



UNITED NATIONS  
 ECONOMIC  
 AND  
 SOCIAL COUNCIL



Distr.  
 GENERAL

E/CN.3/445  
 6 June 1974

ORIGINAL: ENGLISH

STATISTICAL COMMISSION  
 Eighteenth session  
 Geneva, 7-18 October 1974  
 Item 3 (c) of the provisional agenda

CO-ORDINATION AND INTEGRATION OF INTERNATIONAL  
 STATISTICAL PROGRAMMES

REVIEW OF ELECTRONIC DATA PROCESSING OF  
 ECONOMIC AND SOCIAL STATISTICS

Note by the Secretary-General

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## INTRODUCTION

1. At its seventeenth session, the Statistical Commission recommended "that a review of the electronic data processing of economic and social statistics in the United Nations should be undertaken by the Director of the United Nations Statistical Office with a view to a further discussion of the matter by the Commission at its eighteenth session". <sup>1/</sup> The Commission also requested that a first report on the subject should be discussed at the fifth session of the Commission's Working Group on International Statistical Programmes and Co-ordination.

2. In compliance with this request, a first report (ST/STAT/61) was prepared. It was discussed at length by the Commission's Working Group. The findings and conclusions of the Working Group are described in paragraphs 23-26 of its report (E/CN.3/442).

3. The present report is intended to bring document ST/STAT/61 up to date. In its preparation, the Commission's recommendations have been interpreted against the background of the discussion that preceded them as well as that of the discussions on this subject at the fourth and fifth sessions of the Working Group. Accordingly, the first part of the report deals with issues related to the data-processing operations of the Statistical Office at United Nations Headquarters and of its outpost in Geneva and their location. The second part is devoted to a description of the relevant operations of the International Computing Centre in Geneva and the New York Computing Centre. The data processing activities of divisions of the Department of Economic and Social Affairs other than the Statistical Office, and matters related to interagency co-ordination and international data banks are not discussed here.

4. To provide background information, a number of consultations were carried out with interested officials from several organs of the Secretariat, and interviews were held with staff involved in the relevant operations. An on-the-spot study of the Geneva operations of the Statistical Office was made in April 1973, with the assistance of an expert who has been serving as consultant to the Statistical Office on data processing and related matters. Reviews were also carried out early in 1974.

### I. ACTION BY THE STATISTICAL COMMISSION

5. The Commission may wish to comment on this report and in particular on paragraphs 30-33, which reflect the conclusions arrived at by the Working Group as described in paragraph 26 of its report (E/CN.3/442).

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<sup>1/</sup> Official Records of the Economic and Social Council, Fifty-fourth Session, Supplement No. 2, para. 42 (a).

## II. THE STATISTICAL OFFICE AND THE COMPUTER OPERATIONS OF THE UNITED NATIONS

6. Since early in 1972, the Statistical Office has not been responsible for the New York Computing Centre. The United Nations Electronic Data Processing and Information Systems Service has been established, reporting to the Under-Secretary-General for Administration and Management. The Director of the Service is responsible for "the central management and control over all electronic data processing activities undertaken by the United Nations" including the electronic data processing of economic and social statistics. However, "primary responsibility for the definition of need, assessment of benefits and the obtaining of the necessary approval for major computer applications" (A/C.5/1475, paras. 14 and 23) remains with the Statistical Office and other users.

7. The Director of the United Nations Electronic Data Processing and Information Systems Service is also ex officio the representative of the United Nations on the Management Committee of the International Computing Centre (ICC) in Geneva. The Statistical Office is represented on the Committee through him. Aside from the representatives of the three founding organizations of ICC (the United Nations, the United Nations Development Programme (UNDP) and the World Health Organization (WHO)), representatives of the United Nations Children's Fund (UNICEF), the United Nations Research Institute for Social Development (UNRISD), the International Labour Organisation (ILO) and the World Meteorological Organization (WMO) are also on the Management Committee. Components of the United Nations Secretariat (namely, the Secretariat at Headquarters, the United Nations Office at Geneva, the Economic Commission for Europe (ECE) and the United Nations Conference on Trade and Development (UNCTAD)) accounted for 45 per cent of the total usage in 1973 (of which, about half is work for the Statistical Office), WHO accounted for 33 per cent and UNDP for 14 per cent.

