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ABBREVIATIONS

ACABQ	Advisory Committee on Administrative and Budgetary Questions
ACC	Administrative Committee on Co-ordination
ADC	Andean Development Corporation
ADB	African Development Bank
AIDO*	Arab Industrial Development Organization
ARCEDEM	African Regional Centre for Engineering Design and Manufacturing
ASEAN	Association of South-East Asian Nations
CAD/CAM	computer-aided design/computer-aided manufacturing
CCSQ (OPS)	Consultative Committee on Substantive Questions (Operational Activities)
COMFAR	Computer Model for Feasibility Analysis and Reporting
ECDG/TCDC	economic and technical co-operation among developing countries
ECOWAS	Economic Community of West African States
EEC	European Economic Community
ESCAP	Economic and Social Commission for Asia and the Pacific
FAO	Food and Agriculture Organization of the United Nations
Habitat	United Nations Centre for Human Settlement
ICGEB	International Centre for Genetic Engineering and Biotechnology
ICSC	International Civil Service Commission
IDDA	Industrial Development Decade for Africa
IDF	Industrial Development Fund
ILO	International Labour Organisation
INTIB	Industrial and Technological Information Bank
IPF	indicative planning figure
IPS	Investment Promotion Service
ITC	International Trade Centre UNCTAD/GATT
JIU	Joint Inspection Unit
JPO	Junior Professional Officer
LEC	least developed country
MEPS	methodology for assessing and programming production/consumption systems
OUA	Organization of African Unity
PC	personal computer
PTA	Preferential Trade Area for Eastern and Southern African States
RP	regular programme
XA	regular programme of technical co-operation - IDDA
XP	regular programme of technical co-operation - excluding IDDA
R and D	research and development
SADCC	Southern African Development Co-ordination Conference
SIDFA	Senior Industrial Development Field Adviser
SIS	Special Industrial Services programme
STAS	short-term advisory services
TF	trust funds
TIES	Technological Information Exchange System
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNOV	United Nations Office at Vienna
UNPAAERD	United Nations Programme of Action for African Economic Recovery and Development
UNV	United Nations Volunteer
VIC	Vienna International Centre
WHO	World Health Organization

* The name of AIDO is now Arab Industrial Development and Mining Organization (AIDMO) (cf. chap. II, para. 25).

CHAPTER I. POLICY ISSUES

1. The financial crisis that had dominated UNIDO since its conversion into a specialized agency had abated somewhat by the outset of the year. With an assured cash flow and an appreciably larger reserve under the operational budget, UNIDO emerged from its financial trauma a leaner and more efficient organization, more confident of its capacity to face the challenges of the future. With survival strategies no longer dominating the activities of the Organization, UNIDO was able to embark upon a period of consolidation and revitalization, in which it sought to develop new programmes, improve efficiency and enhance performance.

2. The record-breaking performance of the Organization reflected this new-found confidence. Despite the high vacancy factor, productivity improved considerably and output increased. Technical assistance deliveries rose from \$119.8 million in 1988 to \$133.8 million in 1989, an increase of 10.5 per cent. Project approvals rose from \$161.4 million to \$171.5 million in the same period, while the value of projects scheduled for implementation also reached unprecedented levels: it rose from \$217 million at the end of 1988 to \$252.7 million 12 months later.

3. The promotion of industrial investment projects also showed significant gains. In 1988, 121 projects valued at \$414 million were successfully promoted; in 1989, the promotion factor increased by some 26 per cent (or \$142 million) with 143 projects valued at \$556.4 million being successfully promoted in the course of the year. A sizeable proportion of this growth is attributable to improved follow-up procedures introduced during the year, by means of which it was possible to ascertain the status of investment projects with a longer gestation period than UNIDO had identified and promoted in earlier years.

4. The improved performance of the Organization was also honoured by Member States' growing trust in the ability of UNIDO to provide an innovative and effective response to the industrial problems of the developing countries. Their recognition of the benefits they stand to gain from closer association with UNIDO and fuller participation in its technical co-operation programmes is

reflected in the voluntary contributions they pledge to the Organization each year. In 1988, they announced pledges for \$25.9 million; in 1989, \$39.3 million. This recognition was not, however, reflected in Member States' payment of assessed contributions which, at the end of the year, showed a disappointingly low level of payment, equivalent to 57 per cent of the 1989 assessment as against 68 per cent for 1988.

5. This closer interest and involvement in the work of the Organization was also manifested in the prolonged debate among Member States on new concepts for and approaches to industrial development. These were reflected not only in the medium-term plan, 1990-1995 (GC.3/17) that was approved by the General Conference of UNIDO at its third regular session in its resolution GC.3/Res.21, but also in the various programmes that the Organization developed in the course of the year, such as those on human resource development and the environment.

6. The quantitative gains achieved by UNIDO have been matched by the Organization's continuing efforts to improve the quality and development impact of its projects. These endeavours drew heavily on two major reports that were presented to the policy-making organs in the first half of the year.

7. The first report was one on the programmes and budgets of UNIDO prepared by an independent team of experts (PB.5/16 and Corr.2). Their report put forward proposals for preserving and strengthening the capacity of the Organization for technical co-operation and project delivery within the constraints of a comparatively modest budget that underscored the need to be highly selective and make carefully considered choices when establishing priorities. The report focused on issues requiring attention and change. These ranged from establishing a central programme analysis function and programme committee to refining cost identification systems and improving the flexibility and control of the operational budget. The report also addressed the adjunct issues of determining the size of the regular budget "subsidy" to the operational budget and presenting programme and budget proposals along "user-friendly" lines.

8. Many of these issues were also treated in the management review of the organizational and staff structure of UNIDO that was undertaken by a team of staff members over a period of three months (IDB.5/9). Prepared in response to decision IDB.4/Dec.49 of the Industrial Development Board, the review and its recommendations offered broad scope for improving the overall effectiveness and efficiency of the Organization. The basic tenor of the report was to stress organizational improvement through evolution rather than revolution. In his response to the recommendations of the management review (IDB.5/9/Add.1 and Corr.1, IDB.5/33 and GC.3/33) the Director-General adopted a three-tier approach: those structural changes which he intended to implement by the end of August 1989; those which he intended to start implementing by the end of 1989 and complete by the end of 1990, but on which he sought the views of Member States; and those which could be addressed by an alternative approach.

9. The major feature of the first series of changes was the establishment of the Strategy, Policy and Planning Office. Other organizational shifts involved the external relations function in the Department of External Relations, Public Information, Language and Documentation Services, as well as the establishment of a Central Reference and Monitoring Unit and a Project Personnel Recruitment and Administration Service in the Department of Industrial Operations, where the functions of the former Industrial Training Branch were redefined. Within the Department for Programme and Project Development a new Division for Industrial Co-operation and Funds Mobilization was set up consisting of the Project Review Committee Secretariat and Funds Administration Section, the Industrial Co-operation Branch (comprising the Section for Co-operation with Non-governmental Organizations and Industrial Enterprises and the Special Trust Funds Section) and the Unit for the Integration of Women in Industrial Development. A second Division, entitled Special Measures and Activities Division, was attached to the Office of the Deputy Director-General of the Department for Programme and Project Development. It comprises the Project Appraisal Section, the Programme Development Support Unit and the Field Representation and Co-ordination Section. Certain personnel-related functions of the latter unit were transferred to Personnel Services in the Department of Administration, the overall aim being to improve the administration of the Organization's field presence, which was seen to be an important factor in the formulation of programmes and projects

that corresponded to recognized developmental needs at the country and regional level. In the Area Programmes Division, the European and Mediterranean Programme and the Global and Interregional Programmes and Projects Unit were merged into one organizational unit and the overall strength of the Division increased with the transfer of the Section for Economic Co-operation among Developing Countries.

10. The first steps in the second series of changes, which will extend up until the end of 1990, were taken at the end of 1989. Responsibility for the least developed countries was transferred to the respective regional programmes while a co-ordinator for the least developed countries was established in the Office of the Director of the Area Programmes Division. The Co-ordination Unit for the Industrial Development Decade for Africa was transferred to the same location. In both instances, particular care was taken to enhance the programme and project development functions for the countries and regions covered by both programmes, the identity of which will be clearly maintained.

11. Within the context of a process of continual reform, discussions continued throughout the year on the "ideal structure" of the Organization. Given the variance between the two major reports on this particular issue and the diversity of views expressed in the policy-making organs, it follows that any move to implement proposals on the matter would only be appropriate and feasible after a thorough reconsideration of the long-term programmes and priorities of UNIDO. At its third session, the General Conference, in resolution GC.3/Res.20, thus requested the Director-General to present to the Conference at its fourth session a report on his overall vision of the appropriate organizational and staff structure of UNIDO. An essential feature in this process would be the continuation of consultations with Member States and the informal exchange of views and studies of options for the long-term reform process and optimal staff structure.

12. The setting of programme priorities for future bienniums was one of the immediate tasks of the newly established Strategy, Policy and Planning Office. The task was undertaken within the context of setting a budget ceiling for the biennium 1992-1993 and identifying new programme initiatives. In addition to ensuring conformity with the priorities established and themes set in the medium-term plan, 1990-1995, care was taken to ensure that new programme proposals would benefit more than one country and region; secure

co-operation within UNIDO and draw on in-house expertise; as well as offer potential for resource mobilization in support of industry in the developing countries.

13. Preference would be given to systematized programme proposals. Thus, programme managers were encouraged to discuss with each other the interlinkage of their proposals in order to ensure programmatic co-ordination and cohesion, as well as reduce overlap and duplication. A programme planning seminar for senior managers was held at Baden, Austria, in December to facilitate the formulation of programme proposals along those lines. Within that overall objective, alternative approaches were identified and medium-term priorities translated into concrete programme proposals that transcended all Departments and constituted an operative framework for the elaboration of new programmes in the early months of the following year.

14. Closely related to this programming initiative was the budgeting initiative undertaken in response to conclusion 1989/4 adopted by the Programme and Budget Committee at its fifth session concerning the development of a user-friendly budget. The proposed new format being prepared by the Strategy, Policy and Planning Office in close co-operation with the Financial Services Division is governed by the principles of transparency, brevity and simplicity. In addition to changes in the textual and tabular presentation, the proposal will respond to the request for a more programmatic presentation in three ways. First, it will describe the manner in which the Organization as a whole intends to address each of the priorities and common themes identified in the medium-term plan which, by their very definition, transcend Departmental lines. Secondly, in the narrative defining the objective of each subprogramme (Branch or Section) and describing its output, it will clearly indicate the priorities and common themes addressed by that subprogramme. Thirdly, a comprehensive matrix will be drawn up showing which subprogrammes respond to which priorities.

15. This approach offers a number of advantages. First and foremost, it assigns clear programme responsibilities to (sub)programme managers; it thus determines accountability. The approach is simple since the structures of the programme budget and the Organization remain identical. This, in turn, facilitates comparison with previous budgets. Most importantly, it will also stimulate co-operation between (sub)programme managers as the document identifies from

the outset those programmes in which managers should co-ordinate their activities or enter into direct co-operation with each other, thus furthering the process of consolidation and reduction of overlap.

16. Closer cross-organizational co-operation is also the feature of two major programme proposals that were discussed by the policy-making organs during the year: the human resource development programme and the environment programme. The human resource development programme aims at helping developing countries to build up coherent and sustainable systems for upgrading technological skills and managerial and entrepreneurial capabilities, which can then be integrated into the industrial development process in accordance with the national development strategies and priority plans of those countries. The emphasis lies on striking an appropriate balance between efficiency and equity, long-term targets and short-term needs, public and private initiatives, and advanced and conventional technologies.

17. In the environment programme, attention focuses on four key areas: enhancing the Organization's capacity to render industry-related assistance with regard to the environment; assisting developing countries in formulating industry-related environmental policies and legislation; promoting clean, low-waste, energy-efficient and recycling or re-use technologies; and undertaking technical co-operation in pollution abatement. The General Conference requested the Director-General to proceed without delay with the implementation of those parts of the programme that related to enhancing in-house awareness and capacity, as well as strengthening the advisory role of UNIDO in the field of environment.

