THE PROVISION OF TECHNICAL ASSISTANCE BY THE AGENCY WITH SPECIAL REFERENCE TO 1976

Report by the Director General

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List of abbreviations

Agency	International Atomic Energy Agency
IAEA	International Atomic Energy Agency
MW(e)	Megawatt (electric)
SIDA	Swedish International Development Authority
Trieste Centre	International Centre for Theoretical Physics at Trieste
UNDP	United Nations Development Programme

Byelorussian SSR	Byelorussian Soviet Socialist Republic
German D.R.	German Democratic Republic
Germany, F.R.	Federal Republic of Germany
Korea, R.	Republic of Korea
Libyan A.R.	Libyan Arab Republic
Soc. Rep. of Viet Nam	Socialist Republic of Viet Nam
Syrian A.R.	Syrian Arab Republic
USSR	Union of Soviet Socialist Republics
UK	United Kingdom of Great Britain and Northern Ireland
United Rep. of Cameroon	United Republic of Cameroon
United Rep. of Tanzania	United Republic of Tanzania
USA	United States of America

NOTES

All sums of money are expressed in United States dollars.

The technical assistance described in this report is classified under the following ten fields of activity:

Code	Field of activity
0	General atomic energy development
1	Nuclear physics
2	Nuclear chemistry
3	Prospecting, mining and processing of nuclear materials
4	Nuclear engineering and technology
5	Application of isotopes and radiation in agriculture
6	Application of isotopes and radiation in medicine
7	Application of isotopes and radiation in biology
8	Application of isotopes and radiation in industry and hydrology
9	Safety in nuclear energy

Part I. INTRODUCTION

1. Following its usual practice, the Board of Governors has requested the communication to the General Conference of the material it used in reviewing the provision of technical assistance by the Agency, with special reference to 1976; this material is accordingly reproduced in the present document. The review was carried out pursuant to paragraph 20 of the Guiding Principles and General Operating Rules to Govern the Provision of Technical Assistance by the Agency. [1]

2. The use of the resources placed at the Agency's disposal, in the form of voluntary contributions, gifts in kind, multi-bilateral funds, and UNDP funds for small- and large-scale projects, for the provision of technical assistance is reviewed in this document.

3. The three principal elements of the technical assistance provided are expert services, equipment and fellowships. The main objectives of the assistance are to promote the transfer of skills and knowledge relating to the peaceful uses of atomic energy, to support the efforts made by recipient countries to carry out their atomic energy activities more efficiently and safely, and to ensure that the knowledge acquired can continue to be applied after the provision of assistance by the Agency has been completed. The achievement of the latter objective, however, depends largely on the ability of Governments to make adequate facilities available and to recruit and retain the requisite number of qualified staff.

4. In 1976, 72 countries received technical assistance in one form or another from the Agency, as shown in Fig. 4B and Table 7 [2]. Three fourths of all assistance provided related to the application of isotopes and radiation in agriculture, nuclear engineering and technology, to prospecting, mining and processing of nuclear materials, the application of isotopes and radiation in industry and hydrology, and to the application of isotopes and radiation in medicine.

5. The assistance, including assistance in kind, was provided through the services of 297 experts, lecturers and visiting professors, the supply of equipment to a value of about $2 910 000, and 655 fellowship awards for individual study or for participation in scientific visits, study tours and other short-term training projects.

6. The resources available to the Agency in 1976 for the provision of technical assistance amounted to $10 925 000 (Table 1), whereas the total value of the technical assistance actually provided in 1976 was $8 330 000 (Tables 4 and 7), which includes payments against 1976 and prior years' obligations as well as assistance in kind, and represents a decrease of $0.2 million or about 3% less than the sum of $8 552 000 provided in 1975 (Table 4), but does not include the unliquidated obligations and assistance in kind outstanding at the end of the year.

7. As in earlier reports on the provision of technical assistance by the Agency [3], details are given below regarding some areas of technical co-operation of interest to Governments, followed by information concerning the financial difficulties experienced by UNDP and the outcome of its first five-year programming period (1972-1976).

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[1] GC(IV)/RES/65, Annex.

[2] The principal statistical tables are given in Annex I to this document.

[3] For information on other major areas of interest to Governments see, for example, document GC(XVIII)/INF/148, which provides information in paragraphs 8-23 on the use of nuclear techniques in agricultural research, GC(XIX)/INF/154, containing information in paragraphs 24-38 on the use of nuclear techniques in industry and hydrology, and GC(XX)/INF/161, which contains, in addition to other topics, information in paragraphs 24-30 on technician training.

A. SOME SELECTED AREAS OF TECHNICAL CO-OPERATION

1. Nuclear power plant safety standards*/

8. In the last three reports information was given on the assistance available from the Agency to the developing countries which are considering the introduction of nuclear power. [4] One of the major activities of decisive importance during the planning, construction and operational stages of a nuclear power project is that of the evolution and implementation of adequate safety standards. Why this particular activity may receive insufficient attention and prove more difficult, possibly even more expensive, to carry out in the developing countries than in the exporting countries from where most of the power reactor components originate, is summarized below for the consideration of importing and exporting countries alike.

9. By 1990 large commercial nuclear power plants will be in operation in almost 40 countries, of which more than half are now developing countries. Ambitious nuclear power programmes frequently coupled with understaffed regulatory and utility organizations are only one aspect of the safety problems that face these developing countries. The inherent difficulties of evolving and implementing adequate safety standards for the non-standard nuclear power plants being imported can be compounded by financial considerations which could result in the purchase of reactors of various types, possibly from more than one supplier country, involving different safety standards. An examination of these issues points to the necessity for effective action, which should include the provision of adequate funding in the purchase contract to meet safety requirements and for sufficient regulatory assistance and training from the developed countries. The most urgent of these problems are outlined here.

(a) Non-standard nuclear power plants

10. What makes a nuclear power plant "non-standard" is the occurrence of one or more of the following circumstances: (i) the exported version is designed to produce less power than its domestic "parent" and may never have been built and proven by the manufacturer using exporting country safety standards, (ii) the exported version was designed to meet significantly different site characteristics and the suggested modifications to take local conditions into account have not been conclusively tested elsewhere, (iii) hitherto untested combinations of equipment from suppliers in the importing country as well as from one or more foreign countries, and (iv) the continuous evolution in design and safety standards of the supplier country that is not, or only partially, reflected in the nuclear power plant under construction or in operation.

11. Countries embarking on nuclear power programmes are at present limited to a choice of three major reactor types available from six supplier countries: Canada (HWR = Heavy-Water Reactor), France (PWR = Pressurized-Water Reactor), Federal Republic of Germany (PWR), Sweden (BWR = Boiling-Water Reactor), USSR (PWR) and USA (BWR and PWR).

12. Although uranium supply considerations are of importance in planning for the introduction of nuclear power, the availability of long-term financing at favourable terms may be the determining factor in deciding on the supplier country. The table below provides some examples of the various combinations of supplier and reactor type for existing and future facilities, and gives an indication of the complexity of the problems the importing countries face.

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*/ In view of the importance of the subject, the following material has already been published in a somewhat different version in the Agency Bulletin, Volume 19, Number 2, April 1977.

[4] GC(XVIII)/INF/148, paras 24-40, GC(XIX)/INF/154, paras 8-17, and GC(XX)/INF/161, paras 8-23.

Purchasing country	Supplier country	Reactor type
Argentina	Canada	HWR
	Germany, F.R.	PWR
Brazil	Germany, F.R.	PWR
	USA	PWR
India	Canada	HWR
	India	HWR
	USA	BWR
Iran	France	PWR
	Germany, F.R.	PWR
Korea, R.	Canada	HWR
	USA	PWR

13. Reactor size: The major reactor or nuclear-steam-system suppliers are located in the industrially developed countries whose domestic need for power is more economically satisfied by reactors of large output. For example, in recent years only reactors of approximately 1000 MW(e) or larger capacity have been ordered by utilities in the USA, and there is little likelihood that significantly smaller output reactors will be ordered in the future. In contrast, the nuclear power plant exports of the USA have been in the 600 and 900 MW(e) range.

14. It is common practice to "reference" an exported reactor facility to a similarly-sized plant under construction in the country of origin; for example, an exported 600 MW(e), 2-loop, PWR reactor would be referenced to a supposedly similar, 2-loop domestic plant. This procedure implies that the reference plant meets the safety requirements of the exporting country and therefore can be licensed. However, as a result of the demand for large reactors in the USA, there is at present no 2-loop plant of the type being exported under construction, the most recently constructed plant having been operational for two years. Thus, the 2-loop plants recently sold to Egypt, the Republic of Korea, and the Philippines are referenced to a 2-loop plant which has been under construction in Yugoslavia since 1974; this plant was referenced to an earlier 2-loop plant under construction in Brazil, which in turn had been referenced to a plant in Puerto Rico for which a construction application was submitted to the USA's regulatory organization in 1970. However, the review of the 2-loop plant in Puerto Rico was terminated in late 1972 because of seismology problems, and it was decided not to continue with the project. If the Puerto Rico plant had been constructed, it would have undergone a systematic and detailed review by the USA's regulatory organization and, as a result of this review and the additional requirements that would probably have been imposed during the design and construction stage, a number of modifications would undoubtedly have been made to the facility. Thus, all of the above-mentioned 2-loop plants have not undergone a rigorous regulatory review and desirable engineering modifications that might have been made are not available for evaluation.

15. Site characteristics: In contrast to the previous example, the two large, 4-loop PWRs sold to Iran by the Federal Republic of Germany could be referenced to a domestic plant of similar size at present under construction and undergoing the regulatory process in the Federal Republic of Germany. However, although there is a reference plant currently being reviewed, this serves as an appropriate example to demonstrate the importance of site characteristics in the facility design. The plant in Iran is located in an area subject to relatively high seismic activity, requiring the use of a design value of 0.5 g for the horizontal ground acceleration. in contrast to the relatively low value of 0.2 g or less

required in the "low" seismic areas of the Federal Republic of Germany. The difference in the seismic characteristics of two sites can result in significant design changes that influence, for example, the specifications for foundations, the interface of structures, pipes, supports, and system components (including reactor internal parts). Thus, the eventual design of the Iranian facility, as constructed, may differ significantly from the reference plant. It is on these differences that the Iranian regulatory authorities are concentrating their detailed design review. Differences in design necessitated by seismic considerations are of growing importance, as nuclear power reactors are being increasingly located in areas subject to high seismic activity.

16. Balance of plant: A third aspect of the non-standard nuclear power plant export relates to the balance of plant (BOP), which comprises the facilities outside the nuclear-steam-supply system such as the containment structure, auxiliary buildings (including in some designs the fuel handling and radiation-waste systems) and the steam conversion system (turbine generator). Even in a "turnkey" contract, where the reactor supplier assumes overall responsibility to build the entire facility, the design and construction of the BOP, including the reactor containment, will frequently be performed by a different engineering firm and one which may not be responsible for the domestic facility. Financing considerations may also require the purchase of major portions of the BOP from a country different than that of the reactor supplier. This situation, in which there are different architect engineering firms and different BOP suppliers, not only introduces obvious interface problems, including a mixture of varying design criteria and safety standards, but may also result in the use of components and systems that differ greatly from those being constructed (or in operation) and reviewed in the reactor supplier's country of origin.

17. Evolution of safety standards: The fourth and possibly most important aspect of the non-standard nuclear power plant export is the continuous evolution in design and safety standards as a result of improvements in techniques and experience recently gained in the regulatory review process in the exporting country. In the supplier countries all domestic nuclear facilities have undergone many required modifications as a result of the regulatory review process; however, these changes are not necessarily incorporated into the exported plants.

(b) Non-uniform safety standards

18. Safety standards are essential for the design, construction and operation of nuclear facilities and are the codification of sound engineering practice and experience. When establishing nuclear safety standards in an importing country, the choice will essentially consist of using the standards of the importing country, international standards, or those of the exporting country. Since standards are associated with industrial undertakings, the developing countries usually do not have a base of engineering-related standards and certainly no specific nuclear standards. International standards are being developed, including a large safety standards programme in the Agency, but their routine application in the nuclear field may still be many years away. Thus, the developing countries must almost of necessity adopt the standards of the exporting country. This situation, however, is complicated by four significant factors; these are the different number and scope of written standards of the various exporting countries, the continuous development and evolution of standards, the differences in content and application, and the non-applicability of some standards.

19. Number and scope of standards: The various supplier countries have significantly different numbers of written standards. This situation is somewhat dependent on the structure of the country's electric utility industry. Countries such as the USA and the Federal Republic of Germany, where the utilities are not owned and administered by the central Government but are in the hands of numerous companies, have significantly more written standards than the countries which are technically advanced and in which the utilities are controlled by a single body, such as France and the United Kingdom. In the case of reactors purchased from countries that have few written safety standards, the

developing countries have the obvious problem of determining what the requirements are, whether they are being met, and whether the design and construction of their plant is similar to that of the reference facility. The problem is further complicated when significant portions of the BOP are supplied by countries with differing numbers of standards that vary also in scope.

20. Development and evolution of standards: The development and evolution of safety standards creates an additional and more difficult problem for the developing countries. Over the past four years the USA's Nuclear Regulatory Commission (NRC) has issued approximately 300 regulatory guides which describe acceptable methods of meeting NRC regulations. The Federal Republic of Germany has also initiated a major programme to clarify its requirements, and a large number of standards are being prepared. Several problems exist for the developing countries as a result of this situation, most importantly, the determination of whether the imported plant meets the newly codified standards or whether the plant requires updating, that is, "backfitting" to meet special requirements.

21. Differences in content and application: There are also differences among exporters in the application of specific standards, as well as differences in their technical content. Variations in the application of standards arise from differing judgements as to how to satisfy specific criteria. For example, to protect a safety system from damage by a missile (any object or part thereof that becomes dislodged and is hurled away by force - for example, a piece of metal that breaks off a moving turbine) arising from a given piece of equipment, one could prevent the generation of a missile by designing and constructing the equipment to very high standards, prevent a missile from hitting the safety system by shielding or locating the safety system so that it is not in the direct line of a missile, or prevent damage to the safety system by means of extra-strong construction, safe location, or by providing well-separated, supernumerary systems. The variations in judgement on the application of standards have led to differences in safety requirements such as the need for supernumerary and separately located emergency core-cooling systems, the use of containment spray systems, and missile shield requirements.

22. Specific standards also differ in content as illustrated by differences in standards in the USA and Federal Republic of Germany in respect of structural accident load combinations, fission-product release quantities during accidents, and allowable stress values in the containment design. This leads to significant design differences, involving dissimilar safety procedures and structural features, which, although in accordance with the safety standards of one exporting country, do not always meet the requirements of other exporting countries. The result of the above is to leave the developing countries with an insufficient understanding of the reasons for many safety decisions, as well as difficulties in making backfitting decisions.

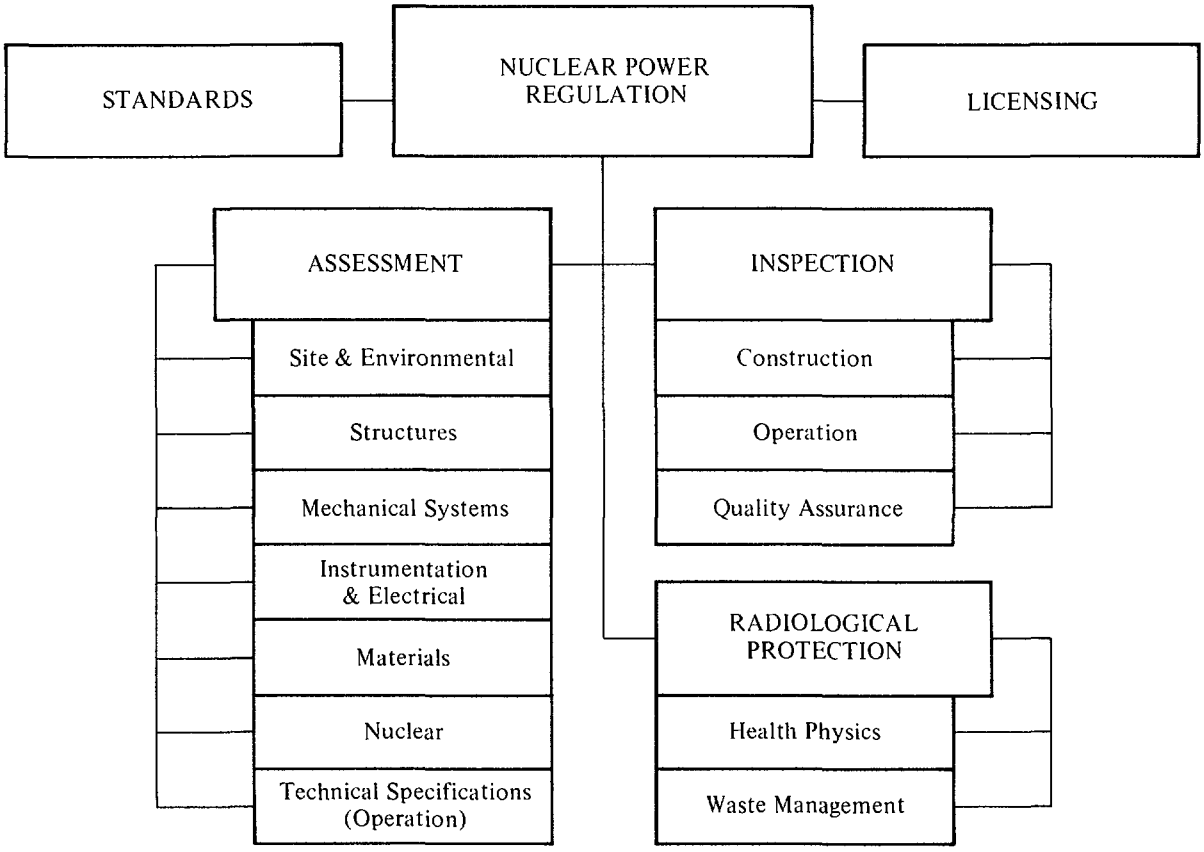
23. Non-applicability: A final aspect of safety standards is the non-applicability of some standards; for example, if there is a supplier-country requirement for fire or construction inspectors and no corresponding legislation exists in the importing country, or a requirement for information such as historical seismic or flood data for, say, the past 100 years, which are not available.

(c) Weakness of regulatory organizations

24. In view of the complex problems associated with non-standard nuclear power plant exports and non-uniform safety standards, a vital safety concern to developing countries that are planning nuclear power programmes is the adequacy of the staffing of their regulatory organization. In performing its review and inspection function this organization must make decisions on numerous modifications and interfaces that have not been reviewed by the regulatory authority of the exporting country. It must also be concerned with safety issues that may be unique to developing countries (see paragraph 27 below).

25. Regulatory organizations in the exporting countries have highly trained and experienced staffs drawn from the numerous technical disciplines required to review and inspect nuclear

facilities during siting, design, construction and operation. This is in addition to the expertise of independent consultants who are used wherever appropriate. For example, the USA's NRC has about 1000 professional staff members, nearly all of whom hold basic and more than half of whom hold advanced academic degrees. Obviously, a developing country does not need a staff of the size or with the range of disciplines required in the exporting country. However, experience in countries with on-going programmes suggests that even when extensive use of consultants is planned, a full-time regulatory staff of about 50 professionals may be the minimum for a country planning to license and operate 5-7 nuclear power plants. The essential requirement is that the regulatory body possesses sufficient competence to evaluate independently the work performed by suppliers as well as by its own consultants. The chart below shows the structure of a minimal regulatory organization; with only one professional for each functional requirement an experienced staff of approximately 15 is required. At the present time most of the regulatory organizations in the developing countries with active nuclear programmes can be classified as sub-minimal. In many cases the regulatory organizations consist of less than 15 full-time professionals associated with nuclear power activities; furthermore, this staff, which is often inadequate in number, may not be familiar with the disciplines of nuclear safety and may be in need of extensive training.



26. The inadequate staffing of these regulatory organizations is partly the fault of the responsible officials who underestimate the importance of the regulatory organization's role in coping with the unreviewed aspects of the imported nuclear facility. This situation is often worsened due to the low pay scale of governmental employees, who, when trained and experienced, leave for higher paid jobs in industry.

(d) Unique safety issues

27. In considering the selection and construction of a nuclear power plant the regulatory organization of the importing country must also note the safety issues that may be unique

to developing countries and the need for adequate regulatory reviews. During the initial siting evaluation, developing countries may be faced with political and military considerations which limit the number of possible sites; nevertheless, financial and time constraints may not allow for adequate investigations. The use, for siting studies, of domestic and foreign consultants inexperienced in nuclear applications may be complicated by the existence of only limited historical seismology and hydrology data. In addition, the parameters of calculational nuclear power plant models that have been developed for operation in a temperate climate may not apply to sites in a tropical climate.

28. The achievement of a safe design for a nuclear power plant in a developing country is frequently complicated by a contract specifying that the plant will be built in accordance with the licensing requirements existing in the exporting country on a particular cut-off date. This date usually pre-dates the actual start of construction by several years and, in the case of some recent reactor sales, may pre-date expected commercial operation by as much as ten years. In the exporting country with its strong regulatory body the design of such a facility would normally be modified and updated through the review process. In the importing country, however, these modifications would usually not be demanded by the local regulatory staff, because it would usually not be aware of the revised standards in the exporting country, nor would it be technically competent to decide upon the backfitting needed. In addition, part of the plant may have been designed after construction began, using new safety standards; in this case the plant design is based on a mixture of standards which may be difficult to differentiate clearly. The design work can also be unduly complicated by difficult BOP interfaces. In addition, design safety requirements, differing from those used previously in connection with a given reactor model, may also be necessary if unique seismic, temperature, humidity, and electric load instability conditions exist.

29. Although the construction of a nuclear power plant in a developing country suffers from the normal difficulties associated with all large projects, such as problems with contractor interfaces, special hazards may also be encountered, for example poor domestic sub-contractor performance and the greater likelihood of damage to equipment during transport. Unexpected problems may also require quick decisions, which are especially difficult to make when some of the decision-makers are in the exporting country, thousands of miles away. Furthermore, the quality assurance programme required for nuclear projects is greatly complicated by the differing or non-existing quality-control and -assurance procedures used by the various domestic and foreign contractors.

30. Operation of the nuclear power plant may also raise safety issues due to the inadequate training of staff in areas such as maintenance and, in some circumstances, supplemental staff may be required and not be readily available. A more important consideration is the pressing need for electrical power in the developing countries, which could lead to reactor operation under conditions in which operation should be limited or not permitted; this consideration is magnified in importance by the lack of experts in the regulatory body who are competent to make expeditious decisions, especially those related to a return to power generation or to a curtailment of reactor operation.

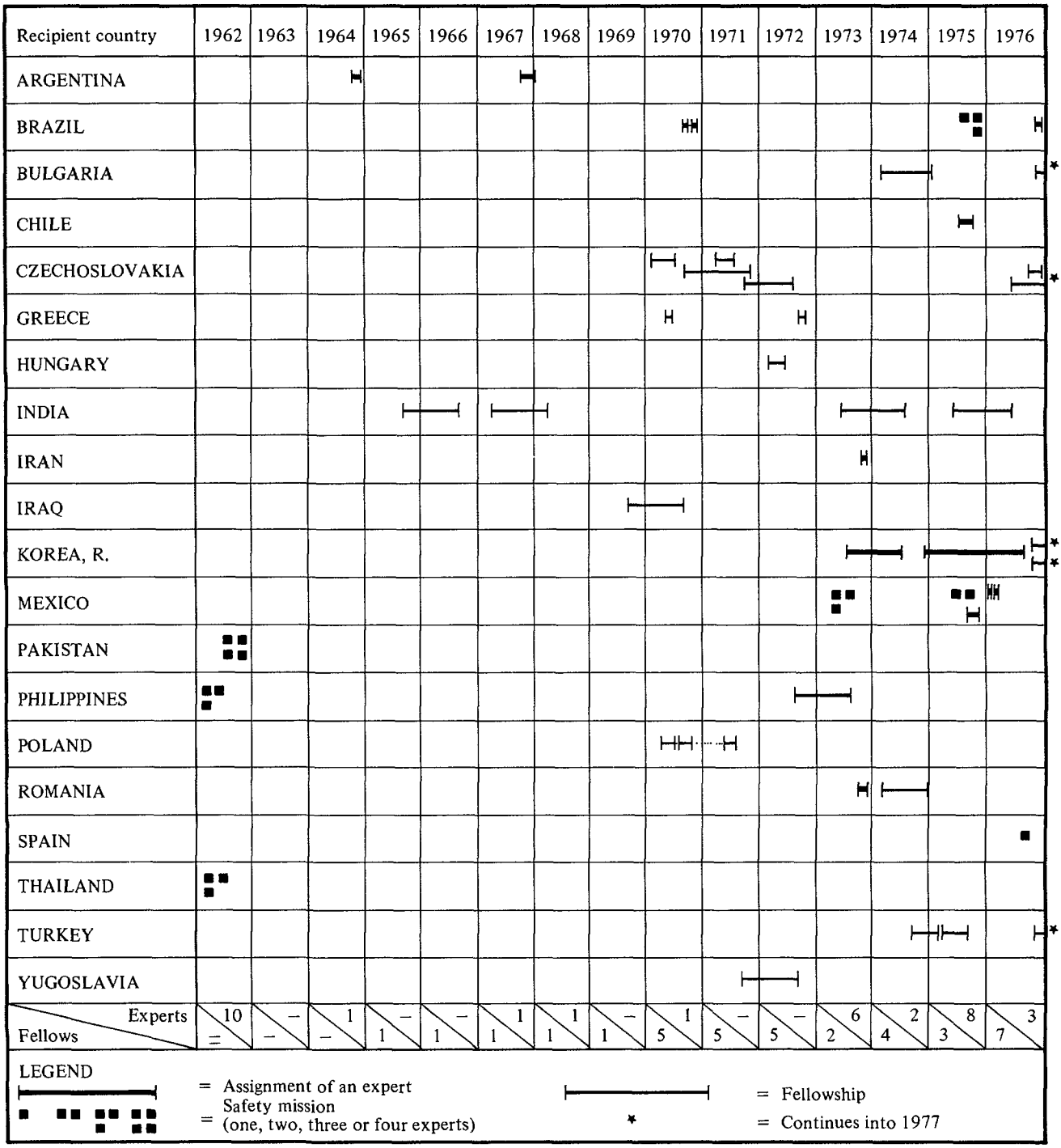
(e) Needed technical co-operation between exporting and importing countries

31. The issues presented above indicate the need for urgent, effective action. First and of prime importance is the necessity to bring about an awareness on the part of the exporter as well as the importer of the unique demands involved in constructing and operating nuclear power plants in the developing countries, so that the readiness of a developing country to embark on a nuclear power programme can be assessed in terms of the known prerequisites. Secondly, special consideration must be given during contract negotiations to plant safety, most importantly the designation of an appropriate cut-off date for the application of necessary safety standards; this date should, as a minimum, correspond to the starting date of construction. Funds must also be provided in the contract for backfitting, as well as for the training of regulatory personnel. Thirdly, the exporter must continuously advise the purchasing utility and the regulatory body of changes in the design and safety requirements during construction, so that they can receive proper

attention. At the same time, the exporting Government, in addition to providing training opportunities in its own regulatory body, with reactor suppliers and architect engineering firms, should supply regulatory assistance, including full-time experts, either on a bilateral basis or by making them available through the Agency's technical assistance programme.

