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WORKLOAD STANDARDS AND ACTUAL OUTPUT LEVELS OF CONFERENCE SERVICES STAFF

Working paper submitted by United Nations Headquarters and the
United Nations Office at Vienna

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The present document gives an overview of the workload standards in operation and actual output levels, for different categories of conference-serving staff, at several member organizations of IAMLADP.

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ABBREVIATIONS

AIIC	Association of International Conference Interpreters
CCAQ	Consultative Committee on Administrative Questions
CELADE/DOCPAL	Latin American Demographic Centre/Latin American Population Documentation System
CEPAL	Comisión Económica para América Latina y el Caribe (ECLAC, q.v.)
CILF	Conseil international de la langue française
COE	Council of Europe
CTBTO	Comprehensive Nuclear Test-Ban Treaty Organization
DEC	Digital Equipment Corporation
DPS	Document Production System
DRITS	Documents Recording, Information and Tracking System
ECA	Economic Commission for Africa
ECLAC	Economic Commission for Latin America and the Caribbean
ESCAP	Economic Commission for Asia and the Pacific
esp/d	Estimated standard pages per day
EURODICAUTOM	Terminology data base of the European Commission
EUTERPE	European Parliament Data Base
FAO	Food and Agriculture Organization of the United Nations
IAEA	International Atomic Energy Agency
IAMLADP	Inter-Agency Meeting on Language Arrangements, Documentation and Publications
ICAO	International Civil Aviation Organization
IDA	Industrial Development Abstracts Database of UNIDO
IFAD	International Fund for Agricultural Development
IMO	International Maritime Organization
ITC	International Trade Centre UNCTAD/WTO
ITU	International Telecommunication Union
NATO	North Atlantic Treaty Organization
OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Cooperation in Europe
p/d	Pages per day
RTU	Reference and Terminology Unit
TERMITE	ITU Telecommunication Terminology Data Base
UNBIS	United Nations Bibliographical Information System
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHQ	United Nations Headquarters
UNIDO	United Nations Industrial Development Organization
UNOG	United Nations Office at Geneva

UNON	United Nations Office at Nairobi
UNOV	United Nations Office at Vienna
UPU	Universal Postal Union
UNTERM	United Nations Terminology Reference System
VICLION	Vienna International Centre Library Information Online
WB	World Bank
w/d	Words per day
WEU	Western European Union
WHO	World Health Organization
WHOTERM	WHO Terminology Information System
WTO	World Trade Organization

INTRODUCTION

1. This paper sets out the findings of a study of workload standards for conference-serving staff based on information gathered from replies to a questionnaire (see annexes I and II) circulated among participating organizations of IAMLADP, covering the functions of interpretation, translation, précis-writing, text processing, editing, typesetting, copy-preparation and proofreading. As at 31 May 1997, completed questionnaires had been received from 24 member organizations,¹ representing a 60 per cent response.

I. GENERAL

2. The information submitted by respondents showed a wide divergence—both among organizations of the United Nations system and among other organizations represented at IAMLADP—with regard to the categories of staff for which workload standards have been adopted. The United Nations New York Headquarters and Offices at Geneva, Vienna and Nairobi reported that they had adopted workload standards for translators and text processors. UNHQ, UNOG and UNOV have also adopted standards for interpreters and précis-writers, UNOG having additionally adopted standards for copy-preparers and proof-readers, as well as for distribution and printing activities. At UNHQ, standards are applied for verbatim reporters. No official workload standard is in operation at UNOG for editors, and the standard used by UNOV for editors is an internal one. UNON indicated that it had adopted standards for both editors and typesetters. As regards the regional commissions, ESCAP has adopted workload standards for interpreters, translators and text processors, ECLAC for translators, editors and typesetters, and ECA for no categories of staff.

3. Among the specialized agencies of the United Nations system, workload standards have been formally adopted for translators by UNESCO, ICAO, UPU, ITU, WHO and the World Bank, for text processors by UNESCO, WHO, UPU and ITU, for précis-writers by ITU, and for proof-readers by ITU and the World Bank. WHO's text-processing centres use the same standards, on average, as the other United Nations agencies. IAEA indicated that it had implicitly adopted workload standards for translators and text processors. At FAO, IFAD, IMO and ITC, no workload standards have been officially adopted for any categories of staff.

4. UNON, FAO, ICAO, IFAD, ITU and UPU stated that, for interpreters, they applied the standards established in the CCAQ/AIIC agreement, which provided for a maximum weekly workload. UNESCO explained that, with regard to interpreters, it did not apply any workload standard as defined in footnote 1 of the questionnaire ("minimum quantity of work ... per staff-day"). The World Bank pointed out that it used essentially the IAMLADP-defined standards, as a reference, for translators, and that its standards for interpreters had been adapted from the AIIC standards. The World Bank's translation division does not employ précis-writers, and its editors, typesetters and copy-preparers work in other divisions. WTO advised that it had never adopted any workload standards but used the United Nations standards as a de facto, self-imposed reference for interpreters, translators and text processors, and that it did not employ précis-writers, editors, typesetters, copy-preparers or proof-readers.

5. Regarding the other participating organizations of IAMLADP, the Council of Europe has adopted workload standards for interpreters, translators, text processors, copy-preparers and proof-readers, but none of the other respondents (European Commission, OECD, OSCE, WEU) has adopted standards for any categories of staff. OSCE stated that, for interpreters, it applied the CCAQ/AIIC agreement and that, for translators, it had drafted guidelines for use in calculating statistics to record the quantity of work performed by its translation service.

6. There have been no changes in workload standards in recent years at the majority of the reporting organizations. However, UNOV stated that, in the 1980s and 1990s, its standards for revisers had been increased from 10 pages (3,300 words) to 15 pages (4,950 words) per day, a standard of 4.25 pages (1,400 words) for self-revisers had been introduced, and the text-processing standards had been increased from 5/10 pages

¹ The reply from FAO covered questions 1.1 to 3.6 only.

(1,650/3,300 words) to 6.5/13 pages (2,145/4,290 words) for translation typing/copy typing. UNOG's Languages Service stated that the changes indicated in the report of the Secretary-General on the elaboration of unified workload standards for conference-servicing staff within the United Nations system (A/C.5/47/67) had taken place in 1992, and its Publishing Service advised that the standards for distribution and printing had altered in 1992 after having remained at the same level for many years. Workload standards have also altered at UNON, where a 20 per cent de facto increase has occurred, and at ECLAC, where changes have taken place as a result of new technologies. ITU indicated that its standards had been increased for typists following the introduction of text processing, and had been reduced for translators from 7 to 6.5 pages per day, which, on the basis of experience, was regarded as a more realistic figure. At the World Bank, the standards for translators have been adjusted to take account of technology improvements, and those for interpretation have been adapted to accommodate staffing for short meetings (two, rather than three, interpreters to service meetings lasting a single session).

7. All the organizations which have adopted workload standards, with the exception of FAO and IAEA, reported that their standards had been elaborated for internal planning and budgeting purposes and also (except in the case of UNOV) with a view to monitoring performance. UNOV explained that its workload standards were, however, used in performance monitoring in the case of staff other than interpreters. UNHQ, UNOG's Languages Service, UNOV, UNON, ESCAP, ECLAC, ITU and the World Bank stated that their standards had additionally been elaborated for planning and budgeting in connection with meetings outside the duty station (for interpreters only, in the case of ITU). OSCE's guidelines are employed for internal planning and budgeting purposes. WTO indicated that its workload standards had been elaborated for the purpose of performance monitoring, and ITU explained that, although its standards had not been elaborated specifically for that purpose, they were used by the section chiefs.

8. Apart from IFAD, IMO, ITC, UPU, the World Bank and OSCE, all the reporting organizations indicated that they monitored staff members' individual productivity. At WHO, the productivity of conference-servicing staff other than editors and précis-writers is monitored, and FAO monitors translators' and typists' productivity. The World Bank pointed out that, as a result of its changed operating conditions, it no longer used actual productivity standards. It monitored production rather than productivity, being more interested in staff members' overall annual output, taking into account factors such as experience, the level of difficulty of the work, other assignments (e.g., terminology work, technology monitoring, contribution to finding new freelancers and assessing their work), responsiveness to client needs and teamwork.