18. Both the environment and human resource development were accorded particular priority in the medium-term plan. Similar emphasis was placed on the mobilization of financial resources. One of the major instruments for mobilizing those resources is the network of investment promotion services that the Organization has set up in nine countries. In the course of the year, a programme was drawn up and agreed upon for funding and staffing that network, with acceptance of the principle whereby the host countries fully finance the individual services and the staff is appointed by the Director-General.

19. Human resource development and industrial investment were also two subjects discussed by the Special Advisory Group to the Director-General at their

meeting in April 1989, with the third subject being the development and transfer of technology. Policy papers were presented to the Group whose members saw the industrial investment-related activities of UNIDO to be "apt, correct and realistic".^{1/} They emphasized that while new policies should properly reflect the important role of foreign investment in fostering economic development, the significance of local financing should not be underestimated. The Group also reaffirmed the crucial importance of technology in investment decision-making. UNIDO should thus assist those seeking advice on its selection and acquisition. Indeed, as the Group emphasized, the technology-related and human-resource-related activities of UNIDO are of paramount importance to the future development of the third world. It is, however, absolutely essential to ensure that the effective transfer of technology really takes place as opposed to the mere importation of equipment. For organizations such as UNIDO, the primary task is to ensure an optimal mix of technologies and the adaptation of imported technologies to the needs, cultures and conditions of the developing countries.

20. In all these and other endeavours, UNIDO did its utmost to exercise to the full its central co-ordinating functions in the field of industrial development. This entailed a re-evaluation of its relationship with other agencies, particularly those with which it will be entering into much closer co-operation such as the World Bank. Co-ordination, however, goes beyond the mere conclusion of special agreements with other agencies in the system or the many intergovernmental and non-governmental organizations. It involves ensuring recognition of the Organization's role in industrialization and securing the effective co-operation and commitment of others. The current cross-organizational programme analysis of the United Nations system on industrial development will undoubtedly provide an opportunity to assess the role of UNIDO and the contribution of other agencies, as well as the elaboration of the international development strategy for the fourth United Nations Development Decade that constitutes a framework within which UNIDO and its Member States can work together, outlining policies and guidance for sectoral goals and objectives.

21. In the course of the year, UNIDO also developed special industrial development programmes for the various developing regions. The largest programme was for

Africa within the framework of the Industrial Development Decade for Africa (IDDA). Bridging the end of the first Decade and the start of a second, whose proclamation both the Industrial Development Board and the General Conference supported, the programme draws on the findings of the mid-term evaluation of the first Decade and covers areas proposed by the experts in the mid-term evaluation report (CAHI.9/20/Add.1). On the basis of a timetable drawn up by the Conference of the African Ministers of Industry at their ninth meeting at Harare, Zimbabwe, in June, the full involvement of the African countries will be secured from the outset - something that was omitted the first time round. Although progress in general did not come up to expectations and not all objectives were attained, for the most part for want of resources being provided to the industrial sector and on account of the global economic crisis, some achievements had been clearly registered during the first Decade and there was increased awareness of the linkage between industry and other sectors of the economy. The basis for the new IDDA programme will be national industrial programmes derived from recognized needs within the region. This underscores the important role to be played by the African countries themselves, and particular emphasis will be placed on industries supporting agricultural development.

22. A similar focus is to be found in the special programme for the industrial development of Asia and the Pacific, which will be directed towards the development of indigenous technologies in or transfer of technologies to specific subregions or groups of countries, primarily the least developed countries. In the programme for the industrial recovery of Latin America and the Caribbean, the emphasis is on rehabilitating the manufacturing sector to a level of productivity and efficiency that will contribute to its international competitiveness. It also aims at reinstating industry as the engine for economic growth and employment generation in the region. The programme will be initially based on five regional projects directed towards: developing a sub-contracting system; promoting biotechnology; automating the capital goods industry; and promoting industrial projects and investments, as well as the agro-industrial sector, in particular food-processing. Work also started on the preparation of a special programme for the Arab countries, the finalization of which will extend into the forthcoming year.

23. In its determination to come to terms with the ever greater discrepancy between the expectations Member States have of the

^{1/} GC.3/25, para. 6.

Organization and its ability to meet those expectations with the limited resources at its disposal, UNIDO continued its endeavours to ensure managerial efficiency and organizational innovativeness.

24. An essential feature of those endeavours is the upgrading of staff skills, particularly in the priority areas identified in the medium-term plan. At the same time, the moves towards increasing the efficiency and effectiveness of the Organization require the introduction of modern management techniques and information systems. A continuous learning process thus becomes a prerequisite for heightened competence and skills. The move in this direction undertaken in previous years gained appreciable momentum. Some 500 staff members underwent computer-related training and 141 attended senior management seminars, while nearly 50 went on external study programmes. Resources for staff training have increased five-fold from one biennium (1986-1987) to the next (1988-1989) and will double yet again in the coming biennium (1990-1991). Although more people are receiving training in the Organization than at any other time in its history, it is quite clear that demand will continue to outstrip supply as the Organization adopts new technologies and updates its knowledge. Whereas the learning process is infinite, resources are not.

25. Particular emphasis was also placed on improving programme and project evaluation. The first in-depth evaluation of a Headquarters programme focused on the System of Consultations, the findings of which were submitted to the Board (iDB.5/CRP.7) and the General Conference (GC.3/20). Remedial action since introduced was the establishment of in-house advisory committees as a means of integrating the Consultation process more effectively into the other activities of the Organization and of enhancing mutual support between the various Divisions. Greater involvement of external parties is to be secured through the creation of external expert panels dealing with the main issues, while steps are to be taken to increase preparatory work while decreasing the number of formal preparatory meetings. In the final analysis, however, the most significant change was the greater emphasis placed on follow-up activities encompassing the whole of UNIDO as well as other organizations and Member States. The years to come will show the effect of these measures and the contribution that the System of Consultations can make to developing and implementing integrated programmes of technical co-operation and investment promotion.

26. At the project level, evaluation was found to be the most effective means of providing consistent data not only on the achievement of targets and actual delivery, but also on project quality, an all-important factor in an Organization endeavouring to ensure that the quantitative increase is matched by qualitative improvement. Thus, steps were also taken to enhance project quality *ab initio* with the inclusion of environmental impact assessment in the appraisal process.

27. Another factor that will have a direct impact on the ability of UNIDO to deliver assistance of appropriate quality is the reimbursement of support costs borne by executing agencies. UNIDO thus co-operated extensively with a working group set up by the Governing Council of the United Nations Development Programme (UNDP) to consider successor arrangements to the prevailing system. The findings were awaited with particular interest as they will bear major implications for the relations between UNDP and the specialized agencies, as well as for the modalities of project execution and the role of the agencies in the years to come. They will also have a bearing on the computation and presentation of future UNIDO budgets, given the need to maintain balanced operational budgets.

28. Some of the problems associated with project support costs may well be offset by the increasing number of large-scale projects (valued at \$1 million and above) in the total number of projects implemented each year. Other problems might be minimized by the fact that a growing number of projects are financed from non-UNDP sources. Unlike most other United Nations agencies, and despite growing execution by Governments and UNDP direct, UNIDO still managed to increase the value of the UNDP projects it implemented from \$78 million in 1988 to \$82.3 million in 1989. Yet even higher growth rates were achieved in respect of non-UNDP financed projects where delivery rose from \$41.8 million in 1988 to \$51.5 million in 1989.

29. One reason for this latter growth was the growing preparedness of individual countries and public or private enterprises to co-operate with UNIDO through third-party or self-financing trust fund arrangements. In 1988, these activities accounted for \$14.2 million or 11.8 per cent of total delivery and in 1989 \$16.5 million or 12.3 per cent. The main thrust of these special trust fund programmes is directed towards: supporting plants in improving performance, training, rehabilitation and expansion; assisting development finance institutions in

designing, formulating and implementing projects; and providing programme or project management services to donor agencies.

30. Co-operation with private enterprises is also a feature of the two new industrial co-operation centres that UNIDO opened in Moscow and Beijing in the course of the year. The centres will promote co-operation between enterprises in the host country and their counterparts in both developing and developed countries, thus contributing to North-South and East-West co-operation. They will help to channel to the developing countries the technologies, know-how and general production expertise that the host countries have built up and put to good effect, as well as identify opportunities for co-operation with enterprises in the host countries themselves. Experts from foreign enterprises recruited by UNIDO will work alongside their Soviet or Chinese counterparts promoting joint projects. Nationals from developing countries will be able to avail themselves of the delegates' programme that UNIDO has successfully introduced in its industrial promotion services, thus enabling them to familiarize themselves with the promotion of joint projects in a new environment and secure business for their countries.

31. The overall objective of these new industrial development centres is akin to that of UNIDO: the promotion of effective international industrial co-operation. It also reflects a conscious endeavour on the part of UNIDO to strengthen its strategic role and improve its ability to attract and utilize investment and technical co-operation resources to the full benefit of the developing countries. The adoption of priorities and thematic programmes is seen as an attempt to enhance the Organization's in-built technical co-operation function, rather than relying on technical co-operation derived from individual projects. A thematic approach of this kind makes it possible to combine and optimize the use of different funds, and to respond more quickly to technical assistance needs of developing countries. Technical co-operation should not be seen as a cure for problems once they have arisen, but as a preventive before they arise that permits solutions based on systems or programmes instituted for that purpose. The year 1989 was highly productive for the Organization and offered tangible evidence of the success that UNIDO enjoyed as it sought to provide that assistance.

Intergovernmental organs

32. The third session of the General Conference was held in Vienna from 20 to 24 November. ^{2/} In compliance with Board decision IDB.5/Dec.46 on conduct of business and rationalization of proceedings, a special session of the Board was held immediately following the General Conference. ^{3/} Also during 1989, the fifth sessions of the Programme and Budget Committee and the Industrial Development Board were held in April and June/July, respectively. ^{4/}

33. At the first and second regular sessions of the Economic and Social Council in 1989 and at the Governing Council of UNDP at its thirty-sixth session, resolutions and decisions were adopted that were of relevance to the work of UNIDO. Also, the United Nations General Assembly at its forty-fourth session adopted decisions and resolutions that require response by UNIDO or are of importance to its work. In particular, resolution 44/237 proclaimed 1991-2000 the Second Industrial Development Decade for Africa and 20 November as Africa Industrialization Day. Among other resolutions of relevance to UNIDO were resolutions 44/211 on operational activities for development, 44/227, 228 and 229 on the environment, 44/14 concerning implementation of the Vienna Programme of Action on Science and Technology for Development and 44/220 on the Second United Nations Conference on the Least Developed Countries. ^{5/}

^{2/} The decisions and resolutions adopted by the General Conference at its third session are contained in document GC.3/INF.3 and Corr.1.

^{3/} For the report of the Industrial Development Board on the work of its third special session see document GC.4/1.

^{4/} For the reports of the Industrial Development Board and the Programme and Budget Committee on the work of their fifth sessions see documents GC.3/9 and IDB.5/13, respectively.

^{5/} A list of the relevant resolutions and decisions of the United Nations General Assembly, the Economic and Social Council and the Governing Council of UNDP will be made available to the Board in a conference room paper.

CHAPTER II. INDUSTRIAL STRATEGIES AND OPERATIONS

A. INDUSTRIAL POLICIES AND PERSPECTIVES

1. The biennium 1988-1989 saw a marked increase in the number of economic analyses and field missions carried out for the purpose of country programming. Policy analyses focused on industrial restructuring, policy deregulation and rehabilitation of industries.