32. The developing countries embarking on a nuclear programme can count on the Agency's help at all stages, if requested, in the form of advisory services and special missions by qualified experts to review the safety of facilities, in addition to the expert services, equipment and training (fellowships for individual study and short-term awards

Experts and fellowships provided by the Agency
in the area of reactor safety (excluding siting): 1962–1976



for participation in training courses, study tours and scientific visits) available under the technical assistance programme and the international nuclear safety standards developed by the Agency. Some technical assistance relating to the problems discussed above has already been provided to Argentina, Brazil, Bulgaria, Chile, Czechoslovakia, Greece, Hungary, India, Iran, Iraq, Republic of Korea, Mexico, Pakistan, Philippines, Poland, Romania, Spain, Thailand, Turkey and Yugoslavia as indicated in the chart given above. It is expected that requests for technical assistance in this field will increase at a fairly rapid rate and, in 1977, assistance of this kind is to be provided to Israel and Portugal.

2. Medical use of in vitro assay procedures with radioactive agents

33. During the two decades that have elapsed since the introduction of radioimmunoassay as a method for the measurement of insulin and other hormones in blood and its recognition as constituting an example of the general method of "saturation analysis" or "competitive binding analysis" with radioactive agents for the measurement of substances in vitro, advances relating to the use of in vitro assay procedures with radioactive agents have been phenomenal. These procedures now constitute a main branch of nuclear medicine and their scope has been extended to embrace a vast number of hormones, vitamins, drugs and other substances and to include various tests for the diagnosis or investigation of particular classes of disease. Notable applications of these procedures arise in the diagnosis and investigation of diseases of the thyroid gland, including endemic goitre, the study of various aspects of human reproduction, the diagnosis and investigation of certain forms of cancer and the study of immunity against infectious diseases.

34. In their clinical applications these procedures have the advantage that they do not involve the administration of any radioactive agent to the patient, being performed entirely on specimens of blood, urine or other material. They may thus be carried out in some central laboratory to which specimens are sent for assay. They require only modest laboratory facilities and the equipment used for the radioactivity measurements need not be complex. For many such procedures in routine use, "kits" providing all the necessary reagents and full instructions for their use are commercially available. These procedures are thus highly relevant to the medical problems of the developing countries and also appear especially suited to the conditions found in many such countries. Moreover, their sensitivity is often greater by orders of magnitude than that achievable by using classical methods. The success of these procedures does, however, demand meticulous technique and careful control of the quality of the results.

35. The technical improvement of in vitro assay procedures with radioactive agents is one of the promotional activities included, as a separate entity, in the Agency's current programme: for example, the Agency is administering a co-ordinated research programme on technical aspects of such procedures through research contracts and agreements with scientific investigators in Argentina, Chile, Ghana, Romania, Singapore, South Africa and Spain, and another co-ordinated research programme on the application of in vitro assay procedures in the study of reproductive physiology with contract holders and parties to agreements in Argentina, Austria, Colombia, Ecuador, India, Peru and Sri Lanka. A third programme on such applications in the study of certain forms of cancer is under consideration. The Agency has held two symposia on the subject, one on In vitro Procedures with Radioisotopes in Medicine in 1969 and another on Radioimmunoassay and Related Procedures in Medicine in 1973, as well as a number of smaller meetings, the proceedings of which have all been published. A further symposium on Radioimmunoassay and Related Procedures in Medicine will be held in 1977.

36. As regards technical assistance, conscious of the great potential which the use of in vitro assay procedures with radioactive agents represents for developing countries, the Agency has held three basic training courses on the introduction of radioimmunoassay and related procedures. The first course, held in Pisa, Italy in 1971, was attended by 34 participants from 32 countries of the Africa, Asia and the Pacific, Europe, Latin America and Middle East regions, plus six participants from the host country. The second course, held in Lima, Peru in 1974, was attended by 19 participants from 12 Latin

American countries and 11 additional participants nominated by the host Government. The third course was held in Poznán, Poland in 1975 and attended by 17 participants from 12, mainly European, countries, plus four participants nominated by the host country. The attendance of participants from developing countries in these courses has helped to expedite the introduction of in vitro assay procedures into the activities of medical institutions in those countries.

37. At the country level the Agency is receiving and has already responded to many requests for assistance in the introduction of in vitro assay procedures with radioactive agents, by providing expert services, equipment and fellowships for the extended training of counterpart staff. Expert services or equipment, or both, have already been provided in this connection to medical institutions in Bolivia, Bulgaria, Burma, Ecuador, Ghana, Greece, Jamaica, Malaysia, Sri Lanka, Syria, Thailand and Uruguay. Agency technical assistance for similar projects in Brazil, Costa Rica, Cuba, Guatemala, Morocco, Paraguay, Senegal and Viet Nam is pending. Requests for specific training in in vitro assay procedures make up over 20% of the requests received for Agency fellowship training in the medical applications of isotopes, and ten or more such fellowships are currently awarded each year.

B. OTHER DEVELOPMENTS

1. UNDP's financial difficulties

38. The slow-down in UNDP-assisted activities anticipated in last year's report [5] proved to be somewhat more severe than expected. The introduction of expenditure ceilings for individual projects and the phasing-out of UNDP large-scale assistance to some projects resulted in a sharp drop in the volume of UNDP assistance provided through the Agency, from $3.9 million in 1975 to $3 million in 1976. The decrease was all the more pronounced because as a result of UNDP's critical financial situation, no new large-scale activities in the Agency's field of competence could be initiated in 1976. In real terms the volume of UNDP assistance provided through the Agency in 1976 fell below 75% of that provided in 1975. This decline in volume was particularly felt in respect of increments of so-called "small-scale" assistance, where the total value of UNDP assistance to a project amounts to less than $150 000. Whereas $1 245 500 in small-scale assistance was provided in 1975, the corresponding total for 1976 was only $724 200. The analogous totals in respect of UNDP-financed large-scale assistance are: $2 696 000 in 1975 and $2 278 100 in 1976.

39. Although a number of the basic problems that, in the aggregate, precipitated UNDP's cash liquidity crisis have not yet been resolved, the introduction of a number of stringent managerial and financial measures, together with various helpful steps taken by a number of Governments and agencies in the United Nations system, made it possible for UNDP to avert the cash-flow crisis envisaged for 1976. Although UNDP's resource prospects for 1977 are not too encouraging, the financial situation on the whole has become sufficiently stabilized to allow for a relaxation of the stringent measures applied in 1976. New measures being introduced, such as annual country expenditure ceilings instead of annual expenditure ceilings for individual projects, will enable executing agencies once again to engage in forward planning with a reasonable degree of assurance that UNDP funds provided for in the project budget will be available for expenditure, as scheduled, once a project is approved. For the Agency this means that work can begin in connection with a number of new, UNDP-assisted large-scale projects scheduled to commence in 1977. It is estimated that Agency expenditures in 1977 on UNDP's behalf are not likely to exceed $3.5 million and may reach the 1975 level by the end of 1978.

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[5] GC(XX)/INF/161, paras 31-34.

2. UNDP's indicative planning figure (IPF) period 1972-1976

40. Information has been given in prior reports on the introduction of country programming within the framework of IPF financing of small- and large-scale assistance to individual developing countries and to programmes involving more than one country. [6] Some countries experienced difficulties in preparing a comprehensive outline of the assistance needed from the United Nations system over a period of up to five years, in line with existing national development plans (if any) and co-ordinated with scheduled increments of foreign aid from multi- and bilateral sources. In such cases, country programmes constituted a basic list of assistance to be requested from the United Nations system rather than an integrated picture as to how the technical assistance efforts from all sources were correlated with the general development objectives of the country and the role United Nations aid would play in helping to realize those objectives. However, in some cases, the country programme exercise in itself has assisted Governments in determining their priorities and in strengthening their co-ordinating machinery in the field of technical co-operation. Where strong co-ordinating bodies existed, country programmes were of higher quality and, on the whole, the new system has made it easier for countries to plan and integrate the assistance receivable from UNDP.

41. The major agencies in the United Nations system were able to give assistance on the spot during the formulation of the country programmes through their country and regional representatives. Extensive technical assistance establishments at their respective headquarters were often able to present sectoral background papers at an early stage of the country programme formulation process, highlighting the need for projects in such sectors. The Agency was in a less advantageous position to exercise any influence on the content of country programmes. Most of the governmental bodies which the Agency assists in the developing countries are research institutes which, like their counterparts in the developed countries, often have to rely on grants and other forms of assistance whose volume and source vary from year to year. Neither the Agency nor its partners in the developing countries were therefore in an optimum position to make full use of the possibilities UNDP's first five-year programming cycle offered. As a result, the country programmes prepared for the most part in 1971 and 1972 included few new cases of UNDP large-scale assistance to be provided through the Agency. Later, as a consequence of annual reviews of country programmes, seen in the light of current needs and influenced by the energy crisis of three years ago, a number of Governments gave higher priority to projects in the nuclear field and, accordingly, have formulated requests for large-scale assistance to be provided through the Agency. It should be noted that country programming procedures do allow for such shifts in priorities and are not rigid.

42. On balance, UNDP's new country programming system has been successful because it has enabled both Governments and the United Nations system to plan ahead for a number of years. It has the potential to make an increased contribution to a more adequate co-ordination of external assistance at the country level. The experience gained during the first IPF period will enhance the likelihood that ensuing country programmes will even more accurately represent the development priorities of the recipient countries. It may therefore be expected that a better understanding of the contribution that activities in the Agency's field of competence can make to general economic development will be reflected in future country programmes.

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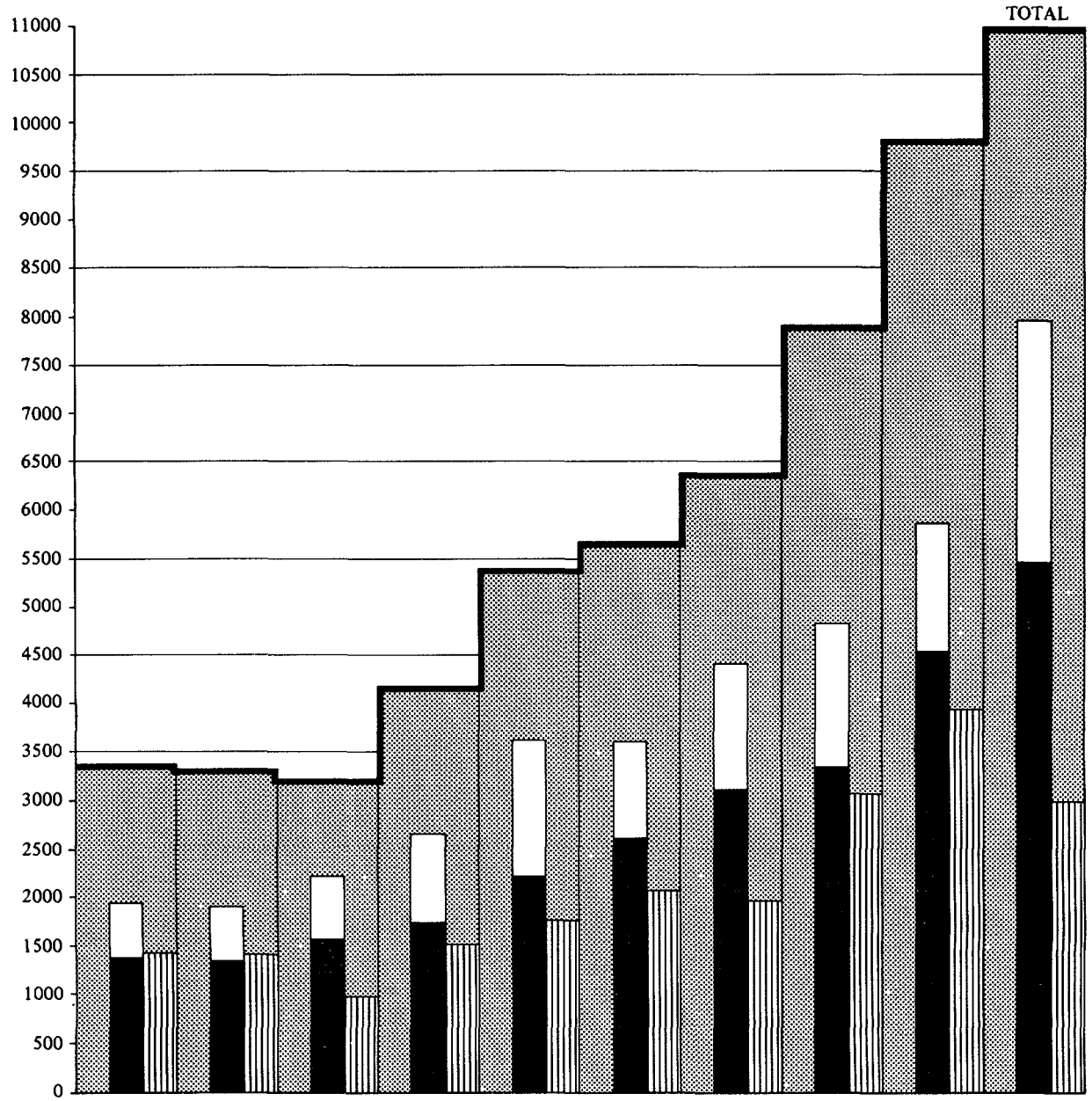
[6] GC(XV)/INF/131, paras 12-17, and GC(XVI)/INF/137, paras 13-16.

FIGURE 1A

RESOURCES AVAILABLE FOR
AGENCY TECHNICAL ASSISTANCE PROGRAMMES: 1967–1976
(in thousands of dollars)



	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Agency monetary	1380	1348	1586	1749	2224	2636	3124	3348	4540	5474
Assistance in kind	570	565	658	932	1410	968	1299	1494	1312	2449
UNDP monetary	1431	1422	981	1513	1775	2072	1964	3082	3941	3002
TOTAL	3381	3335	3225	4194	5409	5676	6387	7924	9793	10925

Agency monetary Assistance in kind UNDP monetary

Part II. ANALYSIS OF THE ASSISTANCE PROVIDED

A. AVAILABLE RESOURCES

1. General

43. The resources available to the Agency in 1976 for the provision of technical assistance came to $10 925 000 (see Figure 1A and Table 1), which is 11.5% higher than the figure for 1975 ($9 793 000) and is made up as follows:

(a) UNDP, $3 002 300 in cash: $724 200 for small-scale projects and $2 278 100 for large-scale projects;

(b) Income to Operating Fund II, including voluntary contributions of Member States transferred from the General Fund, $5 474 000; and

(c) Gifts in kind (services of cost-free and partly cost-free experts and lecturers, grants of equipment in support of approved technical assistance projects, Type II fellowships and training course stipends) valued at $2 449 000. Of this total, $2 425 000 was made available in respect of the regular programme and $24 000 for UNDP projects.

2. UNDP

44. To the total of $3 002 300 spent by the Agency to carry out the UNDP field programme in 1976 ($148 000 for assistance to intercountry projects and $2 854 300 for assistance to country programme - including large-scale - projects) $765 700, the unliquidated obligations carried forward to 1977 (the comparable figure a year ago was $1 135 200), should be added to give a clearer picture of the total UNDP resources at the Agency's disposal in 1976.

45. Cost sharing: The UNDP cash resources shown above (and in Figure 1A and Table 1) include $13 239 made available by the Government of Greece and $108 772 made available by the Government of Turkey under cost-sharing arrangements in respect of large-scale assistance provided through the Agency in 1976.

3. Agency's regular programme

46. As at 31 December 1976 the pledges of voluntary contributions to the General Fund for 1976 had reached 91.7% of the target figure of $5.5 million, as compared with about 93% of the $4.5 million target figure in respect of 1975. Member States' pledges ($5 043 800, the largest amount pledged in any year to date, as compared with $4 225 000 in 1975), were reflected in the income to Operating Fund II (totalling $5 474 000 from all sources in respect of 1976, as compared with $4 540 000 for 1975), from which the regular programme is financed. Additional information is given in Annex V.

4. Gifts in kind

47. The estimated value of the assistance in kind made available for 1976 programmes was $2 448 700, which is about 87% higher than the figure of $1 312 000 for 1975. The higher sum in respect of 1976 is due to the receipt of SIDA funds amounting to $639 500, offers

made by the United States of America to assist a number of footnote a/ projects under the Agency's 1976 regular programme [7] valued at $282 000, and additional equipment grants and Type II fellowships. [8]

48. This situation resulted in a sizable increase in the amount available from all sources for equipment (from $194 000 to $687 000), cost- and partly cost-free expert services (from $114 100 to $272 700), and training (from $1 004 000 to $1 489 000, consisting of Type II fellowship and training course stipends). Equipment grants were provided as assistance in kind by two Member States in 1976 (see Annex II.A), namely Sweden and the United States of America.

49. Multi-bilateral funds: The new resources made available in 1976 under this heading amounted to $639 500 ($82 100 in 1975), for the financing of fellowships, training courses and large-scale assistance.

50. Host country contributions: The assistance provided by the Agency often involves a much larger financial commitment on the part of the recipient countries; as this is in their own interest, it is understandable that the value of the counterpart staff and facilities made available by Governments is not reflected in the financial statistics in this report. The value represented by the lecturers and other facilities made available by a Government that hosts a regional or interregional training project (see Annex III) is also not reflected herein. In this connection credit is due to France, the Federal Republic of Germany and the United States of America for the valuable assistance each of those States rendered in preparing and carrying out one of the three training courses on nuclear power project planning and implementation held in 1976. Likewise, credit is due to the United States of America for preparing and hosting a second course of this kind in 1976, the training course on nuclear power plant construction and operation management.

5. Funds in trust

51. Assistance valued at $6900 was provided by the Agency under funds-in-trust arrangements with one developing country in 1976.

52. The funds from which the costs of two associate experts made available by the Netherlands were met, as well as the assistance provided from SIDA funds, have been included in the "gifts in kind" data given above.

6. Use of resources

53. The total value of the technical assistance being provided by the Agency exceeded the $13.7 million mark for the first time in 1976 (the figure for 1975 was $13.3 million), and consisted of $8 330 600 in assistance provided and $5 383 300 in unliquidated obligations and assistance in kind in the process of being provided but still outstanding at the end of the year. Somewhat less assistance was provided by the Agency in 1976, that is, $222 100 or about 3% less than in 1975, the year in which the largest amount of assistance up to then had been furnished. The breakdown of the total of unliquidated obligations and assistance in kind outstanding at 31 December 1976 is as follows: $728 800 for expert services, $2 341 100 for equipment and supplies and $2 313 400 for fellowships.

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[7] Approved requests which could only be met if additional funds or services became available, or in substitution for other approved assistance for which funds were available (see Annex II.B).

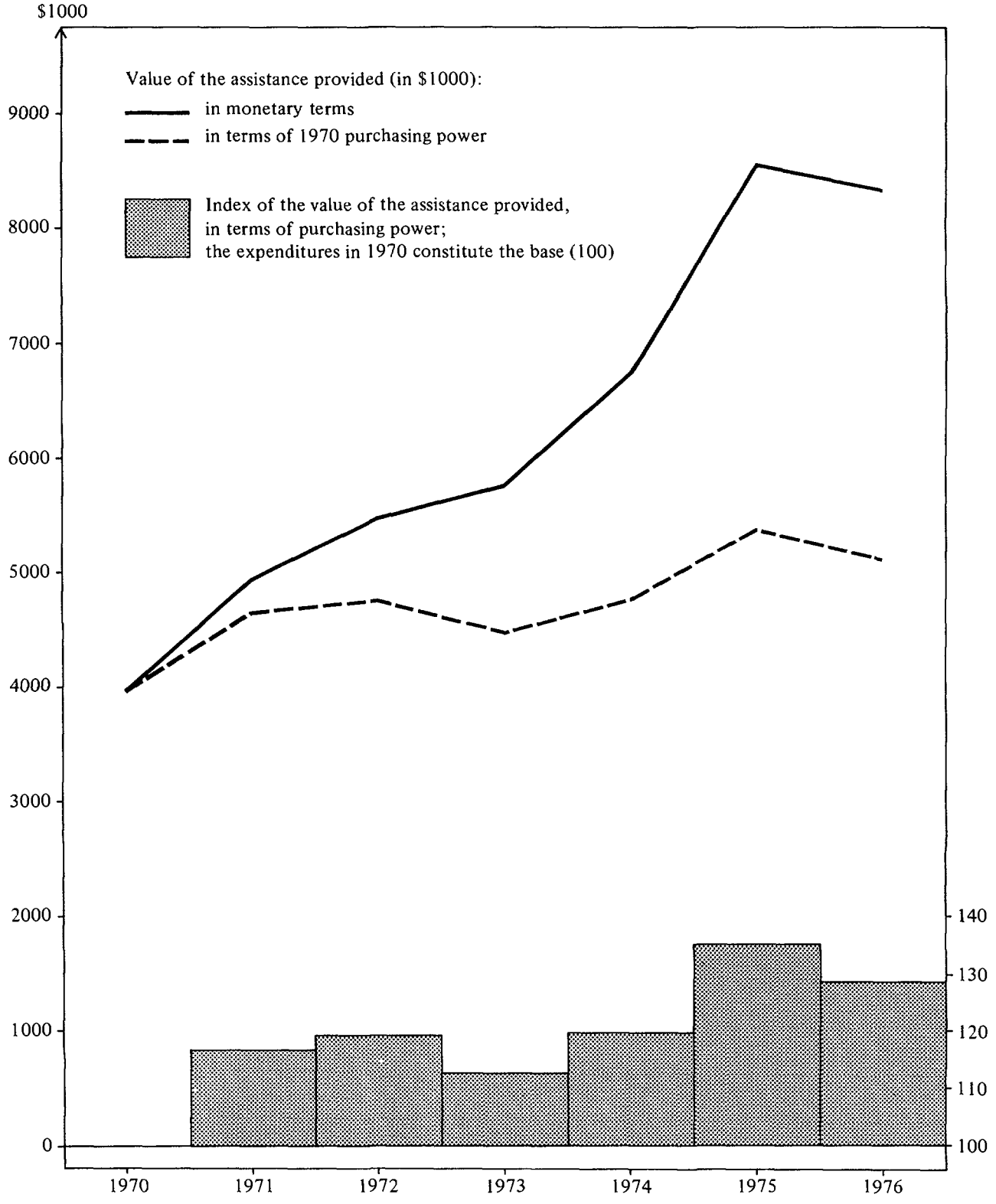
[8] Additional information is given in Annex V in respect of Type II fellowships made available to the Agency.

54. As in earlier years, regular programme expenditures and unliquidated obligations at the end of 1976 exceeded the cash resources in respect of that year's regular programme, due to the fact that the former totals also include expenditures and obligations met from funds carried over in respect of assistance being provided under the regular programme for 1975 and prior years. The type and estimated value of the assistance in kind made available to the Agency in 1976 is given - by donor - in Annex II, which also includes information on assistance to projects included in the 1976 regular programme, but which could only be implemented if additional funds or services became available, or in substitution for other approved requests for which funds were available.

55. Any increase in the cash and in-kind resources made available for the Agency's regular programme and the assistance financed by UNDP is, in part, offset by inflation and negative fluctuations in the value of the currencies placed at the Agency's disposal. The effect of the erosion in the purchasing power of the resources made available to the Agency is shown in Figure 1B. The data given in Figure 1B reveal that as compared with $1000 of assistance provided in 1970, $1000 of Agency aid was worth, for example, $864 in 1972, $707 in 1974 and only $614 in 1976. In spite of the depreciation in the value of these resources, it can be seen that, in terms of 1970 purchasing power, the actual increase in the value of assistance provided surpassed the 16% mark in 1971, slipped to about 12% in 1973, rose to 35% in 1975 and then fell off to 28% in 1976.

FIGURE 1B

VALUE OF THE TECHNICAL ASSISTANCE PROVIDED BY THE AGENCY: 1970–1976[a]



[a] During the Board of Governors' review of the technical assistance provided in 1976, a Governor requested that the report include an estimate of the value of the voluntary contributions pledged for 1976 and 1977 in terms of 1970 purchasing power. The accuracy of such an estimate depends on numerous variables such as when and in which currency voluntary contributions are received, and when and in which currency these funds are used to make payments. Such information, in the detail necessary to make a definitive estimate, is not readily available. Further, by 31 May 1976 only $1 687 475 had been received out of total 1976 pledges of $5 043 839 (the corresponding figures for 1977 were $1 689 972 and $5 307 332 respectively at 31 May 1977). An indication of the extent of the erosion in the purchasing power of Agency technical assistance resources since 1970 is given in paragraph 55. On the other hand, the interest income (about $0.7 million during 1971–1976 or more than 3% of the regular programme's income during that period) on short-term deposits mitigates the erosion in the purchasing power of voluntary contributions. It should also be noted that only about half of the assistance approved under the 1976 programme had been provided and the provision of assistance under the 1977 programme was in its initial stages by 31 May 1977. Taking into account the foregoing factors, it is considered that a reasonable, but not precise, estimate is that the value of $1000 of voluntary contributions for 1976 is 55–60% of the value of $1000 paid in respect of the 1970 programme; the corresponding estimate for 1977 is 50–55%.

