234	Primary school and early childhood teachers
235	Other teaching professionals	235	Other teaching professionals
<b>24</b>	<b>Other professionals</b>	<b>24</b>	<b>Business and administration professionals</b>
241	Business professionals	241	Finance professionals
242	Legal professionals	242	Administration professionals
243	Archivists, librarians and related information professionals	243	Sales, marketing and public relations professionals
244	Social science and related professionals	<b>25</b>	<b>Information and communications technology (ICT) professionals</b>
245	Writers and creative or performing artists	251	Software and applications developers and analysts
246	Religious professionals	252	Database specialists and systems administrators
		253	ICT network and hardware professionals
		<b>26</b>	<b>Legal, social and cultural professionals</b>
		261	Legal professionals
		262	Librarians, archivists and curators
		263	Social, religious and related professionals
		264	Creative or performing artists, and writers

**Table 5: Sub-major and minor groups in Major group 3, Technicians and associate professionals - ISCO-88 and draft ISCO-08**

<b>ISCO 88 code</b>	<b>Title</b>	<b>ISCO 08 Code</b>	<b>Title</b>
<b>31</b>	<b>Physical and engineering science associate professionals</b>	<b>31</b>	<b>Science and engineering associate professionals</b>
311	Physical and engineering science technicians	311	Physical and engineering science technicians
312	Computer associate professionals	312	Engineering production supervisors
313	Optical and electronic equipment operators	313	Process control technicians
314	Ship and aircraft controllers and technicians	314	Life science technicians and related associate professionals
315	Safety and quality inspectors	315	Ship and aircraft controllers and technicians
<b>32</b>	<b>Life science and health associate professionals</b>	<b>32</b>	<b>Health associate professionals</b>
321	Life science technicians and related associate professionals	321	Medical, pharmaceutical and veterinary technicians
322	Modern health associate professionals (except nursing)	322	Nursing and midwifery associate professionals
323	Nursing and midwifery associate professionals	323	Other health associate professionals
324	Traditional medicine practitioners and faith healers		
<b>33</b>	<b>Teaching associate professionals</b>	<b>33</b>	<b>Business and administration associate professionals</b>
331	Primary education teaching associate professionals	331	Financial and mathematical associate professionals
332	Pre-primary education teaching associate professionals	332	Sales and purchasing agents and brokers
333	Special education teaching associate professionals	333	Business services agents
334	Other teaching associate professionals	334	Administrative and specialised secretaries
		335	Customs, tax and related government associate professionals
<b>34</b>	<b>Other associate professionals</b>	<b>34</b>	<b>Policing, legal, social, cultural and related associate professionals</b>
341	Finance and sales associate professionals	341	Policing and legal associate professionals
342	Business services agents and trade brokers	342	Social and religious associate professionals
343	Administrative associate professionals	343	Sports and fitness workers
344	Customs, tax and related government associate professionals	344	Artistic and cultural associate professionals
345	Police inspectors and detectives	<b>35</b>	<b>Information and communications technicians</b>
346	Social work associate professionals	351	ICT operations and user support technicians
347	Artistic, entertainment and sports associate professionals	352	Web technicians
348	Religious associate professionals	353	Communications technicians



## Office clerks

34. Sub-major group 41, Office clerks, has been reorganised to reflect the impact of information and communications, and to provide more meaningful detail for occupations in which large numbers of women are employed. The main changes are:

- a new minor group for general office clerks, in line with practice in a number of national occupation classifications;
- splitting ISCO-88 Minor group 411, Secretaries and keyboard operating clerks to provide separate minor groups for those clerks who primarily operate keyboards and for general secretaries (note that specialised and executive secretaries are now classified in Major group 3 because of their higher skill level requirements);
- providing only 2 unit groups for keyboard operators: Typists and word processing operators, and Numerical keyboard operators; and
- a new unit group for personnel clerks.