Country- and region-specific studies and programme support activities

2. Regional and country studies continued to play a substantive role in the pre-programming activities of the Organization. The Industrial Development Review series, in particular, provided a factual basis for the formulation of technical co-operation programmes. To further enhance their utility in relation to specific UNIDO activities, the reviews were increasingly focused on subsector analyses. Reviews were issued on Angola, Bangladesh, Cameroon, and Namibia. An additional five reviews (Democratic Yemen, Djibouti, Mauritania, Sudan and Yemen) as well as a country paper on Egypt were completed during the year and presented at the seventh Arab Industrial Development Conference, held at Tunis, Tunisia, in October. A review on India was finalized for publication as a sales document.

3. Specific programming support was provided upon the request of the United Nations Development Programme (UNDP) and country missions were undertaken to this end, inter alia, to Indonesia and Myanmar. In the support studies carried out, the factors reviewed in relation to each country included the existing industrial structure, major development constraints, medium-term prospects and industrial policies and strategies. A multi-disciplinary programming mission to the Preferential Trade Area for Eastern and Southern African States (PTA) was carried out and a detailed analysis prepared of integrated industrial development prospects and priority actions for the subregion. Research work was undertaken on future prospects and policies for the development of small- and medium-scale industry in

various countries. A report was issued on small-scale and rural industry development programmes in South-East and East Asia.

4. Considerable emphasis was given to industrial rehabilitation in Africa. Diagnostic surveys for rehabilitation were carried out in Liberia, Morocco and the United Republic of Tanzania and preparatory work was initiated for surveys in Kenya and Uganda, the objective being to identify the scope and requirements for rehabilitating specific plants. On this basis and in the context of sectoral and subsectoral structures, the surveys provide guidance for designing policies, financial measures and measures for international co-operation aimed at assisting the troubled enterprises and building up their profitability. The surveys and resulting co-operation project proposals were the subject of meetings at Lusaka, Zambia, as well as in Vienna, with both meetings eliciting considerable response from government representatives.

5. The issue of industrial restructuring in individual developing countries was given increasing attention, and a seminar on the restructuring of the Thai textile industry was organized at Bangkok in September. Case studies were carried out in Bangladesh, Indonesia and Thailand to assess the impact of new technological production processes in the textile and clothing industry in Asian developing countries, and through this exercise the status of women in this sector was also reviewed. A national seminar was held in Ecuador to present the results of a study on the prospects of manufacturing and discuss appropriate policies and programmes. UNIDO staff participated in other meetings at the national level involving industrial restructuring and competitiveness, including a national symposium on human resources and the role of women in industrial development in Zimbabwe.

6. The importance of developing supporting industries as part of a programme for structural change has been increasingly recognized. This was reflected in the work on promotion of supporting industries in South-East Asian countries carried out together with the Engineering Consulting Firms Association

of Japan as well as the field work carried out in Malaysia and Thailand to provide a basis for subsequent international co-operation.

7. In order to review the implications of the rapid and complex technological development process, an Expert Group Meeting on Prospects for Industrialization Policies in Developing Countries Taking into Account the Impact of Developments in the Field of New and High Technologies was held at UNIDO Headquarters. Emerging trends in major new technologies were analysed (telecommunication, microelectronics, bioengineering and new materials), specific industrial policy measures to be taken by developing countries were outlined, and areas were suggested for strengthening economic co-operation among developing countries.

8. Pursuant to Board decision IDB.4/Dec.17, attention was focused on mechanisms and measures required to promote and sustain industrial development as well as on industrialization strategies for the future at a Seminar on Prospects for the Palestinian Industrial Sector held in Vienna in October. Palestinian experts participated together with international experts and representatives of leading regional and international organizations.

Global issues and policy analysis

9. Major emphasis continued to be placed on the analysis and formulation of the UNIDO perspective on global industrialization, which is published in the annual Industry and Development: Global Report, usually made available to the Board. In 1989, in compliance with Board decision IDB.5/Dec.42 (c), an executive summary of the 1989/90 Report (GC.3/26) was prepared for submission to the General Conference, and the full Report (ID/364) was presented to Member States immediately prior to the Conference. The Report contains a review of the latest trends in the global industrial landscape and of the near-term prospects for industrialization in developing countries. Furthermore, it presents an in-depth assessment of selected issues crucial to the industrialization of developing countries. As in the past, the Report focuses on the impact of changing conditions on the industrialization process in 10 developed and developing regions of the world; special issues addressed include an apparent global decline in the productivity of capital, competitive industrial restructuring in the face of slackening world demand, and South-South industrial co-operation for the development of industrial

sub-contracting of parts and components. The Report also provides in-depth surveys of nine major industries: machine tools; semiconductors; telecommunications equipment; aluminium; man-made fibres; agro-chemicals; plastics; wearing apparel; and soap and detergents.

10. Various policy-oriented documents were prepared for the third session of the General Conference, as well as for the fifth session of the Board. These reports included documents on the mobilization of financial resources for industrial development (GC.3/3/Rev.1), external debt and industrial development (GC.3/4 and Add.1), the effects of external debt and external debt servicing on the industrial development of the developing countries (GC.3/23), and the restructuring of world industrial production and redeployment (IDB.5/15). Contributions were also prepared for submission to governing bodies of other United Nations organizations and specialized agencies. As part of its work in fostering the development of quantitative methods for industrial planning in the developing countries, UNIDO contributed to the organization of the ninth International Conference on Input-Output Techniques held in Hungary in September. A publication based on the papers presented to the Conference was under preparation. A further issue of the journal Industry and Development was prepared, which includes articles on the computer software industry, reasons for business failure in Greek manufacturing, and possibilities for co-operation in the petrochemicals sector between a large country (Brazil) and a small one (Trinidad and Tobago).

Industrial statistics and sectoral surveys

11. A concerted effort was made to obtain more detailed statistics that better serve users' needs; in this respect high priority was given to the collection of data on those industries that are changing most rapidly in both developed and developing countries. Preparation of the latest version of the Handbook of Industrial Statistics began and publication is expected in 1990. Industrial statistics continued to be supplied for use in recurring publications, such as the World Development Report and World Tables of the World Bank and the Handbook of International Trade and Development Statistics of the United Nations Conference on Trade and Development (UNCTAD). A total of 19 requests were received from outside users for copies of the UNIDO data base, for which fees were collected.

12. Work was carried out on three sectoral surveys dealing with fine chemicals, non-metallic minerals and leather. There was close collaboration with other international organizations, as well as with firms operating in these industries and academic research groups specializing in one or more of the subject areas. Considerable outside interest was shown in the analyses made, as evidenced by the financial and research support received from the above firms and groups. The first in the series of publications related to sectoral surveys was completed and will be published by a commercial firm in 1990. It consists of an introductory volume in which patterns of competition and specialization in international markets are dealt with.

13. Technical co-operation activities included assistance in methods of data collection and the development of computer systems for data storage and retrieval. Four projects were completed in these fields. These included: preparations for an annual survey of industry; a pilot study to determine the feasibility of a subregional data base; an exploratory study of census taking; and the collection and analysis of sector-specific data. Four additional projects concerning statistics and data processing were initiated.

B. TECHNICAL CO-OPERATION

I. Programme and Project Development

14. Programme and project development at all levels and the monitoring of implementation continued to represent a dual focus in all area programmes. The process of building up a portfolio of pipeline projects was further intensified, owing to the increased resources available under the Industrial Development Fund (IDF) and the indicative planning figure (IPF) for the current (fourth) UNDP programming cycle (1987-1991). As part of this effort, programming, programme review and project formulation missions were carried out and a number of UNDP mid-term country programme reviews were attended. Further refinements were made to the computer-based pipeline monitoring system that was established in 1986. The trend of programme development continues to show that UNIDO activities will increase in the areas of agro-industries and industrial rehabilitation.

15. The level of overall project approvals again reached a record high of \$171.5 million in 1989 (1988: \$161.4 million),

thus exceeding expected results by surpassing previous levels for the third year in succession. Chapter VIII, part A, provides additional details by sources of funds. The highlights of programme and project development in the individual regions are described in the following paragraphs.

Africa Region

16. The country programmes in Africa reflected the adoption of a broad diagnostic approach leading to the recommendation of projects that clearly conform to the overall development strategy and priorities of the country concerned. Programmes and projects carried out with countries and inter-governmental organizations in the region have been developed on the basis that they will contribute to the interlinkages of the various sectors of the economy, thereby assisting in the creation of a viable industrial structure. Technical co-operation continued to centre around the support of the various economic recovery plans and structural adjustment schemes initiated by the countries of the region. Major emphasis was placed on institution-building, human resources development, technological development and economic management aimed at the re-organization of industry to achieve competitiveness and efficiency as well as the development of entrepreneurship in the region. Other areas of concentration included the development of small- and medium-scale industries, restructuring and rehabilitation of agro-related industries and programmes directed towards the enhancement and expansion of the role of women in industry.

17. Programme review and programming missions were sent to Burkina Faso, Côte d'Ivoire, Liberia, Nigeria, Senegal, Sierra Leone, Swaziland, Zambia and Zimbabwe, the Preferential Trade Area for Eastern and Southern African States (PTA) and UNDP headquarters. Other missions related to the regional Africa programme were undertaken to Brazil, Ethiopia, Gabon, Ghana, Mozambique, Nigeria, Senegal, United Republic of Tanzania and Zimbabwe, while a multidisciplinary mission took place to a number of PTA countries. UNIDO contributed to and participated in a number of meetings of importance to the development of the region, e.g. the African Regional Meeting of Resident Representatives in Ethiopia, the ninth Annual Consultative Conference of the Southern African Development Co-ordination Conference (SADCC) in Angola, the ninth meeting of the Conference of African Ministers of Industry in Zimbabwe,

and the third African Development Bank (ADB)/UNIDO co-ordination meeting in Côte d'Ivoire. Negotiations took place with the World Bank on future co-operation in Angola. A regional investment project promotion forum was organized in Sierra Leone and national workshops on industrial strategies in Congo, Guinea and Nigeria.

18. As mentioned in paragraph 16 above, special efforts have been made to ensure that priority needs set by the African countries are reflected as appropriate in individual projects. Examples of such cases are: a large-scale project in support of institution-building valued at \$630,000 approved for Zambia; three projects in the area of industrial restructuring valued at a total of \$2.4 million approved for Senegal, and aimed at strengthening the ability of the Government to effectively manage the industrial sector; a large-scale project valued at \$2.8 million approved for Nigeria in the field of small- and medium-scale industries with the aim of generating employment; three projects for Zimbabwe valued at a total of \$118,000 and aimed at upgrading existing facilities and introducing new lines of production in the non-ferrous metals and engineering sectors; a large-scale project valued at \$1.2 million approved for Ghana and aimed at achieving self-sufficiency in raw material supply for the brewery industry through an import-substitution strategy; and other projects ranging in value from \$50,000 to \$2,000,000 and covering a wide spectrum of activities such as agro-industries, human resource development, privatization, technology and energy which were developed for Angola, Cameroon, Congo, Côte d'Ivoire, Kenya and Zaire.

19. At the regional level, several vital projects were approved. These included one on strengthening the capability of the African Regional Centre for Engineering Design and Manufacturing (ARCEDEM) to achieve its objectives, another in the field of hides and skin, leather and leather products for a total of more than \$2.2 million, and a project for the establishment of a centre for telecommunications equipment for SADC countries. For the PTA countries, several projects were introduced covering activities such as training and human resources development, industrial rehabilitation and energy.

20. New projects approved in 1989 reached 165 in number, amounting to \$32.5 million in total value (1988: \$38.9 million). Net approvals amounted to \$45.5 million (1988: \$43.8 million), or an increase of 3.9 per cent from the previous year. Although new

approvals in 1989 show a decrease as compared with 1988, the net value increased with the approval of main phase projects resulting from successful implementation of preparatory assistance and extensions of ongoing projects.