9. Within the United Nations system, persons having access to information on staff members' productivity are: at UNHQ, the immediate supervisor; in UNOG's Languages Service, the Division director and chiefs of the service and sections; in UNOG's Publishing Service, the unit, section and service chiefs in the case of copy-preparers and proof-readers (no monitoring of the productivity of distribution and printing staff); at UNOV, the chief of the service and immediate supervisor; at UNON, the service, section and unit chiefs; at ESCAP, the section chief and language unit chiefs; at ECLAC, the Division chief and supervisor; at FAO, the chiefs of the translation groups; at ICAO, the translation section chiefs and the chief, Language and Publications Branch; at UNESCO, normally the direct supervisors (heads of divisions on request); at WHO, the chief and heads of the language services, and the direct supervisors of text-processing staff; at WTO, the director, Translation and Documentation Division, who transmits the information to the chiefs of the translation sections; and, at the World Bank, the division chief, section managers and budget officer. IAEA stated that no one outside the Division had access. At ITU, only authorized persons can have access, and usage differs from one unit to another. UNOG, UNOV, UNON, ECLAC and the World Bank stated that staff members also had access to information on their own productivity.

10. As regards the other organizations represented at IAMLADP, information on staff members' productivity is accessible at the Council of Europe to the division heads, at the European Commission to the management, at OECD to the head of the service, section heads (for the sections' staff), heads of groups (for the groups' staff) and each staff member for his or her own performance, and at WEU to the translation department only.

11. Most United Nations organizations felt that workload standards were useful or moderately useful for assessing individual staff members' performance: ITU regarding them as very useful for the text-processing pools and moderately useful for some heads of translation sections, and UNOG's Publishing Service as very useful in the case of copy-preparers and proof-readers but not useful in the case of distribution and printing staff.

12. By contrast, the majority of the other participating organizations of IAMLADP do not consider workload standards to be useful for that purpose. OECD commented that workload standards might have a limiting effect in that individual staff members could adjust their performance to the standards set; it felt that, while workload standards could be useful for assessing a service's overall translation or interpretation capacity, they could be counter-productive in evaluating individual performance. The Council of Europe considers workload standards to be only moderately useful for assessing staff performance, as does WEU. Work at the latter organization fluctuates considerably from month to month. Documents are mainly short and urgent; most are classified and cannot be sent to subcontractors. Staff have to be flexible and adjust their working hours to requirements. Both translation and revision are fairly slow processes, given the sensitivity of the material, texts being closely scrutinized by other divisions and delegations. Moreover, because of WEU's size, its translation department also has non-translation responsibilities.

II. INTERPRETATION

13. The information submitted reveals that, except for nine United Nations bodies and agencies (UNHQ, UNOG, UNOV, FAO, WTO, the World Bank, UNESCO, ICAO, ESCAP) and the Council of Europe, none of the respondents has permanent interpretation services. Although several respondents failed to complete the relevant section, a clear picture emerges: with the exception of the World Bank, the workload standards are the same: 1.4 meetings a day or seven meetings a week for permanent and, respectively, 1.6 or eight for freelance interpreters (see table 1 in annex I). In the case of freelance interpreters, the workload standards are those set out in the AIIC/CCAQ agreement, which are applied even by those organizations that have not formally adopted it. The World Bank reports that "in languages where market availability is low, interpreters sometimes accept to work in smaller teams or, exceptionally, alone in consecutive for brief periods, in exchange for increased fees".

14. At ICAO and ESCAP, interpreters are also expected to do translation work (six months a year in the case of ESCAP; ICAO provides no breakdown), but not at the other organizations.

15. The rest of the respondents that filled in the relevant section (UNON, ECA, IFAD, OSCE) use exclusively freelancers with workload standards based on the AIIC/CCAQ agreement. ECA and ITU mention a workload of six hours and two meetings a day, respectively. While this might be interpreted as a workload of ten three-hour meetings (or even 5 six-hour meetings) per week, it is obvious that what is meant is maximum daily workload, since both organizations are signatories of the AIIC/CCAQ agreement. The only organization to deviate from the agreement seems to be the World Bank, which applies workload standards more flexibly against compensatory time for permanent staff and increased rates for freelance staff.

16. Otherwise, with respect to manning strength all respondents use the standard two-interpreter booth for one-way interpretation and teams of three interpreters for interpretation both into and out of a given language (as is systematically the case with Arabic and Chinese).

17. Across the board, staff and freelance interpreters are required to do terminological work in their own time.

18. In most organizations, staff interpreters are variously called upon to perform administrative and supervisory duties. These non-linguistic activities are not computed as workload, but deducted from availability. In other words, the time an interpreter is supposed to be engaged in activities other than interpretation is deducted (normally by half-days) from the overall amount of interpreter-days available.

19. At ICAO and ESCAP, interpreters find themselves with no interpretation work for three to six months a year, during which period they do translation work. All other organizations with staff interpreters report the standard lull periods between Christmas and mid-January and/or August, while at UNOV, staff interpreters find themselves for several weeks without work. No percentages are available.

20. Most organizations do not foresee any regular activities for such periods, but manage to make them productive through administrative work. From the information supplied, UNOV seems to be the only one systematically seeking to loan its staff during such stretches of time. UNHQ, on the other hand, must have a full team on permanent stand-by for the Security Council.

21. With the exception of the World Bank and the two organizations where interpreters also translate, interpreters are not expected to cooperate with translators in any respect, including terminology, not even in organizations with a small structure - although some indicate ad hoc, non-planned cooperation.

22. Except for the World Bank, which routinely distributes questionnaires to users, quality is mostly assessed by supervisors and peers. The three main criteria reported by UNHQ and UNOG are "accuracy and completeness, delivery and languages", all these criteria being equally weighted. UNOV relies on systematic monitoring by the Chief Interpreter and peers, plus, exceptionally, delegates. Such feedback from delegates is mentioned by all other respondents; UPU adds AIIC membership; ITU cites information by qualified practitioners and feedback from delegates, IFAD feedback from participants and staff, ESCAP monitoring by chiefs of language sections, and WTO feedback from senior interpreters. ICAO indicates that it has no quality standards.

23. Remote interpreting is envisioned by all four United Nations Offices and UNESCO, but not by any of the other respondents. UNHQ, UNOG and UNOV mention that its financial and technological viability for large-scale negotiating conferences involving parallel meetings remains to be proven, while its impact on quality and health has still to be established. UNESCO, for its part, has established a working group on the subject. All four foresee that the new technology will entail modifications to workload standards and/or remuneration.

24. The questionnaire asks about productivity of staff interpreters. Most organizations have interpreted this term as synonymous with utilization. None of the reporting organizations mentions a decline, most of them state that it has been unchanged, and a few report increased utilization (UPU: 25 per cent, World Bank: 20 per cent, UNHQ (no percentages given), UNOG and UNOV: between 2 and 12 per cent for first and second biennium years, respectively, and all agree that improved utilization is not in their hands and depends basically on greater coordination among users or, as WTO puts it, "a rational scheduling of meetings". Coordination was particularly stressed by the United Nations bodies with permanent interpreters (UNHQ, UNOG, UNOV). UNOV stressed also the need for coordination among its four budgetarily independent users: the United Nations, UNIDO, IAEA and, as of 1997, CTBTO. Other factors mentioned were a more accurate indication of language and service requirements, as well as a more predictable and stable demand for services.

25. ECA and ITU seem to have a quality-based concept of productivity and mention among the factors influencing it the following: properly written documents, proper referencing, good preparation and better language knowledge.

III. TRANSLATION

26. The information submitted reveals that most of the reporting organizations apply workload standards for translation, self-revision and revision using, as a unit of measurement, the number of words or standard pages (with a specific number of words per standard page) produced per translator per work-day. This information is summarized in table 2.a in annex I.

27. Workload standards or productivity levels are usually measured on the basis of the source language. The target language is used by UNOG for Arabic and Chinese translators. The World Bank reported that the English text was mostly used, whether the source or target language. The target language is also used by the Council of Europe, and, for measuring productivity levels, by OECD and WEU. At OSCE, the target language is used only if the word count is not easily available, the final page count being adjusted according to certain criteria.

28. For translation, the workload standards applied range from 1,560 words per day (w/d) (WHO) to 2,000 w/d (FAO), with two thirds of the reporting organizations applying a figure close (+/-50 words) to the United Nations standard of 1,650 w/d and the rest using somewhat higher standards (ECLAC: 1,800, UPU: 1,875 and UNESCO: 1,944 w/d). The World Bank and OSCE have no standards for translators since all translations are self-revised.

29. In general, the workload standard set for self-revision is about 15 per cent lower than that for translation, being 1,400 w/d at the United Nations and 1,500 w/d in the case of ECLAC. At FAO, IAEA, ITU and WHO, the same standard is applied for both translation and self-revision, while UNON and UNESCO have no established standards for the latter function. The World Bank applies 1,600-1,800 w/d for self-revision on screen and 1,800-2,000 w/d for self-revision of dictated and transcribed texts. ECA's workload standard of 3,400 w/d for self-revision is twice that applied for translation.