B. DISTRIBUTION OF ASSISTANCE

1. By field of activity

56. A 1975:1976 comparison is given below of the amount of assistance provided in what were the top five fields of activity in 1976. Numerical data for all ten fields of activity are given in Figures 2A, 3A and 4A (which also include comparable data for 1975) and in Figure 5A.

Assistance by field of activity and type: 1975 and 1976
(in thousands of dollars)

Field of activity	Year	Experts	Equipment	Fellowships	Share of total programme	
		$	$	$	$	%
Application of isotopes and radiation in agriculture	1975	599.2	708.6	503.6	1811.4	21.2
	1976	541.9	626.8	520.1	1688.8	20.3
Nuclear engineering and technology	1975	357.9	493.3	593.5	1444.7	16.9
	1976	436.4	304.6	791.7	1532.7	18.4
Prospecting, mining and processing of nuclear materials	1975	848.3	378.3	132.1	1358.7	15.9
	1976	836.5	365.7	127.2	1329.4	15.9
Application of isotopes and radiation in industry and hydrology	1975	143.0	812.7	138.5	1094.2	12.8
	1976	181.5	619.6	91.0	892.1	10.7
Application of isotopes and radiation in medicine	1975	175.3	218.7	289.9	683.9	8.0
	1976	167.6	317.1	295.7	780.4	9.4
Total	1975	2123.7	2611.6	1657.6	6392.9	74.8
	1976	2163.9	2233.8	1825.7	6223.4	74.7
Total assistance	1975	2854.0	3387.7	2311.0	8552.7	100.0
	1976	2878.9	2910.7	2541.0	8330.6	100.0

2. By region and country

57. Information on the distribution of technical assistance by region is summarized in Figures 5A and 5B. As in each of the years 1970-1976, more countries in Africa - namely, 19 - received Agency assistance than in any other region; 17 States in Latin America and 15 in Asia and the Pacific received country programme assistance from the Agency in 1976, followed by the regions of Europe and the Middle East with 12 and 6 country programme recipients respectively. Three additional countries - two in Africa and one in Europe - participated in the Agency's programme of intercountry short-term training projects, but did not receive country programme assistance.

58. In 1976, 72 countries received technical assistance from the Agency, as compared with 77 countries in 1975. Including those which acted as hosts for short-term training projects and scientific visits, 25 countries both received and provided assistance as in 1975; 19 countries provided but did not receive technical assistance in 1976 (20 in 1975), and 47 countries were recipients only (52 in 1975). Thus 91 countries (97 in 1975) participated in the Agency's technical assistance programme in 1976. Figures 2B, 3B and 4B and Table 3 show the extent to which skills and knowledge were exchanged between countries.

3. By type of assistance

59. As shown in Figure 6, the distribution of technical assistance in 1975, 1976 and over the period 1967-1976 by type, was as follows:

Period	Experts	Equipment	Fellowships
1975	33%	40%	27%
1976	35%	35%	30%
1967-1976	34%	35%	31%

The growing number of Agency-executed UNDP large-scale projects, which frequently have substantial equipment components, has accelerated the trend of allocating a gradually increasing share of funds for the provision of equipment. The average share of the total assistance provided that was devoted to equipment was 29% over the ten-year period 1963-1972, 32% over the period 1965-1974 and has now reached the 35% mark, which reflects a steady increase.

(a) Experts, lecturers and visiting professors

60. In 1976, 297 experts, lecturers and visiting professors from 32 countries and seven international organizations served a total of 729 man-months at a cost of $2 878 900; the comparable data for 1975 are: 341 experts, lecturers and visiting professors from 35 countries and six international organizations provided 844 man-months of assistance at a cost of $2 854 600. In addition, unliquidated obligations and assistance in kind outstanding at 31 December 1976 totalled $728 800 for expert services. Twenty experts each served in two countries, six experts each served in three countries, one expert served in four countries, one expert served in five countries and 146 experts were assigned to one country only. A total of 57 countries (52 in 1975) were provided with country programme experts and visiting professors, and an additional 123 experts and lecturers (133 in 1975) assisted nine intercountry projects (35 partly cost-free and 36 cost-free experts and lecturers were provided, as compared with 53 partly cost-free and 27 cost-free experts and lecturers in 1975). Experts' final reports and similar reports which became available in 1976 are listed in Annex IV.

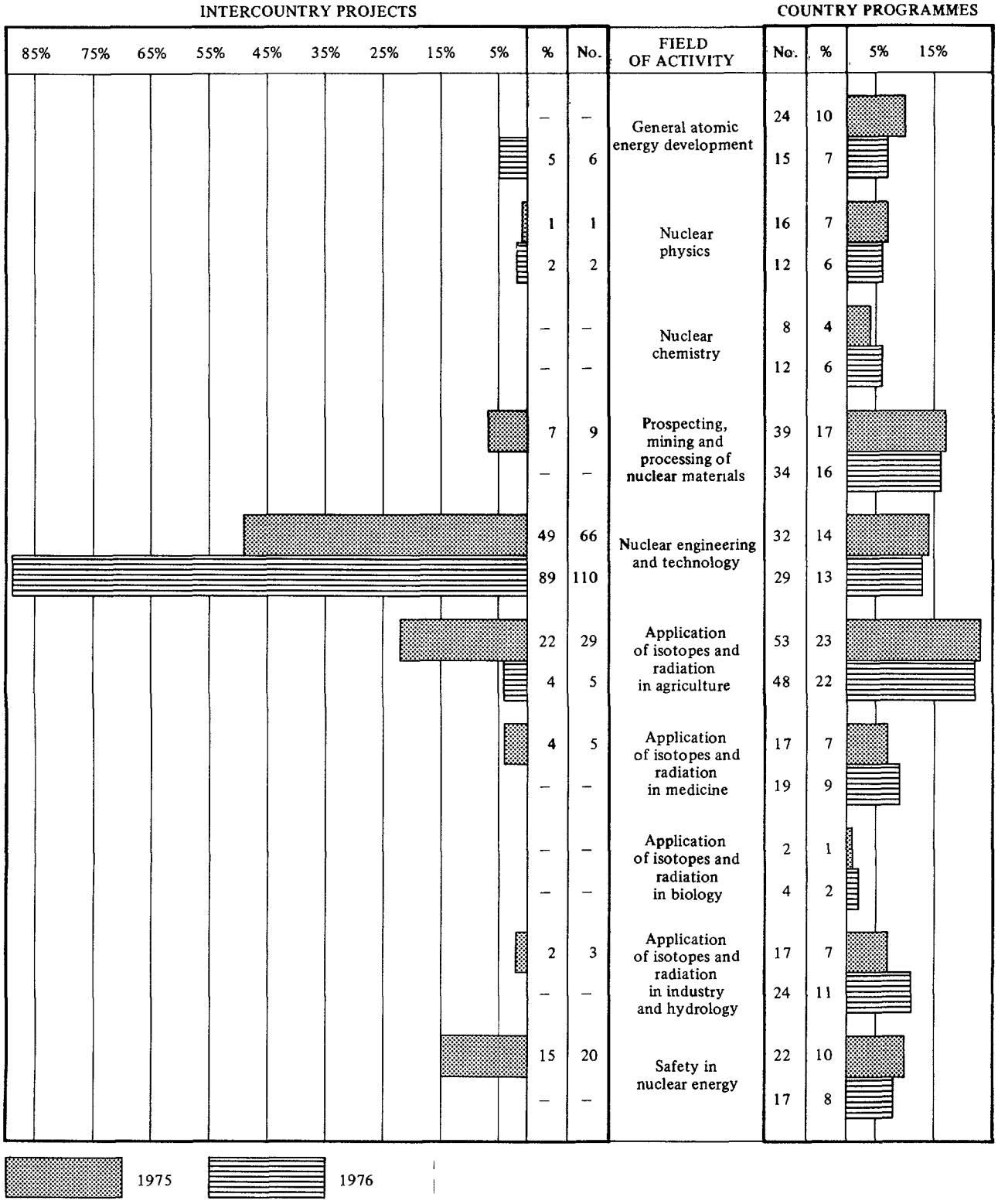
(b) Equipment and supplies

61. Including the value of grants of equipment delivered during 1976, 57 countries and nine intercountry projects (58 and seven respectively in 1975) were provided with equipment and supplies to a value of $2 910 700, which represents a decrease of one seventh, compared with the amount of $3 387 700 provided in 1975. An additional amount of equipment and supplies valued at $2 341 100 was still outstanding at the end of the year; this amount is included in the figures given in columns (9) and (10) of Tables 4, 7 and 8.

62. As in previous years, the need to spread the purchase of technical assistance equipment and supplies over a large number of Member States continued to be recognized. In 1976, those items were procured in 23 countries (in 1975, in 22 countries), as shown in Figure 3B, which also includes financial data in respect of equipment grants.

FIGURE 2A

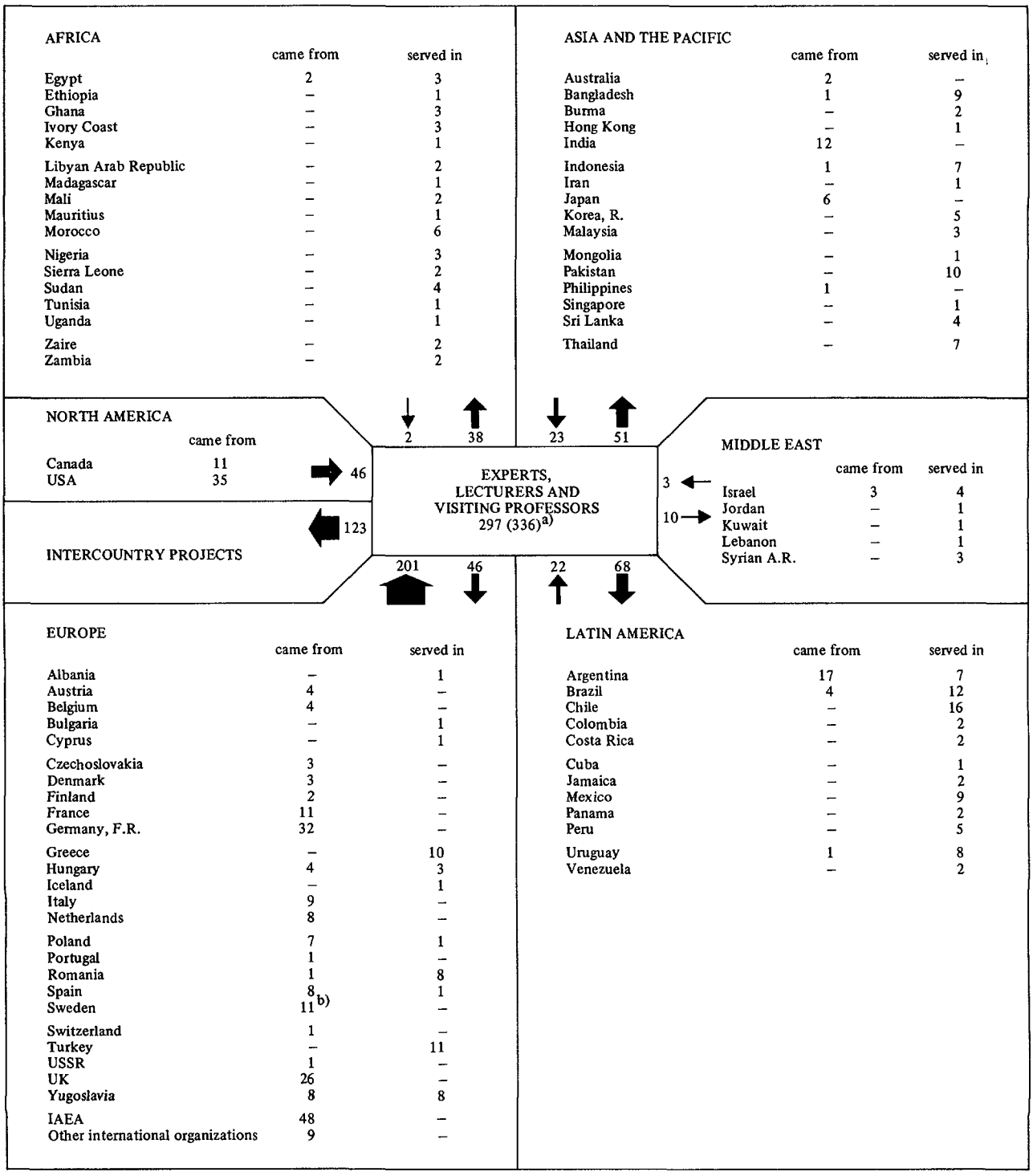
DISTRIBUTION OF EXPERT SERVICES BY FIELD OF ACTIVITY: 1975 and 1976



Note: The figures in the columns above indicate the distribution of expert assignments and the corresponding percentage share, by field of activity, of the total expert services provided. In respect of 1976 the total number of experts shown by field of activity (337) exceeds the total number of assignments (336, as reflected in Figure 2B) due to the fact that one expert worked on projects in two different fields in the same country during one assignment.

FIGURE 2B

DISTRIBUTION OF EXPERT SERVICES BY REGION: 1976

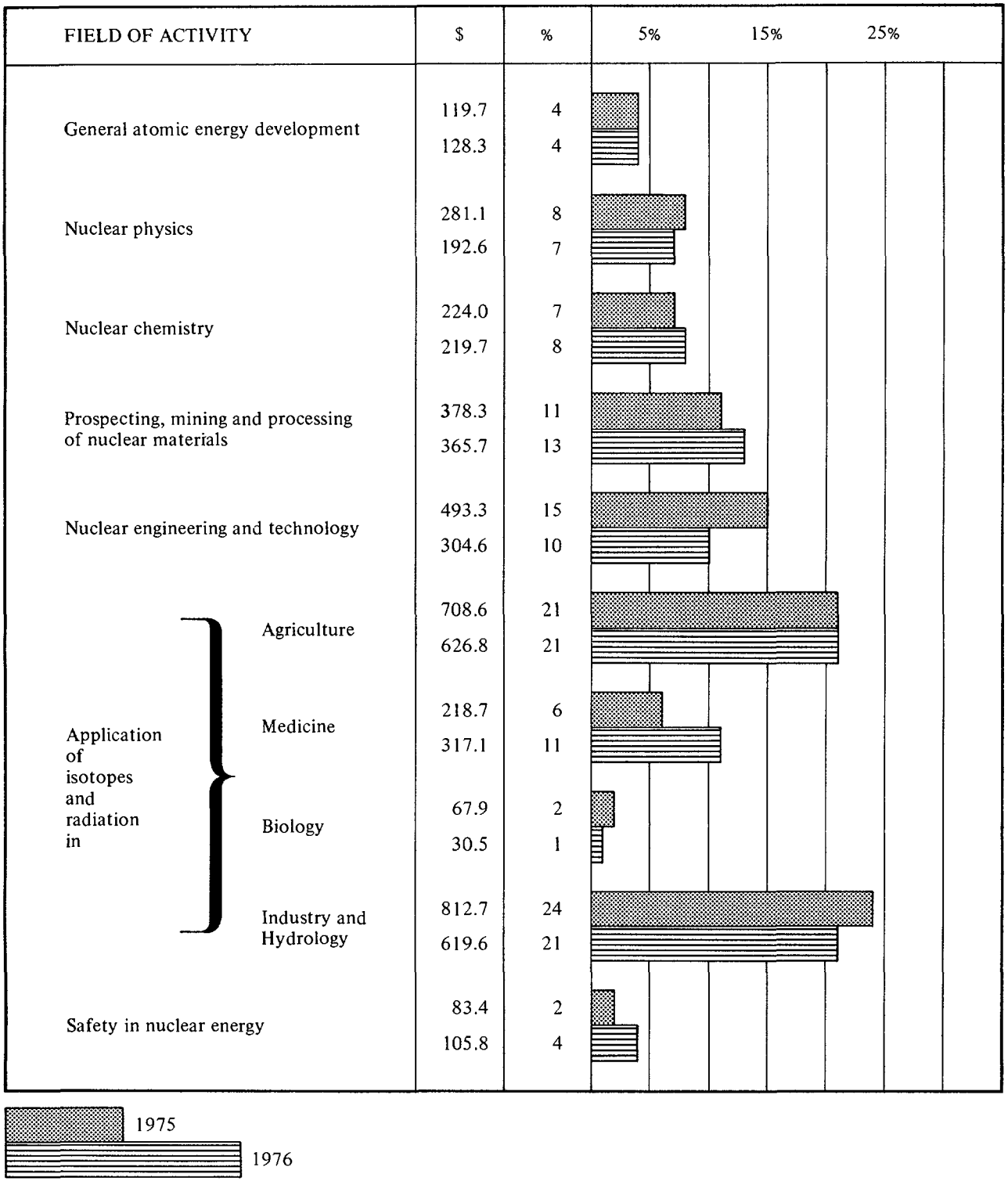


a) The difference between the number of assignments (336) and the actual number of experts (297) is due to the fact that each of 20 experts served in two, six in three, one in four, and one in five different countries.

b) Includes four experts who served in connection with SIDA-financed country programme assistance: from India, one; Sweden, one; IAEA, two.

FIGURE 3A

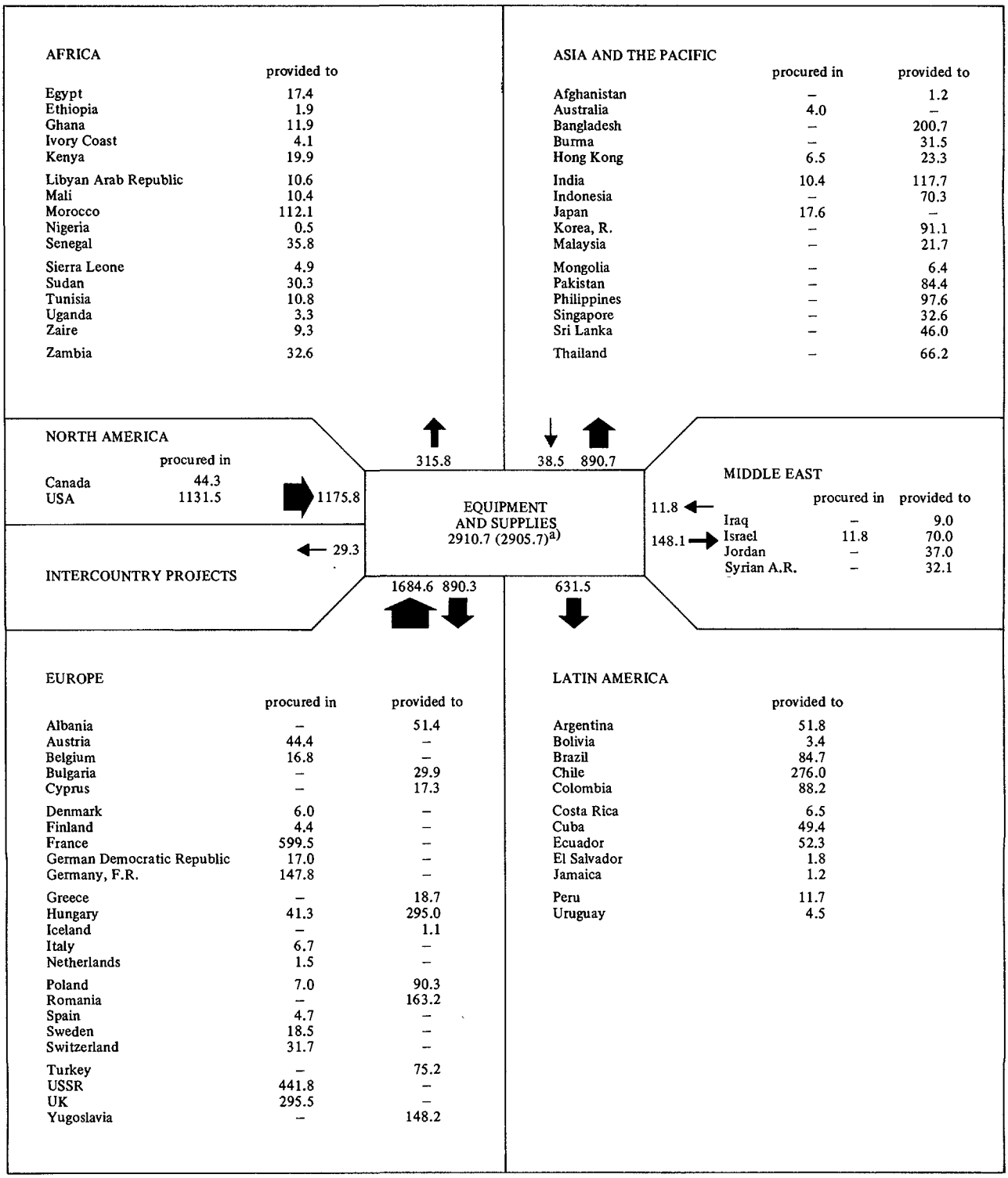
DISTRIBUTION OF EQUIPMENT BY FIELD OF ACTIVITY: 1975 and 1976
(in thousands of dollars)



Note: The figures in the second and third columns of the chart indicate the value (in thousands of dollars) of equipment and the corresponding percentage share, by field of activity, of the total equipment provided.

FIGURE 3B

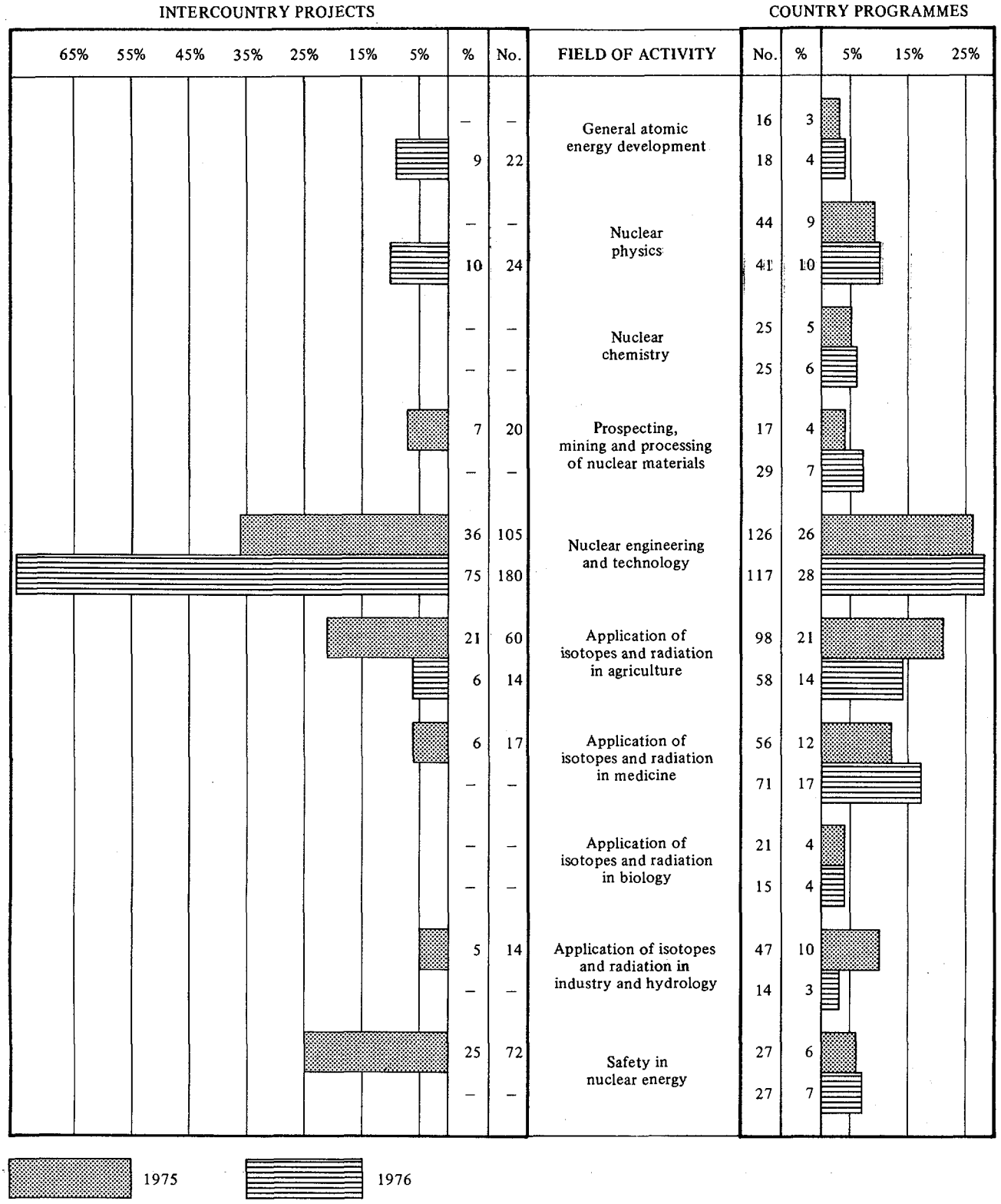
DISTRIBUTION OF EQUIPMENT BY REGION: 1976
(in thousands of dollars)



a) Does not include miscellaneous charges amounting to $5000.

