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PROGRAMME BUDGET FOR THE BIENNIUM 1976-1977

Electronic data processing and information systems
in the United Nations

Report of the Advisory Committee on Administrative
and Budgetary Questions

1. The Advisory Committee on Administrative and Budgetary Questions has considered the report of the Secretary-General on electronic data processing and information systems in the United Nations (A/C.5/31/3) which is being submitted in response to the decision by the General Assembly at its thirtieth session that it should be provided with a clear and concise account of developments in electronic data processing and information systems since the twenty-eighth session of the General Assembly with a forecast of requirements tied to the medium-term plan of the Organization. ^{1/} In its examination of the report, the Advisory Committee received additional information from the representatives of the Secretary-General.

2. The total cost of the United Nations electronic data processing (EDP) programmes in the biennium 1976-1977 is currently estimated at \$12,178,400 (see annex I), of which \$6,757,800, or 55.5 per cent, represents funds under the direct control of the Electronic Data Processing and Information Systems Service (EDPIS), and \$5,420,600, or 44.5 per cent, is managed by users outside the direct control of EDPIS, mostly for systems analysis and programming carried out by staff in other organizational units. The latter amount includes \$4,102,500 for salaries and common staff costs for 82 posts under the regular budget (42 Professional and 40 General Service) and 9 posts from extrabudgetary resources (4 Professional and 5 General Service). The corresponding establishment for EDPIS for the current biennium is 52 posts under the regular budget (24 Professional and 28 General Service) and one post (General Service) from extrabudgetary resources.

3. The report of the Secretary-General makes reference to areas of additional immediate or potential requirements, which may be summarized as follows:

^{1/} The Secretary-General's report refers to the 1976-1979 medium-term plan (Official Records of the General Assembly, Thirtieth Session, Supplement No. 6A (A/10006/Add.1)).

(a) Financial implications in 1977 of the Secretary-General's recommendations, in the event that they are approved by the General Assembly. In paragraph 123 of the report (A/C.5/31/3), the Secretary-General indicates that they would amount to \$491,500 net of staff assessment;

(b) Known requirements in respect of which the Secretary-General is not seeking any appropriations at this stage, namely \$406,400 ^{2/} related to the International Computing Centre (ICC) (A/C.5/31/3, para. 80) and \$107,000 for the United Nations Environment Programme (UNEP) (A/C.5/31/3, para. 91);

(c) Potential requirements for the 10 areas referred to in paragraph 18 of the report (A/C.5/31/3) which have not as yet been determined pending completion of feasibility studies. However, the representative of the Secretary-General informed the Advisory Committee that the cost of EDP applications for the United Nations Centre on Transnational Corporations (para. 18 (c)), was tentatively estimated at \$373,000 in 1977.

4. In addition to the areas of potential expenditure referred to in paragraph 18 of the Secretary-General's report, the Advisory Committee noted other areas where additional expenditures for EDP were anticipated in the current biennium, namely adapting the Headquarters payroll system for use in Geneva (paras. 72-73), computer utilization by the Economic and Social Commission for Asia and the Pacific (ESCAP) (para. 98), and the proposed system for the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) (para. 78). The representative of the Secretary-General informed the Advisory Committee that the related potential requirements were estimated at \$120,000, \$66,000 and \$7,000 respectively.

5. While recognizing the incomplete presentation of the EDP estimates in the report (A/C.5/31/3), the Advisory Committee points out that the anticipated and potential requirements referred to in paragraphs 3 (b) and (c) and 4 above could amount to a minimum of \$1.1 million in 1977.

6. The \$491,500 (net of staff assessment) requested by the Secretary-General for the 1976-1977 programme budget under sections 22D and 22G is a net amount corresponding to gross expenditure of \$821,000, less \$329,500 in offsetting income and savings (see annex II).

EDP requirements at Headquarters

7. As is stated in paragraph 14 of the Secretary-General's report (A/C.5/31/3), the requirements of departments, offices and divisions at United Nations Headquarters for EDP services are met through the New York Computing Centre (NYCC), which was established in 1965. The operation of the NYCC current facilities is based on the central processing unit IBM model 370/145 which was installed in

^{2/} The amount of \$378,000 shown in paragraph 80 of the report (A/C.5/31/3) was calculated on the basis of the initial estimate (\$1,508,000) of the United Nations share of the costs of ICC as given in the Secretary-General's proposed programme budget for the biennium 1976-1977 (Official Records of the General Assembly, Thirtieth Session, Supplement No. 6 (A/10006), vol. VI, paras. 22.63-22.66). The appropriation for the biennium is \$1,479,800 (see para. 29 below).

April 1972 and became fully operational four months later. Its capacity has been progressively enhanced through additional auxiliary hardware and software in response to increasing user demands (for actions taken, see A/C.5/31/3, foot-notes to chart 2).

8. None the less, the Secretary-General states in paragraph 9 of his report (A/C.5/31/3) that "... the summary of detailed projections and estimates by each individual using office, for the accomplishment of presently funded and approved work programmes, indicates that the total requirement for computer services will exceed during 1976 the theoretical capacity of the equipment on its presently established operating schedule" and that he "can now confirm that additional capability is urgently needed ...". According to paragraph 19, the reviews with users of the NYCC facilities "also revealed the need for an accelerated changeover to a more advanced computer configuration which would permit fully interactive capabilities, that is, the possibility of interaction, entry and inquiry from a terminal directly connected to the computer. This change in the service possibilities of NYCC has now become imperative, and in some instances critical, if the objectives of the user work programmes for the 1976-1979 medium-term plan are to be met."