30. The workload standards for revision range from 2,300 w/d (WTO) to 6,800 w/d (ECA). The standard applied at the United Nations, with the exception of ECA (6,800 w/d) and ECLAC (2,500 w/d), is in most cases 4,950 w/d, which is some 10 per cent higher than that applied by ICAO, ITU and UPU (4,400-4,500 w/d). WHO, IAEA, UNESCO, the World Bank and the Council of Europe apply even lower standards, ranging from 3,120 to 4,000 w/d. The resulting "revision-translation ratio", where applicable, is 1:3 for the United Nations generally and ITU. 1:2 for IAEA, UNESCO, WHO and the World Bank, approximately 1:2.3 for UPU and the Council of Europe, and 1:2.75 for ICAO. The extreme cases are ECA (1:4), and ECLAC and WTO (both 1:1.4).

31. At most reporting organizations, "revision-only" work (highly repetitive documents or minor changes to previously translated documents) is accounted for as a percentage of the word/page count, e.g., 50 per cent at UNOG, and 75 per cent at OSCE if changes have been made to more than 50 per cent of the document. At a few organizations, it is computed on the basis of the time spent, which, for purposes of the output statistics, is converted into words (e.g., for the World Bank, at a rate of 200 words/hour).

32. Eleven organizations stated that they applied workload standards to in-house revisers' reviewing of translations done externally, and six organizations (UNHQ, UNOG, ESCAP, IAEA, IFAD, IMO) stated that they did not, with ECLAC, ICAO, OSCE and WEU indicating that the question of outsourcing was not applicable to them. Where actual revision of external translations is required, the standard used by UNOV, ITU, UNESCO, the World Bank and WTO is the same as for in-house revision, and that used by WHO is 15 per cent higher. If reviewing only is required, the workload is sometimes measured on the basis of the time spent (WTO, European Commission), or the review is treated as a special assignment e.g., quality control for contractual translation purposes (UNHQ and UNOV).

33. Most respondents indicated that their workload standards did not vary according to language. However, for Russian translators at UNOG, the standard, measured on the basis of the source language, is multiplied by 20 per cent; at OSCE, if a text contains numerous names and titles for which the correct Cyrillic spelling must be determined, one page for the Russian section counts as one and a half pages. Workload standards are increased by 10 per cent for Arabic translations at IFAD. The standards are somewhat different for translation into Chinese and for translation from Arabic into English at IAEA. Special standards are applied at UNESCO for Arabic (-25 per cent) and Chinese (-40 per cent) in the case of both translation and revision.

34. It is not usual for workload standards to be differentiated according to the type and/or complexity of the document. At UNESCO, complexity and difficulty may be taken into account in evaluating overall performance.

UNON stated that complex (e.g., legal and scientific) texts, when requiring extensive research, could justify a downward workload expectation, adjustable by 25-50 per cent, at the discretion of the section chief. ECA applies a lower standard of 1,020 w/d for very technical and specialized texts, and OSCE advised that one page counted as 1½ pages if the text contained numerous unidentified references, and as 2 pages in the case of translations of complex scientific or very technical texts with highly specialized terminology .

35. At most reporting organizations, texts to be translated are routinely pre-referenced. The proportion varies from 35 per cent at UNESCO, where other texts may be pre-referenced on request, to between 80 and 100 per cent at UNHQ, UNOV, UNON, ECA, ICAO, ITU, WTO and OECD. For ESCAP and UPU, the pre-referencing rate is 50 per cent. At IFAD, pre-referencing is carried out in part, at the World Bank for 65 per cent of texts in French and Spanish, and at IMO in the working languages only. No pre-referencing was reported by IAEA, WHO, the Council of Europe or the European Commission.

36. With regard to the use of specialized translators, the number of positive and of negative replies were almost equal. Where specialization is a common practice, it is mostly considered to be very useful or useful (UNOV, IMO), or at least moderately useful (WEU). UNHQ noted that, to the extent possible, specialized qualifications and the academic background of translators and revisers were taken into account when programming assignments. Some respondents stated that specialization was possible only if their documentation covered a broad spectrum of activities and issues, and was hardly, if at all, feasible in smaller sections, where all staff members should be able to deal with texts of any kind.

37. The replies submitted on the percentage of self-revision reveal a wide divergence, ranging from less than 5 per cent at WEU to between 90 and 100 per cent at WHO, the World Bank and OSCE. At WEU, almost all translations are revised or checked by a second person, self-revision being regarded as too long a process. The World Bank's internal work (70 per cent) is all self-revised, and the contracted-out portion (30 per cent) undergoes in-house revision or review. OSCE explained that, although self-revision was the main working method since only two translators were engaged per language section at any one time, there was some actual revision when a senior reviser was paired with a less experienced translator; also, all translators were encouraged to read each other's work. At UNOV and ICAO, some 70 per cent of translations are self-revised, and UNON, IMO, the European Commission and OECD indicated a rate of 80 per cent. At UNHQ, the figure varies considerably from service to service, the average over the past 12 months being 47 per cent. A self-revision rate of below 50 per cent was reported by ECA, ESCAP, IAEA and WTO, as well as by UNESCO, where it is increasing. For all other respondents, the rate is 50 per cent or above.

38. The level of computerization, which is 100 per cent or slightly less in the translation services of two thirds of all the reporting organizations, is in most cases considerably higher than the percentage of translators/revisers working directly on screen, which—with the exception of ECLAC, UPU, the World Bank (some sections), the Council of Europe, the European Commission and WEU—is in general below 30 per cent. Indeed, while all translators at ITU, IMO, WHO (except in the Chinese section), UNOG and WTO have been provided with personal computers, these organizations reported that 20-30, 20, 12, 10 and 0 per cent respectively of those staff members worked directly on screen. UNOV and UNHQ have installed computer workstations for translators to the extent of 90 and 60 per cent respectively; the rate of on-screen working at the former is 0 per cent and at the latter 33 per cent, with no revision done on screen.

39. No organization applies different workload standards for on-screen translation/revision apart from WHO and the World Bank, where these standards are some 15-20 per cent lower. Nevertheless, only six organizations reported that on-screen translation did not affect productivity, which in some cases may be due to the fact that translators prefer to choose themselves the most efficient mode of working in order not to compromise productivity. Increases in productivity as a result of on-screen working are reported by UNON (20 per cent), ECLAC (15 per cent) and the European Commission. All other respondents indicate decreases in productivity, the figures supplied ranging from 15 to 30 per cent. A recent internal questionnaire at one organization revealed that approximately 75 per cent

of translators consulted felt that on-screen translation/revision resulted in lower productivity, with only 3 per cent believing that such a method would increase output.

40. Some organizations noted that the advantages of on-screen translation were probably related, not to any acceleration of the translation process as such, but rather to increased flexibility and a quicker response for shorter texts, speedier delivery to the client and the possibility of reducing the number of secretarial staff, as well as greater consistency through the use of on-line glossaries and databases. Thus, translators and revisers at almost all organizations have access to document servers and to one or more terminology data banks, both internally and externally (see annex II), and use various electronic dictionaries and other software available on CD-ROM or usable on line.

41. According to the information supplied, translators and revisers are currently provided with very few computer-based support facilities apart from electronic reference and terminology databases. Only WHO and the European Commission reported the use of machine-assisted translation, which is also being tested at UNOG, ITU and the World Bank. Voice-recognition software is used only at WHO, although tests are planned or under way at UNOG, ITU, the World Bank and the European Commission.

42. Few reporting organizations have standards for assessing translation quality. Such assessment takes place rather through revisers' comments, random verification by chiefs of language units, and feedback received from clients. UNHQ applies both general standards (completeness, accuracy, spelling and grammar, terminology, brevity, style) and specific standards (ability to translate material drafted by non-native speakers of the source language, appropriate use of reference material, adherence to standard terminology and to United Nations rules on documents processing, material accuracy). The World Bank uses an evaluation form, to be completed by clients for all jobs of 2,000 words and above, with an overall quality rating. No other organization has any composite performance indicator combining quantity and quality.

43. In the case of most respondents, the actual average daily productivity for all categories of staff either equals, or is slightly above or below, the workload standards (see table 2.b in annex I). At approximately one half of the reporting organizations, there has in recent years been an increase in productivity, ranging from 10 to 23 per cent, at least in some language sections. The others reported no change in productivity. OECD noted that the productivity of human translators could not be increased above a certain level (say 1,500-2,000 words per day depending on different factors) without detriment to quality. Referring to standards for revisers, UNOV pointed out that a comparison of its actual productivity figures for individual staff members showed much higher daily translation and self-revision output levels, while productivity for revision (about 12 pages per day) tended to be slightly lower than the workload standard, the reason being that, as a result of the increasing proportion of self-revision, it is the most complex jobs and translations by less experienced staff members that are subject to revision, thus making the task more time-consuming; a downward review of the current standard for revision might consequently be called for.