FIGURE 4A

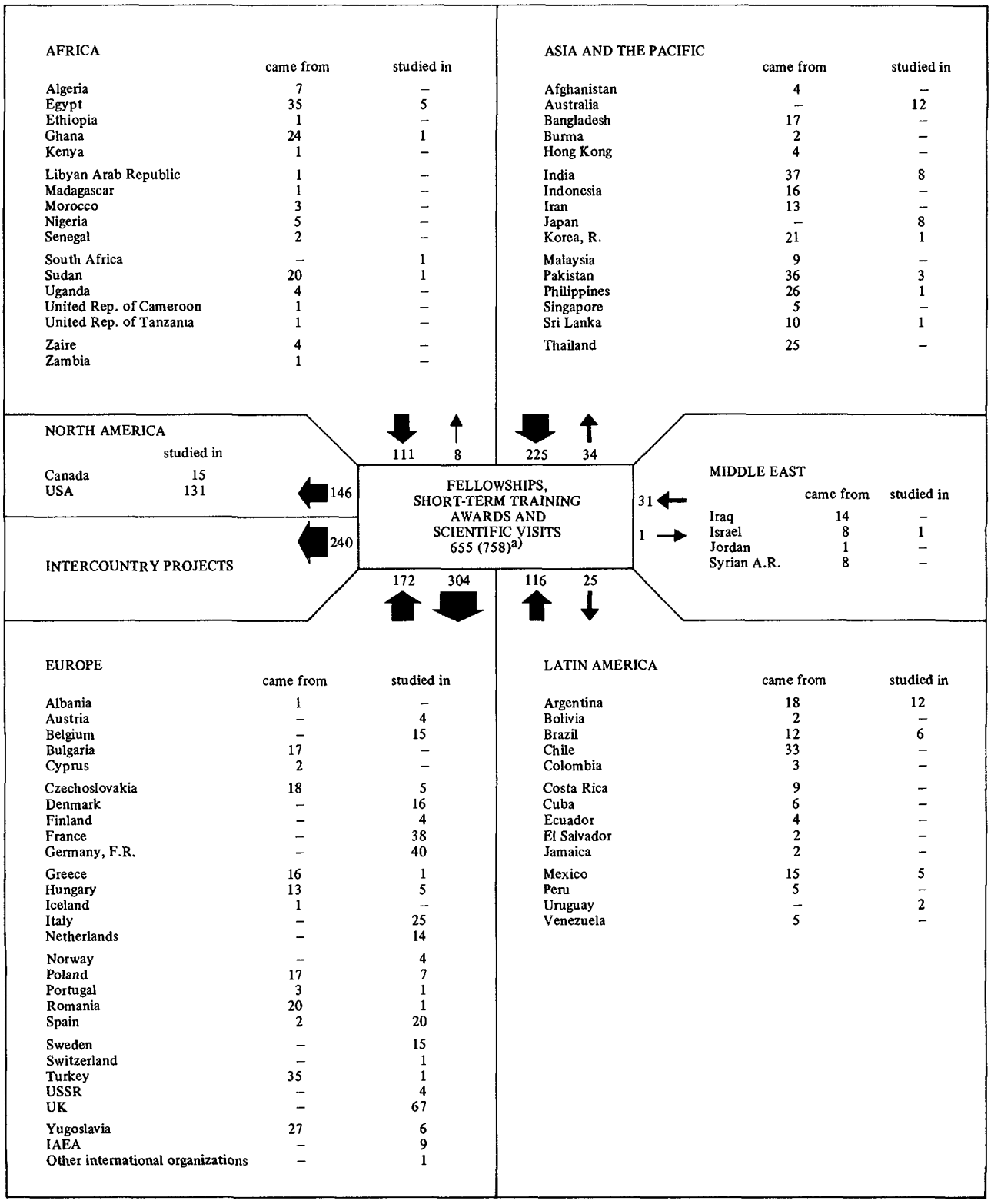
DISTRIBUTION OF FELLOWSHIP AWARDS BY FIELD OF ACTIVITY: 1975 and 1976.



Note: The figures in the columns above indicate the number of fellowship awards and the corresponding percentage share, by field of activity, of the total number of fellowships awarded.

FIGURE 4B

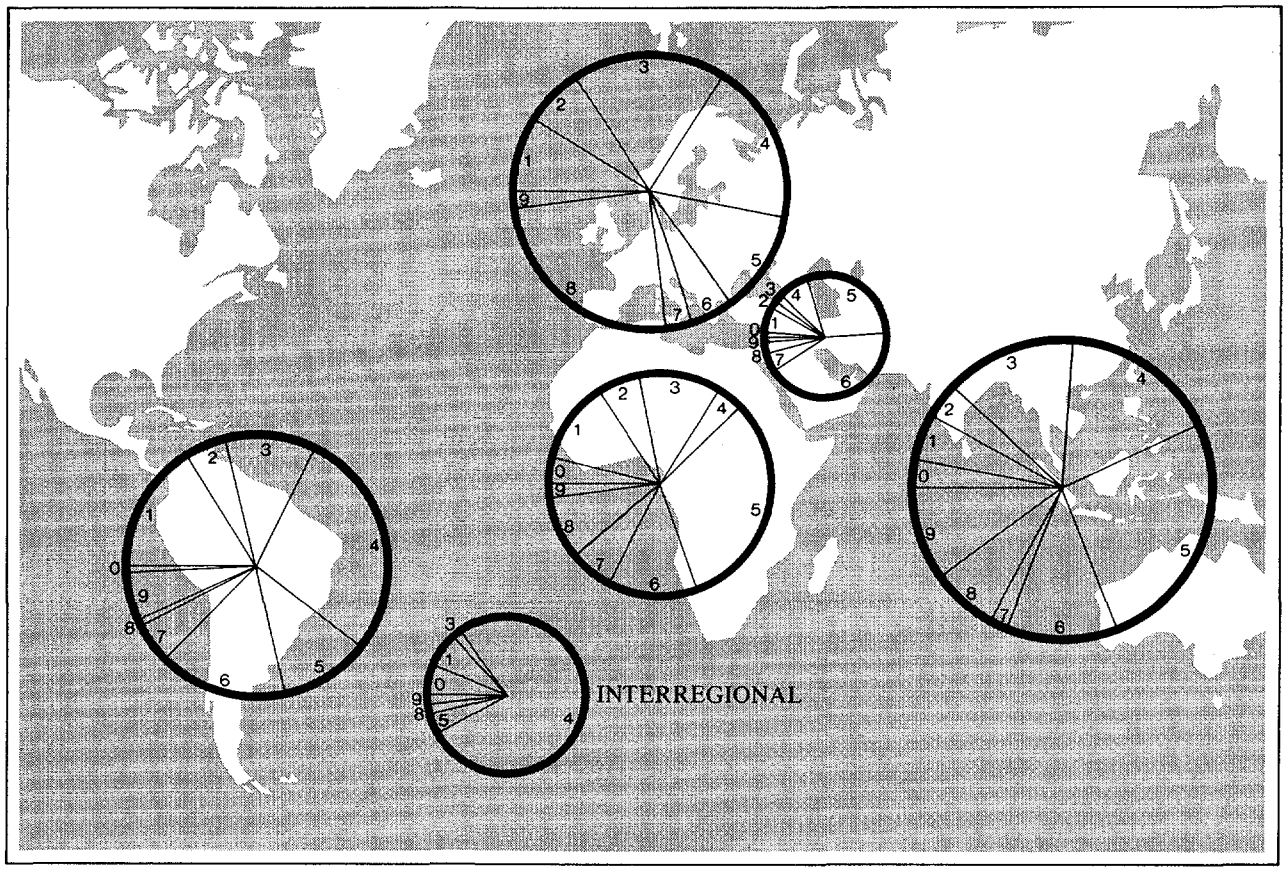
DISTIBUTION OF FELLOWSHIP AWARDS BY REGION: 1976



a) The difference between the number of awards (655) and the number of places of study (758) is due to the fact that nine fellows studied in two, nine in three and one in eight different countries, whereas five holders of awards for scientific visits went to two, 12 to three, six to four, three to five and two to six different countries.

FIGURE 5A

DISTRIBUTION OF TECHNICAL ASSISTANCE BY FIELD AND REGION: 1976[a/]



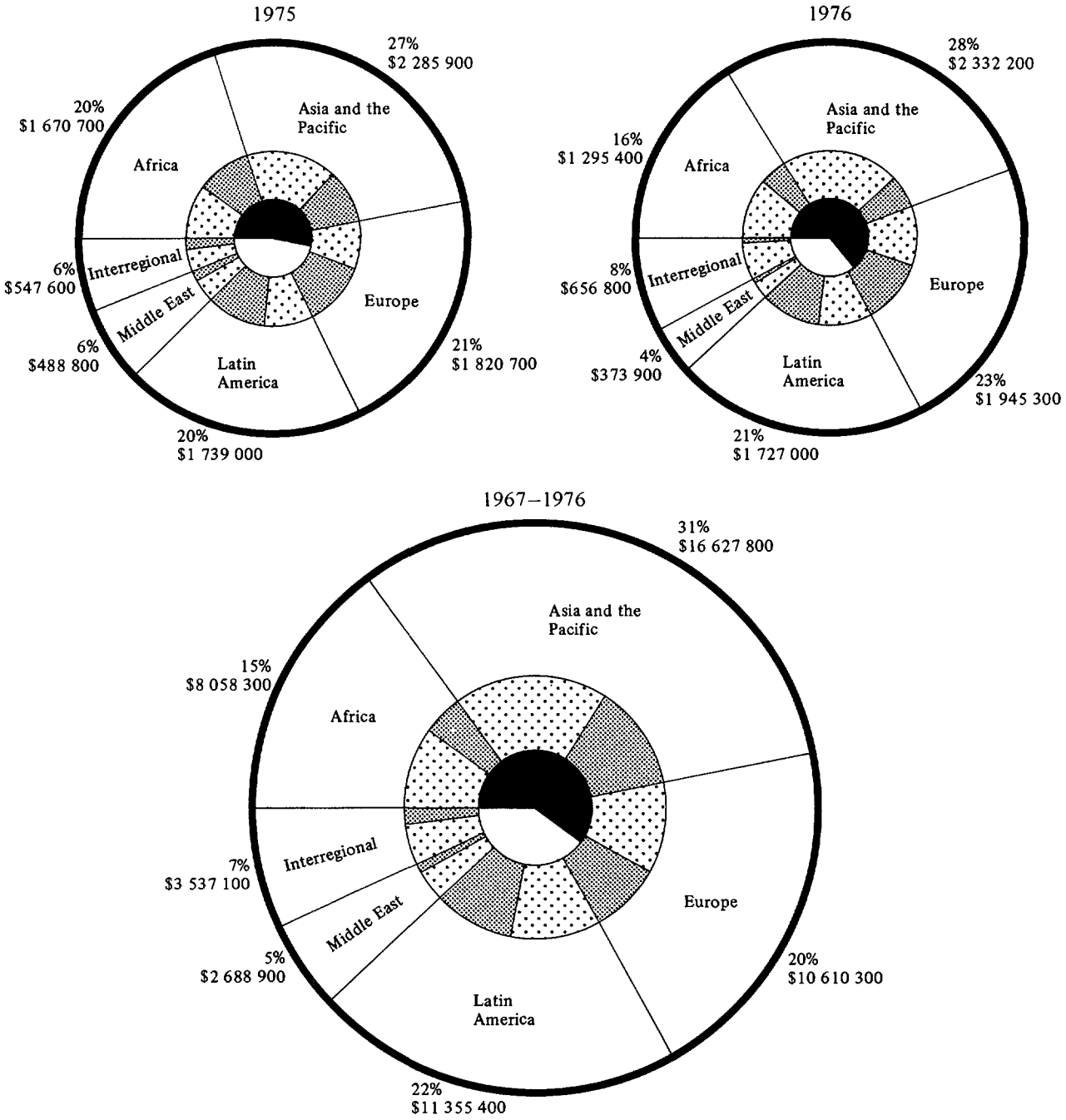
SUMMARY

Field of activity		Africa %	Asia and the Pacific %	Europe %	Latin America %	Middle East %	Inter-regional %	All regions %
0 - General atomic energy development		4	3	–	16	1	6	5
1 - Nuclear physics		12	5	9	5	7	7	7
2 - Nuclear chemistry		6	4	7	11	2	–	6
3 - Prospecting, mining and processing of nuclear materials		12	14	18	28	2	2	16
4 - Nuclear engineering and technology		4	17	19	11	8	77	19
Application of isotopes and radiation in	5 - Agriculture	32	26	12	16	29	4	20
	6 - Medicine	13	12	5	5	42	–	9
	7 - Biology	6	2	3	1	5	–	3
	8 - Industry and Hydrology	9	7	25	6	3	2	11
9 - Safety in nuclear energy		2	10	2	1	1	2	4
		100%	100%	100%	100%	100%	100%	100%

[a/] For each region, the relative monetary value of the technical assistance provided by the Agency is denoted by the size of the circle superimposed over the region on the map. The size of the segments in each circle indicates the share of total assistance given in the various fields of activity.

FIGURE 5B

DISTRIBUTION OF TECHNICAL ASSISTANCE BY REGION AND SOURCE
(1975, 1976 and 1967–1976)

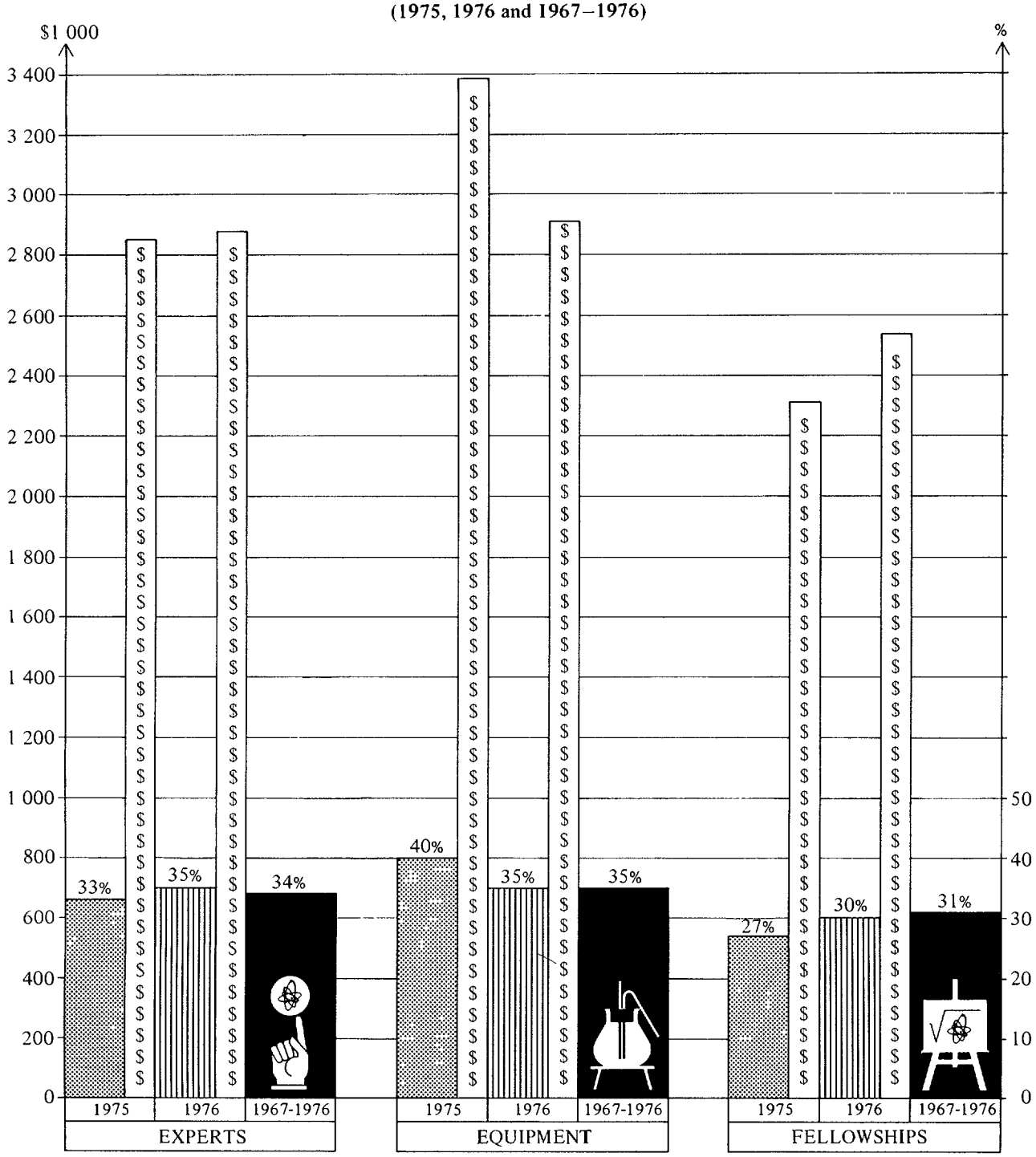


LEGEND (distribution of technical assistance by source):

INNER RING	(regional distribution)	INNER CIRCLE	(overall distribution)	1975	1976	1967-1976
	Regular programme		Regular programme	53.5%	64.0%	59.6%
	UNDP		UNDP	46.5%	36.0%	40.4%

FIGURE 6

DISTRIBUTION OF TECHNICAL ASSISTANCE BY TYPE OF ASSISTANCE
(1975, 1976 and 1967–1976)



TYPE	1975		1976		1967-1976	
	%	$1 000	%	$1 000	%	$1 000
EXPERTS	33	2 854.0	35	2 878.9	34	18 218.2
EQUIPMENT	40	3 387.7	35	2 910.7	35	18 221.9
FELLOWSHIPS	27	2 311.0	30	2 541.0	31	16 437.7
TOTAL	100	8 552.7	100	8 330.6	100	52 877.8

Note: Fellowships include participants in short-term training projects.

(c) Fellowships

63. A total of 655 candidates from 60 countries received awards under the training programme in 1976 (see Figure 4B and Tables 3 and 6) as against 765 candidates from 70 countries in 1975. The number of man-months of training awarded was 4036 in 1976 as against 4200 in 1975. The lower number of fellowship award holders in 1976 was due mainly to decreases in the number of awards for participation in short-term training projects (240 awards in 1976 and 288 in 1975) and in the awards for individual study under Agency Type I and UNDP-financed fellowships (169 and 76 awards respectively in 1975 as compared with 118 and 53 awards respectively in 1976).

64. Due to the large number of award holders under prior years' programmes who studied in 1976, the value of the training provided by the Agency in 1976 is the highest on record for any one year, namely, $2 541 000, as compared with $2 311 000 in 1975. The 1976 total does not include the unliquidated obligations and assistance in kind outstanding (Type II training not yet completed, or not yet begun) as at 31 December 1976, amounting to $2 313 400. This amount is more than $150 000 higher than the combined total of these two items at the end of 1975 and holds promise of a training programme amounting to about $2 800 000 in 1977.

65. A comparison of the nominations and awards for country programme fellowships in 1975 and 1976 and of all technical assistance awards made during these two years is given below. The number of country programme awards fell by one seventh, whereas the number of scientific visit awards and those for short-term training projects decreased by about 8% and 17% respectively.

Country programme awards	1975	1976
Nominations received	571	513
Effective awards [9]	439	380
Percentage of nominations which led to effective awards	76.9%	74.1%
Intercountry programme awards		
Scientific visits	38	35
Short-term training projects	288	240
Total awards	765	655

66. The decrease from 76.9% in 1975 to 74.1% in 1976 in the percentage of nominations which led to effective country programme awards is nominal and due primarily to the fact that the qualifications of candidates were similar in quality in 1975 and 1976. Numerous candidates were not selected because they were under- or over-qualified for the training requested, their knowledge of the foreign language in which the training abroad would have been given was not satisfactory, the training requested was not related to the peaceful application of nuclear energy, or because their candidature was withdrawn and, thus, they were not available to take up fellowship awards.

(d) Regional and interregional activities

67. In 1976, the Agency conducted nine intercountry training projects in ten different countries, in which there were 263 participants from 55 different countries. The cost of

[9] Total number of awards less withdrawals after award as at 31 December 1975 and 31 December 1976, respectively.

attendance of 240 participants from 46 countries was paid out of project funds (cash and in-kind resources under the Agency's regular programme and under UNDP); the cost of attendance of 23 participants, including seven nationals of host countries, was borne by another organization or programme or by the participant's Government. The statistical figures and financial tables in this report include short-term training project data only in respect of the 240 awards financed from Agency resources.

68. Five of the nine intercountry training projects related to nuclear power development; in addition there was one project in the use of low-energy accelerators, one project in the use of nitrogen-15 in soils research, one project in the use and maintenance of nuclear and related electronic equipment, and one project in accounting for and controlling nuclear materials. Further details on the location, attendance, financing, etc. of these projects are given in Annex III.

(e) Follow-up missions

69. In 1976 nine one-man missions were sent to the regions to determine needs and discuss development plans with requesting countries; 19 countries were visited.

C. UNDP LARGE-SCALE ASSISTANCE ACTIVITIES

1. General

70. The modest "seed money" technical assistance of the regular programme type provided in small instalments over the years, to satisfy needs which Governments could not meet for lack of funds, has strengthened institutions in the recipient countries and enabled them to make a larger contribution towards economic and social development in their respective countries. In numerous cases these institutions are being selected to become the Government's counterpart organization to the Agency for the purpose of implementing UNDP large-scale assistance to projects in the developing countries. Designed to make an early impact in the recipient country, this large-scale assistance provided through the Agency is primarily of the pre-investment type or is for the demonstration of nuclear techniques and modern technology, or involves a combination of both of these. Projects for which pre-investment assistance is provided through the Agency include power surveys as well as projects such as those involving the radiosterilization of medical supplies or the prospection for and evaluation of national nuclear raw materials resources. The latter projects also involve the demonstration of nuclear techniques and technology; examples of projects of this type for which the Agency has provided large-scale assistance are the nuclear research projects in agriculture in Brazil, India (completed in 1974), Indonesia, Morocco (interrupted in 1976 due to UNDP's financial difficulties) and in Yugoslavia (completed at the end of 1966), and the non-destructive testing centre in Argentina. The importance of large-scale assistance in the overall technical co-operation activities of the Agency can be seen from the following comparison: ten years ago the large-scale assistance provided by the Agency totalled $337 100 or less than 13% of the total assistance provided in 1967, as against $2 278 100 or about 27% of the total assistance provided in 1976 (compared with $2 696 000 or about 32% in 1975). Details are given below of the large-scale assistance currently being provided through the Agency with a view to bringing up to date the information provided in last year's report [10].

2. National centre for non-destructive testing (NDT) and quality control in Argentina

71. During the first half of the year most of the work involved the reorganization of the project and a rephasing of UNDP's assistance to it. A project adviser was appointed by the Agency and, upon his initiative, a revised project document was prepared, in which the project's objectives were updated to reflect the change in emphasis which has taken place in

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[10] GC(XX)/INF/161, paras 65-83.

Argentine industry, and especially to reorient the project towards providing services for the country's nuclear power programme. The Agency's counterpart in Argentina, the National Atomic Energy Commission (CNEA), is meeting most of its obligations on schedule, although the institutional framework of the project has not yet been formalized. Responsibility for the day-to-day supervision of the project has been delegated to a local Project Director, who manages the activities of the NDT group in a competent manner in the absence of a resident Project Manager appointed by the Agency. The NDT group's contacts with industry have increased, some counterparts have commenced their fellowship training abroad, and the recruitment of experts has been initiated. The mobile laboratory has been delivered and is now functional. Considering the overall financial limitations on staff, equipment and expenditure that constitute CNEA's counterpart contributions, good progress is being made.

3. Application of nuclear technology in agriculture in Brazil

72. Steady progress is being made in all areas of activity at the Centre of Nuclear Energy in Agriculture (CENA) in spite of the substantial cut made in the UNDP budget which has slowed down project implementation, particularly affecting the fellowship component and the provision of expendable supplies. Nevertheless, various research programmes are already showing beneficial results from the training received abroad by several counterpart staff who have returned home. The following research programme achievements are noteworthy: in plant breeding, the bean (Phaseolus vulgaris) mutant tolerant to Golden Mosaic [11] is being crossed with other varieties with the objective of transferring this tolerance; seed has been supplied to other institutes in Brazil as well as in other countries in South and Central America; also, short-straw, rust-resistant wheat mutants are being tested which appear to be promising; in entomology, the first results of the study of the sugar-cane borer, Diatraea saccharalis, indicate that controlling the borer, that is, reducing the population to about 11-12% at the critical period of the year can result in a 10% crop-yield increase; the programme in stable-isotope analysis, calling for the application of isotope-ratio techniques to environmental problems, is making progress in clarifying the nitrogen and carbon cycles in the Amazon forest and in littoral vegetation; another trial has confirmed that non-symbiotic nitrogen-fixation takes place in association with sugar cane; the analytical chemistry laboratory has expanded its operations and its services to the other sections at CENA; isotope hydrology work in Amazonia confirms that about 50% of the rainfall is recycled within the area, a finding of great importance in relation to the settlement and deforestation of the basin, as too great a removal of vegetation could result in irreversible climatic changes - supporting a theory that had been previously advanced; in mid-year the collaborative project carried out at Manajo Island to investigate the salinity of subterranean aquifers was terminated after two years' sampling and ground-water data obtained in the Brazilian northeast have been analysed; and in animal science, phosphorus, copper, cobalt and iodine mineral deficiencies in cattle have been confirmed. Further to last year's report, CENA has now been formally designated as the first specialized centre of the University of the State of São Paulo.

4. Technological applications of nuclear energy in Chile

73. Good progress is being made: plans were elaborated for the construction of a multi-purpose irradiation plant which, when constructed, will be operated in conjunction with the research reactor; contacts were established to co-ordinate efforts between Chile and Argentina in the production of isotopes; the mass-spectrometry laboratory was put into routine operation; and a co-operative scheme was developed with another UNDP-assisted project, "Water resources development in the Norte Grande of Chile", regarding the use of isotopes in hydrological studies in the northern part of Chile. Also, in collaboration with the Nuclear Energy Commission of Spain, training courses were conducted for the local staff in various fields.

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[11] A disease referred to in last year's report, GC(XX)/INF/161, para. 66.

5. Uranium prospecting in Chile

74. Prospecting operations in the country's seven geological areas that are considered favourable for the presence of uranium commenced on a routine basis shortly after the new Project Manager took up his duties. Air, ground and geochemical surveys have been concluded in most of the areas where uranium anomalies were known to be present. Although delay in the arrival of major items of equipment slowed down implementation during the first half of the year, this problem was resolved. Another problem was the provision of a properly-equipped chemical laboratory for the analysis of ore samples; however, the laboratory was completed in October and became operational in November. The next problem to be solved is the placement of counterpart staff at training institutes abroad. Delay in commencing this training can upset the schedule of project activities and prolong the period during which the counterpart organization is dependent on the Agency's experts for help.