9. The present situation can best be explained by tables 1 and 2 below. Based on information provided to the Advisory Committee, table 1 illustrates the development of actual usage of the NYCC facilities for the years 1973-1975 and the projected usage for the years 1976-1979, estimated on the basis of the Secretary-General's review of work programmes of user offices as contained in the proposed programme budget for the biennium 1976-1977 ^{3/} and as outlined in the medium-term plan for 1976-1979. ^{4/} Table 2 provides information on the computer-use hours by programmes of the NYCC facilities in terms of actual usage in 1974-1975 and projections for 1976-1979, arranged in descending order of magnitude as projected for the current biennium.

10. The Secretary-General estimates the current capacity of the NYCC facilities expressed in computer-use hours at 5,963 (see table 1 below). Actual use of those facilities in 1975 amounted to 5,368 computer-use hours, that is, it was 11 per cent below capacity. The Secretary-General's projections for 1976 (see table 2 below) amount to 7,085 computer-use hours, which is 1,122 computer-use hours or 19 per cent above the theoretical capacity of the NYCC. Table 1 contains additional information on other indicators used by the Secretary-General to support his argument that there is already a capacity problem at NYCC. The Secretary-General's projections indicate that by 1979 the amount of computer time required by all EDP programmes will be at least double that which was actually used in 1975.

^{3/} Official Records of the General Assembly, Thirtieth Session, Supplement No. 6 (A/10006).

^{4/} Ibid., Supplement No. 6A (A/10006/Add.1).

Table 1

Usage of the NYCC facilities	1973	1974	1975	1976	1977	1978	1979
Computer-meter hours ^{a/}	3 453	3 860	4 928	5 566	6 613	8 221	10 850
Data entry keystrokes (in thousands) . .	68 531	78 217	86 312	96 000	99 828	101 743	119 889
Number of jobs	43 123	55 043	77 247	91 080	99 105	115 760	133 351
Output lines (in thousands)	161 158	204 559	259 006	272 334	297 101	351 544	442 692
Systems and programming (man-hours) ^{b/} . .	N/A	N/A	N/A	19 930	26 711	29 558	29 558
Computer-use hours ^{c/}	3 749	3 998	5 368	5 963	7 085	8 808	11 624
Jobs per working day	170	218	305	360	392	458	527
Computer-meter hours per working day . .	13.7	15.3	19.5	22	26.1	32.5	42.9
Computer-use hours per working day . . .	14.8	15.8	21.2	23.6	28.0	34.8	45.9
Jobs per computer-meter hour ^{d/}	12.5	14.3	15.7	16.4	15.0	14.1	12.6
Jobs per computer-use hour ^{d/}	11.5	13.8	14.4	15.3	14.0	13.1	11.5

a/ Computer-meter hours indicate the number of daily hours of use measured by automatic metering devices built into the computer on which lease charges are based. The 5,566 computer-meter hours capacity per year is calculated on the basis of 253 working days of 22 hours each since approximately 2 hours are required for preventive maintenance of the system.

b/ Excluding systems analysis and programming carried out by staff in the user organizational units.

c/ Computer-use hours express the computer-meter hours as adjusted for multiprogramming calculated by adding the time required for input and output of data and the central processing unit time. The 5,963 computer-use hours capacity per year is based on the 5,566 computer-meter hours capacity per year in addition to multiprogramming time equivalent to approximately 7.13 per cent at the current operating schedule of the facilities. The breakdown of computer-use hours by user offices is shown in table 2.

d/ The reasons why jobs are estimated to increase at a lower rate than computer-use hours and thus the average jobs per computer-meter or computer-use hour may decline for 1976-1979 are:

- (i) The interactive environment reduces jobs but not computer-use hours;
- (ii) The length of records or size of jobs increase and thus more time is required to process each job.

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Table 2

Programme	NYCC computer-use hours					
	1974	1975	1976	1977	1978	1979
Statistics	933	1 526	1 846	2 447	2 830	3 207
Accounts Division	499	602	616	703	789	878
Centre for Development Planning, Projections and Policies, Department of Economic and Social Affairs . . .	586	523	576	633	697	766
United Nations Conference on Trade and Development (UNCTAD)	170	330	472	566	680	815
Library (Headquarters)	226	225	409	500	562	634
Sale of postage stamps	49	45	355	400	480	580
United Nations Children's Fund (UNICEF)	372	371	375	378	381	384
Office of General Services (Headquarters)	-	-	220	530	905	1 150
Legal	3	251	330	360	400	440
Population	163	140	300	335	370	405
EDPIS (NYCC)	154	256	285	320	355	385
UNDP	105	145	270	297	327	360
Office of Personnel Services (Headquarters)	194	152	184	312	340	375
United Nations Joint Staff Pension Board	144	179	201	225	252	282
Office of Technical Co-operation, Department of Economic and Social Affairs	174	258	175	195	195	195
Special Account-Reimbursable	164	172	180	180	180	180
Budget Division	17	66	82	89	95	103
Technical Assistance Recruitment Service (TARS)	7	27	28	125	140	150
Staff Training	14	57	60	65	70	75
Translation Division, Department of Conference Services (Headquarters) .	7	8	50	53	65	65
United Nations Centre on Transnational Corporations	-	-	30	50	100	150
Others	17	35	41	45	39	45
TOTAL	3 998	5 368	7 085	8 808	10 252	11 624
TOTAL, for the biennium	9 366		15 893		21 876	

11. Accordingly, the Secretary-General proposes that the computer system of NYCC be upgraded in 1977 by replacing the present central processing unit (IBM model 370/145) by the more advanced IBM model 370/158. In paragraphs 32 and 33 of his report (A/C.5/31/3), the Secretary-General states that this upgrading of the central facilities will double the computer processing capacity upon installation; provide for fully interactive capabilities and a more extensive environment for interactive remote processing modes; and permit progressive enhancements by adding auxiliary devices over the following years in keeping with future changes in users' approved work programmes. The Advisory Committee was informed that the upgraded central facilities would be capable of processing in approximately half the time what the existing facilities accomplish at capacity level, and that when tooled up to their maximum, they would be able to process twice as much workload as the present facilities do at capacity level.