8. It will be recalled that among the basic purposes in establishing ICC were:

(a) To reduce, if possible, the data processing costs to Geneva-based agencies in particular, and to improve services through the joint use of a larger facility than any single agency could afford by itself;

(b) To facilitate interagency access to machine-readable information in a variety of fields by providing a common facility for the interchange of data.

At the same time, it was recognized from the outset that, especially in locations as distant from Geneva as New York, separate computer processing centres would have to be maintained and, if necessary, enlarged. 2/

9. In part to encourage more agencies to utilize the facility, the Management Committee of ICC decided late in 1972 to evolve, over several years, a system of finance whereby contributions would be related directly to the level of actual use, rather than fixed in advance as at present. Agreement to convert to such a method of financing was reached in March 1974.

2/ Auditor-General of Canada, "Electronic data processing in the United Nations family of organizations" (1970) Submitted to the General Assembly under the symbol A/8072, vol. I, p. VII-6, para. 164.

10. Thus, the role of the United Nations Statistical Office vis-à-vis the computing centres in Geneva and New York is essentially that of a user of the facilities. It was decided, accordingly, to request the Director of the Electronic Data Processing and Information Systems Service to prepare a statement on the operations of the two computer centres. His statement forms the basis of chapter III of this report.

A. Data processing problems of the Statistical Office

11. The Statistical Office has been in a difficult situation in regard to providing computerized outputs quickly and economically to statistical users in Member States and international agencies. This situation stems in large part from the character of the designs of the computer programmes and data files constructed to date, although the lack of programming resources is also an important factor.

12. A major problem is that the computer programmes (and the data files which the programmes use) of the Statistical Office are structured to produce specific publications containing prearranged tabulations. Most of the computer programmes were designed some eight years ago. They were efficient in the light of the technology then available and for the specific purposes envisaged. However, they are rigid in that they are designed to produce specific tabulations, so that any request for a rearrangement of the tabulations usually requires time-consuming and expensive special programmes or extensive computer processing. Often, even small changes need a large amount of processing time, since many files must be combined and reprocessed. Thus users cannot be given the services they require promptly and at low cost; the insufficient programming resources of the Statistical Office cannot be utilized to exploit modern computer potentials in the most effective way.

13. Opening up the vast data bases of the Statistical Office to users to meet their emerging needs necessarily involves a comprehensive redesign of its data files and computer programmes, and probably some qualitative changes in the current computer capability. Redesigning would permit the full exploitation of the technological possibilities now available and could reduce the manual work that the present systems require. It is likely that a redesigning of many Statistical Office questionnaires and collection and processing procedures would also be involved.

14. Such redesigning is clearly a major undertaking that would require some years to complete. But if successfully executed its pay-off will no doubt be substantial. Aside from improvements in efficiency, it should enable the Statistical Office to improve greatly its responsiveness to the needs of developing countries, countries with developed economies and the international community, as well as those of the Secretariat at United Nations Headquarters. Reflecting the objectives set for it by the Statistical Commission, the current budget and medium-term plan of the Statistical Office has, as one of its major goals, the transformation of its data bases to provide quick retrieval not only of preplanned tabulations but also of unanticipated cross-classifications of the data. The initiation of this work awaits, among other steps, the recruitment of highly qualified staff and the drawing up of detailed plans and specifications, including those related to the desirable computer capability.

B. The location of the Statistical Office

15. The preceding section describes one of the central problems of the Statistical Office in the sphere of data processing. With the restricted nature of its present computer programmes and data file structure, the Statistical Office would have to contend with this problem no matter where it was located, whether Geneva, New York or elsewhere. While the optimal location of an organization frequently involves a trade-off of conflicting considerations, there are very strong reasons why the Statistical Office should be located in New York.

16. A common threat to the effectiveness of a statistical office is that of isolation from the stream of policy making and administrative decision making. On balance, the probability of this happening would be great, if the United Nations Statistical Office were to be moved to Geneva or elsewhere. It is simply a case of "out of sight - out of mind". The usefulness of the Statistical Office would undoubtedly be correspondingly weakened. It is in fact the intention to evolve over time among senior management in the Secretariat a growing appreciation of statistical activities. Visible progress in this respect seems to have been made. This would clearly be much more difficult to accomplish if the Statistical Office were located elsewhere.