6. National Centre for Radiation Technology in Egypt

75. Construction of the plant for the irradiation sterilization of medical products is in progress. During 1976, the counterpart Project Director visited similar facilities abroad, to study their organization and operation, and the Agency-provided Project Manager - among other activities - drafted a national code of practice for irradiation sterilization work. The Centre's microbiological laboratories are scheduled to be commissioned early in 1977.

7. Exploration for uranium in Central and Eastern Macedonia and Thrace (Phase II) in Greece

76. Extensive drilling operations were carried out during 1976 to facilitate a more accurate assessment of the available uranium ore reserves. Due to a reorganization of the counterpart agency, a request has been made by the Greek Government to UNDP to continue its assistance to the project for a further two years, to enable a consolidation of the training of the staff and the development of the uranium-bearing areas so far discovered.

8. Irradiation sterilization of medical products in Hungary

77. During 1976 the finishing touches were made to the plant, and the irradiation unit - complete with its biological shield - was installed. Several trial runs were conducted, before and following the loading of a 260 000 Ci cobalt-60 source, followed by a plant efficiency test that yielded satisfactory results. Commissioning of the plant is scheduled to take place in February 1977. The training of the counterpart staff continues to run parallel to other project activities.

9. Demonstration plant for the irradiation sterilization of medical products in India

78. Assistance in the form of fellowships and some major items of equipment was provided to the project in 1976.

10. Mutation breeding in Indonesia

79. Further early-maturing rice mutants have been developed that have a high-yield potential and are characterized by good resistance to diseases and pests under normal field conditions. One of these mutants is expected to replace Pelita I/1, the most widespread rice variety currently under cultivation. The training of the counterpart staff is also making satisfactory progress.

11. Radiation processing demonstration facility in the Republic of Korea

80. The cobalt-60 irradiator installed in August 1975 is now in operation for the commercial sterilization of medical products. Sufficient skilled staff is available to run the radiation sterilization project satisfactorily. Research on the quality improvement of plywood and textile products using an electron accelerator, however, had to be interrupted in view of the fact that due to faulty operation the accelerator broke down several times.

The necessary repairs were carried out, and it has been recommended that steps be taken to ensure that additional operating and maintenance staff be sent for training to acquire the knowledge necessary for the operation of the accelerator and that, once trained, those staff should be retained to help with this work.

12. Training and research in applied nuclear physics at the Faculty of Sciences (Rabat) in Morocco

81. The services of the Agency-recruited adviser to the Faculty of Sciences continued throughout 1976. The Faculty's activities also benefited from several consultant missions, resulting furthermore in a diversification of post-graduate lectures on applied neutron physics, nuclear instrumentation and neutron activation analysis, and radiochemistry. Another consultant advised on the specifications of the building designed to house an accelerator, a machine that is likely to become a focal point of project activities in the future. An associate expert was made available to the project cost-free by the Government of the Netherlands, and this expert took up his duties in late 1976.

13. Insecticidal investigation for tsetse fly eradication in Nigeria

82. The project was assisted by the Agency's expert throughout 1976, and considerable progress was achieved in the evaluation of the effectiveness of the pesticide used in the eradication programme.

14. Exploration for uranium in the Siwalik Sandstones, Dera Ghazi Khan District (Phase II) in Pakistan

83. UNDP-financed large-scale assistance to this project was completed in 1976. The Agency's experts were successful in proving modest uranium ore reserves and in training the counterpart personnel necessary to carry on the detailed exploration work. One of the important Agency-assisted project activities was the geochemical prospection work, which resulted in the discovery of three interesting uranium-vanadium anomalous areas that will be further investigated.

15. Development of nuclear technology in Romania

84. The Institute of Nuclear Technology is now well established in its new building at Pitesti-Colibasi. During 1976 the objectives of the UNDP-assisted part of the Institute's work programme had been successfully completed. The Government has requested UNDP financial aid to assist the Institute in work areas such as quality assurance, safety and the testing of reactor components, during a second phase.

16. Exploration for uranium in South-West Anatolia in Turkey

85. Extensive exploration drilling of anomalous areas and training of the counterpart staff constituted the main project activities in 1976.

17. Radiation unit for the industrial application of ionizing radiation in Yugoslavia

86. While awaiting the construction of the irradiation plant and the delivery of the components being manufactured abroad for the plant, the training of the counterpart staff has proceeded as scheduled.

D. SIDA LARGE-SCALE ASSISTANCE ACTIVITIES

1. General

87. On 19 December 1969 the Agency signed an agreement with the Government of Sweden governing the manner in which the two parties would co-operate in the provision of technical

assistance to developing countries. Furthermore, the Government of Sweden agreed to make funds available to the Agency - through the Swedish International Development Authority (SIDA) - for the implementation of mutually agreed programmes and projects[12]. In the interim the Agency has conducted eight training courses and arranged study programmes for the holders of 78 Type II fellowship awards which were financed by SIDA. In addition to providing opportunity for participation in training courses and for individual study abroad, SIDA also finances the provision of experts and equipment to certain countries and allocates the resources therefor on the basis of an "indicative planning figure", along the lines adopted by UNDP. Thus, ministries in the eligible countries submit requests for assistance through the national co-ordinating authority to SIDA, which arranges for a United Nations organization to serve as the executing agency for the assistance which has been approved. In 1974 the first case of SIDA large-scale assistance - to be provided through the Agency - was approved, and a second project of this kind is now being discussed.

2. Development of the Institute of Nuclear Agriculture in Bangladesh

88. The time-table for project activities was reviewed during 1976 and many of these were rescheduled to reflect current staffing and priorities. This review resulted in major decisions being made with regard to issues such as experimental farm layout, laboratory design, electrical-supply requirements, air-conditioning and seed-storage facilities. Some major equipment items, including a nuclear magnetic-resonance spectrometer, were commissioned; the schedule and the scope of field and laboratory experiments have also been carefully reviewed, resulting in modifications of plans and of the experiments which are now being initiated. The Institute's work programme has suffered due to a shortage of staff, whose number is now being increased. The training of counterpart staff on the job and abroad continues to be the most important project activity.

E. THE AGENCY'S REGULAR PROGRAMME OF TECHNICAL ASSISTANCE

89. As is widely known, the technical assistance provided under the Agency's regular programme is financed from the voluntary contributions of Member States and supplemented by offers of assistance in kind. On the basis of an assessment of the needs of the developing countries and the ability of donor countries to make cash contributions, the Board of Governors recommends for the approval of the General Conference the figure for the target for voluntary contributions from which the next year's regular programme should be financed. The budget in respect of each year's regular programme is divided into two parts: experts and equipment, and fellowships and training. The share of the budget allocated to experts and equipment was, for example, about 78% under the 1972, 1973 and 1974 regular programmes but has been approximately 68% during the following years; the remainder was allocated to fellowships and training. Voluntary contributions to the General Fund may be paid in United States dollars or in the currency of individual donor countries. Member States are urged to make voluntary contributions at the base rate used in determining the scale of assessments for the Regular Budget, or at a higher rate, to improve the chances that the annual target will be met. The status of voluntary contributions to the General Fund for the years 1967-1976 is given in the table below (prior to 1972 a share of these funds was also used to support non-technical assistance programme activities such as research contracts and training at the Trieste Centre).

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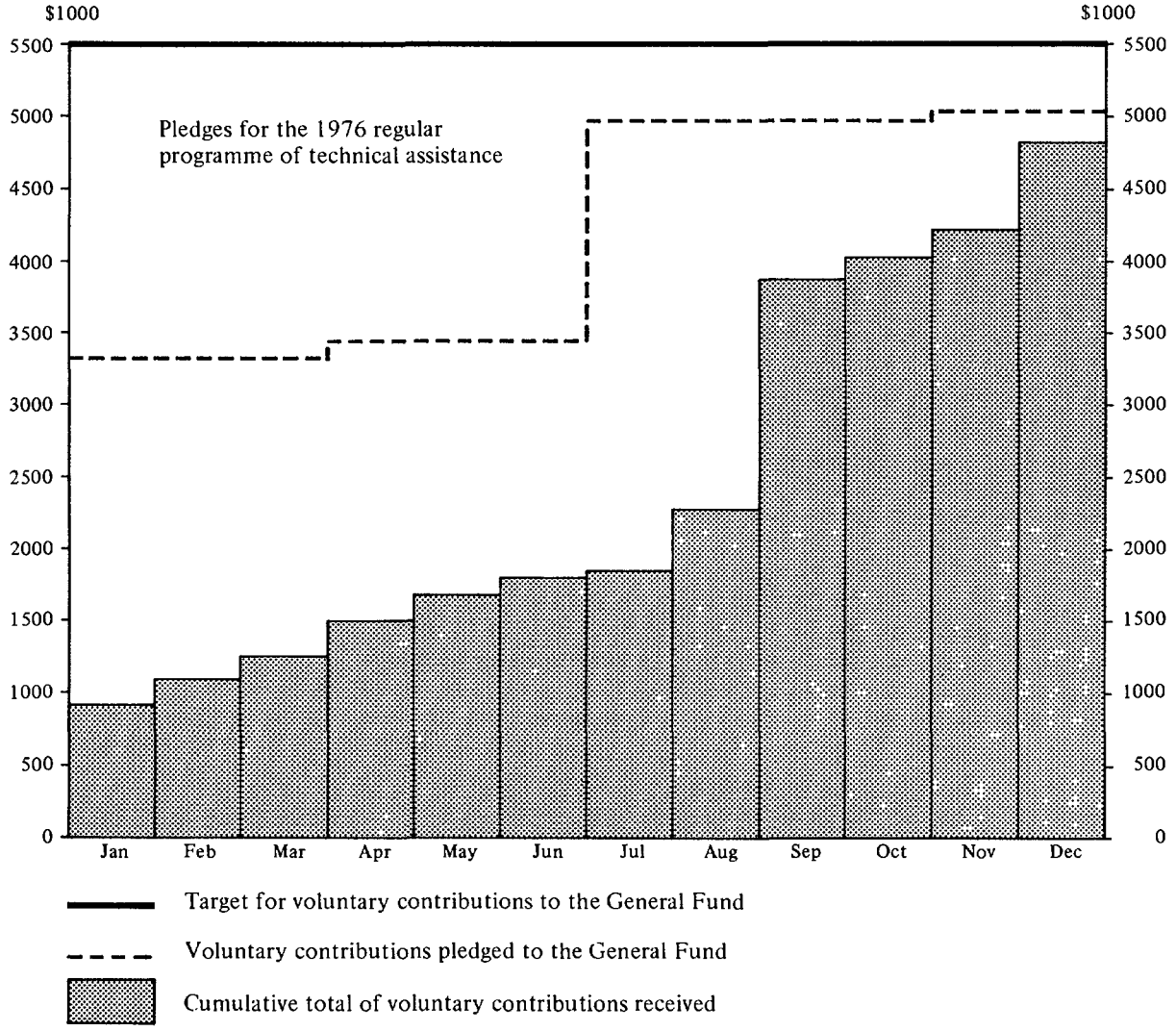
[12] The text of the agreement is reproduced in document INFCIRC/138.

Year	Established target (in millions of dollars)	Voluntary contributions pledged to the General Fund				
		Amount $	Percentage of target	Shortfall or (overrun) $	Number of Members pledging	Percentage of Members pledging
1967	2.0	1 431 823	71.6	568 177	62 of 98	63.3
1968	2.0	1 423 557	71.2	576 443	63 of 99	63.6
1969	2.0	1 488 426	74.4	511 574	68 of 102	66.7
1970	2.0	1 672 933	83.6	327 067	74 of 103	70.9
1971	2.5	2 142 675	85.7	357 325	71 of 102	69.6
1972	3.0	2 485 405	82.8	514 595	71 of 102	69.6
1973	3.0	2 847 012	94.9	152 988	70 of 104	67.3
1974[a/]	3.0	3 083 261	102.8	(83 261)	65 of 105	61.9
1975	4.5	4 219 391	93.8	280 609	75 of 106	70.8
1976	5.5	5 043 839	91.7	456 161	71 of 109	65.1

a/ It is noteworthy that in 1974, the only year in which the sum of the pledges exceeded the target, just 61.9% of the Agency's Member States made a pledge.

90. A comparison of the total pledged amounts, beginning with 1972 - when 100% of these funds was allocated to the regular programme for the first time - with the figures given in column 1a in Table 1 or in the second column in Table 5, shows that voluntary contributions are not the only source of funds for the regular programme. The additional income consists of items such as interest earned on short-term deposits, refunded value-added tax, and assessed programme costs. Although it can be seen in Table 5 that the cash resources rose from $125 000 in 1958 to $875 000 in 1959 and amounted to $5 474 000 in 1976 - the 1976 total represents a fivefold increase over the amount made available in 1959 - the effect of general increases in prices and fluctuating exchange rates has offset much of this increase.

91. As requested by the Technical Assistance Committee of the Board of Governors, a new Table A is given in Annex V, indicating Member States' base rates for purposes of the Regular Budget, their potential shares of the $5.5 million target for voluntary contributions to the General Fund for 1976 (calculated using the base rates), as well as the amounts pledged and paid by 31 December 1976. Many pledges of voluntary contributions are announced by the donor countries at the General Conference preceding the regular programme year, some are received during the programme year, and occasionally pledges are made subsequently thereto. In theory, the payment of voluntary contributions is due on 1 January of the given financial year in respect of the pledges made prior to that date. That making payment in January is not always convenient to the donor countries is shown in the following graph on the receipt of voluntary contributions in 1976, which also reflects the level of pledges of voluntary contributions for 1976.



92. To permit a clearer overview of the progress made in implementing the regular programme a new Table 5 has been included in Annex I. Table 5 shows that the technical assistance provided in 1976 from regular programme funds consisted of expenditures in respect of regular programme projects approved for the years 1970-1976. A perusal of Table 5 also reveals that the bulk of the expenditures for a given annual programme was made during the first three years.

93. Although attempts are continuously made to expedite the provision of Agency technical assistance, it is rarely possible to alter the established pattern. The constraints causing delay in implementation are related in part to the provision of expert services and the procurement of equipment. Some of the problems that occur in connection with the provision of expert services are the following: difficulty is experienced in finding a suitable expert who is available at the time and for the duration needed, the clearance of an expert candidate by the recipient Government requires the concurrence of numerous officials and may involve two or more ministries and more than six months' time, the expert's counterpart is away for training and the expert's assignment cannot commence prior to the counterpart's return, a counterpart must first be appointed and trained before the expert can take up his assignment, and some expert assignments cannot commence prior to the receipt of the associated equipment.

94. Typical problems faced in implementing the equipment component of projects are: detailed equipment specifications were not provided, procurement takes longer than usual because competitive bids must be solicited and evaluated, suppliers cannot provide some equipment items earlier than two or more years from the date of ordering, and construction of the facility in the recipient country at which the assistance is to be provided is not completed on time - making it necessary to postpone the delivery of the equipment. The factors causing delay in implementation, mentioned above, occur singly and in combination. These constraints have been discussed at length in earlier reports [13] but have not become noticeably easier to come to grips with in the interim. The co-operation of both the recipient as well as the technically advanced countries is needed, to a larger extent than before, if the Agency is expected to become more effective and quicker in implementing the assistance requested of it.

95. A subject frequently mentioned in association with the Agency's regular programme is the "unobligated balances" referred to in Statement III. A, for example, of the Agency's accounts for 1976[14]. These are the funds available for commitment in respect of approved assistance in the form of expert services and equipment which has not yet been provided for one or more of the reasons mentioned above.

96. In this same connection there are some other aspects of implementation that do not immediately meet the eye: $250 300 or some 6% of the unobligated balances referred to above represents pledges of voluntary contributions for 1976 and prior years that had not yet been received by 31 December 1976 (see Schedules B.2 and D in the accounts), $2 534 700 in voluntary contributions for 1976 - representing nearly 65% of the unobligated balances total referred to above - was only received during the last four calendar months of 1976, and $1 185 900 or 30% of the unobligated balances at 31 December 1976 constituted non-convertible and "difficult" currencies. Thus, decisions regarding increasing the implementation rate require careful consideration of the in-flow volume and the currency composition of voluntary contributions in order to ensure that the best possible use can be made thereof and that sufficient convertible currencies are on hand.

97. The question of how to make use of non-convertible currencies has become a major problem for UNDP and was discussed at length at the twenty-third session of UNDP's Governing Council in January 1977 (see the Governing Council's decision II(1) in document DP/L.316). Attention is called to paragraph 4 in the Rules Regarding the Acceptance of Voluntary Contributions of Money to the Agency which were approved by the General Conference in October 1959,[15] where it is stated that

> "Contributions shall be made in currency readily usable by the Agency consistent with the need for efficiency and economy of its operations, or shall be transferable to the greatest possible extent into currency readily usable by the Agency. To this end Governments shall be urged to make available as large a percentage as possible of their contributions in such currency or currencies as the Director General may consider usable for the execution of the Agency's programme ...."

98. The above indicates that taking special steps to increase the regular programme implementation rate must be accompanied by full consideration of the capability to finance such increases.

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[13] GC(XVII)/INF/142, paras 42, 43 and 58, and GC(XVIII)/INF/148, paras 58-60 and 63.

[14] GC(XXI)/581.

[15] INFCIRC/13.

Part III. TRENDS AND CONCLUSIONS

99. The energy crisis precipitated by the significant increase in the cost of crude oil, beginning late in 1973, has made a decided impact on the Agency's work, including its technical assistance programme. Although many oil-importing countries have experienced balance-of-payment difficulties, the developing countries with no sizable reserves of electrical-energy-generating resources have suffered the most from the rises in oil prices. The prospects of cheaper energy have prompted the Governments of a growing number of developing countries to give high priority to the construction of nuclear power plants. The same reasons stimulated the search for and the exploitation of nuclear raw materials. The Agency is doing what it can to assist countries to plan and carry out their nuclear power programmes in an effective and efficient manner, emphasizing the need for an adequately-qualified infrastructure. In paragraphs 8-32 above, some of the special risks facing the developing countries have been identified. The Agency is convinced that these problems cannot be solved by the importing countries unless they are given sufficient help by the reactor supplier countries. Nuclear reactor safety is no longer a local problem but a major concern of the entire international community. It is certain that new methodologies will have to be devised that will ensure satisfactory technical co-operation, possibly with Agency involvement, among importing and supplier countries.

100. Over the years the small amounts of technical assistance available from the Agency have helped to strengthen the capability of research institutes and university departments, as have the research contract support and the advisory services provided and financed under the Agency's Regular Budget. The role played by the Agency's regular programme in making "seed money" available to introduce and support research work involving the practical applications of atomic energy does not always receive adequate recognition. There are numerous promotional activities of the Agency which are in their infancy in some developing countries. Until such time as these activities are well established and able to produce concrete results of value to the local economy, there is little likelihood that the nuclear research institutes involved in this type of work will attract a significant share of the aid available through multilateral technical co-operation organizations, such as UNDP. UNDP's mandate is to provide assistance that will directly lead to socio-economic development of the recipient country. Although this ultimate goal is obviously central to the Agency's regular programme of technical assistance as well, it has been realized that due to its specialized nature the Agency is also able to provide assistance to those activities where the impact on development is potential rather than immediate or directly visible. Thus, some regular programme assistance may help to create and sustain the capability needed for research work even if it is difficult to quantify the impact on socio-economic development in the short term. Without losing sight of the basic philosophy of development and the developmental priorities of the countries concerned, the Agency considers it appropriate to continue to respond to requests for small amounts of assistance of this nature.

101. While in many cases it is difficult to measure the impact which Agency technical assistance makes on socio-economic development in the recipient countries, in others this contribution is more readily identifiable. This is especially so in respect of large-scale UNDP assistance provided through the Agency, such as to the demonstration projects involving the use of ionizing radiations in agriculture, as well as for the sterilization of medical products and for other industrial processes. Although the assistance provided by the Agency in these areas will continue to be of importance, it is likely to be overshadowed by the planning and manpower training projects required in connection with the introduction of nuclear power and related technologies.

102. Having completed 19 years of providing technical assistance, the Agency is in a good position to review the progress made, determine the need for the modification of procedures to improve its efficiency and flexibility, as well as to ready itself for the tasks it will be called upon to perform in the foreseeable future. It has become apparent that the rate at which technical assistance can be absorbed, especially in the nuclear field, differs

vastly from country to country. Of the 98 countries that have received country programme technical assistance from the Agency since 1958, only 16 or one sixth have received more than $1 million in aid (Table 8); these are the more populous developing countries which are now relatively highly advanced in the nuclear field. On the other hand, 36 developing countries have received less than $250 000 of Agency technical assistance from all sources.

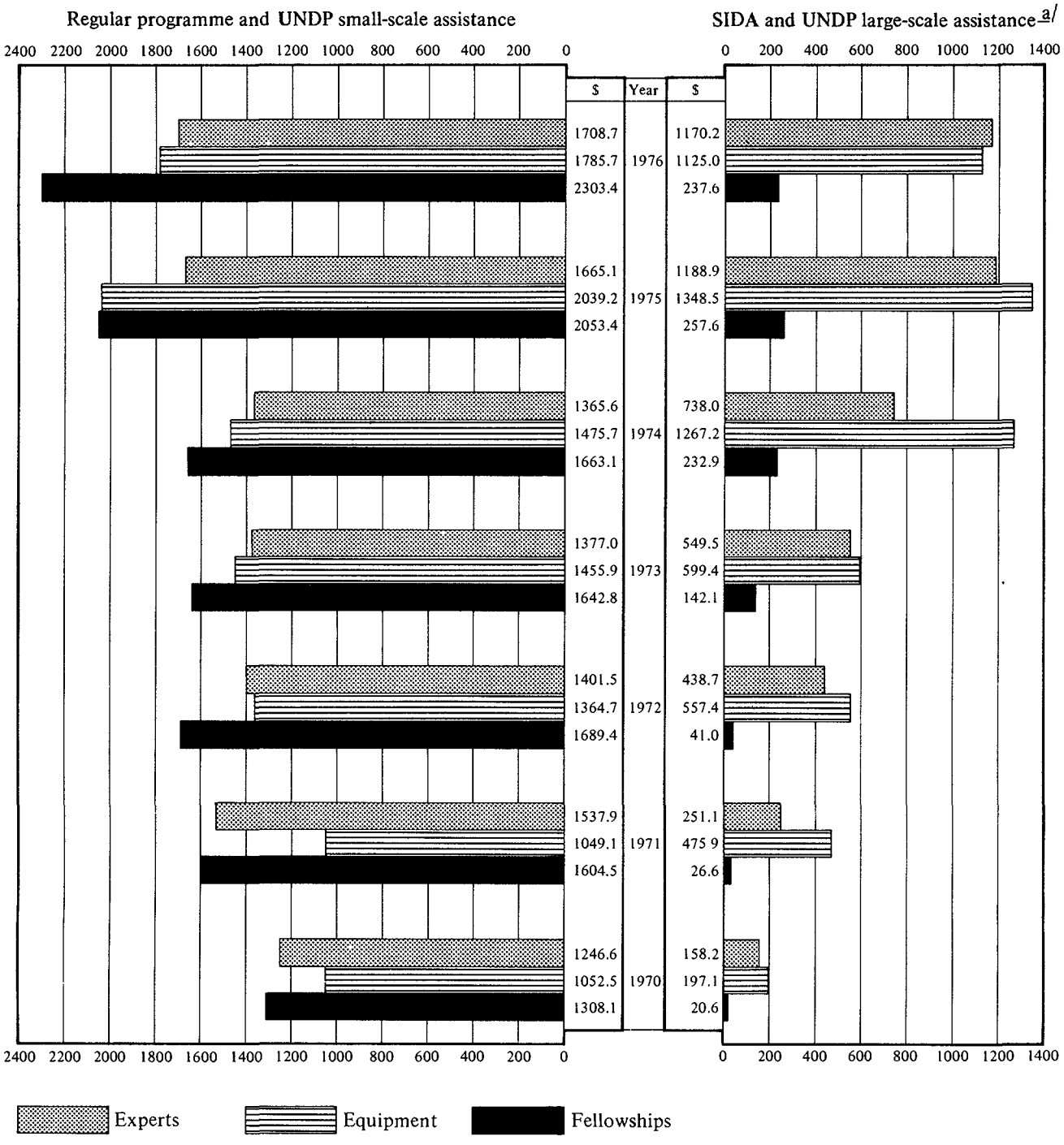
103. The importance of the Agency's regular programme took on added dimensions during the financial setback experienced by UNDP in 1975 and 1976. The curtailment of UNDP aid in 1976, accompanied by cancellations and cuts in the assistance approved by UNDP for 1977 and subsequent years, has resulted in an increase in the volume of requests for assistance under the regular programme. Among these are requests for large-scale assistance spread over periods of up to four years which were originally prepared for submission to UNDP. Although UNDP financing remains essential for a substantial number of large-scale activities, it is evident that, in order to meet the requests of the recipient countries, the regular programme should also be able to meet requests for technical assistance over a number of years; at present the regular programme provides assistance for a collection of relatively small projects involving the provision of up to 12 man-months of expert services and some equipment. Some larger projects are already being assisted for more than one year, either under the regular programme or in co-operation with UNDP. A change to the approval of assistance under the regular programme for more than one year could be decisive in sustaining a research activity. In fact, provision is made in paragraphs 15 and 16 of the Guiding Principles and General Operating Rules to Govern the Provision of Technical Assistance by the Agency for approving assistance to projects lasting up to two years and for periods exceeding two years. No use was made of these provisions in the past because of the scarcity of funds.

104. The evolution of the regular programme in the future will depend, as in the past, largely on the requesting countries. If their requests for assistance are technically sound and hold promise of contributing to the development of the recipient countries, the necessary funds are very likely to be made available. For its part, the Agency will continue to try to respond to the needs of the developing countries with all the flexibility at its disposal.