12. In response to inquiries, the Advisory Committee was informed by the representative of the Secretary-General that, subject to the General Assembly's authorizing the necessary funds, the new central processing unit could be made available to NYCC in three to six months, depending on conditions at the time of ordering and that the transition to the larger system would be immediate, without any period of re-programming or modification.

13. The Advisory Committee inquired whether it would be more advantageous to purchase rather than lease the new processing unit. In the opinion of the Secretary-General, it would be inadvisable on economic and technological grounds to enter into the purchase at this time of the IBM model 370/158 computer, for it might be superseded by new technology long before the break-even point for purchase had been reached. ^{5/} The lease costs for the proposed central processing unit are \$54,867 per month (as compared with \$27,000 for the present unit) which includes all maintenance costs and parts for 24 hours' coverage per day. The purchase cost is \$2,528,370, plus a monthly charge of \$2,886 for maintenance on the first shift only, with extra charges as required for non-first shift maintenance. At those rates, and taking into account the interest on capital, the break-even point for purchase would be well over four years.

14. The Secretary-General estimates the financial implications of his proposals for NYCC in 1977 at \$648,200 gross: \$109,500 for staff (four new Professional posts), \$507,700 for upgrading the computer system, and \$31,000 for EDP supplies and materials (see annex II to the present report). The cost of upgrading the equipment consists of:

^{5/} For the action taken by ICC in Geneva, however, see para. 48 below.

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(a) Additional annual lease charges for replacing the central processing unit IBM model 370/145 with IBM model 370/158 and acquiring additional auxiliary devices to permit interactive processing	332,200
(b) Lease of additional interactive remote processing equipment	166,800
(c) Installation of the additional interactive remote processing equipment, one-time costs	<u>8,700</u>
	507,700

To this \$507,700 the Secretary-General applies a total deduction of \$329,500, that is:

(d) Extrabudgetary funds expected from UNDP and UNICEF in the amount of \$120,000 each for the biennium towards the costs of rental and installation of equipment (A/C.5/31/3, para. 50)	(240,000) ^{a/}
(e) Portion of the current appropriations earmarked for enhancement to the present IBM model 370/145 which would no longer be required (A/C.5/31/3, para. 49)	(<u>89,500</u>)
	BALANCE (net) 178,200

^{a/} See para. 26 below.

Observations and recommendations of the Advisory Committee relating to the Secretary-General's proposals for NYCC

15. Following its examination of the EDP requirements at Headquarters, the Advisory Committee concluded that there was a need for greater discipline in using the NYCC facilities. The Committee felt that steps so far taken by the Secretary-General, especially those referred to in paragraphs 10-13 and 30 of his report (A/C.5/31/3), to control user demands and ease the pressure on NYCC have not been fully effective. In particular, there has been a growing tendency to demand the development of new computer information systems without due regard to budgetary and cost benefit considerations. This problem is compounded by the growing practice of legislative bodies to take unco-ordinated decisions on the development of new information systems.

16. The Advisory Committee understands that EDPIS currently holds separate discussions with each user requesting new or improved information systems. In the opinion of the Committee, such an approach provides no opportunity for setting priorities among competing requests.

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17. In paragraph 12 of his report (A/C.5/31/3), the Secretary-General outlines steps he intends to take to ensure co-ordination, review, and development of EDP programmes and policies. The Advisory Committee attaches particular importance to the Secretary-General's intention "to evolve a broad and comprehensive plan for the development of information systems which will be subject to periodic scrutiny and review to ensure that they conform to the major objectives of the approved work programmes and to ensure that financial implications and proposed benefits are appropriately presented for review". This exercise should encompass all sectors and offices in the United Nations. The Secretary-General states that he intends to seek the advice of all the major departments and offices to guide EDPIS by means of working groups. The Committee believes that this approach might not be sufficiently effective in dealing with the problems referred to in paragraphs 15 and 16 above. Accordingly, it recommends the establishment in the Secretariat of an interdepartmental information systems board whose functions would be as set out below.

18. The board, with EDPIS providing technical and secretariat support, should:

(a) Conduct an annual review of information systems in each department to ascertain their continued validity;

(b) Meet on a regular basis to review, evaluate and approve requests forwarded to EDPIS for new computer-based information systems, including those requests put forward as part of the medium-term plan.

The review should cover all EDP applications irrespective of source of financing. Representation on the board should be at the highest level possible and it should be chaired by an official of the rank of Under-Secretary-General, preferably the Under-Secretary-General for Administration and Management. Subject to guidance by the board, EDPIS would continue to discharge its other current responsibilities.

19. In the Advisory Committee's opinion, the Secretary-General's workload projections (see para. 9, tables 1 and 2 above) demonstrate the need for upgrading the NYCC central processing unit in the near future. Accordingly, the Committee recommends acceptance of the Secretary-General's request for \$332,200 to enable him to lease an IBM model 370/158 computer. The Advisory committee is of the view, however, that the installation of the new equipment should be delayed until after the board referred to in paragraph 18 above has been established and has carried out the necessary reviews for, otherwise, the existence of additional capacity might tempt users to promote non-essential or marginal EDP applications. The funds would be released after the Secretary-General had satisfied the Advisory Committee that the necessary safeguards were in place and functioning.