44. The main factors mentioned by respondents for improving productivity can be categorized as follows:

(a) Competence: recruitment of more competent and longer-term staff; increased motivation; staff members' skills development, dedication and familiarity with their organization's work; training; teamwork; translation by revisers also, if necessary; assistance by terminologists; revision or checking of translations by a second person;

(b) Favourable working conditions: better workload forecasts, enabling better planning; more even distribution of work throughout the year; less shift work; timely and personalized allocation of work, taking into account translators' aptitudes; higher rates of self-revision; regular follow-up by chiefs; monitoring of the output of units and individuals; less frequent interruptions with urgent texts;

(c) Quality of inputs: better quality of original texts; preparation of repetitive work, tables etc. by secretaries; user-friendly editing; clearer indication of modifications in new versions of existing texts; improved referencing in order to minimize personal research and inquiries; easy access to previous translations, documentation and terminology; more and better dictionaries;

(d) Technological innovation: individual computers; documents in electronic form; direct access to structured files in target languages by subject/meeting/year; text standardization with computerized tools; access to term banks; improvement of terminology databases; development of on-line databases; greater use of on-line reference and terminology sources; introduction of effective machine-assisted translation software and voice-recognition facilities.

45. Finally, one respondent noted that current regulations did not provide for or allow monetary incentives for outstanding performance, which could be the most effective stimulus for higher productivity.

IV. TEXT PROCESSING

46. From the information supplied, it can be seen that no uniform workload standards exist for text processing and typing, even within the United Nations system. While UNHQ, UNOG, UNOV and UNON have adopted the established United Nations standards of 13 pages a day of original-language text and 6.5 pages per day of final translated text, some organizations (IAFD, ITU, UNESCO, the Council of Europe) apply higher standards, and others, e.g., ESCAP and ECA, use lower ones (see table 4 in annex I). The World Bank no longer uses standards owing to the changed nature of its work (limited transcription of audio cassettes, and more formatting, proofreading, work involving tables and spreadsheets, and desk-top publishing). WTO stated that it regarded the United Nations standards as a reference but did not apply them, the real yardstick being the ratio of translators to text processors, which stood at 2:1. The standard applied at UPU is 2,800 words typed per day, and WEU has a desirable standard of 1,500 words of continuous text for typists working in their own language. UNESCO's standard for final composition is 11 camera-ready (printed) pages typed, proofread and corrected.

47. For all those organizations which have workload standards, one standard page is equal to 330 words, except at IFD, where it equals 500 words, at the Council of Europe, where one A4 page consists of 3,500 characters, at WHO, where a standard page is one double-spaced A4 sheet which, when finalized, equals two working units, and at UNESCO, where a standard page comprises 324 words for planning purposes but a camera-ready (printed) page is regarded as containing 550 words for statistical purposes.

48. Only three organizations (IAEA, IFAD, WEU) have different workload standards for different languages. WEU explained that, because of written accents and agreements, French typing was slightly slower than English, and IFAD stated that the standard was approximately 10 per cent higher for Arabic.

49. No uniform methods are applied for taking work involving diagrams and tables into account in the workload standards. In some organizations no adjustment is carried out, and in others an allowance is made at the discretion of the supervisor or according to the time spent. At UNHQ and UNOG, one hour is counted as 1,200 words; at UNOV the number of pages is multiplied by three; at UNON a complex text can justify a downward standard expectation of 25 to 50 per cent; at FAO complex tables and graphics are treated as additional words; at ECA one figure is counted as half a word; and at OSCE, for incorporation of minor changes in existing texts, one page counts as ½ page; for incorporation of changes to more than 50 per cent of a document, one page counts as ¾ page; for creation of complex tables, one page counts as 1½ pages; and for typing of complex scientific or highly technical texts, texts including formulae, complex tables etc., one page counts as two pages.

50. Most respondents stated that their pools could copy diagrams and tables from the original-language document where electronically available, but indicated a wide variety of percentages for the extent to which this is carried out, ranging from less than 5 to 100 per cent, and also some differences between individual language sections.

This practice of electronic copying means improved productivity and quality for the vast majority of the reporting organizations. UNHQ stated that the results were inconclusive. While, in IMO's view, quality but not productivity is improved, WEU felt that there was not necessarily an improvement in quality.

51. Information supplied on software programs showed that WordPerfect DOS and WordPerfect for Windows are the programs most commonly used at the United Nations, while, among the other agencies of the United Nations system, MS Word is the most common program for text processing and Excel for spreadsheets, many of these agencies also indicating at least one other software program in use (Freelance Graphics, Corel, Lotus, PageMaker, FileMaker, PowerPoint, Mac Draw, etc.). As regards the other organizations represented at IAMLADP, Excel and WordPerfect for Windows are the programs most commonly used, although, in some cases, the latter program is being phased out in favour of MS Word.

52. With the exception of ICAO and WEU, text-processing output is proofread, mainly by the typists, at all the reporting organizations, mostly by two persons reading to each other. For this task, proof-readers are employed at IFAD, and proofreading at the World Bank is done essentially by professional proof-readers for French and Spanish texts and by typists or revisors for the other languages. OECD reported that important texts (issue papers, publications, etc.) were proofread, and OSCE stated that the practice varied from one language section to another.

53. Approximately one half of the organizations which submitted information do not have any standards for assessing text-processing quality. Others indicated differing criteria for evaluating quality, such as accuracy in transcription and layout, and lack of complaints. At some organizations, quality is assessed on the basis of adherence to editorial rules and regulations, and at others the evaluation is carried out by supervisors, proof-readers, documents control staff or quality controllers. There is also feedback from clients. Some organizations indicated that final approval was given by another unit, and others mentioned that they used common templates, presentation standards and styles in order to ensure quality. No reporting organization has a composite performance indicator combining quality and quantity.

54. For the most part, the output statistics systems at the United Nations generate productivity reports for separate text-processing functions. For transcription from audio cassettes, copy typing, correcting, proofreading and composition/finalizing, the average daily productivity levels reported are respectively 7,980, 5,940, 19,800, 31,680 and 19,800 words (UNOG), 1,980-2,640, 3,300, 4,950, 8,250 and 6,600 words (ECA), and 4,500, 4,500, 4,500, 16,000 and 6,000 words (ECLAC). At UNOV, where the facility for producing separate statistics had only recently been introduced, figures were reported solely for translation typing and copy typing (5.7 and 11.4 pages respectively). The systems in operation at the majority of the other organizations of the United Nations system and other members of IAMLADP do not provide any statistical breakdown. WTO stated that, although its system could do so, separate statistics were not used since emphasis had been placed on the translator/text processor ratio. For the composition/finalizing function, UNESCO indicated a figure of 10 to 15 camera-ready pages (45 lines) of typed, proofread and corrected text. Some respondents indicated a composite daily productivity figure for all functions: 4,500 words (UNHQ), 13 pages (UNON), 6.5 pages (ESCAP), 10 pages (ITU), 2,800 typed words (UPU), and 10 to 20 pages per person (WHO). WEU pointed out that its secretaries were not purely typists, but also had other administrative duties.

55. Six organizations (UNHQ, UNOG, ICAO, IFAD, IMO, the Council of Europe) stated that their overall productivity had not changed in recent years; three (ITC, OECD, OSCE) provided no information; and the others reported increases, some indicating the actual percentage: 33 per cent (UNOV), 30 per cent (ESCAP), 20 per cent (UNON, UPU), 10-40 per cent (IAEA), 10 per cent (ITU, UNESCO) and 5-10 per cent (WHO). The World Bank noted that the increase in its productivity had been partly offset by the greater formatting complexity of documents sent for translation.

56. Respondents' replies concerning the main factors for improving productivity can be grouped into three broad areas: staff (increased motivation, training to improve computer-based skills, recruitment of more competent and

long-term staff, and reduction in the work force, but at the expense of deadlines); management (proper working conditions, introduction of teamwork, personalized allocation of work taking account of text processors' abilities, and monitoring of individual and unit output); and computerization (provision of new and more powerful hardware and software, availability of electronic versions of documents compatible with software used in the sections, homogeneity in the presentation of source documents, utilization of the same templates and styles, improved technical support, use of macros and other time-saving tools, and keyboarding of texts by translators, revisors and editors).

V. PRÉCIS-WRITING

57. Respondents' replies concerning précis-writing revealed a diversity of practices and some differences in standards or productivity (see table 3 in annex I). UNESCO operates a multilingual system, with statements being summarized by the précis-writers in their own languages. IFAD no longer uses précis-writers in the traditional way, summary records now being produced from a verbatim transcript and not from the oral presentations. The World Bank indicated that no précis-writing was done in its translation division, and ECLAC does not habitually undertake précis-writing.