17. In accordance with the guidelines set for it by the Statistical Commission, a major goal of the Statistical Office is to strengthen and expand its good working relationship with the substantive divisions of the Department of Economic and Social Affairs. Stronger working relationships with these divisions should, in turn, place the Statistical Office in a better position to evolve relevant programmes to promote more effectively the statistical aspects of the International Development Strategy for the Second United Nations Development Decade. During the last year, substantial progress has been made towards developing effective working relationships with the Centre for Development Planning, Projections and Policies, the Population Division, the Resources and Transport Division, and the Centre for Housing, Building and Planning. The strengthening of such relationships is clearly facilitated by location of the Statistical Office in New York.

18. It should be noted, in particular, that outputs oriented towards data processing do not cover the entire spectrum of activities of the Statistical Office. A most important element in its mandate - and one which has been receiving substantially greater attention, in line with the priorities established by the Statistical Commission - is that of providing substantive support for technical assistance to developing countries in a wide range of statistical fields and in electronic data processing. Yet an integral part of such support is the need for close and constant relationships with the Office of Technical Co-operation, the Technical Assistance Recruitment Service, UNDP and the United Nations Fund for Population Activities (UNFPA). The current activities in regard to the African Census Programme illustrate this point. This programme has involved both numerous personal discussions and meetings with representatives of the various agencies concerned at Headquarters and very close working arrangements with the Office of Technical Co-operation. Thus, one of the major contributions of the United Nations

Statistical Office to developing countries - its programmes of technical assistance - is greatly facilitated through its location in New York.

19. The view, that, on balance, the maintenance of the effectiveness and usefulness of the Statistical Office requires that it be located in New York, under present circumstances, seems to be widely shared. It is reflected in the following excerpt from the report of the Statistical Commission on its seventeenth session: "Some members of the Commission stressed the paramount importance of close links between users and producers of statistics and felt strongly that, whatever happened, nothing should be done to separate the United Nations Statistical Office and, in particular, those of its personnel involved in substantive statistical work, from the central policy and decision-making groups of the United Nations in New York." 3/

20. The merits of moving selected parts of the Statistical Office namely those concerned with "mass-production routines" to Geneva will now be considered. In the consideration of this matter, the Statistical Office outpost in Geneva will be discussed.

#### C. The Statistical Office outpost in Geneva

21. To begin with there is the question of why any part of the Statistical Office computer work should be transferred to Geneva when the installation in New York could do the job adequately. One obvious reason could be that users of statistics at Geneva, or those relatively nearby, might get prompter service. This overlooks the fact that the ensuing benefits would be achieved at the expense of users in, or relatively close to, New York. More fundamentally, it is important, in the present context, to distinguish between (a) production and (b) dissemination of statistics. It is extremely important to maintain the various components of the statistical production activity in such a way, that they have ready access to one another. This is essential because the efficient and effective development and execution of computer projects involve close interdisciplinary teamwork and continuous interpenetrating communication between the various people involved in the production process. On the other hand, once outputs are available in machine-readable form, their dissemination can be readily decentralized to suit the convenience of users, simply by providing copies of computer tapes to installations located within convenient reach of the users. This is, in fact, in line with the present practice of national, as well as international, statistical agencies. It is true that users located close to the site of production may still enjoy some advantage, in that the mailing of tapes takes some time, but with proper planning this inequity should be reduced to an unimportant level. In this connexion, it should be noted that prospects for economical "automated communication" over very long distances are undoubtedly much more realistic for the dissemination than for the production aspects of statistics.

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3/ Official Records of the Economic and Social Council, Fifty-fourth Session, Supplement No. 2, para. 40.

22. Another reason for transferring work to Geneva could be that of filling unused capacity in the Geneva installation. This line of reasoning, however, overlooks several important considerations. First, a more valid way of coping with unused capacity, to the extent that it exists, would be to find more customers in Geneva or nearby. As indicated above, one of the main purposes in establishing ICC in Geneva has been, precisely, the expectation that Geneva-based agencies, or those nearby, would take advantage of its facilities. It is hoped that this expectation will be fulfilled to the extent envisaged. Indeed, according to a recent study by its Management Committee, ICC is coming closer to fairly full utilization of its capacity, as indicated in chapter III below. However, if this were not the case, that is, if it appeared that the unused capacity would persist for a long time, another option would be to reduce the capacity, an option facilitated by the fact that the equipment is rented and can be obtained in similar configurations, of both lesser and greater capacity, but with identical functional capabilities.