20. As for the cost of additional interactive remote processing equipment in 1977, estimated at \$175,500 (\$166,800 in lease charges and \$8,700 for installation), the Advisory Committee notes that the Secretary-General requests the equipment to enhance the interactive capabilities of the Centre for Development Planning, Projections and Policies and the Statistical Office of the Department of Economic and Social Affairs, the Technical Assistance Recruitment Service in the Office of

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Personnel Services, and the Office of General Services (A/C.5/31/3, para. 33). The Advisory Committee understands that there is also an influx of plans by other users of the NYCC facilities to acquire interactive processing equipment and that feasibility studies are currently under way to assess those plans (*ibid.*, para. 20). In the circumstances, the Advisory Committee feels that the Secretary-General has approached the question of acquiring interactive processing equipment piecemeal and that the wider implications of the subject warrant the undertaking of co-ordinated feasibility studies of the needs of all programmes.

21. In the light of the foregoing and bearing in mind that the operation of any additional interactive processing equipment is contingent upon the proposed upgrading of the central processing unit, the Advisory Committee does not recommend acceptance of the Secretary-General's request for \$175,500 for equipment and the related request for one P-3 post (costed at \$23,300) referred to in his report (*ibid.*, para. 46).

22. With regard to the other staff resources (one P-5, one P-4 and one P-3) requested in conjunction with the proposed upgrading of the NYCC facilities, the Advisory Committee recommends that the three posts in question be approved but that their filling be subject to the procedure outlined in paragraph 19 above. The Secretary-General also requests two additional General Service posts, but, as is stated in his report (*ibid.*, para. 47), they are to be financed by UNDP.

23. In his report (*ibid.*, para. 44), the Secretary-General requests an amount of \$31,000 for EDP supplies and material in 1977, in addition to the \$245,000 already appropriated for that purpose in 1976-1977. The Advisory Committee has no objection to the Secretary-General's request.

Reimbursement for services rendered by NYCC to extrabudgetary programmes

24. The Secretary-General's report on this question (A/C.5/31/3, paras. 52-59) is in response to the Advisory Committee's request contained in its first report on the proposed programme budget for the biennium 1976-1977 for information on "... whether reimbursement for services rendered by the NYCC to extrabudgetary programmes was commensurate with the volume of such services and, if not, what steps had been taken to identify and correct any discrepancies". ^{6/} Considering that, in the past, users of the NYCC facilities were not charged fully for EDP services, the Advisory Committee welcomes the introduction of a revised method of determining charges to all users under which, beginning with 1976, charges will be based on the total costs of providing all EDP services instead of only computer-use time. The Advisory Committee was informed that the words "total costs" in paragraph 55 of the Secretary-General's report should be interpreted as comprising clearly identifiable costs.

25. Based on the revised system of charging users for EDP services and the projected increase in the usage of the NYCC facilities, the Secretary-General

^{6/} Official Records of the General Assembly, Thirtieth Session, Supplement No. 8 (A/10008 and Corr.2 and 3), para. 22.34.

estimated that an additional \$50,000 would result under income section 2 of the programme budget for 1976-1977 (A/C.5/31/3, para. 51). The Advisory Committee believes that the costing system needs constant refinement to ensure adequate reimbursement for the services rendered.

26. In paragraph 50 of his report (A/C.5/31/3), the Secretary-General calculates the net cost of upgrading NYCC (including the related staff costs) at \$318,700 under section 22. This amount is arrived at by subtracting from the total additional requirements (\$558,700) a contribution of \$240,000 for the biennium from UNDP and UNICEF. In the table in paragraph 58 of the report, the \$240,000 is again shown as a contribution towards the costs of rental and installation of the equipment, and not as increased revenue under income section 2. In response to inquiries, the Advisory Committee was informed that developments since the early part of 1976 when the Secretary-General's report was first drafted indicate that this contribution from UNDP and UNICEF cannot be related to particular equipment to be rented by NYCC for their special requirements. Accordingly, the Advisory Committee is of the opinion that the contribution of \$240,000 - which the representatives of the Secretary-General have confirmed to the Advisory Committee will accrue in 1976-1977 - should be shown as increased revenue under income section 2.

Summary of the Advisory Committee's recommendations on NYCC

27. In paragraph 21 above, the Advisory Committee recommended reductions in the Secretary-General's request for NYCC totalling \$198,800. On the other hand, the change in presentation recommended in paragraph 26 involves an increase of \$240,000 under expenditure section 22. Thus, the net effect of the Advisory Committee's recommendations in paragraphs 21 and 26 above is to increase the Secretary-General's request for NYCC under section 22 by \$41,200, that is, from \$318,700 to \$359,900.

EDP programmes in Geneva

28. In paragraphs 62-81 of his report, the Secretary-General provides a summary of United Nations EDP programmes in Geneva for the Statistical Office, UNCTAD, the United Nations Office at Geneva and the Economic Commission for Europe (ECE), whose computer processing needs are met through the International Computing Centre (ICC). In 1974-1975 the total cost to the Organization for the use of ICC facilities amounted to \$1,477,404. Based on projected work programmes, the Secretary-General estimates that the corresponding cost for the current biennium will increase by \$408,784, or 27.7 per cent.

29. The following table shows the Secretary-General's estimates of the cost of United Nations usage of the ICC facilities for the years 1976-1979 as compared to the cost incurred in 1974 and 1975.