## Occupations involved in the provision of information and services to clients

35. More detailed categories have been provided for occupations involved in the provision of information and services to clients, including those related to tourism. Most notably, the number of unit groups in Minor group 422, Client information workers, has increased from 3 to 8:

<b>422</b>	<b>Client information workers</b>
4221	Travel agency and related clerks
4222	Contact centre information clerks
4223	Telephone switchboard operators
4224	Hotel front desk receptionists
4225	Inquiry clerks
4226	Receptionists (general)
4227	Survey and market research interviewers
4229	Other client information workers

## Sales workers

36. The number of unit groups in Sub-major group 52, Sales workers has increased from 3 to 12 and the minor group structure of the group has been modified. This increase results in part from the movement of Street food vendors, and Door-to-door and telephone sales persons from Major group 9, Elementary occupations and the movement of Cashiers and ticket salespersons from Major group 4, Clerks to Sub-major group 52. Additional detail is also provided through the separate identification of the following unit groups:

5221	Shop supervisors
5222	Shop sales assistants
5242	Sales demonstrators
5243	Door to door salespersons
5244	Contact centre salespersons <sup>1</sup>
5245	Service station attendants
5246	Food service counter attendants
5249	Other sales workers nec

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<sup>1</sup> Includes Internet salespersons.

## **Chefs, cooks and food preparation assistants**

37. The ISCO-88 unit group 5122, Cooks, contains a wide range of occupations involved in the preparation of meals including Chefs de cuisine, Cooks, Short order cooks and Fast food preparers. Kitchen helpers in ISCO-88 are classified in Unit groups 9131, Domestic helpers and cleaners and 9132, Helpers and cleaners in offices, hotels and other establishments. The draft ISCO-08 provides 2 minor groups and additional detail at the unit group level for these occupations.

<b>517</b>	<b>Chefs and cooks</b>
5171	Chefs
5172	Cooks
<b>941</b>	<b>Food preparation assistants</b>
9411	Fast-food preparers
9412	Kitchen helpers

## **Occupations in agriculture, forestry and fisheries**

38. More detailed categories are provided in the draft ISCO-08 for some occupational groups involved in agriculture including the creation of additional unit groups in Minor group 921, Agricultural, fishery and forestry labourers. These categories reflect the minor group structure used in Major group 6, Skilled agricultural, fishery and forestry workers. In this way those working on crop farms, livestock farms, and mixed crop and livestock farms can be identified separately, regardless of national variations in practice for coding farm jobs to Major groups 6 and 9. Separate categories are also provided for Garden and horticultural labourers and Water and firewood collectors. Hunting and trapping labourers are no longer included in the same unit group as forestry labourers, on the basis that they can not be distinguished from skilled hunters and trappers.

<b>92</b>	<b>Agricultural, fishery and forestry labourers</b>
<b>921</b>	<b>Agricultural, fishery and forestry labourers</b>
9211	Crop farm labourers
9212	Livestock farm labourers
9213	Mixed crop and livestock farm labourers
9214	Garden and horticultural labourers
9215	Forestry labourers
9216	Fishery and aquaculture labourers
9217	Water and firewood collectors

39. In Major group 6 the changes made are more modest, with the principle difference being the provision of categories for farm supervisors and managers mentioned above in the discussion on managers and on supervisors.

40. With respect to subsistence workers, Sub-major group 62, called 'Subsistence agricultural workers' in ISCO-88, has been retained without structural change. The definitional material for this group and those in Sub-major groups 61 and 92 will be improved to make it clear that:

- all workers engaged in agricultural, forestry and fisheries activities should be classified in Sub-major group 62 if the main aim of the production is to provide goods (mainly food) for consumption by the workers' own household except that;
- those who only perform simple tasks requiring little judgement or experience (E.g. fetching water) should nevertheless be classified in Sub major group 92;

- subsistence hunters, trappers and collectors should be classified in Sub-major group 62.

41. In view of the last point the name of Sub-major group 62 has been changed to 'Subsistence farmers, fishers, hunters and gatherers.'

42. For countries and regions in which subsistence activities are virtually non-existent, Sub-major group 62 can be excluded from national and regional adaptations of ISCO-08 without loss of international comparability.

## **Plant and machine operators**

43. There has been significant rationalisation and reorganisation of the groups for plant and machine operators in response to concerns that this part of ISCO-88 was excessively detailed and out-of-date in some areas. There was also difficulty in distinguishing reliably between Stationary plant operators and Machine operators and there was fragmentation of data as a result of this distinction. Another concern was that some occupations should be classified at a higher skill level due to technological developments and automation of large scale industrial processes that are frequently controlled by technicians from a central control room or console.