58. As regards the workload standards applied for drafting summary records, UNOG stated that its standards were in line with the report of the Secretary-General on work-load standards ... (A/C.5/45/1). UNHQ indicated a standard of three work-days per meeting, and UNOV a standard of three précis-writers per three-hour meeting. ITU also stated that, in the case of conferences, for which full records were produced, there were three précis-writers to a team and one team per three-hour meeting, the record being drafted within 24 hours; in the case of small meetings, for which report-style records were prepared, there were no fewer than two précis-writers per meeting, the drafting time being fixed ad hoc. A précis-writer at IAEA covers one quarter of a meeting per day.

59. On the question of actual daily productivity, UNHQ stated that, in practice, précis-writing teams usually consisted of four persons (i.e., a total of 4 work-days per meeting), with each précis-writer spending half a day attending a meeting and half a day drafting the record. UNOG indicated an average of 3.8 précis-writers per meeting, and UNOV reported that 3 précis-writers covered one meeting, which sometimes lasted longer than three hours. At ITU, one hour of a meeting is in general also covered per précis-writer, but this depends on requirements; it is sometimes less and sometimes more. A flexible approach is pursued. At UNESCO, the time allotted for drafting, which does not constitute a workload standard proper, is 1.5 days for 90 minutes of speeches (English and French) and 0.5 days for 30 minutes of speeches (Arabic, Chinese, Russian and Spanish). However, the notion of productivity does not apply, since the 90 or 30 minutes have to be summarized within the prescribed deadlines. At IFAD, it takes three staff-days to draft the record of a four-hour meeting. While WHO tries to apply the AIIC conditions for the employment of précis-writers, it does not feel that any quantified unit of measurement is applicable, in view of the nature of the preparation of summary records, i.e., concentration of ideas and long reflection, resulting in few written words, and also because of the teamwork factor, where précis-writers, within a strict timetable for meetings, must be relied upon to share their workload in the most satisfactory way for all concerned, for common-sense reasons such as speed of production of records against deadlines and the convenience of the team members, according to their availability (irregular hours, extra meetings, night work, etc.). IAEA pointed out that productivity in the case of précis-writing depended on the length and content of a meeting, and that a good record had fewer pages than a poor one.

60. Regarding the workload standards applied for revision of summary records and the related productivity levels, UNHQ stated that, although its standard was 0.5 work-days per reviser per meeting, revision frequently required one work-day per meeting. UNOG also indicated a level of one day per summary record, and UNOV 0.5 to one reviser per meeting, depending on its duration and intensity. At IAEA, where very full reporting is required, the output ranges from one to two meetings per reviser per week. At ITU, no standards are in operation; in general, two records are revised per day. UNESCO indicated a revision range of between one half and one full day for a 3

to 3.5-hour meeting, and IFAD stated that two and a half staff-days were required to revise the record of a 4-hour meeting.

61. Overall productivity has not changed in recent years at any of the reporting organizations other than at UNHQ, where it has decreased, and at IFAD and UNOV, where it has increased, in the latter case owing to the fact that, until 1996, four précis-writers per meeting were engaged.

62. As to the factors for improving productivity, respondents pointed out that it was necessary for précis-writers to have proper working conditions and be as well equipped as possible to perform their tasks, and also to be thoroughly briefed on specific issues. They should be provided with full background documentation and supplied with statements or texts in advance. Further factors mentioned were performance monitoring, the good preparation and organization of meetings and their even and well-planned distribution, and also the accessibility to précis-writers of verbatim transcripts or translations of parts of meetings where the interpretation is unclear. It was also suggested that training courses might be held for précis-writers.

VI. EDITING

63. Six of the reporting organizations (UNOV, UNON, ESCAP, ECLAC, ECA, IFAD) apply workload standards for editing and three (UNON, ECA, ITU) for editorial assistants. The information submitted by these respondents shows a wide divergence, ranging from 10 pages/day (330 words/page) to 15 p/d (500-550 w/p) for editors; and from 5 to 40 p/d for editorial assistants (see table 5 in annex I.) IAEA does not apply standards but has guidelines indicating how many pages, under ideal circumstances, should be produced. The figure for editors is around 1,500 pages per year.

64. The average daily productivity of editors also differs widely: from 25-20 p/d (UNHQ, UNON, IMO), to 15-10 p/d (UNOG, UNOV, ESCAP, IFAD) to 9-8 p/d (ECLAC, ECA), to 8-9 p/d (IAEA) as does that of editorial assistants: from 40-30 p/d (ITU, UNON, IFAD), to 25-10 (IMO, UNOG), to 4 p/d (ECA). An additional factor for editorial assistants is that they may have many different tasks that are difficult to quantify.

65. ESCAP reported that overall productivity had increased by 32 per cent over the past decade but the number of documents receiving a standard review had declined. Other increases reported were 20 per cent (UNON, IFAD) and 10 per cent (ECLAC, IMO). Other respondents reported that there had been no change (UNOV, IAEA).

66. The wide divergences in workload standards and in productivity are due to the nature of the work: workloads could be adjusted lower to allow for a text that is complex or very technical (UNON), requires heavy editing and problem-solving or is for publication (IFAD); they are adjusted higher for in-house documents and clear texts requiring light editing (IFAD). Two respondents (UNOV, ITU) included in their estimates the training of junior editors and controlling of support-staff work. WHO commented that there was no satisfactory common unit of measurement - badly prepared, verbose, repetitive and jargon-filled documents required long hours of heavy editing; well prepared, succinct reports or work that had already been put into shape might need very little editing. WHO also commented that to quantify such work in terms other than the need to ensure even quality, as far as possible, while meeting deadlines would be pointless even if it were theoretically possible.

67. In sum, the difficulty of establishing standards for work that presents very different levels of difficulty and therefore requires different levels of expertise, time and effort to accomplish is reflected in the fact that only six respondents attempted to do so, and all of them adjust those standards according to the nature of the work.

68. Two respondents (IAEA, UNON) reported standards for upstream editing, i.e. working directly with the author(s) during the preparation of a manuscript. The standard quoted by UNON was 15 pages/day (330 words per page). IAEA reported that the advance editing advice (APA) process had made it easier for the Publications Committee to review documents. It had resulted in more complete documents that required less remedial-type work

by the editor. (Although IFAD cited upstream editing as a factor for improving productivity, it did not report practising this method.) In practice, depending on how well or ill the document or publication has been prepared, and the time available, editors often do have a sizeable input during the drafting of documentation.

69. While UNHQ, UNOG, ECA, IAEA, IFAD, IMO and ITC reported that editors proofread after editing, UNOV, UNON, ESCAP, ECLAC, ICAO and ITU reported that they did not. However, all of the latter group of respondents qualified their answers, as follows: some editors reread the manuscripts after editing and before typing and answered queries from the text-processing operators who proofread the document after typing (UNOV); some editors did not proofread documentation for pre-editing but did proofread official records (UNHQ); some checked that their corrections had been entered accurately (IFAD); in some cases, texts were proofread by a colleague (ICAO); and proofreading might be done by an "outside" reader or by the administrative or editorial assistant (WHO).

70. Nine respondents reported that editing was done on screen although the percentages varied widely: from UNOG (100 per cent), ITC (95 per cent), UNHQ (80 per cent for official records) and UNON (75 per cent) to IFAD (20 per cent), IMO (10-20 per cent), IAEA (10-15 per cent), ECLAC (15 per cent) and ESCAP (less than 10 per cent). Three (UNOV, ICAO, ITU) reported no editing was done on screen.

71. The answers to the related questions as to whether editors format and insert electronic tags again differed. UNOG, ITC and UNON, which perform a high percentage of on-screen editing, reported that their editors either formatted or inserted electronic tags or, mainly, did both. All those organizations reported increased production - in the case of ITC, as high as 75 per cent. ECLAC reported an increase of productivity of 30 per cent in certain cases. IAEA reported an increase of productivity, but gave no figures. In contrast, UNHQ reported that the preparation of camera-ready copy decreased output but saved many production steps downstream.

72. Background referencing is done by editors, editorial assistants and a reference unit at UNOG, UNOV and UNON; by editors and editorial assistants at ESCAP, ICAO, ITU and ITC; by editorial assistants at IFAD; and by a reference unit at ECLAC and ECA.

73. All respondents except for ECA and IFAD had access to reference and terminology data banks. The resources named were UNTERM, the optical disk system and network database (UNOG); ISIS (UNON); Cardbox, PCBrowse, IMF, WB, IDB, UNICEF, WHO and other United Nations glossaries, UNBIS and UNTERM (UNOV), Biblioteca de la CEPAL, CELADE/DOCPAL (ECLAC); ICAO terminology database; Macbeth titles database, Teleco terms and abbreviations database, work programme database and Termite terminology database (ITU); ITC terminology database; WHO databanks and INIS (IAEA); UNIDO Industrial Development Abstracts.