21. In addition to UNIDO activities related to technical assistance to the Namibian people in 1989 that were reported in documents IDB.5/10/Add.1, chapter I, and GC.3/16, UNIDO participated in a number of seminars organized by the United Nations Council for Namibia, namely: the Seminar on Contingency Planning for Technical Assistance to Namibia during the Transition to Independence, held in Vienna in July; the Seminar on the Integration of Namibia into the Regional Structures for Economic Co-operation and Development in Southern Africa, held at Harare, Zimbabwe, in October; and the third of the three seminars on the role of the United Nations in the provision of international technical assistance for an independent Namibia, held at Rio de Janeiro, Brazil, in December. A UNIDO delegation also participated in the Namibia informal donor consultations that took place at Oslo, Norway, in September.

22. UNIDO continued its efforts to provide technical assistance to the South African national liberation movements recognized by the Organization of African Unity (OAU), namely, the African National Congress (ANC) and the Pan African Congress of Azania (PAC). Thus, two projects were developed with the objective of supporting and strengthening the existing maintenance and repair facilities at the ANC and PAC settlements in the United Republic of Tanzania. More details on these activities are provided in documents IDB.5/10/Add.1, chapter II, and GC.3/18.

23. A number of activities were specifically related to least developed countries (LDCs) in the region. For example, a project that aims to establish an informatics centre was initiated in the United Republic of Tanzania. In other LDCs such as Benin, Burkina Faso, Burundi, Guinea, Guinea-Bissau, Rwanda, Sao Tome and Principe, Togo and Uganda, training seminars and investment projects were approved in relation to fish-processing techniques and the use of computer modelling techniques for feasibility analysis.

Arab States

24. The state of the world economy during the 1980s gave rise to the perception that the forces of industrial growth would benefit only the larger economic or market

groupings. With this in mind, and taking into consideration the slow interaction between Arab States and such groupings as the European Economic Community (EEC), some of the Arab countries pursued the formation of subregional blocks based on geopolitical and socio-economic considerations, that would facilitate the identification of common policies. The first to emerge was the Gulf Co-operation Council, followed by the Maghreb Co-operation Union and the Arab Co-operation Council. These three groups continued to pursue their common interests with the rest of the Arab countries via bilateral or multilateral arrangements, the latter either through the League of Arab States and its specialized agencies or the Arab Economic Unity Council and its various institutions and joint ventures. The major concern of the three groupings has been to improve co-operation among their member countries leading to a higher level of integration of their industrial sectors while pursuing joint action to build their technical manpower, better market capabilities and greater technological capacity.

25. In October, the Arab Ministers of Industry met at Tunis, Tunisia, on the occasion of the Seventh Arab Industrial Development Conference and the tenth meeting of the Board of Arab Industrial Development Organization (AIDO) and adopted a number of resolutions. Some of these related to the streamlining of the functions of certain regional institutions concerned with industrial development (i.e. merger of AIDO, the Arab Organization for Mineral Resources and the Arab Organization for Standardization and Metrology). Other resolutions addressed the activities of AIDO, including those related to UNIDO work in the region. The theme for all these meetings was the promotion of industrial joint ventures on a regional basis. There was a unanimous call for sectoral and pre-investment studies as the basis for investment promotion and negotiation of technology transfer. Human resource development and the rehabilitation of ailing industries were also stressed. UNIDO efforts in the region, particularly its programme of co-operation with AIDO during the biennium 1988-1989, were noted with satisfaction.

26. Requests received from a number of Arab countries related to assistance to the private industrial sector and, in some centrally planned economies, assistance in the privatization process. High-technology technical co-operation projects were among other priorities identified by some countries. Training in management techniques and the use of computers in decision making, an integrated approach to

marketing of industrial products through sub-contracting, and the development of downstream and ancillary engineering industries became major features of the UNIDO programme in many countries during 1989. More attention is currently being given to the assessment of the industrial sector on a subregional basis and possible relevant programmes for restructuring industry. Examples of the above are: a project for a systematic approach to privatization in Iraq; a programme, in co-operation with the Economic Commission for Africa (ECA) Multinational Programming and Operational Centre (MULPOC), comprising sectoral studies and new targets for co-operation and integration for the North African Arab countries; and plans for implementing the Special Programme for Industrial Development in the Arab Countries established by the Industrial Development Board in decision IDB.5/Dec.26.

27. Approvals in 1989 from all sources of funds amounted to \$9.5 million, of which \$6.8 million were new projects; of these new project approvals \$2.6 million were from IPF, \$0.5 million from SIS, \$0.1 million from the regular programme of technical co-operation, \$1.5 million from IDF, and \$2.1 million from trust funds and other sources.

28. Despite the prevailing circumstances in the occupied territories, UNIDO continued its efforts to assist the Palestinian people. A number of projects were undertaken or initiated, including the holding of a seminar on prospects for the Palestinian industrial sector, assistance to the plastics industry, assistance for the establishment of a vegetable grading and packing house and studies on the identification of priority projects in the industrial sector. More details on these activities are provided in documents IDB.5/10/Add.1, chapter III, and GC.3/14.

Asia and the Pacific Region

29. While most of the developing countries of Asia and the Pacific were moving into the 1990s with positive growth trends, the overall performance concealed certain disparities indicating the need for further improvement in managing the development process. The manufacturing sector continued to perform well, and was rapidly becoming the lead growth sector. Keeping pace with technological change to remain competitive in an increasingly open and liberal trade environment, therefore, emerged as a key priority. Direct controls were being relaxed and replaced by more sophisticated fiscal and monetary tools, necessitating a major change in the

approach of many Governments to economic management. In general, requests for technical co-operation were found to address the following areas: improvements in strategic planning and policy making; improved technology to enhance productivity, competitiveness in international markets, and effective management of the economy; and human resource development to support the acquisition and use of improved technology. Institution-building to strengthen capabilities in providing industrial support services and development and transfer of technology continued to be dominant features although a good mixture of direct assistance to manufacturing industries was emerging. Such assistance originated mainly as a result of the investment promotion activities of UNIDO. There was also increasing concern about the environmental effects of industry as manifested in the form of requests for seminars and workshops as well as projects in industrial pollution control. Conservation of energy and development of new energy sources continued to be important concerns.

30. On an inter-country or regional basis, several new major projects were endorsed by UNDP at the fourth Meeting of Aid Co-ordinators held at Jakarta, Indonesia, in March; they were subsequently assigned by UNDP for execution by UNIDO. These concerned the development of a regional network on control and regulatory measures for motor vehicle emissions, the harmonization of standards and co-ordination of activities in metrology in the countries of the Association of South-East Asian Nations (ASEAN), a modular approach to managerial and entrepreneurial skills development, natural disaster-resistant structures and construction technologies, research and human resource development in Asian pulp and paper institutes, and workshops on the environment. The second phase of the regional network for pesticides development based at New Delhi, India, was also approved. Under UNIDO-managed resources, preparatory activities began for launching a broader regional programme on standardization and quality control. The treatment of tannery effluents in selected countries will be the subject of a regional endeavour. Several countries in the region have also been selected for an investment promotion programme in the field of packaging. Preparatory work has likewise been initiated to carry out a special programme for LDCs in the region, focusing on agro-related metalworking industries.

31. UNIDO activities at the country level, especially those financed by UNDP, were largely centred on China, Democratic People's Republic of Korea, India,

Mongolia and Viet Nam, with substantial activity in Indonesia and Pakistan as well. However, the UNDP programme cycle had reached its mid-point in most countries and in two (India and Indonesia) it was drawing to a close. This and other factors have begun to affect the nature and pace of programmes and project development activities.

32. UNIDO participated in the mid-term review of the country programme for Viet Nam where most of IPF has been allocated to industrial projects assigned to UNIDO for execution. The review included a discussion of sectors and projects that will be supported on the basis of resources to be borrowed from the next cycle. UNIDO was also active in UNDP mid-term reviews and country programme preparations for Bangladesh, Democratic People's Republic of Korea, Iran (Islamic Republic of), Mongolia, Myanmar and Republic of Korea, and preliminary discussions were held regarding the preparation of country programmes for Pakistan, Philippines and Sri Lanka.

33. Approvals in 1989 from all sources of funds amounted to \$58.1 million, of which \$47.6 million were from IPF, \$0.9 million from SIS, \$0.4 million from the regular programme of technical co-operation, \$1.4 million from IDF, and \$7.8 million from trust funds and other sources. With the fourth UNDP programming cycle coming to a close, approvals under IPF are likely to decrease unless Governments in the region resort to borrowing from funds of the next cycle in order to gain a head start in some important undertakings. The success of such a strategy would hinge on the amount of preparation, i.e. project identification and formulation, carried out as part of the continuous programming exercise or in anticipation of the forthcoming cycle.

Europe and Mediterranean Region

34. As all the national and regional fourth cycle programmes (1987-1991) were approved by the Governing Council of UNDP, most of the IPF projects assigned to UNIDO in the region have also been approved. For Bulgaria, Romania and Yugoslavia a few projects were in the process of being finalized and approved. Only for Turkey, whose country programme runs to 1992, have projects still to be finalized for approval.

35. Mid-term country programme reviews were held for seven European countries and UNIDO participated in five of these. Progress in relation to both country and regional programmes was examined and a

number of adjustments were recommended as the result of current socio-economic conditions. In all reviews carried out, the status of implementation of UNIDO-executed projects was considered to be fully satisfactory.

36. There were 155 ongoing projects in European countries in 1989, with the total value of \$27.5 million financed mainly from IPF and SIS resources.

37. Approvals in 1989 from all sources of funds amounted to \$3.6 million, of which \$2.5 million were from IPF, \$0.6 million from SIS, \$0.04 million from the regular programme of technical co-operation, \$0.1 million from IDF, and \$0.4 million from trust funds and other sources.

38. More requests for non-IPF assistance (including the SIS programme) are expected from the IPF-recipient European countries, which themselves are unable to resolve many technical problems of production and therefore need to modernize their economies and enterprises. Most of the requests are in the areas of science and high technology, new materials processing, advanced techniques in industrial pollution control, and acquisition of newer technologies from the industrialized countries.

39. As the result of the recent changes in Central Europe the Governments of Hungary and Poland are gradually shifting to market-oriented economies, and new requests can be anticipated from those countries for assistance in the fields of entrepreneurial development in small- and medium-scale industries and plant rehabilitation as well as for advice on the industrial aspects of their economic restructuring process and management, particularly in the case of privatization.

40. UNIDO continued to actively promote activities of the joint committees for eight European countries: Bulgaria, Czechoslovakia, Hungary, Poland, Romania, Turkey, the Union of Soviet Socialist Republics and Yugoslavia (see chap. VI, para. 4). These activities led to the development of "outreach" projects whereby experience gained by the European countries is shared with, and for the benefit of, the developing countries.

Latin America and the Caribbean Region

41. During the year under review, most Latin American countries continued to face problems created by structural imbalances accompanied by fiscal deficits, low levels of investment, stagnation, inflation and a decrease in real wages and salaries.

Despite considerable progress in increasing levels of exports, particularly non-traditional exports, and the adoption of schemes designed to correct macro-economic imbalances and sharply declining standards of living, the level of economic activity for the region as a whole remained virtually unchanged and per capita output showed a decline for two consecutive years.

42. These factors have contributed to the continued adverse performance of the industrial sector in the region. The UNIDO programme of co-operation at the regional, subregional and national levels aims at assisting government efforts to reverse this critical situation. A few illustrative examples are given below.