23. The Statistical Office is a small office (with some 160 people, of whom one half are professional) whose staff is engaged in a large number of activities, each one of which is rather small. The concept of mass production involving large numbers of people, characteristic of large national statistical offices, is not appropriate for the United Nations Statistical Office, where respondents to any single questionnaire number less than two hundred.

24. Indeed, the largest single operation of the Statistical Office is that concerning the so-called D series (Commodity Trade Statistics, Statistical Papers, Series D), that is, the quarterly and annual external trade data based on tapes and punch cards received from Governments. This unit comprises 11 people, including three professionals. The announcement that this unit was to be moved to Geneva came suddenly. There was no time either for the conversion of all programmes to the new facilities (only of those essential to basic operations) or for the hiring and training of new general service staff, before the move took place in April 1971. This resulted in a serious backlog, generating long and disconcerting delays in the production of publications and tapes, that it was possible to overcome only by reducing for a time the volume of quarterly series.

25. Aside from the disruption of timeliness of outputs, communication between the staff of the Statistical Office at Headquarters and in the Geneva outpost has been rendered much more complicated. It is clearly much more difficult to communicate with, guide and control a production staff at a distance of 3,000 miles than in the immediate vicinity, especially when computer processing is involved. It is also much more time-consuming and, therefore, more expensive in real terms. This point bears emphasizing because there seems to have been a preoccupation with the potential economies of large-scale computer installations without adequate attention to the other elements of cost involved in developing and operating statistical computer projects effectively and efficiently. In fact, when all the cost components of statistical computer projects are considered, the portion represented by the machine-processing component is moderate and is declining relative to the total.

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26. Furthermore, the small statistical unit in Geneva suffers from not having been supplied with secretarial and other supporting services needed to deal with day-to-day problems. Nor have funds been assigned to allow personal visits to or from Geneva to provide substantive and technical direction and to resolve misunderstandings as they arise. These extra costs are inevitable concomitants of such a move that have apparently been overlooked.

27. In fairness to the authors of the transfer of the international trade statistics staff to Geneva, it should be pointed out that they apparently regarded it as part of an over-all plan in which the transfer of other units would follow, culminating in the relocation of the entire Statistical Office to Geneva. <sup>4/</sup>

28. While it is difficult to make an explicit calculation of costs and benefits on such matters, it is felt in the light of experience to date that, on balance, the transfer of the trade statistics unit was unfortunate and detrimental to the over-all effectiveness of the Statistical Office. It cannot be followed by the transfer of the other units without seriously damaging the effectiveness of the Statistical Office, as indicated above. Thus, the transfer has given rise to a "divided house", at a time when there is a growing need for developing unified approaches in statistics and integrated systems of computer storage and retrieval, calling for pervasive interaction between systems analysts, programmers and subject-matter personnel of the Statistical Office.

29. Aside from the 11 people working on Commodity Trade Statistics, Series D, one professional staff member was moved from New York to Geneva to develop specifications for computer routines for the processing in ICC of volume II (now volume III) of the Yearbook of National Accounts Statistics. This work is well documented and the project, which is a very small-scale operation, has now been completed. The professional had to spend much time on clerical tasks and his competence as a national accounts expert could not be fully utilized. He has been moved back to New York, where he is in the process of assuming substantial additional responsibilities. The computer routines used to prepare volume III of the Yearbook have also been moved back to the New York Computing Centre.

#### D. Conclusion

30. The International Computing Centre at Geneva fulfils a valuable function in the United Nations system and, as indicated in chapter III below, the United Nations has every intention of giving it active support. However, it is clearly in the general interest that this support should be provided without prejudice to the continuing effectiveness and usefulness of the Statistical Office. At any rate, the major data-processing problems of the Statistical Office do not stem from its present location but primarily from the structure of its computer

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<sup>4/</sup> Auditor-General of Canada, "Electronic data processing in the United Nations family of organizations" (1970. Submitted to the General Assembly under the symbol A/8072), vol. I, p. VII-2, para. 152.



programmes and data files. The redesigning of these programmes and files to enable the Statistical Office greatly to improve its responsiveness to the needs of Member States and the international community is urgently needed.

31. In the light of what has been said above, there are strong reasons for transferring the trade activity to New York. This conclusion is indicated despite the excellence of the co-operation of ICC and, in particular, its Director. Yet it would be unwise to act on this conclusion, at the present time, for the following reasons.