44. The main features of the changes proposed to address these concerns are:

- ISCO-88 Sub-major groups 81 Stationary-plant and related operators and 82 Machine operators and assemblers have been replaced by two new sub-major groups:
 

81	Stationary plant and machine operators,
82	Assemblers;
- merging of some minor groups where there are parallel groups in related fields in ISCO-88 for stationary plant operators and machine operators;
- creation of a new minor group 314, Process control technicians and movement of a number of unit groups from ISCO-88 Sub-major group 81 into this new group, reflecting the need for these occupations to be classified at a higher skill; and
- merging of a number of unit groups where there is a perception that the categories in ISCO-88 are too detailed.

45. In addition, a number of groups in Major group 8 have been merged with groups of related occupations in Major group 7, where the distinction between craft and related trades workers on the one hand, and plant and machine operators on the other hand was no longer meaningful. This was the case, for example, for printing occupations, mining occupations and for some machine tool setters and operators.

## Occupations predominant in the informal sector

46. The coverage of occupations that are significant in the informal sector has been extended. Although jobs in the informal sector can be found in all ISCO Major groups, the structure of Major group 9, Elementary occupations has been significantly affected by these changes. In particular there has been an increase from 3 to 6 in the number of sub-major groups in Major group 9, to allow these occupational groups to be more easily visible in internationally reported data.

47. The ISCO-88 and draft ISCO-08 Sub-major and minor group structures for Major Group 9, Elementary occupations are compared in Table 6 below.

**Table 6: Sub-major and minor groups in Major group 9, Elementary occupations - ISCO-88 and draft ISCO-08**

ISCO 88 code	Title	ISCO 08 Code	Title
<b>91</b>	<b>Sales and services elementary occupations</b>	<b>91</b>	<b>Cleaners and helpers</b>
911	Street vendors and related workers	911	Domestic, hotel and office cleaners and helpers
912	Shoe cleaning and other street services elementary occupations	912	Vehicle, window, laundry and other hand cleaning workers
913	Domestic and related helpers, cleaners and launderers		
914	Building caretakers, window and related cleaners		
915	Messengers, porters, doorkeepers and related workers		
916	Garbage collectors and related labourers		
<b>92</b>	<b>Agricultural, fishery and related labourers</b>	<b>92</b>	<b>Agricultural, fishery and forestry labourers</b>
921	Agricultural, fishery and related labourers	921	Agricultural, fishery and forestry labourers
<b>93</b>	<b>Labourers in mining, construction, manufacturing and transport</b>	<b>93</b>	<b>Labourers in mining, construction, manufacturing and transport</b>
931	Mining and construction labourers	931	Mining and construction labourers
932	Manufacturing labourers	932	Manufacturing labourers
933	Transport labourers and freight handlers	933	Transport and storage labourers
		<b>94</b>	<b>Food preparation assistants</b>
		941	Food preparation assistants
		<b>95</b>	<b>Street and related sales and service workers</b>
		951	Street and related service workers
		952	Street vendors
		<b>96</b>	<b>Refuse workers and other elementary service workers</b>
		961	Refuse workers
		962	Other elementary service workers

48. It should be noted that ISCO-88 Minor Group 913, Building caretakers, window and related cleaners, has been split. It is proposed that building caretakers be identified as a unit group in Minor group 513, renamed as Housekeepers, caretakers and cleaning supervisors. Separate unit groups are provided in Minor group 912 in the draft for Vehicle cleaners, Window cleaners, and Other cleaning workers.

49. With respect to ISCO-88 Minor group 915, Messengers, porters, doorkeepers and related workers, the bulk of occupations classified in Unit group 9152, Doorkeepers, watchpersons and related workers, are included in the draft in Unit

group 5164, Security guards. The remaining unit groups in this minor group are now included in Minor group 962, Other elementary service workers.

### **Armed forces occupations**

50. Additional detail has been provided for Major group 0, Armed forces occupations by providing sub-major, minor and unit groups for:

- Commissioned armed forces officers;
- Non-commissioned armed forces officers; and
- Armed forces occupations, other ranks.

### **Conclusion**

51. Members of the Expert Group may wish to comment on the changes discussed in this paper and make any suggestions to the ILO they consider appropriate regarding further changes to the classification structure that may need to be made.

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