43. A Regional Co-operation Programme for the Industrial Recovery of Latin America and the Caribbean was adopted by the Industrial Development Board in decision IDB.5/Dec.25 and approved by the General Conference in resolution GC.3/Res.17. More specifically it was decided that the Regional Co-operation Programme would cover, *inter alia*, the following priority areas: biotechnology; capital goods; electronics; new materials; data processing; human resources development; and agro-industries. The Programme, which is dynamic and action-oriented, will consist of an interrelated series of technical co-operation projects, whose overall aim is the rehabilitation of the manufacturing sector. After extensive consultations between the Latin American and Caribbean Group and the Secretariat, five project proposals - out of a portfolio of 16 - were selected by the Group to be given high priority: (a) development of a sub-contracting system in Latin America; (b) industrial promotion of biotechnology in Latin America; (c) programme for industrial automation of the capital goods industry in Latin America; (d) programme for the promotion of industrial projects and investments in Central America; and (e) programme for the food agro-industrial subsector in Latin America. The regional project document on the development of sub-contracting in Latin America was completed and the Government of Italy has agreed to finance the project in its entirety from their contribution to IDF. Preparatory assistance activities have been initiated in relation to the other four projects to elaborate regional project documents that can then be negotiated with potential donors, including UNDP.

44. Within the framework of the Special Plan of Economic Co-operation for Central America, approved by the United Nations General Assembly in its resolution 42/231

in May 1986, a large-scale project was developed on modernization and support to the handicrafts, micro- and small-scale industries in Central America. A large-scale project on industrial investment promotion for the Andean Group countries, developed jointly with UNDP and the Andean Development Corporation (ADC), was approved in May 1989. It is being financed jointly by UNDP, ADC and UNIDO for a total value of \$1.2 million.

45. The following are examples of projects developed at the national level. The second phase of a project to establish a development plan for the agro-food industry in the coastal area of Paraná in Brazil was approved under a special-purpose contribution from the Government of France for agro-related projects. A project was developed for the El Chaco region in Paraguay to demonstrate and evaluate, through a test programme, technologies for gasifiers and biodigestors for energy and fuel supply. In the field of industrial restructuring, a project was developed in Venezuela to assist in the formulation of a national programme and identify new industrialization strategies that would lead to the modernization of the manufacturing sector in the country. In Brazil, within the framework of the Memorandum of Understanding concluded with UNIDO in 1987, special importance was given to the strengthening of technological capacity, the application of conventional and advanced technologies, and to greater access to sources of know-how and industrial and technological information.

46. During the year under review, 70 new projects were approved with a total value of \$4.9 million, of which 18 were IPF projects valued at \$2.5 million and 52 projects under other sources of funds such as IDF valued at \$2.4 million. The lower level of approval attained in 1989 as compared with 1988 was due to limited availability of IPF resources in the third year of the fourth programming cycle, a lower level of funding available through IDF and an increase in government-executed projects. With reference to the latter, out of the projects originally selected for UNIDO execution under the fourth UNDP programming cycle, 29 became government-executed projects, with a total value of some \$11.5 million resulting in a significant reduction of the UNIDO share of the UNDP-financed programmes. Experience has shown that the technical capacity available within the United Nations system is thus not fully utilized. Vigorous efforts, however, continued to be made to obtain additional financing through various international, regional and subregional financial institutions, to augment the

UNIDO programme of co-operation within the region.

Global and Interregional Projects and Programmes

47. Interregional and global programmes and projects are financed almost entirely from the IDF and trust funds. New approvals reached a level of \$58.5 million in 1989, a substantial increase over 1988. More than 40 per cent of all new IDF projects approved in 1989 were interregional and global projects. Some of the highlights in programme and project development are indicated below.

48. Efforts were made to continue the activities started in previous years on enterprise-to-enterprise co-operation between small- and medium-scale industries in selected participating countries. Activities related to investment promotion between various regions, investment project identification and evaluation were also undertaken. Projects were approved for holding conferences and seminars on advanced ceramics and non-metallic minerals. New projects and proposals were developed within the UNIDPLAN programme (see para. 124 below) on industrial planning and the exchange of computer-aided design planning tools and methodologies. A large-scale project was also elaborated for the establishment of an international centre for science and high technology, to be financed by a special-purpose donation. The centre will be active in the fields of pure and applied chemistry, high technologies and new materials, and earth and environmental sciences. It will provide opportunities for scientists and researchers from industrialized countries and developing countries to work together on specific programmes and projects (see chap. III, para. 22).

49. Group training programmes continued to be one of the main activities. Although they constitute rather small-scale projects, they are repeated several times, many of them on an annual basis. The training programmes are subject to regular evaluation and are updated as required.

Programme Development Support

50. To promote the application of the programme approach to project identification and formulation, the Programme Development Support Unit was established in the Department for Project and Programme Development in February 1989. The Unit devoted its efforts mainly to the preparation, within IDDA, of a programme

for the development of selected agro-food industrial systems (AFIS) during the 1990-1991 biennium in Africa. Agro-food industries were considered within an extended concept that included the input subsectors agricultural machinery, fertilizers and pesticides.

51. The UNIDO integrated approach to programming technical co-operation results in packages of technical assistance, investment projects and policy recommendations aimed at overcoming most of the obstacles to the development of an industrial system in a country. An industrial system comprises a set of interdependent production, distribution and consumption components that are influenced by a set of policies; such a system can cover one or more industrial subsectors and includes all the inputs to the subsectors.

52. The programme approach is applied at three levels of increasing definition. The first level, which provides the broad basis for the work to follow, is the preparation of sectoral typologies that group countries according to patterns of development of specific industrial systems. This preparation permits the design of group-specific development strategies that take into account the particular needs of the countries of each group and the identification of development actions - technical co-operation, policy measures and investments - that are required to implement these strategies. The second level, providing a more exact perspective, is the preparation of indicative programmes. These development programmes for representative countries from different country groups as determined by the sectoral typology are termed indicative because they provide a basis not only for developing an industrial sector in a particular country, but also for designing programmes for other countries with a similar development pattern and development potential for that industrial sector. The third - and most defined - level is the preparation of an integrated sectoral programme of technical co-operation and investment projects with supporting policy measures for the development of a specific industrial sector in one country. This work, which is considerably facilitated and accelerated by the earlier stages of the programme approach, includes the analysis of the industrial sector using the methodology for assessing and programming integrated production and consumption systems (MEPS), originally developed by the Board of the Cartagena Agreement and expanded and elaborated in co-operation with UNIDO.

53. In 1989, sectoral typologies covering all 50 African countries were completed

for AFIS and the subsectors agricultural machinery, fertilizer and pesticides. Building and expanding on the results of these typologies, the preparation of a total of 24 indicative programmes was initiated. The indicative programmes, to be completed in early 1990, will provide the basis for planning the AFIS programme for the biennium 1990-1991. They will also be used in mobilizing funds for their implementation beyond those available under the IDDA programme.

54. The other main focus of the work was the development of the fisheries industrial system (FIS) of selected African countries. Based on the results of the work on indicative programmes for FIS of eight West African countries carried out by UNIDO in 1988, integrated packages of technical co-operation and investment projects were prepared to promote the development of FIS in Benin, Gambia, Ghana, Sierra Leone and Togo. This programming work was carried out in co-operation with the Food and Agriculture Organization of the United Nations (FAO). The programmes met with enthusiastic response from Governments and donors and will be implemented, at least in part, in 1990.

55. The work programme, as planned in early 1989, was largely carried out in respect of the sectoral typologies and indicative programmes in fisheries. Additional funds made available at the end of the year made it possible to initiate 24 indicative programmes, the majority of which had been foreseen for 1990.

II. Implementation overall in 1989

56. The largest share of technical co-operation activities continued to be financed from UNDP resources (IPF, SIS, Special Programme Resources and Special Measures). Although total UNDP resources again increased from \$76.9 million in 1988 to \$79.9 million in 1989, the share decreased from 64.3 to 59.7 per cent. Overall expenditure on technical co-operation activities increased from \$119.8 million in 1988 to \$133.8 million in 1989.

57. The total of 1,896 projects implemented or under implementation in 1989 included 206 valued at \$1 million or more, 584 valued at \$150,000 or more, and 1,106 valued at less than \$150,000. Tables 1 and 2 below show the overall technical co-operation expenditure, by source of funds and project component.

58. A breakdown of technical co-operation delivery, by source of funds and project

component, is given below for Africa (tables 3 and 4), the Arab States (tables 5 and 6), Asia and the Pacific (tables 7 and 8), Europe (tables 9 and 10) and Latin America and the Caribbean (tables 11 and 12).

59. The value of project delivery in Africa amounted to \$49.1 million (including \$13.7 million for African Arab States). The increase of \$10.7 million or 27.9 per cent (an increase of \$0.9 million or 7.1 per cent for African Arab States) over the corresponding figure for 1988 was the result of a substantial increase in funds made available in 1989 for IDDA and IDF.

60. The value of projects implemented in the Arab States (including the African Arab States) amounted to \$19.3 million. This constituted an increase of \$1.3 million or 7.2 per cent over the figures for 1988. The higher level of implementation was largely the result of an increase in regular programme and trust funds.

61. The value of projects executed in Asia and the Pacific amounted to \$43.6 million, a decrease of \$0.3 million as compared to 1988. The lower level of implementation was due primarily to delays in the execution of several large-scale, UNDP-financed projects.

62. The value of technical co-operation delivery in Europe was maintained - despite a considerable decrease in resources available from the United Nations Fund for Drug Abuse Control (UNFDAC) - at \$4.3 million, the same level as in 1988, when a markedly higher level of implementation over 1987 (\$1.7 million or 62.9 per cent) was recorded.

63. The value of projects executed in the Americas amounted to \$12.1 million, an increase of \$1.3 million or 12 per cent over the figure for 1988. The higher level of implementation was mainly attributable to an increase in financial resources made available from UNDP and IDF.

64. The technical co-operation activities carried out by UNIDO in 1989, were marked by a co-ordinated approach giving emphasis to small- and medium-scale industries and other priority areas such as industrial rehabilitation, human resource development, energy and environmental protection.

65. Technical co-operation delivery by individual branches in the Department of Industrial Operations is treated in the paragraphs that follow. Since many of the ongoing projects have been covered to some extent in previous annual reports, only

brief accounts are given here, with appropriate references to those earlier reports. It should be borne in mind that even though projects may be mentioned under specific "activity" headings (e.g. metallurgical industries), their implementation may cut across organizational lines to include the economic and technical expertise of not only the entire Department of Industrial Operations, but of UNIDO as a whole. Thus, individual branches of the Department provide inputs to, and benefit from, the activities of the Department for Industrial Promotion, Consultations and Technology and the Department for Programme and Project Development.

66. The number of technical co-operation projects implemented or under implementation in 1989 and the regional distribution of technical co-operation delivery, by field of activity, are shown in tables 13 and 14 below.

III. Implementation of industrial operations by field of activity

AGRO-BASED INDUSTRIES

67. Technical co-operation expenditures under the heading of agro-industries amounted to \$14.6 million. Some 60.5 per cent of the total implementation was financed from UNDP resources. A total of 162 projects were implemented or under implementation.

68. Following the trend of past years, institution-building projects continued to dominate the technical co-operation activities in the textile industry. The emphasis was on R and D and training in nearly all projects. The scope of the activities varied considerably, and included garment production, computer-aided design/computer-aided manufacturing (CAD/CAM), the processing of jute, ramie and pineapple fibre, and fashion design. The adoption of an integrated sectoral programme approach, on a regional basis - as in the case of the hides and skins, leather and leather products industries in Africa - gave technical assistance activities a new, more complex dimension.