32. First, despite the great difficulties already referred to, the trade statistics activity in Geneva is now an ongoing concern. A reunification with Headquarters staff should be carried out only if this could be accomplished without generating important adverse effects for users and without serious set-backs to timeliness. In particular, users having access to data files stored in ICC at Geneva (for example, UNCTAD and ECE) should continue to enjoy such access on at least as satisfactory a basis as now. Thus, prior to such a move, careful planning and detailed preparations would have to be undertaken, as well as the training of new general service staff. It would be desirable for a plan for the reunification of the processing of the Commodity Trade Statistics, Series D, to be integrated with the more comprehensive redesigning of the computer work of the Statistical Office referred to above. Thus it might well take two or three years, or longer, before it would be practical to move back the D series without significant adverse repercussions.

33. Meanwhile, steps have been taken to strengthen communication. A formal reporting system between the outpost in Geneva and ICC, on the one hand, and the outpost in Geneva with the Statistical Office in New York, on the other, has been implemented.

### III. THE ELECTRONIC DATA PROCESSING AND INFORMATION SYSTEMS SERVICE OF THE UNITED NATIONS

34. The capabilities of the modern computer to assist in the assembly, screening and publication of statistics have been utilized by the United Nations Statistical Office in its operations for many years. At an early stage, computing assistance from the private sector was enlisted, followed by the establishment of an extensive capability within the Statistical Office itself in 1965. Since that time this capability has been broadened, enlarged and gradually made available to the United Nations as a whole and, as needed, to other agencies of the United Nations system. To reflect this wider usage, the New York Computing Centre was established as a separate organizational entity reporting to the Under-Secretary-General for Administration and Management in 1972.

35. Similarly, ICC was established for the purpose of processing many kinds of information including statistical data, from the United Nations system, serving the agencies based in Geneva and the needs of Member States on request.

36. The essential nature of the support provided by computing capabilities to the Statistical Office has changed little, however, either in its extent or in its basic character as a result of these developments. The present chapter reviews and discusses the support that has been provided during the recent past, and the capacity available to continue that support in the New York Computing Centre and ICC in Geneva. In the preparation of this statement, extensive assistance was provided by ICC in supplying data from the highly detailed records of its operations. Similar information was obtained from the files of NYCC.

37. Both computing centres are, of course, currently providing support to the Statistical Office for the execution of its present responsibilities as is noted in specifications in the paragraphs which follow. Moreover, it would appear that a sufficient unused capacity probably exists in each centre to provide for any of the growth in the immediate future of Statistical Office applications:

(a) ICC is operating at an average of 1.66 shifts per day with some requirements for a third shift, according to a working group which presented its findings to the Management Committee of ICC;

(b) Similarly, NYCC is regularly operated for two shifts per day with occasional requirements for a third shift or for weekend operation in order to deal effectively with peak loads as required by the Centre for Development Planning, Projections and Policies, the Accounts Division, or other user offices and departments.

#### A. New York Computing Centre

38. The facility operated by the United Nations to provide computing services for its own needs is the New York Computing Centre. The Centre, as an organizational unit, is a major part of the Electronic Data Processing and Information Systems Service. Its operations are as follows:

"In accordance with the recommendations made by the Secretary-General in 1971 to the General Assembly at its twenty-sixth session, the orientation of NYCC has been changed to that of a service facility. That is, primary responsibility for the definition of need, assessment of benefits and the obtaining of the necessary approval for major computer applications for an organizational component of the United Nations will remain with the user. The role and duties of NYCC are more appropriately in the area of technical assistance in definition, cost and workload estimation and in the performance of the highly important function of assuring the integration of related systems. The substance of determining needs and requirements, the content and timing of the system should be the function of the using office. NYCC has principal responsibility in the technical areas, such as the specific means or methods for achieving an end, for recommendations on techniques and for ensuring that co-ordination between related systems takes place."  
(A/C.5/1475, para. 23)

39. Of major and growing concern to the Electronic Data Processing and Information Systems Service is this last-mentioned group of responsibilities for assuring the integration and effectiveness of both present and developing information systems. These include not only those administrative information systems that directly support the operational functions of the United Nations Secretariat at Headquarters and in the field offices, but the substantive programmes as well.