105. The Agency has not yet experienced cash liquidity problems. However, if the share of regular programme funds which is made up of non-convertible and "difficult" currencies continues to grow, problems of this kind may well occur. Together with officials of the relevant Governments, renewed efforts will be made to make use of these currencies. Meanwhile, there is a continuing need for higher pledges of voluntary contributions to help ensure that a larger precentage of the requests for assistance can be met and that enough convertible funds are available to finance this assistance. Provided that additional resources are made available, the Agency's regular programme can become a stabilizing factor in the multilateral technical co-operation field and remain a unique vehicle for the transfer of very specialized technology to the developing world.

FIGURE 7

TRENDS IN THE TECHNICAL CO-OPERATION ACTIVITIES OF THE AGENCY
(in thousands of dollars)



a/ The UNDP large-scale assistance figures given above in respect of experts and equipment include expenditures on subcontracts and miscellaneous project costs; these amounted to $1100 in 1970, $35 100 in 1971, $203 800 in 1972, $196 800 in 1973, $227 800 in 1974, $539 500 in 1975 and $323 600 in 1976.

ANNEX I

STATISTICAL TABLES

Introductory Notes

Resources

1. Figure 1A and Table 1 show the resources made available for approved field programmes of technical assistance and thus do not include UNDP overhead cost allocations. In addition, data in respect of offers of assistance in kind have been updated to 31 December 1976; for example, the value of Type II fellowship offers has been adjusted, where necessary, to reflect the resources that were actually available when fellows took up their studies under Type II arrangements. The estimated value of all offers of assistance in kind in support of a given year's technical assistance programme is shown in columns (1b) and (2b) of Table 1.

2. All monetary values appearing under the heading "in kind" are estimated in accordance with the following guidelines:

(a) Experts. The value of the services of each cost-free expert is estimated on the basis of the average salary of an equivalent expert engaged by the Agency and the applicable daily subsistence allowance as established by UNDP, plus the cost of a round-trip air ticket; analogous criteria are used in estimating the value of the services of cost-free and partly cost-free lecturers;

(b) Equipment. The value of equipment is estimated according to the offer made by the donor Government (at the later, "assistance provided" stage, however, the value to the relevant project is based on the actual costs incurred by the donor Government); and

(c) Fellowships. The value of Type II fellowships is estimated on the basis of the monthly stipend rate either as proposed by the host country or as established currently by UNDP, multiplied by the duration of the award in months. The estimated travel costs have been added if they were paid by the host country. (Training course stipends and subsistence allowances paid under this heading, however, are based on actual payments.)

These values and the totals in which they are included must therefore be considered as approximations.

Assistance provided

3. The financial statistics given in Tables 4, 5, 7 and 8 relate, in the first instance, to actual cash payments against 1976 and prior years' obligations (shown according to the year(s) in which the cash payments were made) plus the total value of the assistance made available in kind (shown according to the year(s) in which it was provided). Thus, the balance of funds - for example, obligated but not spent in 1976 - is not included in the financial data relating to the assistance provided, but is shown separately in column 9 (see, for example, the 1976 entries in Table 4); the total cumulative balance of funds obligated in 1976 and prior years, but not yet spent as at 31 December 1976, is given at the bottom of this column in Tables 4, 7 and 8.

4. Assistance in kind has been separated into two parts. The first part consists of assistance which has been provided - for example, fellowship training already provided - expressed in terms of estimated cash expenditures. The second part is made up of assistance which is in the process of being provided - for example, fellowship training not yet completed - which is equivalent to unliquidated obligations (see column (10) in Tables 4, 7 and 8). The provision of expert services and equipment in kind has been shown in the same way.

5. Some minor corrections have also been made in the financial statistics relating to assistance provided in kind during prior years which take into account, inter alia, candidates who were withdrawn subsequent to the award of Type II fellowships, that is, after 31 December of a given year. Further, as the Agency exercises no financial control over assistance provided in kind, delay is occasionally experienced in receiving information on equipment deliveries, interruption in fellowship training, etc.

Types of assistance

6. (a) Experts. When not shown separately, the assignments of lecturers and visiting professors are included under the heading "Experts". With regard to Table 6, it should be noted that under "Intercountry programmes" the assignments of a number of experts are not subdivided by region but included, with associated training awards, under the heading "Short-term training projects";

(b) Equipment. As can best be seen in Table 7, the total assistance provided under this heading is the sum of the amounts disbursed for equipment and supplies in respect of country and intercountry programmes; and

(c) Fellowships. In Table 3, where awards are classified by place of study, columns relating to short-term regional training projects and scientific visits have been introduced in order to reflect more accurately the valuable contribution made by host countries. The UNDP country, Agency Type I and Type II awards shown in Tables 3 and 6 constitute the total effective awards as of 31 December 1976 (all notifications of non-acceptance by the proposed host countries and of withdrawals by the nominating countries communicated to the Agency by the close of the year have been taken into account). In Table 6 the number of fellowships classified by nationality does not include awards for short-term training projects and scientific visits, since their inclusion would significantly distort the statistics relating primarily to holders of fellowships of 6-12 months' duration. Although awards for short-term training projects and scientific visits are included in Table 6 under "UNDP" and "Agency Type I" and are financed under "in kind" and "multi-bilateral" arrangements, the regular programme or UNDP, they are not in the same category as Type I, Type II or UNDP country awards. Furthermore, in the financial summaries (Tables 7 and 8) the expenditure on, for example, short-term training projects is not shown as assistance to individual countries but to "Intercountry programmes". None of the tables includes any reference to local participants in short-term training projects (see Annex III).

Intercountry programmes

7. In the broadest sense, this heading covers expenditure on regional projects for which experts' services only were provided (for example, by regional advisers), regional and interregional projects for which experts, equipment and fellowships were provided (for example, short-term training courses), and regional and interregional projects for which fellowships only were provided (for example, scientific visits).

Subcontract activities and funds-in-trust arrangements

8. The statistical tables do not include data relating to services provided by the Agency under subcontracts to other organizations, or in respect of projects carried out at the expense of developing countries under funds-in-trust arrangements.

Figures and percentages

9. Due to the rounding-off of monetary amounts to the nearest hundred or thousand dollars, the totals indicated in various places may differ slightly. In preparing figures and tables, percentages have also been rounded off.

A. TECHNICAL ASSISTANCE RESOURCES

Table 1

Available resources: 1967-1976
(in thousands of dollars)

Year	Agency		UNDP		Sub-totals		TOTAL (3) + (4) (5)
	Monetary (1a)	In kind[a/] (1b)	Monetary (2a)	In kind[a/] (2b)	Monetary (3)	In kind[a/] (4)	
1967	1 380	565	1 431	5	2 811	570	3 381
1968	1 348	560	1 422	5	2 770	565	3 335
1969	1 586	654	981	4	2 567	658	3 225
1970	1 749	915	1 513	17	3 262	932	4 194
1971	2 224	1 368	1 775	42	3 999	1 410	5 409
1972	2 636	962	2 072	6	4 708	968	5 676
1973	3 124	1 264	1 964	35	5 088	1 299	6 387
1974	3 348	1 463	3 082	31	6 430	1 494	7 924
1975	4 540	1 274	3 941	38	8 481	1 312	9 793
1976	5 474	2 425	3 002	24	8 476	2 449	10 925
1967-1976	27 409	11 450	21 183	207	48 592	11 657	60 249

a/ Estimated; see Introductory Notes, paras 1 and 2, to this Annex.

Table 2

Funds for the Agency's regular programme of technical assistance: 1967-1976
(in thousands of dollars)

Item	1967-72	1973	1974	1975	1976	1967-76
Target for voluntary contributions to the General Fund[a/]	13 500	3 000	3 000	4 500	5 500	29 500
Share of target budgeted for technical assistance	12 722	3 000	3 000	4 500	5 500	28 722
Amount pledged	10 645	2 847	3 085	4 220	5 044	25 841
Actually made available for technical assistance[b/]	10 923	3 124	3 348	4 540	5 474	27 409

a/ Until 1972 a share of the funds from voluntary contributions was used to support other operational programme activities of the Agency; up to 1967 most of this share was used for research contracts, and over the period 1964-1969 $210 000 was used for fellowships at the Trieste Centre.

b/ The funds from voluntary contributions are supplemented by miscellaneous income accruing to the General Fund and to Operating Fund II, which explains why the amount actually made available for technical assistance exceeded the amount pledged.

Table 3

Experts (classified by place of origin) and fellowship awards (classified by place of study): 1976

Place of origin of experts or place of study for holders of fellowship awards	Experts					Fellowship awards						
	UNDP		Agency		TOTAL	UNDP		Agency				TOTAL
	Paid	Free	Paid	Free		Country	Regional	Type I	Type II	Regional	Scientific visits	
Argentina	6[a]	-	11	-	17	7[b]	-	-	4[c]	-	1	12
Australia	-	-	2	-	2	1	-	9	2[c]	-	-	12
Austria	1[a]	-	3	-	4	-	-	-	1	-	3	4
Bangladesh	1	-	-	-	1	-	-	-	-	-	-	-
Belgium	1[a]	-	2	1	4	4[b]	-	1	4[c]	-	6	15
Brazil	-	-	4	-	4	-	-	-	5	-	1	6
Canada	2[a]	-	5	4	11	8[b]	-	4	1[c]	-	2	15
Czechoslovakia	1	-	2	-	3	-	-	-	4	24	1	29
Denmark	1[a]	-	2	-	3	6[b]	-	-	3	-	7	16
Egypt	1	-	1	-	2	-	-	4	1[c]	-	-	5
Finland	-	-	2	-	2	-	-	1	2	-	1	4
France	2[a]	-	6	3	11	5[b]	-	8	14	28	11	66
German D.R.	-	-	-	-	-	-	-	-	-	38	-	38
Germany, F.R.	5[a]	-	20	7	32	6[b]	-	15	8[c]	35	11	75
Ghana	-	-	-	-	-	-	-	-	-	-	1	1
Greece	-	-	-	-	-	-	-	1	-	-	-	1
Hungary	1[a]	-	3	-	4	-	-	-	4	24	1	29
India	-	-	12	-	12	1[b]	-	-	5	-	2	8
Indonesia	1[a]	-	-	-	1	-	-	-	-	-	-	-
Israel	2[a]	-	1	-	3	-	-	-	1	-	-	1
Italy	7[a]	-	2	-	9	2[b]	8	-	18	6	5	39
Japan	1[a]	-	4	1	6	2[b]	-	-	4	-	2	8
Korea, R.	-	-	-	-	-	1[b]	-	-	-	-	-	1
Mexico	-	-	-	-	-	3[b]	-	-	2	-	-	5
Netherlands	1[a]	2[a]	5	-	8	3[b]	-	1	6	-	4	14
Norway	-	-	-	-	-	-	-	1	-	-	3	4
Pakistan	-	-	-	-	-	-	-	-	3	-	-	3
Philippines	-	-	1	-	1	-	-	-	-	29	1	30
Poland	2	-	5	-	7	-	-	-	6	-	1	7
Portugal	-	-	1	-	1	-	-	1	-	-	-	1
Romania	-	-	1	-	1	-	-	-	1	-	-	1
South Africa	-	-	-	-	-	-	-	-	-	-	1	1
Spain	4[a]	-	4	-	8	1[b]	-	12	6	-	1	20
Sri Lanka	-	-	-	-	-	-	-	-	-	-	1	1
Sudan	-	-	-	-	-	-	-	-	-	-	1	1
Sweden	1	-	6	4	11	2[b]	-	6	-	-	7	15
Switzerland	-	-	1	-	1	1[b]	-	-	-	-	-	1
Turkey	-	-	-	-	-	-	-	1	-	-	-	1
USSR	-	-	1	-	1	-	-	-	3	24	1	28
UK	11[a]	-	15	-	26	8[b]	-	36	8[c]	-	15	67
USA	12[a]	-	17	6	35	14[b]	-	18	93[c]	74	6	205
Uruguay	-	-	1	-	1	-	-	1	-	-	1	2
Yugoslavia	1	-	7	-	8	-	-	1	3[c]	-	2	6
IAEA	7[a]	-	41	-	48	3[b]	-	2	1[c]	22	3	31
Other international organizations	-	-	1	8	9	-	-	-	-	-	1	1
TOTAL	72	2	189	34	297	78	8	123	213	304	104	830[d]

a/ Includes the following large-scale project experts, from: Argentina, six; Austria, one; Belgium, one; Canada, two; Denmark, one; France, one; Germany, F.R., two; Hungary, one; Indonesia, one; Israel, two; Italy, five; Japan, one; Netherlands, two; Spain, four; United Kingdom, nine; United States, eight; IAEA staff, three.

b/ Includes the following large-scale project awards, in: Argentina, seven; Belgium, four; Canada, eight; Denmark, six; France, five; Germany, F.R., five; India, one; Japan, one; Korea, R., one; Mexico, three; Netherlands, three; Spain, one; Sweden, one; Switzerland, one; United Kingdom, four; United States, nine; IAEA, one.

c/ Includes the following SIDA-financed awards, in: Australia, two; Belgium, two; Canada, one; Egypt, one; Germany, F.R., one; United Kingdom, four; United States, four; Yugoslavia, one; IAEA, one.

d/ The difference between the number of awards (655) and the number of places of study (830) is due to the fact that nine fellows studied in two, nine in three and one in eight different countries; 24 participants in a study tour went to four countries; 35 participants in the scientific visit programme went to 104 places of study.

B. DISTRIBUTION OF TECHNICAL ASSISTANCE

Table 4

Types of technical assistance: 1967-1976
(in thousands of dollars)

TYPE	Experts		Visiting professors		Equipment		Fellowships		Scientific visits		Intercountry projects		Sub-contracts		TOTAL		Assistance outstanding at 31 December 1976		TOTAL (8)+(9)+(10)
																	Unliquidated obligations	In kind balance[a]	
	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	(10)	(11)
	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	$	$
1967-1972																			
UNDP monetary	3 808,4	41.5	-	-	2 910,3	31.7	803.5	8,8	-	-	1 227.9	13.4	425.7	4.6	9 175,8	100.0	-	-	9 175.8
Agency monetary	3 382.3	34,4	432.5	4,4	2 589,1	26.3	2 383.7	24,3	127.8	1.3	909,8	9.3	-	-	9 825,2	100.0	31.3	-	9 856,5
Assistance in kind[a]	60,6	1,4	-	-	870,7	19,4	3 297,0	73.5	-	-	256,0	5,7	-	-	4 484.3	100.0	-	-	4 484,3
TOTAL	7 251,3	30,9	432.5	1,8	6 370,1	27,1	6 484,2	27.6	127.8	0.6	2 393.7	10.2	425,7	1,8	23 485,3	100.0	31.3	-	23 516,6
1973																			
UNDP monetary	921,4	46,9	-	-	501,5	25.5	257.7	13,1	-	-	103,3	5,3	180,4	9,2	1 964.3	100,0	-	-	1 964,3
Agency monetary	881,6	32,9	21,0	0,8	998,1	37.7	453,3	16,9	82.2	3,1	239.7	9.0	-	-	2 675,9	100,0	89.0	-	2 764,9
Assistance in kind[a]	25,6	2,3	-	-	351,2	31,2	642,7	57,0	-	-	107,0	9,5	-	-	1 126,5	100,0	-	0,4	1 126,9
TOTAL	1 828,6	31,7	21,0	0,4	1 850,8	32,1	1 353,7	23,5	82,2	1,4	450,0	7,8	180,4	3,1	5 766,7	100,0	89.0	0,4	5 856,1
1974																			
UNDP monetary	906,3	29,4	-	-	1 323,2	42,9	305,3	9,9	-	-	304,0	9,9	242,8	7,9	3 081,6	100,0	-	-	3 081,6
Agency monetary	986,0	40,8	16,3	0,7	767,5	31,8	462,4	19,2	60,9	2,5	120,1	5,0	-	-	2 413,2	100,0	238,1	-	2 651.3
Assistance in kind[a]	34,1	2.7	-	-	361,9	29,0	714,2	57,3	-	-	137,5	11,0	-	-	1 247,7	100,0	-	35,4	1 283,1
TOTAL	1 926,4	28,6	16,3	0,7	2 452,6	36,4	1 481,9	22,0	60,9	0,9	561,6	8,3	242,8	3,6	6 742,5	100,0	238,1	35,4	7 016,0
1975																			
UNDP monetary	1 568,1	39,8	-	-	1 150,4	29,2	379,9	9,6	-	-	237,5	6,0	605,6	15,4	3 941,5	100,0	-	-	3 941,5
Agency monetary	957,3	28,0	36,1	1,1	1 337,5	39,1	761,6	22,2	76,5	2,2	254,5	7,4	-	-	3 423,5	100,0	688,2	-	4 111,7
Assistance in kind[a]	48,6	4,1	-	-	254,6	21,4	739,8	62,3	-	-	144,7	12,2	-	-	1 187,7	100,0	-	253,0	1 440,7
TOTAL	2 574,0	30,1	36,1	0,4	2 742,5	32,1	1 881,3	22,0	76,5	0,9	636,7	7,4	605,6	7,1	8 552,7	100,0	688,2	253,0	9 493,9
1976																			
UNDP monetary[b]	1 259,6	42,0	-	-	913,6	30,4	368,5	12,3	-	-	148,0	4,9	312,6	10,4	3 002,3	100,0	765,7	-	3 768,0
Agency monetary[b]	1 231,6	31,1	2,8	0.1	1 340,9	33,9	722,5	18,3	99,6	2,5	557,3	14,1	-	-	3 954,7	100,0	1 775,3	-	5 730,0
Assistance in kind[a]	84,1	6,1	-	-	400,9	29,2	829,6	60,4	-	-	59,0	4,3	-	-	1 373,6	100,0	-	1 506,9	2 880,5
TOTAL	2 575,3	30,9	2,8	0,0	2 655,4	31,9	1 920,6	23,1	99,6	1,2	764,3	9,2	312,6	3,7	8 330,6	100,0	2 541,0	1 506,9	12 378,5
1967-1976																			
UNDP monetary	8 463,8	40,0	-	-	6 799,0	32,1	2 114,9	10,0	-	-	2 020,7	9,5	1 767,1	8,4	21 165,5	100,0	765,7	-	21 931,2
Agency monetary	7 438,8	33,4	508,7	2,3	7 033,1	31,5	4 783,5	21,5	447,0	2,0	2 081,4	9,3	-	-	22 292,5	100,0	2 821,9	-	25 114,4
Assistance in kind[a]	253,0	2,7	-	-	2 239,3	23,8	6 223,3	66,0	-	-	704,2	7,5	-	-	9 419,8	100,0	-	1 795,7	11 215,5
GRAND TOTAL	16 155,6	30,6	508,7	1.0	16 071,4	30.4	13 121,7	24,8	447,0	0,8	4 806,3	9,1	1 767,1	3,3	52 877,8	100,0	3 587,6	1 795,7	58 261,1

a/ Estimated; see Introductory Notes, paras 4 and 5, to this Annex.

b/ The 1976 Agency monetary figures include miscellaneous and bank charges amounting to $8000 under "Experts", $5000 under "Equipment" and $200 under "Fellowships".

Table 5

Status of monetary resources and expenditures for the Agency's regular programme of technical assistance as at 31 December 1976 (in thousands of dollars)

Programme year	Monetary resources made available	Year of expenditure																			Total expenditures 1958-1976	Unliquidated obligations	Unobligated earmarkings[a/]	Savings (deficit)
		1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976				
1958	125	6	76	38	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	124	-	-	1
1959	875	-	100	366	152	30	18	9	-	-	-	-	-	-	-	-	-	-	-	-	675	-	-	200
1960	1 008	-	-	248	468	195	46	23	3	-	-	-	-	-	-	-	-	-	-	-	983	-	-	25
1961	981	-	-	-	252	433	162	34	11	2	1	-	-	-	-	-	-	-	-	-	895	-	-	86
1962	1 146	-	-	-	-	299	489	171	41	10	1	-	-	-	-	-	-	-	-	-	1 011	-	-	135
1963	1 230	-	-	-	-	-	436	490	125	19	8	11	-	-	-	-	-	-	-	-	1 089	-	-	141
1964	1 115	-	-	-	-	-	-	567	461	115	26	6	19	6	1	-	-	-	-	-	1 201	-	-	(86)
1965	1 200	-	-	-	-	-	-	-	565	428	137	24	28	23	1	-	-	-	-	-	1 206	-	-	(6)
1966	1 263	-	-	-	-	-	-	-	-	423	405	101	60	19	2	-	-	-	-	-	1 010	-	-	253
1967	1 380	-	-	-	-	-	-	-	-	-	417	405	237	125	71	26	3	-	-	-	1 284	-	-	96
1968	1 348	-	-	-	-	-	-	-	-	-	-	406	712	216	126	23	7	-	-	-	1 490	-	-	(142)
1969	1 586	-	-	-	-	-	-	-	-	-	-	-	522	606	243	125	7	1	2	-	1 506	-	-	80
1970	1 749	-	-	-	-	-	-	-	-	-	-	-	-	624	775	405	144	23	23	3	1 997	-	-	(248)
1971	2 224	-	-	-	-	-	-	-	-	-	-	-	-	-	905	1 144	364	82	32	22	2 549	8	14	(347)
1972	2 636	-	-	-	-	-	-	-	-	-	-	-	-	-	-	833	1 193	458	167	70	2 721	23	73	(181)
1973	3 124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	958	1 114	616	229	2 917	89	143	(25)
1974	3 348	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	735	1 373	657	2 765	238	533	(188)
1975	4 540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 211	1 474	2 685	688	1 130	37
1976	5 474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 500	1 500	1 776	2 241	(43)
TOTAL	36 352	6	176	652	876	957	1 151	1 294	1 206	997	995	953	1 578	1 619	2 124	2 556	2 676	2 413	3 424	3 955	29 608	2 822	4 134[b/]	(212)

a/ For experts and equipment only.

b/ The unobligated earmarkings (the funds needed for approved technical assistance that has not yet been provided) less the deficit as at 31 December 1976 (the savings that would have to be realized in order to "break even") and less the value of equipment on hand at Agency Headquarters (worth about $19 000) that has not yet been allocated to projects, are equal to the total ($3 903 000) designated as "unobligated balances" in respect of Operating Fund II in Statement III.A of the Agency's accounts for 1976 (GC(XXI)/581).