69. The growing interest in the garment industry, including fashion, is in line with the global trend of the migration of the relatively labour-intensive garment manufacturing to areas where labour costs are lower than in highly industrialized countries. While garment exports from developing countries are steadily increasing, they are still to a large extent based on imported fabrics and accessories. The net export value

Table 1
Technical co-operation expenditure,
by source of funds

	1 9 8 9	
	\$ thousand	%
UNIDO regular budget		
Regular programme of		
technical co-operation	3,444	2.6
Industrial Development		
Decade for Africa	2,879	2.1
Subtotal	6,323	4.7
UNDP		
IPF and cash counterpart	76,753	57.4
SIS	2,961	2.2
Special programme resources		
and special measures	155	0.1
Subtotal	79,869	59.7
UNDP-administered trust funds	2,343	1.8
Other funds		
Other trust funds	16,509	12.3
Industrial Development Fund	22,985	17.2
UNFDAC	1,196	0.9
Non-UNIDO funds	4,557	3.4
Subtotal	45,247	33.8
T O T A L	133,782	100.0

Table 2
Technical co-operation expenditure,
by project component

	1 9 8 9	
	\$ thousand	%
Project personnel	54,345	40.6
Sub-contracts	18,447	13.8
Fellowships and training	20,229	15.1
Equipment	37,433	28.0
Miscellaneous	3,328	2.5
T O T A L	133,782	100.0

Table 3
Technical co-operation expenditure in Africa, a/
by source of funds

	1 9 8 9	
	\$ thousand	%
UNIDO regular budget		
Regular programme of technical co-operation	1,769	3.6
Industrial Development Decade for Africa	2,858	5.8
Subtotal	4,627	9.4
UNDP		
IPF and cash counterpart	26,337	53.6
SIS	864	1.8
Special programme resources and special measures	0	0.0
Subtotal	27,201	55.4
UNDP-administered trust funds	27	0.1
Other funds		
Other trust funds	8,861	18.0
Industrial Development Fund	7,041	14.3
UNFDAC	684	1.4
Non-UNIDO funds	684	1.4
Subtotal	17,270	35.1
T O T A L	49,125	100.0

a/ Including African Arab States (Algeria, Djibouti, Egypt, Libyan Arab Jamahiriya, Morocco, Somalia, Sudan, Tunisia).

Table 4
Technical co-operation expenditure in Africa, a/
by project component

	1 9 8 9	
	\$ thousand	%
Project personnel	22,695	46.2
Sub-contracts	7,114	14.5
Fellowships and training	4,849	9.9
Equipment	13,095	26.6
Miscellaneous	1,372	2.8
T O T A L	49,125	100.0

a/ Including African Arab States (Algeria, Djibouti, Egypt, Libyan Arab Jamahiriya, Morocco, Somalia, Sudan, Tunisia).

Table 5

Technical co-operation expenditure in Arab States,
by source of funds

	1 9 8 9 a/		1 9 8 9 b/	
	\$ thousand	%	\$ thousand	%
UNIDO regular budget				
Regular programme of technical co-operation	337	1.7	180	1.3
Industrial Development Decade for Africa	139	0.7	139	1.0
Subtotal	476	2.4	319	2.3
UNDP				
IPF and cash counterpart	10,553	54.7	6,180	45.0
SIS	262	1.4	114	0.9
Special programme resources and special measures	29	0.2	0	0.0
Subtotal	10,844	56.3	6,294	45.9
UNDP-administered trust funds	0	0.0	0	0.0
Other funds				
Other trust funds	6,198	32.1	6,107	44.5
Industrial Development Fund	957	5.0	516	3.7
UNFDAC	634	3.3	424	3.1
Non-UNIDO funds	170	0.9	65	0.5
Subtotal	7,959	41.3	7,112	51.8
T O T A L	19,279	100.0	13,725	100.0

a/ Including African Arab States (Algeria, Djibouti, Egypt, Libyan Arab Jamahiriya, Morocco, Somalia, Sudan, Tunisia).

b/ African Arab States only.

Table 6

Technical co-operation expenditure in Arab States,
by project component

	1 9 8 9 a/		1 9 8 9 b/	
	\$ thousand	%	\$ thousand	%
Project personnel	11,204	58.1	7,809	56.9
Sub-contracts	1,864	9.7	1,697	12.4
Fellowships and training	1,092	5.6	659	4.8
Equipment	4,794	24.9	3,307	24.1
Miscellaneous	325	1.7	253	1.8
T O T A L	19,279	100.0	13,725	100.0

a/ Including African Arab States (Algeria, Djibouti, Egypt, Libyan Arab Jamahiriya, Morocco, Somalia, Sudan, Tunisia).

b/ African Arab States only.

Table 7
Technical co-operation expenditure in Asia and the Pacific,
by source of funds

	1 9 8 9	
	\$ thousand	%
UNIDO regular budget		
Regular programme of		
technical co-operation	672	1.5
Industrial Development		
Decade for Africa	0	0.0
Subtotal	672	1.5
UNDP		
IPF and cash counterpart	34,134	78.3
SIS	573	1.3
Special programme resources		
and special measures	126	0.3
Subtotal	34,833	79.9
UNDP-administered trust funds	1,301	3.0
Other funds		
Other trust funds	1,268	2.9
Industrial Development Fund	2,331	5.4
UNFDAC	53	0.1
Non-UNIDO funds	3,147	7.2
Subtotal	6,799	15.6
T O T A L	43,605	100.0

Table 8
Technical co-operation expenditure in Asia and the Pacific,
by project component

	1 9 8 9	
	\$ thousand	%
Project personnel	11,186	25.6
Sub-contracts	8,573	19.7
Fellowships and training	8,019	18.4
Equipment	15,294	35.1
Miscellaneous	533	1.2
T O T A L	43,605	100.0

Table 9

Technical co-operation expenditure in Europe,
by source of funds

	1989	
	\$ thousand	%
UNIDO regular budget		
Regular programme of technical co-operation	71	1.7
Industrial Development Decade for Africa	0	0.0
Subtotal	71	1.7
UNDP		
IPF and cash counterpart	3,409	79.4
SIS	496	11.6
Special programme resources and special measures	0	0.0
Subtotal	3,905	91.0
UNDP-administered trust funds	0	0.0
Other funds		
Other trust funds	70	1.6
Industrial Development Fund	13	0.3
UNFDAC	232	5.4
Non-UNIDO funds	0	0.0
Subtotal	315	7.3
T O T A L	4,291	100.0

Table 10

Technical co-operation expenditure in Europe,
by project component

	1989	
	\$ thousand	%
Project personnel	794	18.5
Sub-contracts	177	4.1
Fellowships and training	1,030	24.0
Equipment	2,221	51.8
Miscellaneous	69	1.6
T O T A L	4,291	100.0

Table 11
Technical co-operation expenditure in Latin America and the Caribbean,
by source of funds

	1 9 8 9	
	\$ thousand	%
UNIDO regular budget		
Regular programme of technical co-operation	135	1.1
Industrial Development Decade for Africa	0	0.0
Subtotal	135	1.1
UNDP		
IPF and cash counterpart	8,500	70.4
SIS	880	7.3
Special programme resources and special measures	0	0.0
Subtotal	9,380	77.7
UNDP-administered trust funds	0	0.0
Other funds		
Other trust funds	599	5.0
Industrial Development Fund	1,323	11.0
UNFDAC	17	0.1
Non-UNIDO funds	621	5.1
Subtotal	2,560	21.2
T O T A L	12,075	100.0

Table 12
Technical co-operation expenditure in Latin America and the Caribbean,
by project component

	1 9 8 9	
	\$ thousand	%
Project personnel	6,859	56.8
Sub-contracts	811	6.7
Fellowships and training	1,084	9.0
Equipment	2,930	24.3
Miscellaneous	391	3.2
T O T A L	12,075	100.0

Table 13

Number of technical co-operation projects under implementation in 1989
by region, by field of activity and size of project

Field of activity		Size of project					Global/ Inter-regional	Subtotal	Total
		Africa	Latin America and the Caribbean	Arab States a/	Asia and the Pacific	Europe			
Agro-based industries	(i)	24	21	7 (4)	15	4	7	74	162
	(ii)	22	10	6 (6)	25	1	6	64	
	(iii)	8	4	3 (3)	12	0	0	24	
Chemical industries	(i)	54	29	21 (15)	46	18	30	183	356
	(ii)	25	9	11 (9)	60	17	1	114	
	(iii)	16	2	10 (10)	38	1	2	59	
Metallurgical industries	(i)	16	9	9 (4)	28	5	7	70	130
	(ii)	14	3	4 (4)	15	4	3	39	
	(iii)	4	4	1 (1)	13	0	0	21	
Engineering industries	(i)	26	20	19 (9)	27	17	8	108	210
	(ii)	19	7	10 (8)	24	8	0	60	
	(iii)	9	1	3 (1)	29	1	0	42	
Industrial planning	(i)	19	20	6 (4)	9	1	16	67	113
	(ii)	19	7	5 (1)	3	1	0	34	
	(iii)	7	2	1 (0)	2	0	0	12	

a/ Figures in parentheses relate to African Arab States and are already included under Africa.

Table 13 (continued)

Field of activity	Size of project							Subtotal	Total
	Africa	Latin America and the Caribbean	Arab States a/	Asia and the Pacific	Europe	Global/ Inter-regional			
Institutional infrastructure	(i)	30	27	8 (5)	15	7	8	90	208
	(ii)	47	13	14 (8)	23	5	4	98	
	(iii)	8	3	5 (1)	4	0	1	20	
Industrial management and rehabilitation	(i)	18	24	7 (5)	10	0	5	59	103
	(ii)	17	2	5 (3)	8	3	1	33	
	(iii)	2	2	2 (1)	6	0	0	11	
Feasibility studies	(i)	37	2	15 (7)	20	1	12	80	125
	(ii)	22	1	11 (5)	10	0	2	41	
	(iii)	2	0	1 (0)	1	0	0	4	
Industrial human resource development	(i)	28	4	6 (1)	12	8	92	149	179
	(ii)	12	0	0 (0)	0	3	14	29	
	(iii)	1	0	0 (0)	0	0	0	1	
Other b/	(i)	52	22	19 (9)	49	8	85	226	310
	(ii)	13	6	5 (3)	15	3	33	72	
	(iii)	0	0	0 (0)	1	0	11	12	
TOTAL	(i)	304	178	117 (63)	231	69	270	1,106	1,896
	(ii)	210	58	71 (47)	183	45	64	584	
	(iii)	57	18	26 (17)	106	2	14	206	

a/ Figures in parentheses relate to African Arab States and are already included under Africa.

b/ See statistical annex, table 6, Expenditure on technical co-operation activities in 1989, by department/programme component and geographical area, for breakdown.

Table 14
Regional distribution of technical co-operation expenditure,
by field of activity

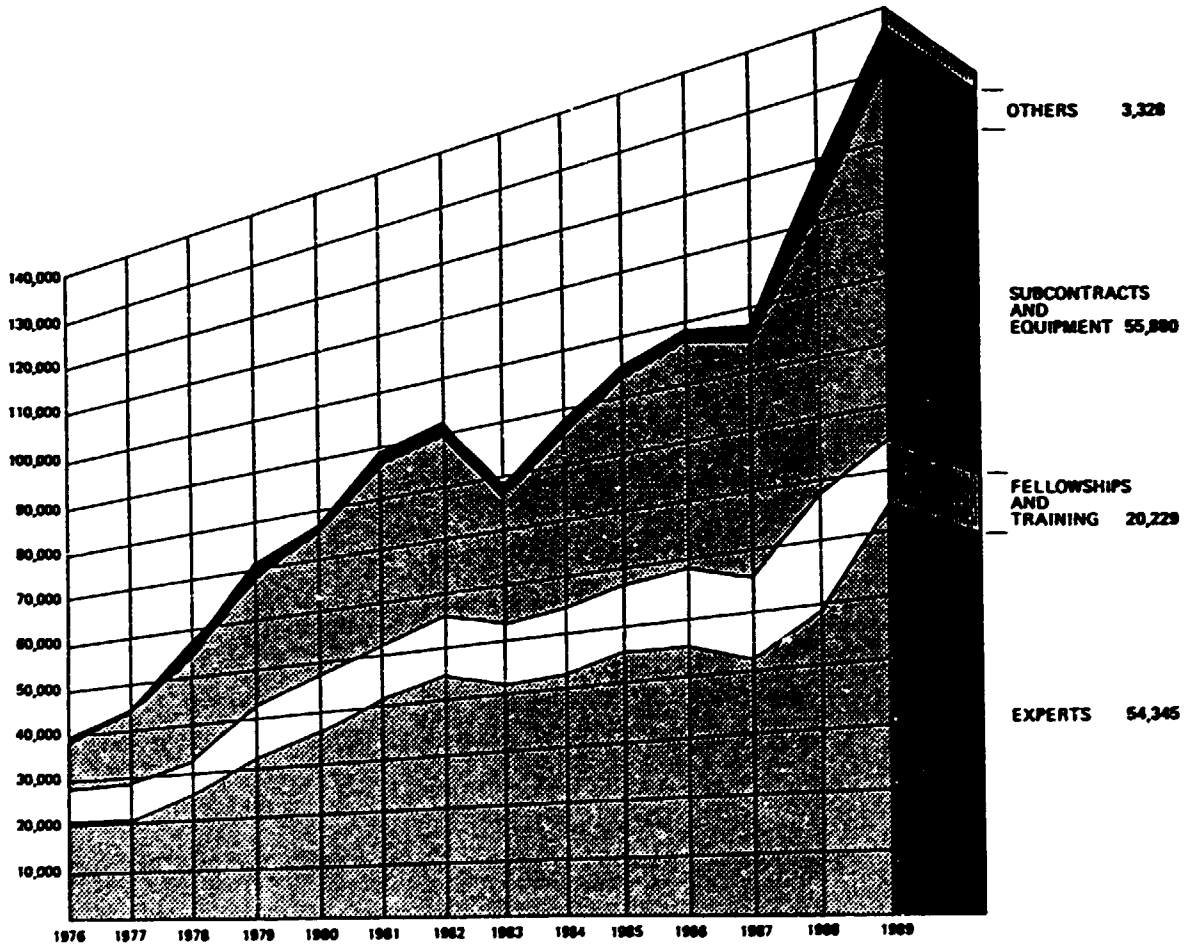
(Percentage)