United Nations EDP programmes in Geneva						
	1974	1975	1976	1977	1978	1979
	\$	\$	\$	\$	\$	\$
Statistical Office .	293,020	326,417	351,589	516,720	578,260	645,208
UNCTAD	148,061	178,645	227,340	254,239	279,728	303,473
United Nations Office at Geneva . .	226,710	237,891	217,400	226,700	276,900	314,200
ECE	33,959	31,510	42,350	49,250	56,150	63,048
United Nations Industrial Development Organization (UNIDO)	894	286	300	300	300	300
UNEP	11	-	-	-	-	-
TOTAL	702,655	774,749	838,979	1,047,209	1,191,338	1,326,229
TOTAL, for the biennium	1,477,404		1,886,188		2,517,567	

The Advisory Committee believes that the costs and benefits of existing and potential EDP applications in Geneva, like those in New York, call for systematic scrutiny (see paras. 17-18 above). The Advisory Committee notes that the above estimate for 1976-1977 is \$406,400 7/ more than the amount of \$1,479,800 appropriated for United Nations use of ICC in the current biennium (see annex I to the present report). The Advisory Committee will revert to this question in the context of its consideration of the Secretary-General's progress report on the programme budget for the biennium 1976-1977.

30. The Advisory Committee notes that the Secretary-General has used different methods of assessing EDP requirements at Geneva and at Headquarters. In the latter case he has used work load statistics, that is, computer-use time, data entry keystrokes, number of jobs, output lines and systems and programming man-hours, while in Geneva the assessment is in terms of cost of usage. The Advisory Committee found in this inconsistent approach an obstacle to obtaining a meaningful comparison of the services rendered to the United Nations by the two facilities. In this connexion, the Advisory Committee recommends that steps be taken to co-ordinate EDP reporting procedures between Geneva and Headquarters and to harmonize the methodology of recording EDP usage between ICC and NYCC.

7/ See foot-note 2 above.

31. For the EDP programmes in Geneva, the Secretary-General requests an additional appropriation of \$166,400: \$32,400 for two new posts (one P-3 and one General Service), \$104,000 for equipment 8/ and \$30,000 for EDP supplies and materials (see annex II to the present report). The request for new posts is based on his projection of staff resources required to meet the schedule of activities in the area of computer systems analysis/programming (paras. 70 and 71). The Advisory Committee recommends that the two posts requested by the Secretary-General be granted.

32. The Advisory Committee notes that the request related to the United Nations Office at Geneva (\$91,000 for equipment and \$30,000 for supplies and materials, that is, a total of \$121,000), is a resubmission of initial estimates which were included under section 22G of the proposed programme budget for this biennium, 9/ but which were not recommended by the Advisory Committee for approval pending further information on the possibilities of developing an interactive system between the Geneva Office and ICC. 10/ The Advisory Committee is satisfied with the clarification offered by the Secretary-General in his report (A/C.5/31/3, paras. 74-76) and accordingly recommends acceptance of the request.

33. In the report (*ibid.*, para. 67), an amount of \$13,000 comprising annual lease charges of \$12,000 and \$1,000 in one-time installation costs is requested for remote interactive terminal equipment for the Statistical Office in order to improve the variety, timeliness and quality of computer processing of country statistics. For the reasons given in paragraph 20 above, the Advisory Committee does not recommend acceptance of the Secretary-General's request.

EDP programmes in Vienna

34. The EDP programmes in Vienna relate to the requirements of UNIDO, and are met by the International Atomic Energy Agency (IAEA) computer facilities (*ibid.*, paras. 82-87). In 1974-1975, IAEA was reimbursed a total of \$506,000 for EDP services to UNIDO. The Secretary-General estimates the corresponding requirements in 1976-1977 at \$610,000, an increase of 20.5 per cent.

35. The following table provides a summary by main programmes of the costs to UNIDO of using the IAEA computer facilities in 1974-1975 and of the Secretary-General's estimates for 1976-1979: 11/

8/ \$91,000 for the United Nations Office at Geneva and \$13,000 for the Statistical Office.

9/ Official Records of the General Assembly, Thirtieth Session, Supplement No. 6 (A/10006), vol. VI, para. 22.130.

10/ Ibid., Supplement No. 8 (A/10008 and Corr.2 and 3), para. 22.60.

11/ The Advisory Committee's observations in paras. 17, 18 and 29 above on the need for systematic scrutiny of EDP applications are equally relevant in the case of UNIDO, UNEP and the regional commissions.

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UNIDO usage of the IAEA computer facilities	1974	1975	1976	1977	1978	1979
	\$	\$	\$	\$	\$	\$
Administrative services .	217,700	242,000	265,000	260,000	255,000	241,000
Industrial operations . .	13,000	19,000	27,000	36,000	48,000	66,000
International Centre for Industrial Studies . .	7,300	7,000	8,000	14,000	17,000	23,000
TOTAL	238,000	268,000	300,000	310,000	320,000	330,000
TOTAL, for the biennium	506,000		610,000		650,000	

The Secretary-General requests no additional resources for the EDP programmes in Vienna inasmuch as approximately \$633,000 has been appropriated for that purpose in section 12, UNIDO, of the programme budget for the biennium 1976-1977 (A/C.5/31/3, para. 82).

36. In his report (*ibid.*, para. 86), the Secretary-General indicates that UNIDO is planning to start in 1976 operating and testing a Vienna teleprocessing terminal to link UNIDO's International Centre for Industrial Studies with the Integrated Scientific Information System (ISIS) of the International Labour Organisation (ILO) via ICC. The Advisory Committee understands that EDPIIS would be monitoring the experiment. The Committee looks forward to being informed of its results.

EDP programmes in UNEP

37. EDP programmes in UNEP are summarized in the Secretary-General's report (*ibid.*, paras. 88-91). UNEP utilizes the computer facilities of an outside service bureau in Nairobi. UNEP began using EDP in November 1974; usage in 1975 amounted to 240 hours mostly in accounting and project budgets. The Secretary-General expects that UNEP's usage of EDP will reach 480 hours in 1976 and 840 hours in 1977.