74. The standards used for assessing editing quality are adherence to United Nations editorial rules and the regulations on documentation in the ST/AI/189 series (UNHQ, UNOV); IAEA Style Manual (IAEA); the checking and opinions of other staff including the Chief of section (UNOV, IAEA, ICAO, ECLAC); and readability and comments from users, including delegates (IFAD, IMO). UNON commented that properly edited texts increased the productivity of translators by 25-50 per cent.

75. Editors and editorial assistants use the following word-processing programs: WordPerfect DOS and WordPerfect for Windows (UNHQ, UNOG, UNON, ECLAC, IAEA, ICAO, IFAD), WordPerfect for Windows (IMO, ITC) and Word (UNHQ for Chinese only, UNON, IAEA, IFAD, ITU); they use the following desk-top publishing page make-up programs: QuarkXpress and PageMaker (IFAD); and the following spreadsheets and databases: Excel (UNON, IAEA, IFAD), Quattro Pro (UNON).

76. There were many factors given for improving productivity: on-screen editing and wide-screen monitors; computer technology and better computer skills; closer attention to the needs of translators; increased workload; dedication and familiarity with the work of an organization; well trained and well prepared staff; timely submissions

with documents arriving in final form, fewer changes; upstream editing; editors and editorial assistants taking ownership of a document once it arrives for editing; streamlining and standardization of editorial parameters and presentation rules, and stricter control; improved working methods; more reference materials and access to reference and terminology data banks and the Internet; and good original texts, good working conditions, good planning of meetings and documentation.

VII. TYPESETTING, COPY-PREPARATION AND PROOFREADING

77. Of 16 respondents (UNHQ, UNOG, UNOV, UNON, ESCAP, ECLAC, ECA, IAEA, ICAO, IMO, ITU, ITC, UNESCO, UPU, World Bank and Council of Europe), only three (UNOV, UNON, ECLAC) apply workload standards for typesetters; one (IAEA) gives a guideline of 1,600 pages per year (final after corrections, drafting etc.); five (UNOG, UNOV, ESCAP, ECLAC, Council of Europe) apply workload standards for copy-preparers; and four (UNOG, UNOV, ESCAP, Council of Europe) for proof-readers (see table 6 in annex I). At UNHQ the same staff members perform all three functions; while at the World Bank only a limited amount of copy-preparation is done. One respondent (IMO) reported that copy-preparation was done by editors/assistant editors.

78. Six respondents (UNHQ, ESCAP, ECLAC, ICAO, IMO, UPU) reported that a very high percentage of the work of copy-preparers was done on screen. UNOG, UNOV and IAEA reported that none was. In the case of UNOG, the problem was one of incompatibility of the software used by copy-preparers and typesetters, which is expected to be resolved by 1998. In the case of UNOV, the problem was a need to update hardware and software, which problem has been largely resolved. The trend appears to be that copy-preparers are or soon will be working almost entirely on screen. Only three respondents (UNHQ, ECLAC, IMO) indicated that on-screen copy-preparation affected productivity; in each case it was increased (7, over 70 and over 10 per cent, respectively).

79. More than half of the respondents indicated that copy-preparers had access to reference and terminology banks in their organizations as well as, inter alia, UNBIS, UNTERM, IDA and ICAO's terminology database.

80. Typesetters use the following word-processing programs: WordPerfect DOS and WordPerfect for Windows (UNHQ, UNON, ESCAP, ECLAC, ICAO, IMO), WordPerfect for Windows (UNOV), and Word (UNHQ, UNON, IAEA, IMO); they use the following page make-up programs: QuarkXpress (UNHQ, IAEA, IMO), Ventura (UNHQ, UNON, ESCAP, ECLAC, IMO), PageMaker (UNHQ, UNOV, UNON, IMO) and Framemaker (ICAO); the following spreadsheets and databases: Excel (IMO), Quattro Pro (ECLAC); and the sophisticated paint-and-draw program CorelDraw used in desktop publishing (ICAO, UNOV). In addition, UNOG uses DEC Write, which is compatible with United Nations standard software, and UNHQ uses ORFO/PARAMIN.

81. Copy-preparers use the following wordprocessing programs: WordPerfect DOS and WordPerfect for Windows (UNHQ, ESCAP, ECLAC, ICAO, IMO), WordPerfect for Windows (UNOG, UNOV) and Word (UNHQ, IMO, ITU, UPU); they use the following page make-up programs: QuarkXpress (UNHQ), Ventura (UNHQ), PageMaker (UNHQ, UPU) and Registration (ITU).

82. The actual average daily productivity of typesetters reported varied in different organizations between 9 pages (UNOV), 8-10 pages, including mathematical tables (IAEA), 8-15 double-spaced pages, depending on whether diskettes are supplied (IMO), 18 pages (UNOG) and 30 double-spaced pages (UNHQ). It appears that the final product differs in different organizations. The compositors at UNOV prepare only high-quality page layouts in camera-ready copy that has been revised and corrected; camera-ready copy of documentation in WordPerfect is prepared by the Editorial Text-processing Unit. It may be that the higher figures quoted, particularly in double-spacing, are related to texts prepared in WordPerfect.

83. The average daily productivity of copy-preparers varies widely, from 7 printed pages (UNESCO), to about 10 pages (ESCAP), to 30 pages (UNHQ), to about 36 pages (ECLAC), to 60 pages (UNOV), to 300 pages (ITU).² Such a wide variation indicates that the functions of copy-preparers differ. Moreover, at some organizations, their function is combined variously with those of editors and assistant editors (IMO), or proof-readers (UNOG); or the same group of staff members perform the three functions of typesetting, copy-preparation and proofreading (UNHQ).

84. For proof-readers, the average daily productivity varies from 7 printed pages (UNESCO), to 8-15 pages depending on whether diskettes are provided (IMO), to 10 pages (ESCAP), to 25 pages (UNHQ), to 30 pages (UNOV), to 32-60 pages (ITU).

85. Four respondents reported that overall productivity had not changed in recent years (UNOV, ESCAP, Council of Europe, World Bank); others reported that it had increased by amounts varying between 7.5 per cent (UNHQ), over 10 per cent (IMO), over 20 per cent (UNON, ITU, UPU), 33 per cent (UNOG) and over 50 per cent (ECLAC). IAEA reported that it had increased but did not give a figure. Again, such a marked difference reflects different workload standards or units of measurement. Other reasons, however, might be found in the responses to what the main factors are for improving productivity (see below). UNOV has now updated its hardware and software and intensive training in desk-top publishing has begun; therefore, its productivity will undoubtedly increase.

86. Many factors were cited for improving productivity. Virtually all respondents cited factors relating to computer technology and training. Staff training and upgrading of both hardware and software, with adequate technical support, were deemed very important. Other factors were more jobs on diskette, improved quality of the jobs and timely submission; good production systems (organization, workflow, correct production path); supervision of staff; increased motivation; better working conditions; and standardized work procedures.

VIII. OUTPUT STATISTICS

87. With the exception of IFAD and ITC, all the reporting organizations process output statistics, in the vast majority of cases using computerized database systems, with different types of platform or software: Access, dBASE, Excel, File Maker Pro/Macintosh, Lotus, DataPerfect, SQL/server and Powerbuilder, PACE, Paradox, UNIX and DPS (Document Production System) software. In-house software is used at the Council of Europe. The three reporting regional commissions and IMO use solely a manual system to process their statistics. UNOG employs a manual system for typesetting, copy-preparation and proofreading, but computerized systems for translating and text processing (Lotus and Excel), distribution (Excel) and printing (DRITS). OECD stated that its statistics, which are based on output, were processed using the MS word-count function in conjunction with a manual system for tables, amended versions, etc. At OSCE, the data for each document (number of pages translated/typed in each language) are entered on Excel spreadsheets, which are arranged according to organizational unit. UNESCO pointed out that Excel was used for individual statistics and a dBASE (DOS) application for overall statistics. The processing of statistics at WTO is by means of a tailor-made system using SYBASE and Visual Base.

88. While responsibility for entering data into and maintaining the output statistics system generally rests with the documents control units at UNHQ, ECA, ICAO and IMO (and to some extent also at UNOG, UNOV, ITU, UNESCO, OSCE), respondents' replies reflected a variety of procedures. UNOG stated that, in its Languages Service, documents control officials were responsible for the system and that, in its Publishing Service, the manual system was the responsibility of the section concerned whereas, for the computerized system, the section entered the data but the Division maintained the system. At UNOV, responsibility rests with the documents control unit for the

²The figures of 300 pages and 1,000 w/p need to be verified or an elaboration given of the functions performed.

service and unit statistics, and with the section chiefs for individual output statistics. ITU listed as persons responsible the customer, the documents control and registration units, translation section secretaries, secretary of the Conference Department, heads of the pool sections (for DPS) and assistant to the pool chief (for Excel and DPS). At UNESCO, individual statistics are handled by the translation and composition units and overall statistics by the documents control and planning unit. WTO indicated that the staff members performing the specific function (i.e., documents control personnel, operations assistants and team participants) have responsibility. WHO stated that, for translation and related work, responsibility rested with the Office of Language Services secretariat. At the World Bank, one person in each language programme inputs the data, with one administrative assistant maintaining the statistics for the whole division. At OSCE, documents control staff enter the data, whereas the staff of the information technology section maintain the statistics. The diversity of responsibility is further apparent from the other replies received: supervisor of the unit (ECLAC), reference assistants (ESCAP), Director's office (IAEA), *administrateur* (UPU), programming unit within the production section (Council of Europe), management (European Commission), assistants in the linguistic sections (OECD), and assistant in charge of logging (WTO).