40. A staff of 19 Professional and 23 General Service personnel was authorized for NYCC for 1973, and the Centre operates with a total budget of \$US 1,088,000 covering both equipment rental and other expenses, including wages, salaries and supplies (see annex I for detailed budgetary and staffing figures).

41. It is evident from the table below that although the Statistical Office is the largest single user of the Centre, it uses only 21 per cent of the currently available capacity. The tabulation shows the usage of the IBM 370/145 for the 12-month period of operation during 1973.

<u>Using office</u>	<u>Hours of use time</u>	<u>Total</u> <u>Percentage of</u> <u>over-all use</u> <u>(rounded to nearest</u> <u>integer)</u>
Statistical Office	792	21
Reimbursable work for the Statistical Office	239	6
Centre for Development Planning, Projections and Policies	591	16
Accounts	418	11
UNICEF	306	8
Library	465	12
Office of Technical Co-operation	163	5
Pension	128	4
Personnel	129	4
UNCTAD	122	4
UNDP	82	2
All others	314	7
	<u>3,749</u>	<u>100</u>

42. The Centre is operated on a five-day basis for an average of 300 hours per month, with some cyclic variations resulting from the occasional peak demands of some users.

B. International Computing Centre at Geneva

43. Established in 1971, ICC has provided services for the United Nations, UNDP and WHO as participating agencies, and for an increasing number of other agencies in the United Nations system. Most recently, the ILO, UNICEF, WMO and UNRISD have become participants.

44. The utilization of ICC by United Nations agencies in 1973 is shown below in a percentage distribution of the calculated value of all services. The services provided to the user agencies vary widely: some, such as the United Nations, utilize keypunching, systems analysis, programming, production services, and computer time, while others employ only specific services. The income and expenditure budget for ICC in 1973 is shown in annex II.

<u>Participating agencies</u>	<u>1973 percentage distribution of calculated value of services</u>
	<u>(rounded to nearest integer)</u>
United Nations	44
WHO	33
UNDP	14
ILO	2
UNICEF	2
WMO	1
<u>User agencies and Governments (total)</u>	4
ITU	FAO
GATT	UNESCO
ICAO	IOB
WIPO	IAEA
	Gambia
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	100
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45. In 1973, work of all types performed for the Statistical Office by ICC had a calculated value of 56 per cent of the United Nations total and approximately one quarter of the total of the services provided to all users. The other offices of the United Nations that obtain services from ICC include the Economic Commission for Europe, UNCTAD and the United Nations Environment Programme (UNEP); administrative support is also provided for the United Nations Office at Geneva.
46. ICC is performing a valuable function in the United Nations system. As noted in paragraph 8 above, two of its major purposes are to provide essential data-processing services for user agencies, especially those based in Europe, collectively at a lower cost in the case of an installation of this size than for each individually; and to serve as a location for the interagency exchange of all types of statistical, programmatic, planning or technical information.
47. In addition, as a centre for technical capability, ICC is performing several other important related functions as part of its regular programme. Among these are training and familiarization, not only for the personnel of agencies in the geographical area but in addition for selected groups of individuals from Member States. Secondly, as an installation available to various organizations within the United Nations system, it provides a capability for feasibility investigations of the basic activities of these organizations that might be assisted by automation, and as a location for initial implementation of such automation.
48. In order to further these objectives, the Management Committee of ICC, of which the Director of ICC is a member, has undertaken a number of related actions. These actions are designed to make the facilities of ICC more broadly available to the agencies of the United Nations system, to encourage its use, and to ensure that it is capable of meeting these needs. As a first step, the procedural rules were modified to permit an agency to become a participant by the contribution of 2 per cent of ICC budget. At least one major agency, the ILO, became a participant on this basis and several others have expressed interest. In a related step, agreement was reached in March 1974 for a conversion of the ICC methods for financial support, so that for the 1976-1977 biennium contributions will be directly related to usage beyond agency commitments for a basic level of support.
49. At the request of the Administrative Committee on Co-ordination (ACC), the Management Committee formed a working group headed by the Director of ICC to study the utilization of ICC and its unit costs in order to respond to certain questions raised by the Advisory Committee on Administrative and Budgetary Questions. As noted earlier, the working group reported to the Management Committee that ICC was utilized for 1.66 shifts per day during 1973, and that, on the basis of the working group's views of the rate of productivity of NYCC and ICC, the unit costs of the two centres were broadly comparable.
50. The range of users of ICC has broadened during the last year to include not only some utilization by other major agencies but also additional application areas by current user organizations. The usage by the ILO and UNRISD is an example of the latter, while the United Nations Office at Geneva has begun to utilize ICC in a longer range study of other administrative applications. UNEP has also undertaken some work at ICC to provide some assistance in its internal management and organizational efforts, as well as in support of its programme activities.