38. The Secretary-General estimates that EDP applications in 1976-1977 will cost \$151,800. This amount is approximately \$107,000 more than the \$45,000 appropriated for external EDP contracts for UNEP under section 13 of the programme budget for 1976-1977. However, the Secretary-General has indicated in his report (*ibid.*, para. 91) that no additional resources are requested at this time pending completion of an over-all review of UNEP's needs for computer services. The review, which is to be undertaken in the current biennium, will include a comparison of the cost and benefits of in-house and external EDP operations.

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EDP programmes in ECLA

39. In his report (*ibid.*, para. 92), the Secretary-General indicates that beginning in 1976, EDP services in the Economic Commission for Latin America (ECLA) will be provided by a computer facility financed jointly with the Latin American Demographic Centre (CELADE), which will contribute \$215,000 in addition to the \$200,000 appropriated under section 8 of the regular budget for the 1976-1977 biennium for EDP activities in ECLA.

40. The Advisory Committee understands in this connexion that to date no decision has been taken as to arrangements for and the capacity of the computer facility to be installed and that consultations are still going on between EDPIIS and ECLA.

41. The Advisory Committee is of the opinion that, as a first step, there is need for ECLA to reduce the vacancy rate in its EDP staff. In this connexion, the Committee recalls the observation of the United Nations Board of Auditors in its report to the General Assembly at its thirty-first session on the accounts and financial statements of ECLA that "Efforts to improve the computer system have been handicapped by the lack of adequate programming manpower. New York Headquarters' assistance in this area appears to be necessary." ^{12/} The Committee agrees with the Board's observations.

EDP programmes in ECA

42. The Secretary-General states in his report (*ibid.*, paras. 95-97) that the requirements of the Economic Commission for Africa (ECA) for EDP services, which are met by a small computer facility installed in 1968, have outgrown the capacity of the existing processor. The equipment now in use is expected to be replaced by a more advanced computer system early in 1977. The new equipment will enable ECA to accommodate principally the expansion of the statistical work programme envisaged in the 1976-1979 medium-term plan and the development of data exchanges programmes and of an African statistical data bank. The amount appropriated for EDP activities of ECA in 1976-1977 includes \$104,000 for computer usage and \$264,000 for related staff costs, that is, a total of \$368,000. The Secretary-General estimates that the costs of obtaining the new computer facility can be met "... within the funding limits set by the current appropriation" (*ibid.*, para. 96).

EDP programmes in ESCAP

43. ESCAP utilizes the facilities in three outside organizations in Bangkok (*ibid.*, para. 98). The related total cost in the last biennium was \$117,000, and the corresponding figure for 1976-1977 is expected to be \$171,000, an increase of \$54,000, or 46 per cent. The Advisory Committee was informed that the estimates for 1976-1977 would exceed the appropriations by \$66,000. The Advisory Committee

^{12/} Official Records of the General Assembly, Thirty-first Session, Supplement No. 7 (A/31/7), vol. I, chap. IV, para. 73.

will return to this question in the context of its consideration of the Secretary-General's progress report on the programme budget for the biennium 1976-1977. ^{13/} The Secretary-General has indicated that a comprehensive survey of the Commission's EDP needs, including the cost-benefit analysis of continuing to purchase computer time as against installing an in-house computer facility, will be undertaken in the current biennium.

Inter-Organization Board for Information Systems and Related Activities (IOB)

44. In section VI of his report the Secretary-General provides up-to-date information on the Inter-Organization Board's revised terms of reference (ibid., paras. 101-104) and the pilot phase of the Common Register of Development Activities (CORE) project (ibid., paras. 105-110) based on the ACC reports to the Economic and Social Council at its sixty-first session (E/5803 and E/5804, respectively). It will be recalled that the terms of reference of the Inter-Organization Board were established in 1971. The revised text is intended to strengthen the effectiveness of the Board in exercising its co-ordinating functions. The Committee attaches particular importance to paragraphs 2 and 4 of the revised terms of reference, which identify the information systems of concern to the Board and outline procedures for more effective co-ordination between the Board and participating organizations (see text annexed to E/5803).

45. Paragraph 111 of the Secretary-General's report (A/C.5/31/3) provides a breakdown of the IOB resources for 1976-1977 as endorsed by ACC in April 1975. Of the \$951,000 total estimates for IOB for this biennium, \$334,000 or 35 per cent is apportioned to the United Nations. The corresponding amounts for the last biennium were \$553,000 and \$194,000 respectively. ^{14/} In this connexion, the Advisory Committee calls the attention of the General Assembly to the belief it expressed last year that the size of the budget of IOB (nearly \$1 million in 1976-1977) calls for a review of future estimates by the General Assembly instead of only by ACC. ^{15/}

International Computing Centre (ICC), Geneva

46. The Secretary-General deals with ICC in paragraphs 112-122 of his report (A/C.5/31/3). He indicates that since 1 January 1976 a new formula has been applied under which each participating organization is charged according to its usage of the ICC facilities. This arrangement supersedes the original formula of sharing the costs of ICC among the participants on the basis of fixed percentages. In 1974-1975 the cost to the United Nations was \$1,459,005, or 41.1 per cent of the \$3,550,707 total. The preliminary estimates of ICC for 1976-1977 amount to \$4,501,000, of which \$1,886,188, or 41.9 per cent, relates to United Nations operations at Geneva (see para. 29 above).

^{13/} Ibid., Supplement No. 6 (A/31/6) /to be issued/.