Table 6

Recipients of expert services and fellowship awards: 1976

RECIPIENT	Number of expert assignments, classified by location of duty station										Number of fellowship awards, classified by nationality of award holder							
	UNDP				Agency				TOTAL		UNDP		Agency				TOTAL	
	Paid		Free		Paid		Free						Type I		Type II			
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Country programmes:																		
Afghanistan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	12	2	12
Albania	-	-	-	-	1	1	-	-	1	1	1	3	-	-	-	-	1	3
Argentina	1[a]	2	-	-	6	11	-	-	7	13	1[b]	12	6	29	5	25	12	66
Bangladesh	-	-	-	-	5	8	4	14	9	22	-	-	2	15	8	79	10	94
Bolivia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	12	1	12
Brazil	8[a]	45	-	-	4	16	-	-	12	61	3[b]	25	-	-	5	55	8	80
Bulgaria	-	-	-	-	1	1	-	-	1	1	-	-	7	74	7	79	14	153
Burma	1	6	-	-	1	1	-	-	2	7	-	-	2	24	-	-	2	24
Chile	13[a]	61	-	-	3	5	-	-	16	66	10[b]	83	7	62	6	47	23	192
Colombia	-	-	-	-	2	3	-	-	2	3	-	-	1	6	2	24	3	30
Costa Rica	-	-	-	-	2	9	-	-	2	9	-	-	1	6	5	46	6	52
Cuba	-	-	-	-	1	1	-	-	1	1	-	-	-	-	2	15	2	15
Cyprus	-	-	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-
Czechoslovakia	-	-	-	-	-	-	-	-	-	-	-	-	5	55	5	60	10	115
Ecuador	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	13	2	13
Egypt	1[a]	12	-	-	2	3	-	-	3	15	4[b]	11	2	24	13	125	19	160
El Salvador	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	12	2	12
Ethiopia	-	-	-	-	1	7	-	-	1	7	-	-	-	-	1	4	1	4
Ghana	-	-	-	-	3	12	-	-	3	12	2	18	3	36	17	193	22	247
Greece	3[a]	34	-	-	7	19	-	-	10	53	-	-	3	27	7	76	10	103
Hong Kong	-	-	-	-	1	6	-	-	1	6	-	-	-	-	1	12	1	12
Hungary	1[a]	1	-	-	2	1	-	-	3	2	3[b]	3	3	30	3	21	9	54
Iceland	-	-	-	-	1	1	-	-	1	1	-	-	-	-	1	12	1	12
India	-	-	-	-	-	-	-	-	-	-	2	13	17	128	7	84	26	225
Indonesia	1[a]	3	-	-	6	13	-	-	7	16	-	-	-	-	3	35	3	35
Iran	-	-	-	-	1	6	-	-	1	6	-	-	-	-	-	-	-	-
Iraq	-	-	-	-	-	-	-	-	-	-	-	-	5	40	6	48	11	88
Israel	2	1	-	-	2	2	-	-	4	3	-	-	-	-	2	15	2	15
Ivory Coast	1	1	-	-	2	2	-	-	3	3	-	-	-	-	-	-	-	-
Jamaica	-	-	-	-	2	7	-	-	2	7	-	-	-	-	-	-	-	-
Jordan	-	-	-	-	1	12	-	-	1	12	1	6	-	-	-	-	1	6
Kenya	-	-	-	-	1	1	-	-	1	1	-	-	1	12	-	-	1	12
Korea, R.	1[a]	2	-	-	4	18	-	-	5	20	-	-	-	-	16	176	16	176
Kuwait	-	-	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-
Lebanon	1	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Libyan A.R.	-	-	-	-	2	8	-	-	2	8	-	-	-	-	1	12	1	12
Madagascar	-	-	-	-	1	7	-	-	1	7	-	-	-	-	-	-	-	-
Malaysia	-	-	-	-	3	7	-	-	3	7	-	-	-	-	3	30	3	30
Mali	-	-	-	-	2	12	-	-	2	12	-	-	-	-	-	-	-	-
Mauritius	-	-	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	9	21	-	-	9	21	-	-	4	24	3	30	7	54
Mongolia	-	-	-	-	1	6	-	-	1	6	-	-	-	-	-	-	-	-
Morocco	5[a]	15	1[a]	1	-	-	-	-	6	16	2[b]	15	-	-	-	-	2	15
Nigeria	1[a]	12	-	-	2	13	-	-	3	25	-	-	-	-	2	21	2	21
Pakistan	6[a]	35	-	-	4	8	-	-	10	43	3	25	9	87	6	69	18	181
Panama	-	-	-	-	2	6	-	-	2	6	-	-	-	-	-	-	-	-
Peru	-	-	-	-	5	24	-	-	5	24	-	-	-	-	2	18	2	18
Philippines	-	-	-	-	-	-	-	-	-	-	-	-	2	15	15	131	17	146
Poland	-	-	-	-	1	2	-	-	1	2	-	-	6	64	2	24	8	88
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	3	15	-	-	3	15
Romania	6[a]	3	-	-	2	1	-	-	8	4	7[b]	12	-	-	1	12	8	24
Senegal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	20	2	20
Sierra Leone	1	7	1	7	-	-	-	-	2	14	-	-	-	-	-	-	-	-
Singapore	-	-	-	-	1	2	-	-	1	2	-	-	1	3	1	12	2	15
Spain	-	-	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-

RECIPIENT	Number of expert assignments, classified by location of duty station										Number of fellowship awards, classified by nationality of award holder							
	UNDP				Agency				TOTAL		UNDP		Agency				TOTAL	
	Paid		Free		Paid		Free						Type I		Type II			
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Sri Lanka	-	-	-	-	4	6	-	-	4	6	-	-	3	30	2	18	5	48
Sudan	1	12	-	-	3	5	-	-	4	17	3	20	7	75	9	100	19	195
Syrian A.R.	1	1	-	-	2	4	-	-	3	5	1	6	4	24	2	24	7	54
Thailand	-	-	-	-	7	22	-	-	7	22	-	-	1	12	8	90	9	102
Tunisia	-	-	-	-	1	12	-	-	1	12	-	-	-	-	-	-	-	-
Turkey	4[a]	43	-	-	7	3	-	-	11	46	5[b]	25	4	36	8	94	17	155
Uganda	-	-	-	-	1	5	-	-	1	5	-	-	1	12	-	-	1	12
United Republic of Cameroon	-	-	-	-	-	-	-	-	-	-	-	-	1	12	-	-	1	12
Uruguay	-	-	-	-	8	13	-	-	8	13	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	2	1	-	-	2	1	-	-	-	-	1	12	1	12
Yugoslavia	7[a]	6	-	-	1	1	-	-	8	7	5[b]	5	7	67	9	86	21	158
Zaire	-	-	-	-	2	4	-	-	2	4	-	-	-	-	2	21	2	21
Zambia	-	-	-	-	2	8	-	-	2	8	-	-	-	-	1	12	1	12
Sub-total	66	303	2	8	141	371	4	14	213	696	53	282	118	1 044	209	2 116	380	3 442
Intercountry programmes:																		
Short-term training projects	8	8	-	-	85	20	30	5	123	33	8	23	232	528	-	-	240	551
Scientific visits	-	-	-	-	-	-	-	-	-	-	-	-	35	43	-	-	35	43
Sub-total	8	8	-	-	85	20	30	5	123	33	8	23	267	571	-	-	275	594
GRAND TOTAL	74	311	2	8	226	391	34	19	336[c]	729	61	305	385	1 615	209	2 116	655	4 036

(1) Number
(2) Number of man-months

a/ Includes the following large-scale project experts: one/2 man-months, Argentina; five/23 man-months, Brazil; 13/61 man-months, Chile; one/12 man-months, Egypt; three/34 man-months, Greece; one/1 man-month, Hungary; one/3 man-months, Indonesia; one/2 man-months, Korea, R; five/15 man-months, Morocco, one/12 man-months, Nigeria; six/35 man-months, Pakistan; six/3 man-months, Romania; four/43 man-months, Turkey; three/2 man-months, Yugoslavia.

b/ Includes the following large-scale project awards: one/12 man-months, Argentina; three/25 man-months, Brazil; ten/83 man months, Chile; four/11 man-months, Egypt; three/3 man-months, Hungary; two/15 man-months, Morocco; seven/12 man-months, Romania; three/5 man-months, Turkey; five/5 man-months, Yugoslavia.

c/ The difference between the number of assignments (336) and the actual number of experts (297) is due to the fact that each of 20 experts served in two, six in three, one in four, and one in five different countries.

Table 7

Financial summary: 1976
(in thousands of dollars)

RECIPIENT	Assistance provided, by type				Assistance provided, by source					Assistance outstanding at 31 December 1976		TOTAL (8) + (9) + (10)
					UNDP		Agency					
	Experts	Equipment	Fellowships	TOTAL	Monetary	In kind[a]	Monetary	In kind[a]	TOTAL	Unliquidated obligations	In kind balance[a]	
	(1)	(2)	(3)	(4)	(5a)	(5b)	(6)	(7)	(8)	(9)	(10)	(11)
Country programmes:												
Afghanistan	-	1.2	6.2	7.4	0.4	-	3.0	4.0	7.4	11.9	-	19.3
Albania	6.5	51.4	3.3	61.2	51.4	-	9.8	-	61.2	33.7	-	94.9
Argentina	47.0	3.5	49.3	99.8	9.9	-	65.2	24.7	99.8	125.7	13.7	239.2
Bangladesh	20.8	35.8	98.1	154.7	-	-	97.9	56.8	154.7	47.2	53.2	255.1
Bolivia	-	3.4	4.1	7.5	3.3	-	0.7	3.5	7.5	0.5	3.5	11.5
Brazil	134.6	14.1	17.3	166.0	81.3	-	73.7	11.0	166.0	47.8	34.6	248.4
Bulgaria	3.2	29.9	55.8	88.9	-	-	51.7	37.2	88.9	74.3	32.7	195.9
Burma	25.8	31.5	14.9	72.2	31.5	-	32.0	8.7	72.2	44.3	0.7	117.2
Chile	15.9	-	32.3	48.2	-	-	41.2	7.0	48.2	37.3	23.7	109.2
Colombia	8.0	88.2	13.2	109.4	-	-	97.4	12.0	109.4	5.2	24.9	139.5
Costa Rica	25.8	6.5	8.1	40.4	-	-	33.3	7.1	40.4	23.6	24.3	88.3
Cuba	2.9	49.4	14.1	66.4	-	-	55.0	11.4	66.4	16.0	3.2	85.6
Cyprus	2.2	17.3	5.7	25.2	-	-	8.0	17.2	25.2	0.3	12.0	37.5
Czechoslovakia	-	-	50.4	50.4	-	-	13.7	36.7	50.4	34.1	26.7	111.2
Dominican Republic	-	-	0.5	0.5	-	-	-	0.5	0.5	-	-	0.5
Ecuador	(0.1)	52.3	3.3	55.5	-	-	37.7	17.8	55.5	-	48.6	104.1
Egypt	10.1	12.1	72.2	94.4	-	-	36.9	57.5	94.4	151.6	64.1	310.1
El Salvador	-	1.8	2.4	4.2	-	-	-	4.2	4.2	-	18.2	22.4
Ethiopia	22.7	1.9	19.6	44.2	-	-	40.3	3.9	44.2	18.6	-	62.8
Ghana	40.6	11.9	78.9	131.4	41.3	-	69.8	20.3	131.4	56.3	84.1	271.8
Greece	59.0	8.2	44.1	111.3	2.2	-	87.6	21.5	111.3	19.0	55.7	186.0
Guatemala	0.8	-	-	0.8	-	-	0.8	-	0.8	3.5	30.0	34.3
Hong Kong	16.7	23.3	5.8	45.8	-	-	43.2	2.6	45.8	0.7	6.4	52.9
Hungary	1.0	128.4	62.6	192.0	-	-	166.0	26.0	192.0	49.1	13.3	254.4
Iceland	1.2	1.1	8.9	11.2	-	-	4.6	6.6	11.2	59.2	0.9	71.3
India	7.8	48.4	139.5	195.7	15.5	-	115.4	64.8	195.7	115.8	51.3	362.8
Indonesia	95 3	62.8	9.0	167.1	8.9	-	154.7	3.5	167.1	75.5	25.4	268.0
Iran	16 2	-	3.4	19.6	-	-	17.1	2.5	19.6	3.1	-	22.7
Iraq	-	9.0	53.5	62.5	-	-	43.8	18.7	62.5	323.3	28.4	414.2
Israel	14.0	70 0	24.2	108.2	2.7	-	89.2	16.3	108.2	29.2	20.2	157.6
Ivory Coast	3.9	4.1	-	8.0	2.7	-	5.3	-	8.0	9.7	-	17.7
Jamaica	23.2	1.2	-	24.4	-	-	24.4	-	24.4	14.8	-	39.2
Jordan	34.7	37.0	9.9	81.6	8.8	-	72.8	-	81.6	2.3	-	83.9
Kenya	5.8	19.9	10.1	35.8	-	-	15.5	20.3	35.8	5.4	-	41.2
Korea, Republic of	67 3	37.6	62.1	167.0	-	-	121.7	45.3	167.0	37.2	138.6	342.8
Kuwait	1.6	-	-	1.6	-	-	1.6	-	1.6	-	-	1.6
Lebanon	12.1	-	3.5	15.6	9.6	-	6.0	-	15.6	1.1	-	16.7
Libyan Arab Republic	18.9	10.6	-	29.5	-	-	29.5	-	29.5	6.0	9.5	45.0
Madagascar	24.4	-	-	24.4	-	-	24.4	-	24.4	14.8	-	39.2
Malaysia	23.7	21.7	27.7	73.1	-	-	45.8	27.3	73.1	1.7	24.9	99.7
Mali	48.0	10.4	2.2	60.6	-	-	58.9	1.7	60.6	1.0	-	61.6
Mauritius	3.3	-	-	3.3	-	-	3.3	-	3.3	-	-	3.3
Mexico	68.3	-	7.3	75.6	-	-	71.0	4.6	75.6	45.8	15.1	136.5
Mongolia	16.3	6 4	-	22.7	-	-	22.7	-	22.7	75.5	15.0	113.2
Morocco	5.8	75.9	5.8	87.5	8.2	-	11.6	67.7	87.5	5.2	-	92.7

RECIPIENT	(1)	(2)	(3)	(4)	(5a)	(5b)	(6)	(7)	(8)	(9)	(10)	(11)
Nigeria	39.2	(1.7)	3.2	40.7	-	-	39.9	0.8	40.7	11.0	14.6	66.3
Pakistan	30.4	60.6	119.3	210.3	25.4	-	138.3	46.6	210.3	88.5	73.7	372.5
Panama	21.6	-	-	21.6	-	-	21.6	-	21.6	19.7	-	41.3
Peru	76.1	11.7	18.6	106.4	-	-	87.7	18.7	106.4	36.5	64.5	207.4
Philippines	5.6	97.6	80.8	184.0	-	-	89.7	94.3	184.0	51.6	171.2	406.8
Poland	7.6	90.3	104.6	202.5	-	-	176.5	26.0	202.5	63.8	13.6	279.9
Romania	3.1	91.5	10.8	105.4	-	-	100.3	5.1	105.4	237.1	4.1	346.6
Senegal	-	35.8	-	35.8	-	-	28.1	7.7	35.8	3.0	9.7	48.5
Sierra Leone	47.3	4.9	10.2	62.4	40.8	20.7	0.9	-	62.4	0.1	-	62.5
Singapore	6.5	32.6	3.1	42.2	-	-	41.0	1.2	42.2	60.1	8.0	110.3
Spain	0.7	-	-	0.7	-	-	0.7	-	0.7	-	-	0.7
Sri Lanka	13.9	46.0	33.4	93.3	3.3	-	76.4	13.6	93.3	53.7	16.0	163.0
Sudan	66.9	30.3	91.6	188.8	94.5	-	60.4	33.9	188.8	26.6	51.3	266.7
Syrian Arab Republic	11.8	32.1	59.7	103.6	46.2	-	51.9	5.5	103.6	24.4	20.2	148.2
Thailand	61.7	66.2	37.0	164.9	-	-	129.6	35.3	164 9	46.3	86.3	297.5
Tunisia	32.2	10.8	-	43.0	-	-	43.0	-	43.0	3.0	-	46.0
Turkey	10.1	61.2	60.5	131.8	64.5	-	44.0	23.3	131.8	29.6	70.6	232.0
Uganda	19.1	3.3	6.9	29.3	-	-	29.3	-	29.3	6.3	-	35.6
United Rep. of Cameroon	1.2	-	14.9	16.1	-	-	16.1	-	16.1	3.5	-	19.6
Uruguay	26.8	4.5	1.9	33.2	0.2	-	26.3	6.7	33.2	19.2	70.7	123.1
Venezuela	6.4	-	5.5	11.9	-	-	7.1	4.8	11.9	3.5	4.3	19.7
Yugoslavia	18.8	43.6	52.6	115.0	23.6	-	68.3	23.1	115.0	39.7	37.7	192.4
Zaire	14.9	9.3	38.5	62.7	-	-	41.0	21.7	62.7	11.6	11.8	86.1
Zambia	29.3	32.6	-	61.9	-	-	61.9	-	61.9	25.3	8.1	95.3
Sub-total	1 486.5	1 751.4	1 782.4	5 020.3	576.2	20.7	3 384 2	1 039.2	5 020.3	2 491.4	1 639.3	9 151.0
Intercountry programmes:												
Africa	3.7	1.1	2.7	7.5	7.5	-	-	-	7.5	-	-	7.5
Asia and the Pacific	40.6	-	60.0	100.6	33.5	-	55.6	11.5	100.6	-	-	100.6
Interregional projects	169.9	28.2	458.1	656.2	107.0	-	501.7	47.5	656.2	355.3	27.8	1 039.3
Sub-total	214.2	29.3	520.8	764.3	148.0	-	557.3	59.0	764.3	355.3	27.8	1 147.4
Miscellaneous	8.0	5.0	0.2	13.2	-	-	13.2	-	13.2	4.5	-	17.7
							SIDA large-scale assistance					
Bangladesh	60.4	164.9	26.4	251.7	-	-	-	251.7	251.7	-	101.8	353.5
							UNDP large-scale assistance					
Argentina	15.5	48.3	11.1	74.9	74.9	-	-	-	74.9	30.7	-	105.6
Brazil	99.6	70.6	21.9	192.1	192.1	-	-	-	192.1	11.4	-	203.5
Chile	268.7	276.0	40.5	585.2	584.9	0.3	-	-	585.2	94.4	-	679.6
Egypt	48.6	5.3	17.2	71.1	71.1	-	-	-	71.1	176.8	-	247.9
Greece	138.4	10.5	7.1	156.0	156.0	-	-	-	156.0	1.8	-	157.8
Hungary	4.9	166.6	2.7	174.2	174.2	-	-	-	174.2	14.7	-	188.9
India	0.4	69.3	15.4	85.1	85.1	-	-	-	85.1	-	-	85.1
Indonesia	6.9	7.5	14.3	28.7	28.7	-	-	-	28.7	0.6	-	29.3
Korea, Republic of	7.0	53.5	2.2	62.7	62.7	-	-	-	62.7	-	-	62.7
Morocco	56.9	36.2	13.5	106.6	105.4	1.2	-	-	106.6	64.0	26.8	197.4
Nigeria	45.7	2.2	-	47.9	47.9	-	-	-	47.9	0.4	-	48.3
Pakistan	150.4	23.8	5.1	179.3	177.8	1.5	-	-	179.3	1.0	-	180.3
Romania	95.7	71.7	39.9	207.3	207.3	-	-	-	207.3	119.1	-	326.4
Turkey	163.5	14.0	13.1	190.6	190.6	-	-	-	190.6	22.3	-	212.9
Yugoslavia	7.6	104.6	7.2	119.4	119.4	-	-	-	119.4	199.2	-	318.6
Sub-total	1 109.8	960.1	211.2	2 281.1	2 278.1	3.0	-	-	2 281.1	736.4	26.8	3 044.3
GRAND TOTAL	2 878.9	2 910.7	2 541.0	8 330.6	3 002.3	23.7	3 954.7	1 349.9	8 330.6	3 587.6	1 795.7	13 713.9

a/ Assistance in kind can only be estimated; see Introductory Notes, paras 4 and 5, to this Annex.

Table 8

Financial summary: 1958-1976
(in thousands of dollars)

RECIPIENT	Assistance provided, by type				Assistance provided, by source					Assistance outstanding at 31 December 1976		TOTAL (8) + (9) + (10)
					UNDP		Agency					
	Experts	Equipment	Fellowships	TOTAL	Monetary	In kind[a/]	Monetary	In kind[a/]	TOTAL	Unliquidated obligations	In kind balance[a/]	
	(1)	(2)	(3)	(4)	(5a)	(5b)	(6)	(7)	(8)	(9)	(10)	(11)
Country programmes												
Afghanistan	93.9	80.7	65.0	239.6	92.9	-	89.6	57.1	239.6	11.9	-	251.5
Albania	24.0	164.0	27.3	215.3	102.7	-	98.1	14.5	215.3	33.7	-	249.0
Algeria	17.8	-	75.1	92.9	21.7	-	61.1	10.1	92.9	-	-	92.9
Argentina	807.5	480.9	671.0	1 959.4	671.4	0.6	898.3	389.1	1 959.4	125.7	13.7	2 098.8
Austria	62.0	13.8	120.7	196.5	-	-	132.6	63.9	196.5	-	-	196.5
Bangladesh	36.1	110.9	245 1	392.1	-	-	218.0	174.1	392 1	47.2	53.2	492.5
Bolivia	148.0	178.6	135.9	462.5	153.4	-	223.1	86.0	462.5	0.5	3.5	466.5
Brazil	1 165.9	434.0	655.6	2 255.5	969.5	-	941.7	344.3	2 255.5	47.8	34.6	2 337.9
Bulgaria	31.7	254.5	556.2	842.4	74.1	-	513.1	255.2	842.4	74.3	32.7	949.4
Burma	557.8	350.6	139.1	1 047.5	536.4	-	432.8	78.3	1 047.5	44 3	0.7	1 092.5
Chile	354.6	202.3	264.6	821.5	179.6	-	475.5	166.4	821.5	37.3	23.7	882.5
China, Republic of	229.7	166.2	554.9	950.8	281.5	-	307.7	361.6	950.8	-	-	950.8
Colombia	294.8	326.2	199.2	820.2	132.0	-	399.6	288.6	820.2	5.2	24.9	850.3
Costa Rica	81.0	73.0	39.0	193.0	-	-	132.6	60.4	193.0	23.6	24.3	240.9
Cuba	112.6	308.4	49.8	470.8	17.5	-	404 2	49.1	470.8	16.0	3.2	490.0
Cyprus	70.6	116.0	38.0	224.6	24 1	-	164.7	35.8	224.6	0.3	12.0	236.9
Czechoslovakia	-	-	514.9	514.9	4.8	-	281.3	228.8	514.9	34.1	26.7	575.7
Democratic Kampuchea	85.0	29.3	1.7	116.0	39.1	-	69.6	7.3	116.0	-	-	116.0
Dominican Republic	-	-	2.8	2.8	-	-	-	2.8	2.8	-	-	2.8
Ecuador	58.7	107.8	72.7	239.2	35.5	-	130.8	72.9	239.2	-	48.6	287.8
Egypt	360.3	513.3	948.1	1 821.7	303.6	0.8	870.8	646.5	1 821.7	151.6	64.1	2 037.4
El Salvador	41.1	37.9	22.3	101.3	14.1	-	30.1	57.1	101.3	-	18.2	119.5
Ethiopia	110.4	62.2	50.3	222.9	73.2	-	117.0	32.7	222.9	18.6	-	241.5
Gabon	3.7	-	-	3.7	-	-	3.7	-	3.7	-	-	3.7
Ghana	303.5	287.0	273.4	863.9	220.7	-	484.1	159.1	863.9	56.3	84.1	1 004.3
Greece	719.1	175.1	588.9	1 483.1	388.9	-	744.7	349.5	1 483.1	19.0	55.7	1 557.8
Guatemala	65.5	91.8	35.8	193.1	56.2	-	73.6	63.3	193.1	3.5	30.0	226.6
Haiti	0.9	-	-	0.9	-	-	0.9	-	0.9	-	-	0.9
Hong Kong	51.8	96.9	14.2	162.9	-	-	160.3	2.6	162.9	0.7	6.4	170.0
Hungary	71.9	530.8	642.8	1 245.5	130.0	-	880.7	234.8	1 245.5	49.1	13.3	1 307.9
Iceland	30.2	108.4	40.7	179.3	-	-	117.1	62.2	179.3	59.2	0.9	239.4
India	139.4	458.9	1 282.4	1 880.7	312.3	3.6	823 3	741.5	1 880.7	115.8	51.3	2 047.8
Indonesia	653.2	409.3	660.1	1 722.6	340.4	-	889.9	492.3	1 722.6	75.5	25.4	1 823.5
Iran	601.3	72.0	417.8	1 091.1	455.4	0.5	380.1	255.1	1 091.1	3.1	-	1 094.2
Iraq	346.3	251.1	576.1	1 173.5	242.5	-	622.9	308.1	1 173.5	323.3	28.4	1 525.2
Israel	229.5	507.6	267.6	1 004.7	165.7	-	575.0	264.0	1 004.7	29.2	20.2	1 054.1
Italy	9.0	-	160.1	169.1	-	-	95.6	73.5	169.1	-	-	169.1
Ivory Coast	64.2	33.2	2.9	100.3	73.4	-	26.9	-	100.3	9.7	-	110.0
Jamaica	73.5	74.2	20.4	168.1	10.4	-	86.9	70.8	168.1	14.8	-	182.9
Japan	50.1	-	322.3	372.4	49.8	-	129.4	193.2	372.4	-	-	372.4
Jordan	128.1	57.3	74.1	259.5	89.3	-	155.0	15.2	259.5	2.3	-	261.8
Kenya	85.0	114.2	38.2	237.4	27.4	-	138.0	72.0	237.4	5.4	-	242.8
Korea, Republic of	521.3	208.8	894.3	1 624.4	117.2	-	893.6	613.6	1 624.4	37.2	138.6	1 800.2
Kuwait	9.0	-	3.9	12.9	-	-	12.9	-	12.9	-	-	12.9
Lebanon	247.8	140.7	65.3	453.8	139.3	-	291.3	23.2	453.8	1.1	-	454.9
Liberia	115.2	29.0	-	144.2	60.2	27.8	27.7	28.5	144.2	-	-	144.2
Libyan Arab Republic	21.5	40.5	-	62.0	-	-	62.0	-	62.0	6.0	9.5	77.5
Madagascar	41.1	24.3	21.5	86.9	-	-	86.9	-	86.9	14.8	-	101.7
Malaysia	80.5	52.9	100.0	233.4	1.6	-	176.1	55.7	233.4	1.7	24.9	260.0
Mali	138.7	31.6	2.2	172.5	13.4	-	157.4	1.7	172.5	1.0	-	173.5
Mauritius	3.3	-	-	3.3	-	-	3.3	-	3.3	-	-	3.3
Mexico	742.7	280.8	283.9	1 307.4	419.3	-	718.2	169.9	1 307.4	45.8	15.1	1 368.3
Mongolia	16.3	33.9	1.0	51.2	-	-	50.2	1.0	51.2	75.5	15.0	141.7
Morocco	379.4	244.9	114.5	738.8	138.1	-	464.6	136.1	738.8	5.2	-	744.0
Nicaragua	13.9	7.6	20.1	41.6	-	-	41.6	-	41.6	-	-	41.6
Nigeria	308.1	142.6	97.7	548.4	110.7	-	372.6	65.1	548.4	11.0	14.6	574.0
Pakistan	491.9	511.8	793.2	1 796.9	303.4	-	988.5	505.0	1 796.9	88.5	73.7	1 959.1
Panama	38.7	10.6	29.0	78.3	4.1	-	45.2	29.0	78.3	19.7	-	98.0
Paraguay	10.3	4.6	32.1	47.0	-	-	31.3	15.7	47.0	-	-	47.0
Peru	334.0	250.4	113.3	697.7	116.4	-	389.3	192.0	697.7	36.5	64.5	798.7
Philippines	373.1	633.4	1 016.1	2 022.6	421.9	8.9	834.3	757.5	2 022.6	51.6	171.2	2 245.4
Poland	27.5	337.4	911.0	1 275.9	199.7	-	754.5	321.7	1 275.9	63.8	13.6	1 353.3
Portugal	57.5	45.9	37.7	141.1	-	-	88.9	52.2	141.1	-	-	141.1
Romania	63.4	386.9	438.5	888.8	57.8	-	635.9	195.1	888.8	237.1	4.1	1 130.0
Saudi Arabia	18.8	2.9	10.5	32.2	-	-	25.2	7.0	32.2	-	-	32.2
Senegal	115.8	147.1	19.5	282.4	86.5	0.8	186.5	8.6	282.4	3.0	9.7	295.1
Sierre Leone	212.3	53.4	36.3	302.0	174.5	54.8	58.7	14.0	302.0	0.1	-	302.1
Singapore	112.8	164.7	38.7	316.2	-	-	269.1	47.1	316.2	60.1	8.0	384.3
Soc. Rep. of Viet Nam	74.4	143.8	141.6	359.8	31.4	-	173.2	155.2	359.8	-	-	359.8
Somalia	6.3	-	-	6.3	6.3	-	-	-	6.3	-	-	6.3
Spain	0.7	-	61.1	61.8	-	-	38.7	23.1	61.8	-	-	61.8
Sri Lanka	300.3	324.9	139.0	764.2	122.4	-	522.8	119.0	764 2	53.7	16.0	833.9
Sudan	309.7	251.5	248.5	809.7	270.3	-	474.0	65.4	809.7	26.6	51.3	887.6
Syrian Arab Republic	87.0	162.9	180.0	429.9	148.3	-	211 8	69.8	429.9	24.4	20.2	474.5
Thailand	846.1	397.2	1 009.2	2 252.5	545 5	-	1 025.8	681.2	2 252.5	46.3	86.3	2 385 1
Tunisia	256.9	136.7	149.3	542.9	141.2	-	335.5	66.2	542.9	3.0	-	545.9
Turkey	639.2	386.0	771.3	1 796.5	507.4	-	784.0	505.1	1 796.5	29.6	70.6	1 896.7
Uganda	196.3	111.8	22.4	330.5	131.0	-	192.4	7.1	330.5	6.3	-	336.8
United Rep. of Cameroon	282.5	97.9	39.0	419.4	297.3	-	115.3	6.8	419.4	3.5	-	422.9
United Rep. of Tanzania	6.8	-	2.8	9.6	9.6	-	-	-	9.6	-	-	9.6