89. The replies concerning accessibility of output statistics showed that, for the United Nations system organizations, such data are accessible generally to the chiefs/managers of the service and sections/units, and in some cases to the chief of the division. A few organizations (UNOG, ITU, World Bank) reported that finance, budget, administration and systems personnel also had access. IAEA's statistics are accessible to no one outside the Division. UNHQ explained that, while there were no restrictions on access to output statistics, productivity reports were normally available only for Conference Services managers. At UNOV, overall service production statistics are available without any restrictions in read-only form, but individual data are accessible to the chief of the service, immediate supervisor and staff member. ECLAC and ESCAP indicated that their statistics could also be made available to staff members.

90. As regards the other organizations represented at IAMLADP, output statistics are accessible to the director, heads of the financial and production sections and unit heads at the Council of Europe, to the management at the European Commission, and to the director, Department of Conference Services, at OSCE. They are provided, on request, to the hierarchy at WEU. OECD indicated that its statistics were accessible to the heads of groups and sections and to the head of the service; each translator had access to his or her own productivity statistics, and the global output of each linguistic section and the Division as a whole were accessible to all personnel.

91. While the output statistics systems generate productivity reports for individual staff members at some organizations, namely UNOV, ECA, ECLAC, IAEA (for revisers and translators), ITU, UNESCO (informal reports for internal use only), UPU, WTO, the European Commission and OSCE, they are used at a far greater number of organizations to generate productivity reports for each section/unit and for the service/division as a whole: UNOG (Languages Service), UNOV, UNON, ECA, ECLAC, ESCAP, IAEA, ICAO, ITU (depending on the service or unit), UNESCO, UPU, WHO, WTO, the Council of Europe, the European Commission, OECD, OSCE (application under development) and WEU (monthly output). The productivity reports generated at UNHQ are intended for each section/unit. In UNOG's Publishing Service, the reports are not computer-generated but are prepared manually each month for typesetting and printing activities within the section. The World Bank's system does not generate productivity reports but can produce detailed and summary statistics of production for any staff member, language programme and period.

92. The majority of the respondents advised that deductions were made from their output statistics calculations for days of annual leave, sick leave and official travel and for time spent on administrative, training, research and terminology work. OECD explained that deductions were made for all the factors listed, but for individual statistics only and not for the service as a whole. No deductions are made at ECA and IMO. At UNON, ECLAC and the Council of Europe, the deductions relate solely to annual leave, sick leave and official travel. UNOG's Publishing Service makes no deductions for its overall output statistics but it does deduct all the factors indicated for productivity reports in respect of typesetters and printing. At UNOV, periods when the computer network is out of order are deducted from individual statistics but retained in the overall production statistics. At ESCAP and WEU,

only days of annual leave are deducted. WEU further pointed out that its statistics did not include liaising with authors, committee secretaries, delegations or other organizations (mostly NATO and the European Union) and did not reflect adequately the time spent in drafting or Council meetings. At ITU, deductions may be factored in manually (compensation leave granted, etc.). The World Bank indicated that its time-recording system kept track of all the factors referred to, even though its output statistics system did not generate productivity reports.

93. Unused capacity arising from lack of work is counted as workdays for the unit/ section/service, but not for individual staff members, at UNOV, in UNOG's Publishing Service, at UNON and WEU, for both at ITU, UPU and the Council of Europe, and for neither at UNHQ, ECA, ESCAP, WHO, IMO and OSCE. However, UNOG's Languages Service, ICAO, UNESCO, WTO, the World Bank, the European Commission and OECD indicated that the question of unused capacity was irrelevant or inapplicable. ICAO and WTO never lack work, and OECD is continually overworked. The World Bank rarely has idle capacity, given its limited staff and high contracting-out ratio; when demand decreases, the volume sent to contractors is reduced accordingly in order to keep its internal staff fully occupied.

Annex I

Table 1. Interpretation: workload standards

(Assignments per interpreter per day)

	UNHQ	UNOG	UNOV	UNON	ECA	ESCAP	FAO	WB	ICAO	IFAD	ITU	UNESCO	UPU	WTO	COE	OSCE
Permanent	1.4 ¹	1.4 ¹	1.4 ^{1,2}	1.4 ³	- ⁴	1.4 ¹	- ³	- ³	2 ⁶	-	-	1.4	-	- ⁷	- ⁸	- ⁷
Freelance	1.6 ¹	1.6 ¹	1.6 ¹	1.6 ¹						- ⁷	2 ¹		- ⁷			

NOTES:

¹ The average duration of an assignment is 3 hours.

² Exceptionally 8 assignments per week.

³ Standard for assigned staff interpreters (there are no in-house interpreters).

⁴ The standard is 6 hours per day.

⁵ No figures given.

⁶ Maximum of 8 assignments per week and 15 assignments averaged over two weeks. The average duration of an assignment is 2½-3 hours.

⁷ Standard as per the CCAQ/AIIC agreement.

⁸ The standard is 4 to 4½ days of interpretation per week.

Table 2.a. Translation: workload standards

(Number of words per translator per work-day)

	UNHQ'	UNOG	UNOV	UNON	ECA'	ECLAC'	ESCAP'	FAO	IAEA'	WB	ICAO'	IFAD'	IMO	ITU'	UNESCO	UPU	WHO	WTO	COE'	OECD	OSCE'	WEU	
Translation	1 650	1 650	1 650	1 650	1 700 ¹	1 800	1 650			³	1 600		-	1 500-1 625	1 944 ⁴	1 875	1 560 1 248 ⁸	1 650	} 1 710 ⁵	-	³	-	
Self-revision	1 400	1 400	1 400	-	3 400	1 500	1 420	} 2 000 ⁶	} 1 650 ²	1 800-2 000 1 600-1 800 ⁷	1 400	} 1 650 ⁶	-	1 625	-	1 400	1 560	1 420		-	-	1 402	-
Revision	4 950	4 950	4 950	4 950	6 800	2 500	4 950			3 300 ²	3 600-4 000		4 400	-	4 500	3 888 ⁸	4 500	3 120 2 496 ¹⁰		2 300	3 800	-	-

* Data in pages per day converted to words per day.

NOTES:

¹ Lower standard of 1,020 words for very technical/specialized texts.

² Standards are different for translation into Chinese and from Arabic into English.

³ All translations are self-revised.

⁴ 1,458 words for Arabic; 1,134 words for Chinese.

⁵ Approximate figure (standard is 2,200 pages of 190 words per annum).

⁶ Average combined figure.

⁷ Lower standard for self-revision on screen.

⁸ 2,916 words for Arabic; 2,268 words for Chinese.

⁹ Lower standard for translation on screen.

¹⁰ Lower standard for revision on screen.

Table 2.b. Translation: productivity
(Number of words per translator per work-day)

	UNHQ [*]	UNOG	UNOV	UNON [*]	ECA [*]	ECLAC [*]	ESCAP [*]	IAEA [*]	ICAO [*]	IFAD [*]	IMO	ITU [*]	UNESCO [*]	WHO	WTO	COE [*]	OECD	OSCE [*]	WEU
Translators	1 485	} 1 554 ¹	1 700 ⁷	1 650 1980 ²	} 1 700 ¹	1 500 ³	1 320	990- 1 650 ⁴	1 600 ³	} 1 650 ^{1,3}	} 1 650 ^{1,3}	1 250(E) 1 500(F) 1 625(S)	1 620- 1 944 ² (E,F,R,S)	1 560 1 248 ²	} Note 5	} 1 710	} 1 800	} No data available	1 875
Self-revisers	1 584		1 450 ⁷	1 650 1980 ²		1 500 ³	1 320		1 400 ³			1 250(E) 1 625(S)	1 458- 1 620 ² (E,F,R,S)	1 560 1 248 ²					1 875
Revisers	4 000		5 115 ⁷	3 960 4 950 ²		2 000 ³	4 950	1 980- 3 300 ⁴	4 400 ³			4 500(E) 3 700- 4 500(S)	3 564- 4 212 (E,F,R,S)	3 120					3 750

* Data in pages per day converted to words per day.