^{14/} Ibid., Thirtieth Session, Supplement No. 6 (A/10006), vol. VI, paras. 22.59-22.61.

^{15/} Ibid., Supplement No. 8 (A/10008 and Corr.2 and 3), para. 22.38.

47. In his review of major developments related to ICC, the Secretary-General reports that early in 1976 the Centre purchased the central processing unit it has been using. The proposal to purchase was initiated by ICC and was subsequently accepted by the participating organizations.

48. In paragraph 13 above, the Advisory Committee reported that in the opinion of the Secretary-General it would be inadvisable on economic and technological grounds to purchase a computer for NYCC. There is an apparent inconsistency between that conclusion and the purchase of the ICC computer in Geneva. The Advisory Committee notes that under present arrangements the budget of ICC is not subject to scrutiny by any intergovernmental organ. Bearing in mind the provisions of Article 17, paragraph 3 of the Charter of the United Nations, the Advisory Committee recommends that future budgets of ICC should be subject to review and approval by the General Assembly.

49. In paragraphs 120 and 121 of his report (A/C.5/31/3) the Secretary-General submits the proposal to reclassify the post of the Director of ICC from D-1 to the D-2 level as from 1 January 1977 at an additional cost to the United Nations of \$6,400 under section 22D of the programme budget (see annex II to the present report). In reviewing the Secretary-General's request, the Advisory Committee addressed itself to the information given in paragraph 121. Taking into account that the functions carried out by ICC are primarily of a servicing and processing nature, and bearing in mind that the bulk of systems analysis and programming is carried out by staff in the participating organizations, the Advisory Committee is not convinced that the level of responsibilities of the Director of ICC and the operation of his office have changed significantly enough to warrant the upward reclassification proposed. Accordingly, the Committee cannot concur in the request.

Recapitulation

50. The recommendations made by the Advisory Committee in paragraphs 27, 33 and 49 above entail a total increase of \$21,800 in the estimate submitted by the Secretary-General under section 22 in his report (A/C.5/31/3, para. 123), that is, from \$491,500 to \$513,300. For the reason given in paragraph 26 above, the Committee recommends also that the Secretary-General's estimate under income section 2 be increased by \$240,000. The Committee's recommendations may be summarized as follows:

	Amount requested by the Secretary- General	(Reduction) or increase recommended by the Advisory Committee	Amount recommended by the Advisory Committee
	\$	\$	\$
<u>Budget section 22D - EDPIS</u>			
A. Staff:			
(1) Additional posts	109 500	(23 300)	86 200
(2) Reclassification of the post of Director, ICC	6 400	(6 400)	-
B. EDP equipment:			
(1) Upgrading of the computer	332 200	-	332 200
(2) Interactive equipment	175 500	(175 500)	-
Less: Extrabudgetary funds and appropriations no longer required	(329 500)	240 000	(89 500)
C. EDP supplies and materials	31 000	-	31 000
Subtotal	325 100	34 800	359 900
<u>Budget section 22G - Administrative and Financial Services, Geneva</u>			
A. Staff:			
(1) Additional posts	32 400	-	32 400
B. EDP equipment	104 000	(13 000)	91 000
C. EDP supplies and materials	30 000	-	30 000
Subtotal	166 400	(13 000)	153 400
TOTAL, under budget sections 22D and 22G	491 500	21 800	513 300
<u>Budget section 25. Staff assessment</u>			
<u>Income section 1. Income from staff assessment</u>	29 300	(4 400)	24 900
<u>Income section 2. General income</u>	50 000	240 000	290 000

ANNEX I

Distribution of EDP expenditures by major office, 1976-1977 biennium
(In thousands of United States dollars)

	Funds managed by EDPIS		Estimated value of EDP resources managed by users			Sources of funds outside section 22D	Totals, all sections
	Provided from section 22D	Provided from other sections	Total usage distributed	Salaries and staff	Equipment and computer time	Supplies	Total
A. Headquarters in New York							
(a) Office of the Director - EDPIS	407.5	-	407.5	-	-	-	407.5
(b) United Nations share of IOB	327.8	-	327.8	-	-	-	327.8
TOTAL	<u>735.3</u>	<u>-</u>	<u>735.3</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>735.3</u>
B. NYCC programmes							
(a) <u>Substantive</u>							
(1) Statistics ^{a/}	712.0	113.6	825.6	580.3	-	-	1 405.9
(2) Centre for Development Planning, Projections and Policies	207.4	-	207.4	932.7 ^{b/}	-	-	1 140.1
(3) UNCTAD ^{b/}	177.9	17.2	195.1	-	-	-	195.1
(4) Office of Legal Affairs	231.5	-	231.5	28.4	-	-	259.9
(5) Population	146.7	-	146.7	-	-	-	146.7
(6) Office of Technical Co-operation	241.8	-	241.8	-	-	-	241.8
(7) Others	244.2	-	244.2	-	-	-	244.2
Subtotal	<u>1 961.5</u>	<u>130.8</u>	<u>2 092.3</u>	<u>1 541.4</u>	<u>-</u>	<u>-</u>	<u>3 633.7</u>
(b) <u>Service and support</u>							
(1) Library	280.3	21.0	301.3	-	-	-	301.3
(2) Accounts	416.5	113.6	530.1	381.0 ^{c/}	-	-	911.1
(3) Office of Personnel	327.3	-	327.3	-	-	-	327.3
(4) Office of General Services	270.1	46.0	316.1	145.0 ^{d/}	-	-	461.1
(5) Others	243.5	-	243.5	-	-	-	243.5
Subtotal	<u>1 537.7</u>	<u>180.6</u>	<u>1 718.3</u>	<u>526.0</u>	<u>-</u>	<u>-</u>	<u>2 244.3</u>
(c) <u>Extrabudgetary and revenue</u>							
(1) UNICEF	140.1	-	140.1	-	-	-	140.1
(2) United Nations Postal Administration	120.4	115.7	236.1	-	-	-	236.1
(3) UNDP	164.4	-	164.4	-	-	-	164.4
(4) United Nations Joint Staff Pension Board	112.1 ^{e/}	2.4	114.5	-	-	-	114.5
(5) Special Account	77.0	-	77.0	-	-	-	77.0
Subtotal	<u>614.0</u>	<u>118.1</u>	<u>732.1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>732.1</u>
TOTAL, NYCC programmes	<u>4 113.2</u>	<u>429.5</u>	<u>4 542.7</u>	<u>2 067.4</u>	<u>-</u>	<u>-</u>	<u>6 610.1</u>