Field of activity	Africa	Latin America and the Caribbean	Arab States a/	Asia and the Pacific	Europe	Global/ Inter-regional	Total
Agro-based industries	47.1	10.0	9.5 (9.0)	39.3	1.5	1.6	100.0
Chemical industries	40.5	6.2	25.9 (24.9)	43.3	4.1	4.9	100.0
Metallurgical industries	23.1	6.5	9.4 (8.2)	59.7	2.1	7.4	100.0
Engineering industries	34.7	9.1	13.3 (9.2)	42.4	8.5	1.2	100.0
Industrial planning	56.9	19.0	6.4 (1.7)	15.1	0.3	4.0	100.0
Institutional infrastructure	40.6	15.9	16.0 (3.8)	22.5	1.6	7.2	100.0
Industrial management and rehabilitation	33.6	19.7	13.0 (9.6)	37.7	4.8	0.8	100.0
Feasibility studies	51.7	1.3	29.3 (8.7)	19.5	0.0	6.9	100.0
Industrial human resource development	42.5	2.2	0.6 (0.2)	3.2	4.6	47.1	100.0
Other b/	12.7	5.0	5.0 (2.7)	16.5	1.5	62.0	100.0
Total technical co-operation expenditure	36.7	9.0	14.4 (10.2)	32.6	3.2	14.3	100.0

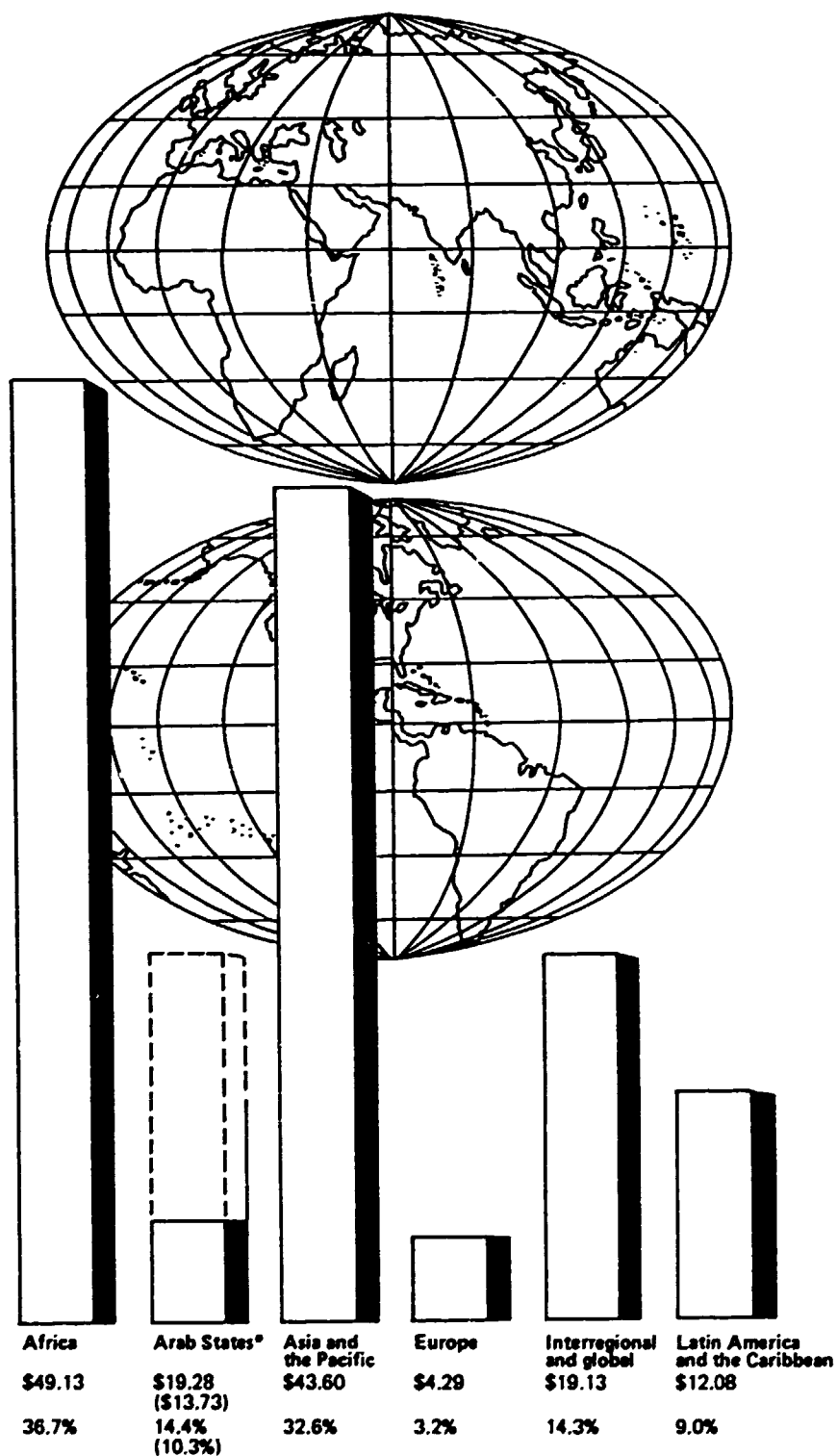
a/ Figures in parentheses relate to African Arab States and are already included under Africa.

b/ See statistical annex, table 6, Expenditure on technical co-operation activities in 1989, by department/programme component and geographical area, for breakdown.

**TECHNICAL CO-OPERATION PROJECT EXPENDITURES
BY PROJECT COMPONENT, 1976-1989**
(In thousands of US dollars)

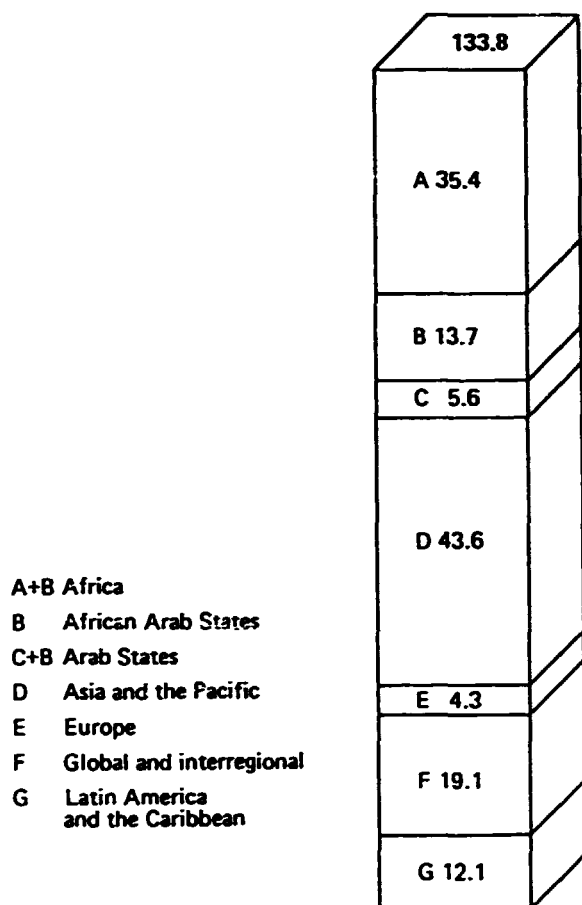


TECHNICAL ASSISTANCE DELIVERED BY UNIDO IN 1989
 (By geographical area, in millions of US dollars and percentages)

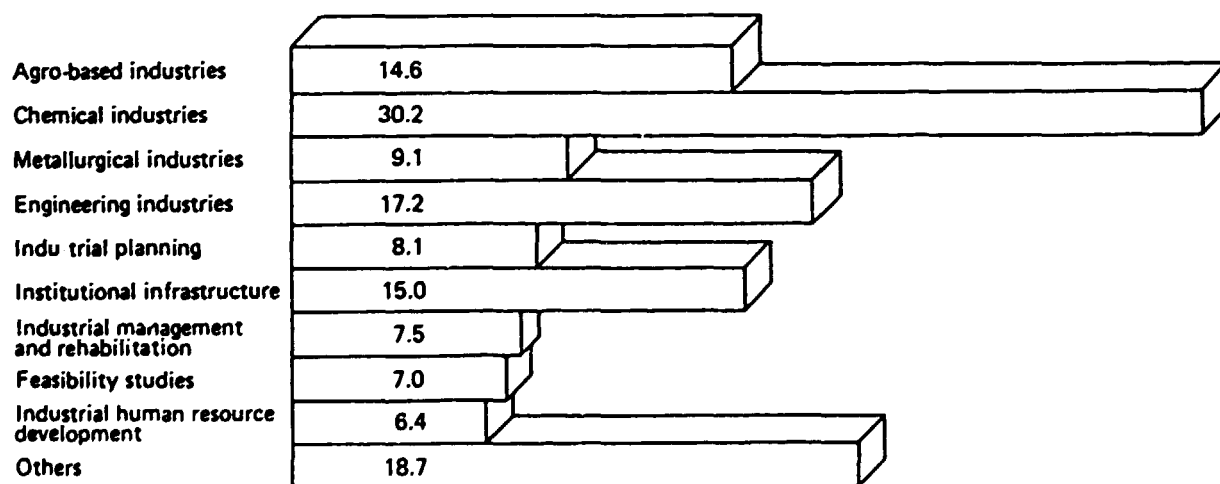


*Broken lines and figures in parentheses give an indication of the African Arab States which are also included under the column "Africa".