C. New York Computing Centre and International Computing  
Centre in Geneva

51. The two installations, both within the United Nations system, one in New York and the other at Geneva, are functionally compatible in a general sense, in that programmes or systems can be exchanged between them with little adjustment. The changes required for operation are primarily in the area of control-card adjustment for differences in peripheral equipment and the like. More fundamental, however, are the differences in the purpose and organization of the two centres.
52. As is apparent, NYCC is called upon to provide extensive, detailed support to an extraordinarily wide range of applications with a very short response time to users who are immediately available in the United Nations.
53. Many of these applications are interdependent, and are growing more so as the user offices themselves work more closely together. Typical of this interdependence is the relationship between the personnel, accounting, and the payroll systems and those in turn for the project control system for the Office of Technical Co-operation. The staff is charged with the development and extension of such integrated systems to serve the needs of the United Nations Secretariat at Headquarters, operating under very close budgetary supervision and control in executing its assigned functions. Part of this budgetary control is the development of a system that will assign resource costs for the use of the computer to each user office for its applications. There is evident capacity in NYCC to permit the assumption of any additional workload that might result from a reallocation of statistical activity to the Statistical Office in New York, even with the moderate increase in other applications that is forecast.
54. On the other hand, ICC is in the nature of a service bureau in some respects for the agencies that are in geographical proximity to it in addition to performing its important services as a technical training and technical reference facility. In this function, it provides a vehicle for the implementation of new applications as well as a stimulus for the exploration of possible new areas. Its central position, organizationally as well as geographically, will make it possible for ICC to begin fulfilling its second important function of serving as a focus for the exchange of data within the United Nations system, as its wider usage grows with a greater number of user agencies.
55. As a founding agency of ICC, which has transferred both staff and resources to begin the installation, as an active participant and major contributor, and as an agency with an interest in achieving the two major objectives of ICC, the United Nations has a long-standing and clearly marked interest in advancing the concept of the installation. It is, therefore, a considered evaluation that any proposed transfer of activities of the Statistical Office away from Geneva should be judged on its own merits and not on the basis of the generation of data-processing workload. Other applications in support of United Nations activity at Geneva are in the process of design and execution. These may eventually replace the statistical data processing, should the present elements of the Statistical Office be moved. Thus, the United Nations support for the concept and objectives of ICC will remain unaltered. Further, in the utilization of ICC by other agencies at Geneva a trend may now be developing towards a greater reliance on its facilities and capabilities for new areas of application, particularly those directed at the goal of exchange of information between agencies.

ANNEXES

Annex I

1973 BUDGET OF THE NEW YORK COMPUTING CENTRE

(Thousands of US dollars)

Staff costs

Established posts	309
Temporary assistance	281
Overtime and night differential	20
Total	610

Equipment costs

Computer rental	367
Extra-shift rental	13
Data entry equipment	28
Other: supplies and miscellaneous	70 <u>a/</u>
Total	478

Authorized staff - 1973

	D-2	D-1	P-5	P-4	P-3	P-2/1	Subtotal	GS	Total
Established	-	1	-	4	1	3	9	23	32
Temporary assistance	-	-	1	4	2	3	10	-	10
Total	-	1	1	8	3	6	19	23	42

a/ Cost of pre-printed forms for specific users (\$50,000) included.





Annex II

1973 INCOME AND EXPENDITURE BUDGET OF THE  
 INTERNATIONAL COMPUTING CENTRE IN GENEVA

(Thousands of US dollars)

Assessed contribution by agency

ILO	32
United Nations	647
UNDP	324
UNICEF	20
WHO	486
UNRISD	2
WMO	10
Total	1,521 <u>a/</u>

Expenditure by object

Staff costs	493
Duty travel	2
Computer supplies	116
Computer rental	901
Technical literature	1
Services	78
Total	1,591

Authorized staff - 1973

D-1	P-5	P-4	P-3	P-2/1	G-7	G-6	GS	Total
1	2	2	4	3	2	8	21	43

a/ Figures do not add to totals because of rounding.

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