NOTES:

¹ Average combined figure.

² Work done on screen.

³ Figure includes on-screen working.

⁴ Productivity varies from section to section.

⁵ Output for permanent staff is slightly above, and for temporary staff slightly below, the workload standards of 1,650, 1,420 and 2,300 words for translation, self-revision and revision respectively.

⁶ Less than 5 per cent of work is self-revised.

⁷ Individual figure calculated from the average combined total (actual productivity is higher for translators, considerably higher for self-revisers and lower for revisers).

Table 3. Text processing: workload standards

(Number of words per typist per work-day)

	UNHQ [*]	UNOG	UNOV	UNON [*]	ECA [*]	ECLAC [*]	ESCAP [*]	IAEA [*]	IFAD [*]	UPU	ITU [*]	UNESCO [*]	WHO	WTO	COE [*]	WEU
Translation typing	4 290 ²	4 290 ²	4 290		990	4 500	4 290	- ¹	10 000 ⁴		4 950	5 832	- ¹¹	- ³		
Copy typing	2 145 ⁵	2 145 ⁵	2 145	4 290 ³	1 980	-	2 145	- ¹	10 000 ⁴	2 800	3 300-3 960	-	-		10 000 ⁶	1 500 ⁷
Other						16 000 ⁹						3 564 ¹⁰	- ¹²			

^{*} Data in pages per day converted to words per day.

NOTES:

- ¹ Different for different sections.
- ² Words of original-language text.
- ³ Overall standard is 13 pages of source-language text delivered in final target-language text.
- ⁴ Approximately 10 per cent higher for Arabic.
- ⁵ United Nations standards are regarded as a reference only.
- ⁶ 15 pages per day re-read and corrected.
- ⁷ Desirable standard.
- ⁸ Words of final-language text.
- ⁹ Proofreading.
- ¹⁰ Camera-ready pages (final composition).
- ¹¹ 10-13 standard pages (A4 double-spaced).
- ¹² Formatting, including typographical styles: 6-12 pages (A4 double-spaced).

Table 4. Précis-writing: workload standards/productivity

(Number of minutes covered per meeting per work-day)

Drafting of summary records	UNHQ	UNOG	UNOV	IAEA	IFAD	ITU	UNESCO	WHO
	60 ^{1,2}	50 ^{1,3}	60 ³	45 ¹	80 ^{3,4}	60 ^{3,5}	60 ⁶	. ⁷

(Number of reviser work-days per meeting¹)

Revision of summary records	UNHQ	UNOG	UNOV	IAEA	IFAD	ITU	UNESCO	WHO
	0.5 ^{1,8}	1 ³	0.5-1 ⁹	2.5-5 ^{1,10}	2.5 ¹¹	0.5 ¹²	0.5-1 ¹³	. ⁷

NOTES:

- ¹ Average duration of a meeting is assumed to be 3 hours.
- ² Actual productivity is usually 45 minutes per précis-writer per work-day.
- ³ Average productivity level.
- ⁴ Records are produced from verbatim transcripts.
- ⁵ Figure applies to conferences (for smaller meetings, at least 2 précis-writers per meeting produce report-style records; drafting time ad hoc).
- ⁶ Précis-writers summarize speeches in their own languages.
- ⁷ No workload standards adopted.
- ⁸ Actual productivity is frequently 1 reviser work-day per meeting.
- ⁹ Productivity depends on the duration and intensity of the meeting.
- ¹⁰ Very full reporting is required.
- ¹¹ Productivity for a 4-hour meeting.
- ¹² Not a formal standard.
- ¹³ Meetings can last up to 3½ hours.

Table 5. Editing: workload standards and productivity

(Number of words/pages per staff member per work-day)

	UNHQ	UNOG	UNOV*	UNON*	ECA*	ECLAC	ESCAP*	IFAD*	IMO	ITU*
Editors	20-25 ¹	10-12 ²	3 630 ³	4 650 ⁴	3 300 ⁵	2 000	4 650	6 000-8 250 ⁶	20-25 ⁷	} 40
Editorial assistants	-	10-12 ²	-	8 250 ⁴	1 650	n/a	-	30 ⁸	20-25 ⁷	

*Data in pages per day converted to words per day.

NOTES:

1. Average productivity in pages; in pre-editing (workload standards were not given).
2. Average productivity in pages (for editorial assistants, the standard depends on complexity (workload standards were not given)).
3. For light editing, 22 pages (7, 260 words).
4. Complex texts could be adjusted downward by 25-50 per cent.
5. For very technical documents, 3-4 pages (990-1,320 words); for heavy editing, 12 pages (6,000 words) or less.
6. For light editing, 15 pages (8,250 words).
7. Average productivity in pages (workload standards were not given).
8. Average productivity in pages (hard copy) (workload standards were not given).

Table 6. Typesetting, copy-preparation and proofreading: workload standards and productivity

(Number of pages/words per staff member per work-day)

	UNHQ	UNOG	UNOV*	UNON*	ECLAC	ESCAP*	IMO	ITU	UNESCO*	Council of Europe
Typesetters	30 ¹	18 ²	2 970 ³	6 600	5 000	-	8-15 ⁴	15 ⁵	6	-
Copy-preparers	30 ¹	26 400	19 800	n/a	10 000	3 900 ⁹	20-25 ¹⁰	300 ⁵		40
Proof-readers	25 ^{1,7}	13 200 ⁸	9 900	n/a			8-15 ^{4,10}	32-60 ^{5,11}		50

*Data in pages per day converted to words per day.

NOTES:

1. Average combined productivity in double-spaced manuscript pages. (The same group of staff members performs all three functions, for which there are no workload standards.)
2. Average productivity in pages in 1996 (330 words or 2,400 characters per page) (there are no workload standards for this function).
3. Nine finished pages.
4. Average productivity in pages (there are no workload standards for this function).
5. Average productivity in pages (1,000 words per page).
6. Daily output of the photocomposition unit is 7 printed pages of 45 lines (there are no workload standards).
7. Averaged first proofs and revision.
8. The standard for revision is 39,600 words.
9. Composite standard of 13 pages (300-350 words per page).
10. Function performed by editors/assistant editors.
11. Productivity for revision is 32 pages and for verification around 60 pages.

Annex II

Terminology data banks accessible to translators

	Internal	External
UNHQ	General access to UNTERM envisaged for 1998-1999	Access envisaged for 1998-1999: Termium (on-line and CD-ROM); BTQ on line; IMF, World Bank, FAO and Council of Europe databases copied to the United Nations
UNOG	Network data bases	Termium
UNOV	In-house (RTU) database (currently being prepared for migration from the mainframe to LAN to provide on-line access)	Mainframe access. New York Computing Centre: UNBIS, UNTERM; ICIS: RTU database, VICLION, IDA; TELNET: Eurodicautom; Internet: Termite; WHOTERM; CD-ROM: Termium ¹ ; dictionaries compiled by CILF
UNON		ISIS
ECLAC	Cardbox; PCBrowse (IMF, WB, IDB, UNICEF, WHO and other United Nations glossaries); New York Computer Section; UNBIS; UNTERM; Biblioteca de la CEPAL; CELADE/DOCPAL	
ESCAP	In-house terminology data base	
IAEA	Except for Arabic & Chinese	Through Internet
ICAO	On-line terminology data base for English, French, Russian and Spanish, and separately for Arabic	Termium, Eurodicautom, Termite
IMO	In-house terminology data base	Termium
ITU	Termite	Eurodicautom
UNESCO	Internal terminological and bibliographical lists on various subject-matters (accessed through LAN, Intranet and mainframe computer)	Through Internet (including United Nations); Termium on optical disk.
UPU	In-house multilingual postal vocabulary; Termium	Eurodicautom, etc. through Internet
WHO	WHOTERM; LEXICON ² ; Termium and BTQ on CD-ROM.	Eurodicautom; Termite; Euterpe; other glossaries available on Internet
WORLD BANK	Large amount of glossaries in word-processing format available on line using ISYS software; Termium.	Through Internet
WTO	In-house terminology database; TPRM glossaries	Approximately 90 data banks from different sources, international and other organizations.
COE	Pollux	Eurodicautom and other minor data banks
EC	Eurodicautom; TIS; Euterpe; Multiterm	Termium; Termdok
OSCE	ISYS for Windows 4.02 (retrieval software providing full-text access to previously translated documents)	Terminology collections available on Internet
WEU	Termium; Jerôma (NATO); Encyclopédie Universalis and documents on CD-ROM (Le Monde Diplomatique, Quidmedia, Année Stratégique)	Through Internet

¹ Termium is the Government of Canada Linguistic Data Bank.

² LEXICON is a collection of glossaries of United Nations organizations.