ANNEX I (continued)

	Funds managed by EDPIS		Estimated value of EDP resources managed by users			Sources of funds outside section 22D	Totals, all sections
	Provided from section 22D	Provided from other sections	Total usage distributed	Salaries and common staff	Equipment and computer time	Supplies	Total
C. United Nations units in Geneva							
(a) ECE	61.8	-	61.8	93.7	27.5	6.9	128.1
(b) UNCTAD	318.9	-	318.9	483.5	142.0	35.3	660.8
(c) Statistical Office	670.2	-	670.2	-	-	-	-
(d) United Nations Office at Geneva . .	428.9	-	428.9	499.5 ^{b/}	-	-	499.5
TOTAL	1 479.8 ^{a/}	-	1 479.8	1 076.7	169.5	42.2	1 288.4
D. UNIDO	-	-	-	351.8	620.3	4.9	977.0
E. UNEP	-	-	-	-	44.1	-	44.1
F. ECLA	-	-	-	104.9	196.0	-	300.9
G. ECA	-	-	-	258.7	96.0	5.9	360.6
H. ESCAP	-	-	-	243.0 ^{b/}	104.9	-	347.9
I. ECWA	-	-	-	-	34.3	-	34.3
GRAND TOTAL	6 328.3	429.5 ^{d/}	6 757.8	4 102.5	1 265.1	53.0	5 420.6 ^{d/}

a/ To the total costs for Statistical Office at Headquarters should be added the costs shown for this Office at Geneva.

b/ To the total costs for UNCTAD at Headquarters should be added the costs shown for this Office at Geneva.

c/ Includes extrabudgetary resources of \$28,400.

d/ Includes extrabudgetary resources of \$40,600.

e/ Includes \$198,000 of extrabudgetary resources.

f/ Software development.

g/ United Nations share of cost of ICC.

h/ All inclusive except where shown.

i/ Percentage of Joint ECE/UNCTAD Data Processing Unit according to usage of ICC.

j/ Total funds in budget of users = \$429,500 (managed by NYCC) plus \$5,420,600 (managed by users) = \$5,850,100.

ANNEX II

Summary of the financial implications arising out of the proposals
of the Secretary-General in his report (A/C.5/31/3)

	Gross financial requirements	Offset	Net financial requirements
<u>Budget section 22D - Electronic Data Processing and Information Systems Service</u>			
<u>A. Staff salary and common staff costs</u>			
(1) Additional posts:			
One P-5 (para. 46)	34 300		
One P-4 (para. 40)	28 600		
One P-3 (para. 40)	23 300		
One P-3 (para. 34)	23 300		
One GS (para. 36)	Extrabudgetary (para. 47)		
One GS (para. 42)	Extrabudgetary (para. 47)		
Subtotal (1)	109 500		109 500
(2) United Nations share of the cost of reclassification of the post of Director, ICC, from D-1 to D-2 (para. 121)	6 400		6 400
TOTAL A, staff	115 900		115 900
<u>B. Equipment (lease charges)</u>			
(1) Upgrading of the central computer facilities (para. 33)	332 200		
(2) Interactive remote processing equipment (para. 33)	166 800		
(3) Installation of interactive equipment - one-time cost (para. 33)	8 700		
Less: Extrabudgetary funds from UNDP and UNICEF towards lease of equipment (para. 50) . . .		240 000	
Less: Portion of 1976-1977 appropriation for limited enhancement to present computer no longer required (para. 49)		89 500	
TOTAL B, equipment	507 700	329 500	178 200

ANNEX II (continued)

	Gross financial requirements	Offset	Net financial requirements
C. <u>EDP supplies and materials</u> (para. 44)	31 000		31 000
TOTAL A, B, C, under budget section 22D	654 600	329 500	325 100
<u>Budget section 22G - Administrative and Financial Services, Geneva</u>			
A. <u>Staff salary and common staff costs</u>			
One P-3 (paras. 71, 81)	18 700		
One GS (paras. 71, 81)	13 700		
TOTAL A, staff	32 400		32 400
B. <u>Equipment - (rental charges)</u>			
(1) Key punch verified and remote batch terminal (para. 74)	55 000		
(2) Electronic accounting machine (para. 74)	27 500		
(3) Office machine to photocopy computer printouts (para. 74) . . .	8 500		
(4) Remote interactive terminal equipment, Statistical Office in Geneva (para. 67)	12 000		
(5) Installation of equipment above, one-time costs (para. 67)	1 000		
TOTAL B, equipment	104 000		104 000
C. <u>EDP supplies and materials (para. 74)</u> . .	30 000		30 000
TOTAL A, B, C, under budget section 22G	166 400		166 400
GRAND TOTAL, under budget sections 22D and 22G	821 000	329 500	491 500