RECIPIENT	(1)	(2)	(3)	(4)	(5a)	(5b)	(6)	(7)	(8)	(9)	(10)	(11)
Uruguay	170.0	367.6	103.6	641.2	173.4	-	330.5	137.3	641.2	19 2	70 7	731.1
Venezuela	259.8	96.4	205.5	561.7	130.7	-	257.7	173.3	561.7	3.5	4.3	569.5
Yugoslavia	243.5	484 8	855.8	1 584.1	596.3	-	681.8	306.0	1 584.1	39 7	37.7	1 661.5
Zaire	252.6	110.2	143.5	506.3	9.6	-	398.8	97.9	506.3	11.6	11.8	529.7
Zambia	95.9	74.9	29.0	199.8	-	-	175.4	24.4	199 8	25.3	8.1	233.2
Other countries[b/]	15.6	19.4	296.2	331.2	27.2	-	151.6	152.4	331.2	-	-	331.2
Sub-total	16 908.2	14 231 1	20 345.2	51 484.5	11 801.5	97.8	26 915.5	12 669.7	51 484.5	2 491.4	1 639.3	55 615.2
Intercountry programmes												
Africa	124.1	77.4	98.8	300.3	289.7	4.9	5.7	-	300.3	-	-	300.3
Asia and the Pacific	410.0	116.6	282.1	808.7	582.9	44.3	151.2	30.3	808.7	-	-	808.7
Europe	21.0	18.6	17.3	56.9	56.9	-	-	-	56.9	-	-	56.9
Latin America	266.2	113.3	156.4	535.9	472.9	24.8	36.6	1.6	535.9	-	-	535.9
Middle East	5.8	1.2	5.3	12.3	12.3	-	-	-	12.3	-	-	12.3
Interregional projects	974.1	442.3	2 997.6	4 414.0	1 441.0	32.1	2 371.0	569.9	4 414.0	355.3	27.8	4 797.1
Sub-total	1 801.2	769.4	3 557.5	6 128.1	2 855.7	106.1	2 564.5	601.8	6 128.1	355.3	27.8	6 511.2
Miscellaneous	119.2	28.9	2.6	150.7	23.2	-	127.5	-	150.7	4.5	-	155.2
						SIDA large-scale assistance						
Bangladesh	64 5	254.0	33.5	352.0	-	-	-	352.0	352.0	-	101.8	453.8
						UNDP large-scale assistance						
Argentina	137.7	105.8	32.9	276.4	276.4	-	-	-	276.4	30.7	-	307.1
Brazil	473.3	364.8	112.5	950.6	946.9	3.7	-	-	950.6	11.4	-	962.0
Chile	527.6	376.5	90.8	994.9	994.6	0.3	-	-	994.9	94.4	-	1 089.3
Egypt	48.6	234.8	47.6	331.0	331.0	-	-	-	331.0	176.8	-	507.8
Greece	689.5	139.5	45.6	874.6	874.6	-	-	-	874.6	1.8	-	876.4
Hungary	6.6	361.1	15.6	383.3	383.3	-	-	-	383.3	14.7	-	398.0
India	658.5	1 473.8	186.0	2 318.3	2 318.3	-	-	-	2 318.3	-	-	2 318.3
Indonesia	30.1	39.4	40.0	109.5	109.5	-	-	-	109.5	0.6	-	110.1
Korea, Republic of	27.6	371.7	36.6	435 9	435.9	-	-	-	435.9	-	-	435.9
Morocco	159.0	147.7	31.6	338.3	337.1	1.2	-	-	338.3	64.0	26.8	429.1
Nigeria	59.2	20 2	-	79.4	79.4	-	-	-	79.4	0.4	-	79.8
Pakistan	688.6	568.1	44.3	1 301.0	1 299.1	1.9	-	-	1 301.0	1.0	-	1 302.0
Philippines	133.4	260.9	83.1	477.4	475.0	2.4	-	-	477.4	-	-	477.4
Romania	292.3	684.1	200.9	1 177 3	1 176.7	0.6	-	-	1 177.3	119.1	-	1 296.4
Turkey	461.0	494.6	24.9	980.5	980.5	-	-	-	980.5	22.3	-	1 002.8
Yugoslavia	209.0	422.6	79.9	711.5	711.5	-	-	-	711.5	199.2	-	910.7
Zambia	148.4	4.1	-	152.5	152.5	-	-	-	152.5	-	-	152.5
Central America	409.3	575.9	9.4	994.6	985.3	9.3	-	-	994.6	-	-	994.6
Sub-total	5 159.7	6 645.6	1 081.7	12 887.0	12 867.6	19.4	-	-	12 887.0	736.4	26.8	13 650.2
GRAND TOTAL	24 052.8	21 929.0	25 020.5	71 002.3	27 548.0	223.3	29 607.5	13 623.5	71 002.3	3 587.6	1 795.7	76 385.6

a/ Assistance in kind can only be estimated, see Introductory Notes, paras 4 and 5, to this Annex.

b/ Includes the following countries which have not received technical assistance during the last ten or more years Denmark, Finland, France, Germany, F.R., Monaco, Netherlands, New Zealand, Norway, Rhodesia, South Africa, Sweden, Switzerland and the United States.

ANNEX II

EXTRA-BUDGETARY ASSISTANCE FOR AGENCY TECHNICAL CO-OPERATION PROGRAMMES

A. Estimated value of the assistance in kind made available to the Agency in 1976

Donor	Assistance made available	Value $
Argentina	One expert, one lecturer, defrayal of the subsistence cost of one scientific visitor and training for three Type II fellows (7 man-months)	3 500
Austria	Training for one Type II fellow (6½ man-months)	2 900
Belgium	Training for five Type II fellows (22½ man-months)	9 300
Brazil	One lecturer, defrayal of the subsistence cost of one scientific visitor and training for four Type II fellows (28 man-months)	13 300
Canada	Four lecturers	2 200
Czechoslovakia	Two lecturers and training for eight Type II fellows (34½ man-months)	12 900
Denmark	Training for six Type II fellows (38½ man-months)	18 300
Finland	Training for one Type II fellow (2 man-months)	1 200
France	Four lecturers and training for 26 Type II fellows (146 man-months)	70 400
Germany, F.R.	Eleven lecturers and training for 24 Type II fellows (161 man-months)	118 600
Hungary	Training for five Type II fellows (26 man-months)	8 400
India	Four lecturers and training for three Type II fellows (8½ man-months)	3 200
Israel	One lecturer	1 000
Italy	Training for 33 Type II fellows (184½ man-months)	48 400
Japan	Three lecturers and training for eight Type II fellows (45½ man-months)	28 200
Mexico	Training for two Type II fellows (12 man-months)	2 400
Netherlands	Two experts and training for seven Type II fellows (31½ man-months)	35 000
Poland	Training for eight Type II fellows (27 man-months)	8 700
Romania	Training for one Type II fellow (3 man-months)	1 700
Spain	Three lecturers and training for four Type II fellows (16 man-months)	6 500
Sweden	Four experts, three lecturers, equipment for one country project and training for 22 Type II fellows (135 man-months)	321 800[a/]
USSR	Defrayal of the cost of one scientific visitor and training for three Type II fellows (12 man-months)	7 300
UK	One expert, five lecturers and training for three Type II fellows (6½ man-months)	5 700
USA	Nine lecturers, equipment for 17 projects in 13 countries and training for 93 Type II fellows (570½ man-months)	630 500
Yugoslavia	One lecturer and training for two Type II fellows (14½ man-months)	5 300
International organizations	Eleven lecturers	6 900
TOTAL	Eight experts, 63 lecturers, contributions towards meeting the costs of three scientific visitors, equipment for 18 projects in 14 countries and training for 272 Type II fellows (1538½ man-months)	1 373 600

a/ Includes payments amounting to $11 800 in 1976 in respect of training courses held in 1975.

B. Offers of assistance to meet footnote a/ requests included in the 1976 regular programme

Requesting country	Title of the project	Source of assistance	Value of the assistance		
			Experts $	Equipment $	Total $
Colombia	Gamma spectrometry	USA	6 000	14 000	20 000
Ecuador	Gamma spectrometry	USA	-	22 000	22 000
Israel	Activation analysis	USA	-	13 000	13 000
Korea, R.	Pesticide residues	USA	18 000	10 000	28 000
Malaysia	Use of radioisotopes in medicine	USA	9 000	30 000	39 000
Peru	Calibration and dosimetry laboratory	USA	-	30 000	30 000
Philippines	Electron paramagnetic resonance spectroscopy	USA	-	25 000	25 000
	Power reactor behaviour studies	USA	-	38 000	38 000
Uruguay	Nuclear electronics	USA	9 000	33 000	42 000
Yugoslavia	Use of radioisotopes in industry	USA	-	10 000	10 000
Zaire	Use of radioisotopes in agriculture	USA	-	15 000	15 000
TOTAL			42 000	240 000	282 000

NOTE: Following the procedure recommended by the Technical Assistance Committee of the Board of Governors, the Director General, in a circular letter of 31 March 1976, brought to the attention of the technically advanced Member States the 32 so-called footnote a/ requests for expert services and equipment which, although approved as part of the 1976 regular programme of technical assistance, could not for lack of funds be met except in substitution for other assistance it was planned to provide to the requesting Member State or if additional funds or services became available. He requested the technically advanced Member States to consider the possibility of providing the assistance required and informed them that details would be provided on request. In response to the Director General's letter the Government of the United States of America has informed the Agency that it is willing to provide assistance through the Agency to the projects listed above.

ANNEX III

INTERCOUNTRY PROJECTS: 1976

Project title	Place and dates	Source of funds	Participation[a] (1)	(2)	(3)
Interregional training course on nuclear power project planning and implementation (Phase I)	Argonne, Illinois 6 January to 16 April	Regular programme	33	5	-
Regional training course on the technical and economic aspects of nuclear power development	Manila, Philippines 16 to 27 February	Regular programme	29	2	7
Interregional training course on nuclear power project planning and implementation (Phase I)	Saclay, France 30 March to 7 July	Regular programme	28	-	-
Interregional training course on the use and maintenance of nuclear and related electronic equipment	Turin, Italy 26 April to 23 July	UNDP and Regular programme	14	2	-
Study tour on the utilization of low energy accelerators in research and practical applications	Czechoslovakia, German Democratic Republic, Hungary and the Soviet Union 17 May to 24 June	Regular programme	24	-	-
Interregional training course on nuclear power project planning and implementation (Phase I)	Karlsruhe, Federal Republic of Germany 6 September to 30 November	Regular programme	35	1	-
Interregional training course on nuclear power plant construction and operation management (Phase II)	Argonne, Illinois 8 September to 17 December	Regular programme	41	-	-
Interregional training course on the use of nitrogen-15 in soils research	Leipzig, German Democratic Republic 21 September to 22 October	Regular programme	14	-	-
Interregional basic training course on States' systems of accounting for and control of nuclear material	Vienna, Austria 2 to 19 November	Regular programme and Government of the United States of America	22	6	-

a/ The figures under (1) denote the number of award holders whose cost of participation was met out of project funds; those under (2) denote the number of participants who attended at the expense of the Government, another organization or programme; and those under (3) denote the number of local participants. No stipends or international travel costs are payable out of project funds in respect of participants shown under (2) and (3).

ANNEX IV

FORMAL REPORTS SUBMITTED TO RECIPIENT COUNTRY GOVERNMENTS[a/]

A. Experts' final reports

Reference number	Name of expert	Subject	Country of assignment
1095	A.M.B. Boss	Nuclear medicine	Jamaica
1098	A.M. Beninson	Bioassay techniques (Part I)[b/]	Chile
1099	A. Foderaro	Shielding design for nuclear power plants	Mexico
1100	L. Mellado	Radioisotopes in agriculture[b/]	Peru
1101	R. Boulenger	Radiological protection[c/]	Algeria
1103	M.S. Haq	Plant breeding	Burma
1104	L.M. Sirakov	Use of radioisotopes in medicine	Greece
1105	T. Wyerman	Isotopes in hydrology	Mexico
1106	J. Tupy	Physiology of hevea productivity[c/]	Ivory Coast
1107	D.M. Brown	Use of radioisotopes in agriculture at the national agricultural laboratories	Kenya
1108	S. Ullberg	Pesticide residues	Israel
1110	D.R. Nielsen	Use of isotopes in water use efficiency studies	Syrian A.R.
1111	J. Taylor	Programme of uranium prospection[b/]	Uruguay
1112	J.P. de Pooter	Electronics maintenance[c/]	Tunisia
1113	E. Pannen	Management of nuclear power plants: cost analysis	Argentina
1116	S.J. Cembal	Technological applications of nuclear energy for quality control of radio-isotopes and radiopharmaceuticals[b/]	Chile
1117	A. Leonard	Radiation genetics	Philippines
1118	G. Rabot	Waste management	Korea, R.
1119	N. Grossowicz	Use of radioisotopes in medicine	Thailand

Reference number	Name of expert	Subject	Country of assignment
1120	J. Friedt	Moessbauer spectroscopy[b/]	Argentina
1121	M.E. Rosenbloom	Radiation dosimetry	Israel
1124	A.S. Hoffman	Radiation chemistry (wood plastics and composites)	Mexico
1125	R.A. Cushman	Nuclear power advisory mission	Kuwait
1126	R.P. Grill	Nuclear power plants siting	Mexico
1127	H. Fritzsche	Use of radioisotopes in medicine	Malaysia
1129	F. Amer	Use of radioisotopes in agriculture	Sudan
1131	H.D. Pfannes	Moessbauer effect in metallurgy	Brazil
1132	D. Baraldi	Food irradiation	Uruguay
1134	H. Laudelout	Use of nitrogen-15[c/]	Ivory Coast
1137	P. Fettweis	Nuclear engineering	Egypt
1139	J. Moustgaard	Use of radioisotopes in animal science	Turkey
1140	W. Bock-Werthmann	Activation analysis	Colombia
1141	H. Mommsen	Trace elements analysis	Bangladesh
1142	C.L. Thaper	Neutron scattering	Indonesia
1143	P. Adamek	Nuclear raw materials prospection	Ghana
1144	R. Filipovic	Use of labelled fertilizers	Cyprus
1145	R.M. Felder	Radioisotopes in industry	Israel
1146	J. Laizier	Radiation polymerization chemistry	Indonesia
1147	A. Caillot	Development of radioactive tracer techniques in dynamic sedimentology[c/]	Albania
1148	K.B. Mistry	Use of radioisotopes in agriculture	Sri Lanka
1149	J.W. Ketcheson	Radioisotopes in agriculture	Kenya
1150	E. Salati	Use of environmental isotopes in hydrology[b/]	Chile
1151	R.W. Fink	Linear accelerator	Greece

Reference number	Name of expert	Subject	Country of assignment
1152	E.H. Belcher	Medical applications of radioisotopes	Ghana
1153	F.W. Jennings	Use of radioisotopes in animal science	Indonesia
1154	B.R. McCormack	Medical applications of radioisotopes	Nigeria
1155	W. Bock-Werthmann	Activation analysis	Poland
1157	J.D. Marr	Repair and maintenance of nuclear electronic equipment and medical applications of radioisotopes	Uganda
1158	A.M. Beninson	Bioassay techniques (Part II)[b/]	Chile
1160	P. Fritz	Applications of environmental isotopes in hydrology	Chile
1161	A.M.O. Santomero	Geochemical uranium prospection[b/]	Peru
1162	M. Oberhofer	Health physics (personnel monitoring)	Indonesia
1164	D.A. Miller	Gamma spectrometry	Hong Kong
1165	A.J.A. Cooksey	Nuclear power technology (welding techniques)	Mexico
1166	L. Kosta	Environmental pollution	Thailand
1167	W. Westphal	Research reactors	Malaysia
1168	D.A. Rennie	Use of radioisotopes in agriculture	Thailand
1169	T. Florkowski	Radioisotopes in hydrology	Greece
1173	M.J. Gallagher	Recommendations for an initial five-year programme of uranium exploration in Venezuela	Venezuela
1174	H. Miller	Medical physics	Thailand
1175	R.K. Humwad	Emission spectrography	Mexico
1177	J. Van de Geijn	Nuclear medicine	Israel
1178	V. Vukmirovic	Radioisotopes in sedimentology[c/]	Brazil
1179	K.S. Rao	Nuclear electronics	Indonesia
1181	A.L. Bement	Planning for nuclear fuel research and development	Mexico
1183	B.R. Payne	Use of radioisotopes in hydrology	Sudan

B. Technical reports emanating from UNDP-assisted projects

Recipient country	Project title	Report title	Technical report number
India	Demonstration plant for the irradiation sterilization of medical products	(Plant commissioning report	3
		(Third marketing report	5
		(Dosimetry measurements in plant using clear HX dosimetry perspex	6

C. Terminal reports on projects assisted by UNDP

Recipient country	Project title	Project Manager/ Chief Technical Adviser
Lebanon	Development of a radiation-attenuated vaccine against intestinal coccidiosis in poultry	A. Sokolić

a/ The reports are available in English unless otherwise indicated. No data have been included in respect of reports whose distribution is restricted to the recipient Government or when no notification has been received that reports submitted in connection with UNDP-financed assistance have been "de-restricted".

b/ Available in Spanish only.

c/ Available in French only.

ANNEX V

VOLUNTARY CONTRIBUTIONS AND COST-FREE FELLOWSHIPS FOR THE 1976 REGULAR PROGRAMME

1. As requested by the Technical Assistance Committee of the Board of Governors information is given in Table A below in respect of the pledges of voluntary contributions of Member States to the General Fund for 1976.

Table A

Voluntary contributions pledged and paid to the General Fund for 1976 as at 31 December 1976

Member State	1976 Base rate	Share of $5.5 million target for voluntary contributions for 1976, using the base rate[a]	Pledged $	Paid $
(1)	(2)	(3)	(4)	(5)
Afghanistan	0.02	1 100	-	-
Albania	0.02	1 100	-	-
Algeria	0.08	4 400	4 400*	-
Argentina	0.86	47 300	47 300	47 300
Australia	1.49	81 950	75 136	75 136
Austria	0.58	31 900	31 900	31 900
Bangladesh	0.10	5 500	5 500	5 500
Belgium	1.09	59 950	81 125	81 125
Bolivia	0.02	1 100	-	-
Brazil	0.80	44 000	44 000	44 000
Bulgaria	0.15	8 250	8 300	8 300
Burma	0.03	1 650	1 650	-
Byelorussian SSR	0.48	26 400	26 525	26 525
Canada	3.29	180 950	180 950	180 950
Chile	0.15	8 250	8 500*	-
Colombia	0.17	9 350	-	-
Costa Rica	0.02	1 100	1 100	1 100
Cuba	0.11	6 050	6 500	6 500
Cyprus	0.02	1 100	240	240
Czechoslovakia	0.92	50 600	21 441	21 441
Democratic Kampuchea	0.02	1 100	-	-
Democratic People's Republic of Korea	0.07	3 850	-	-
Denmark	0.65	35 750	35 750	35 750
Dominican Republic	0.02	1 100	-	-
Ecuador	0.02	1 100	-	-
Egypt	0.12	6 600	12 778	12 778
El Salvador	0.02	1 100	-	-
Ethiopia	0.02	1 100	1 100	-
Finland	0.44	24 200	25 000	25 000
France	6.07	333 850	120 000	120 000
Gabon	0.02	1 100	-	-
German Democratic Republic	1.26	69 300	78 431	78 431
Germany, Federal Republic of	7.35	404 250	404 250	404 250
Ghana	0.04	2 200	2 200	2 200
Greece	0.33	18 150	18 150	-
Guatemala	0.03	1 650	-	-
Haiti	0.02	1 100	-	-
Holy See	0.02	1 100	-	-
Hungary	0.34	18 700	48 924	48 924
Iceland	0.02	1 100	1 200	1 200
India	1.24	68 200	68 200	68 200
Indonesia	0.20	11 000	11 000*	-
Iran	0.21	11 550	20 000	20 000
Iraq	0.05	2 750	5 500	5 500
Ireland	0.16	8 800	8 800	8 800
Israel	0.22	12 100	12 100	12 100
Italy	3.73	205 150	-	-
Ivory Coast	0.02	1 100	-	-
Jamaica	0.02	1 100	-	-
Japan	7.40	407 000	407 000	407 000

(1)	(2)	(3)	(4)	(5)
Jordan	0.02	1 100	-	-
Kenya	0.02	1 100	-	-
Korea, Republic of	0.11	6 050	6 050	6 050
Kuwait	0.09	4 950	8 100	8 100
Lebanon	0.03	1 650	-	-
Liberia	0.02	1 100	-	-
Libyan Arab Republic	0.11	6 050	-	-
Liechtenstein	0.02	1 100	1 400	1 400
Luxembourg	0.04	2 200	-	-
Madagascar	0.02	1 100	-	-
Malaysia	0.07	3 850	1 000	1 000
Mali	0.02	1 100	-	-
Mauritius	0.02	1 100	1 100	1 100
Mexico	0.89	48 950	48 950	48 950
Monaco	0.02	1 100	-	-
Mongolia	0.02	1 100	1 100	1 100
Morocco	0.06	3 300	3 300	3 300
Netherlands	1.28	70 400	70 400	70 400
New Zealand	0.29	15 950	-	-
Niger	0.02	1 100	-	-
Nigeria	0.10	5 500	5 500	5 500
Norway	0.45	24 750	24 750 */	24 750
Pakistan	0.15	8 250	8 250 */	-
Panama	0.02	1 100	1 200	1 200
Paraguay	0.02	1 100	-	-
Peru	0.07	3 850	3 850	3 850
Philippines	0.19	10 450	10 500	10 500
Poland	1.30	71 500	50 201	50 201
Portugal	0.16	8 800	8 800	8 800
Qatar	0.02	1 100	-	-
Romania	0.31	17 050	17 050 */	8 525
Saudi Arabia	0.06	3 300	70 000 */	-
Senegal	0.02	1 100	-	-
Sierra Leone	0.02	1 100	-	-
Singapore	0.04	2 200	1 800	1 800
Socialist Republic of Viet Nam	0.06	3 300	-	-
South Africa	0.52	28 600	28 600	28 600
Spain	1.02	56 100	30 000	30 000
Sri Lanka	0.03	1 650	1 650	1 650
Sudan	0.02	1 100	2 500	-
Sweden	1.35	74 250	74 250	74 250
Switzerland	0.85	46 750	44 346	44 346
Syrian Arab Republic	0.02	1 100	1 100	1 100
Thailand	0.11	6 050	6 050	6 050
Tunisia	0.02	1 100	1 200	1 200
Turkey	0.30	16 500	16 500	16 500
Uganda	0.02	1 100	-	-
Ukrainian Soviet Socialist Republic	1.77	97 350	105 263	105 263
Union of Soviet Socialist Republics	13.43	738 650	723 684	723 684
United Arab Emirates	0.02	1 100	-	-
United Kingdom of Great Britain and Northern Ireland	5.50	302 500	302 500	302 500
United Republic of Cameroon	0.02	1 100	1 100	1 100
United Republic of Tanzania	0.02	1 100	-	-
United States of America	27.57	1 516 350	1 516 350	1 426 350
Uruguay	0.06	3 300	-	-
Venezuela	0.33	18 150	-	-
Yugoslavia	0.35	19 250	19 250	19 250
Zaire	0.02	1 100	-	-
Zambia	0.02	1 100	1 245	-
TOTAL	100.06 b/	5 503 300 b/	5 043 839	4 818 519

a/ As recommended in General Conference resolution GC(V)/RES/100.

b/ Qatar, the United Arab Emirates and the United Republic of Tanzania became Member States of the Agency after the base assessment rates for 1976 had been established, which accounts for the total exceeding 100% of the target of $5 500 000 for voluntary contributions to the General Fund for the year 1976.

*/ The pledged amount was paid in 1977, prior to 31 May.

2. A list of the fellowships made available to the Agency free of charge in 1976 is given in Table B below; some of the Type II fellowships offered were carried over from a previous year.

Table B

Fellowships offered or provided free of charge

Donor State	Number of fellowships			
	Available		Awarded	
	(1)	(2)	(3)	(4)
Argentina	5	-	4	33
Austria	-	17	1	6
Belgium	-	36	2	24
Brazil	10	-	5	46
Bulgaria	2	-	-	-
Czechoslovakia	9	-	4	28
Denmark	-	60	3	30
Finland	2	-	2	24
France	-	140	14	148
Germany, Federal Republic of	30	150	5	57
Hungary	4	-	4	27
India	10	-	5	54
Israel	-	45	1	12
Italy	-	250	19	199
Japan	10	-	4	36
Mexico	2	-	2	12
Netherlands	8	-	6	64
Pakistan	6	-	3	36
Philippines	2	-	-	-
Poland	10	-	6	41
Romania	10	-	1	10
Spain	5	60	6	49
Sweden	a/	-	14	146
Thailand	2	-	-	-
Union of Soviet Socialist Republics	a/	-	5	32
United Kingdom	a/	-	4	42
United States of America	a/	-	89	940
Yugoslavia	-	22	2	22

(1) Number of awards offered.

(2) Number of man-months offered.

(3) Number of awards less rejections and withdrawals.

(4) Total number of man-months awarded.

a/ Awards made on the basis of available funds.