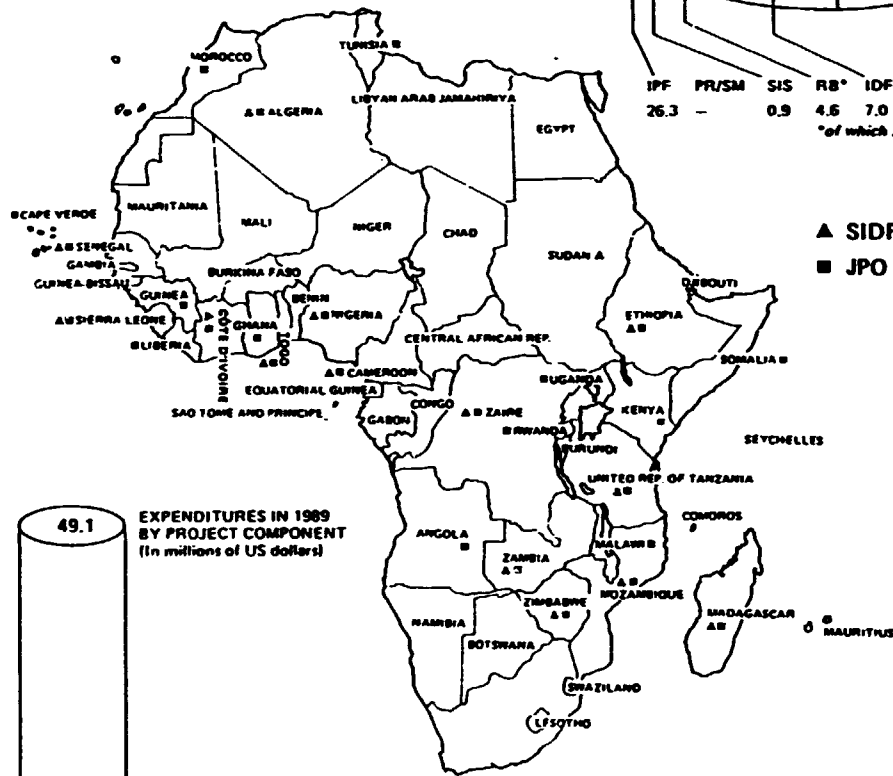
TECHNICAL ASSISTANCE DELIVERED BY UNIDO IN 1989
(In millions of US dollars)



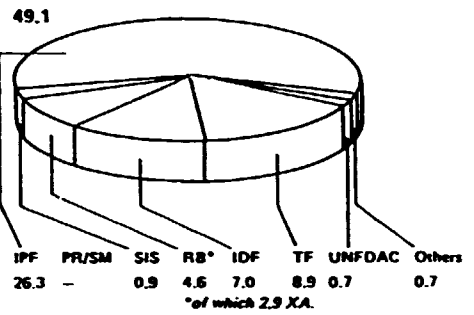
DISTRIBUTION OF TECHNICAL CO-OPERATION ACTIVITIES IN 1989
(In millions of US dollars)



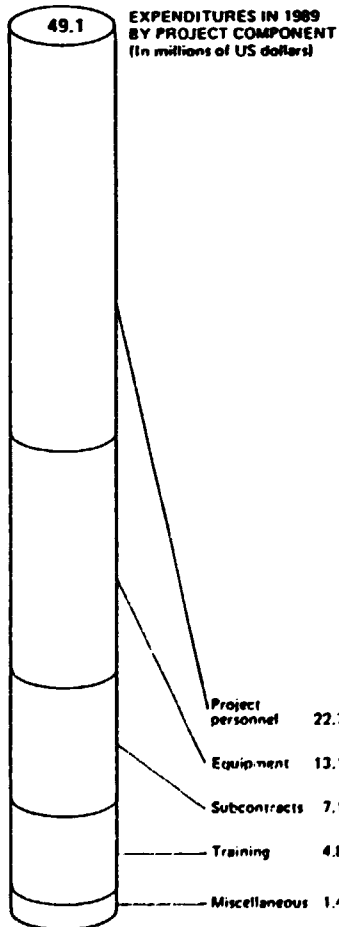
AFRICA



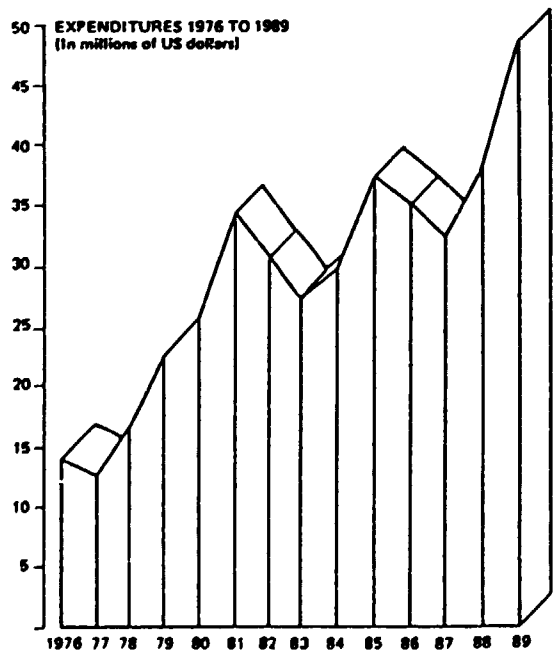
EXPENDITURES IN 1989 BY SOURCE OF FUNDS
(In millions of US dollars)

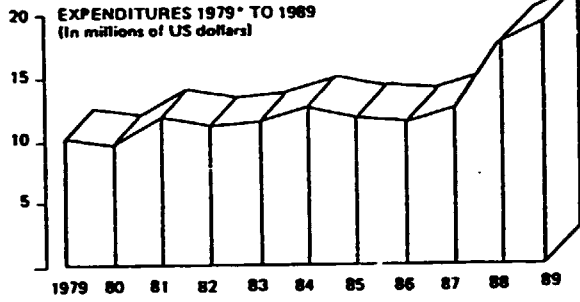


▲ SIDFA duty station
■ JPO duty station



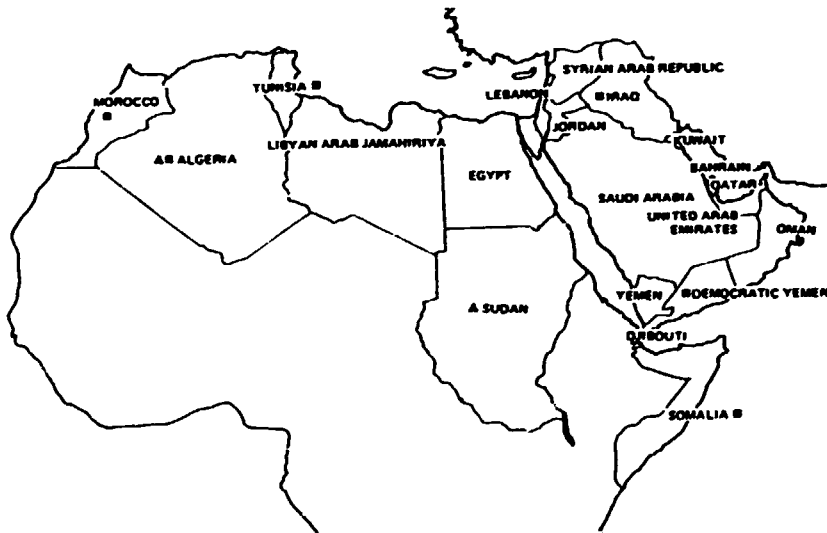
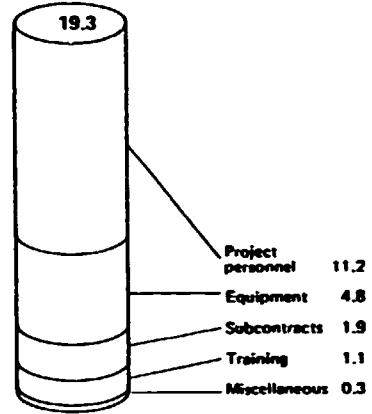
EXPENDITURES 1976 TO 1989
(In millions of US dollars)





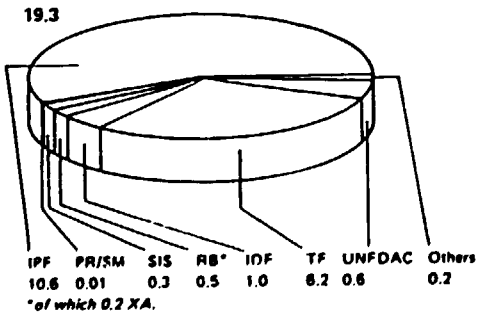
*For previous years, expenditures related to Arab States were reported partly under Africa and partly under Europe and Western Asia.

EXPENDITURES IN 1989 BY PROJECT COMPONENT
(In millions of US dollars)



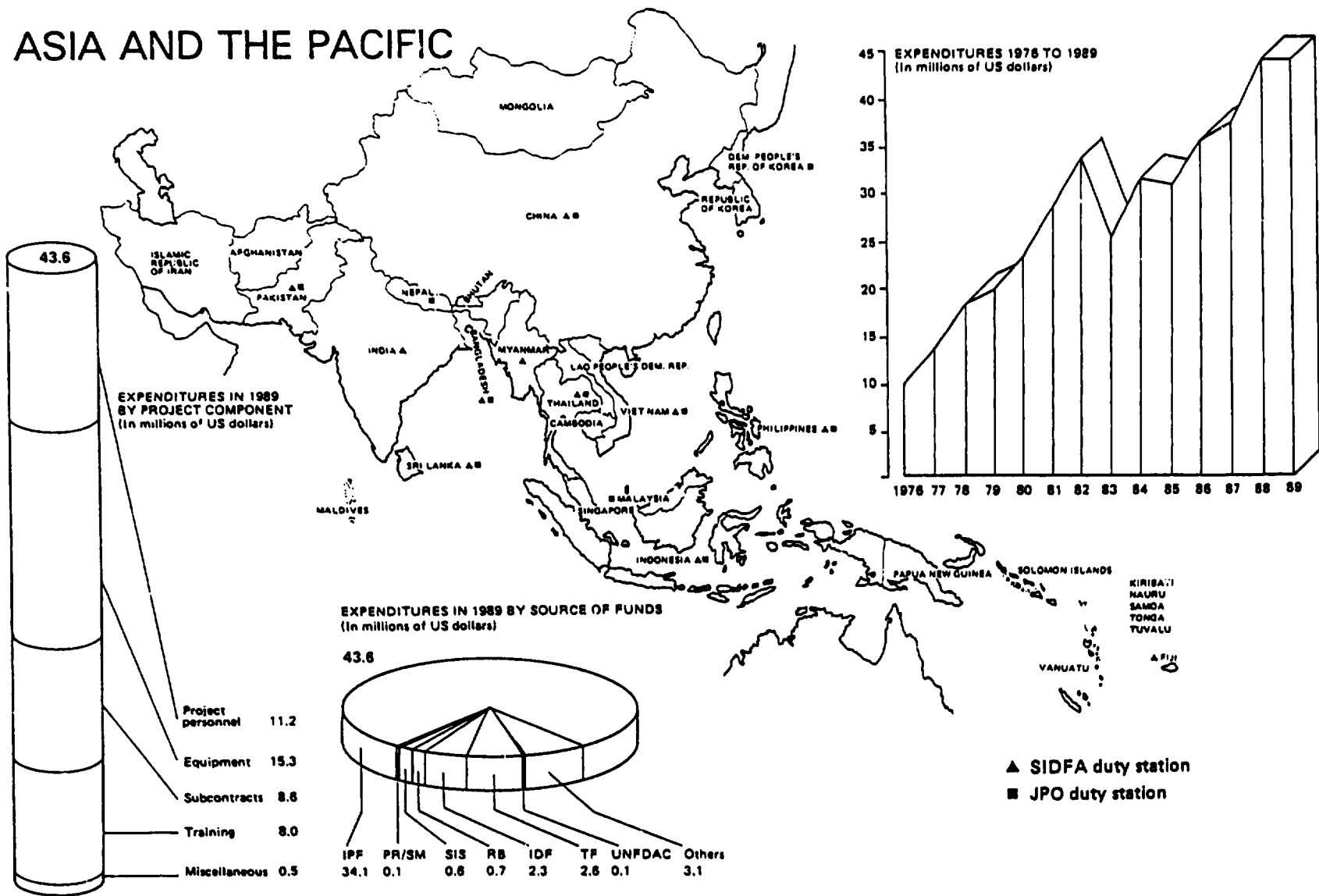
ARAB STATES

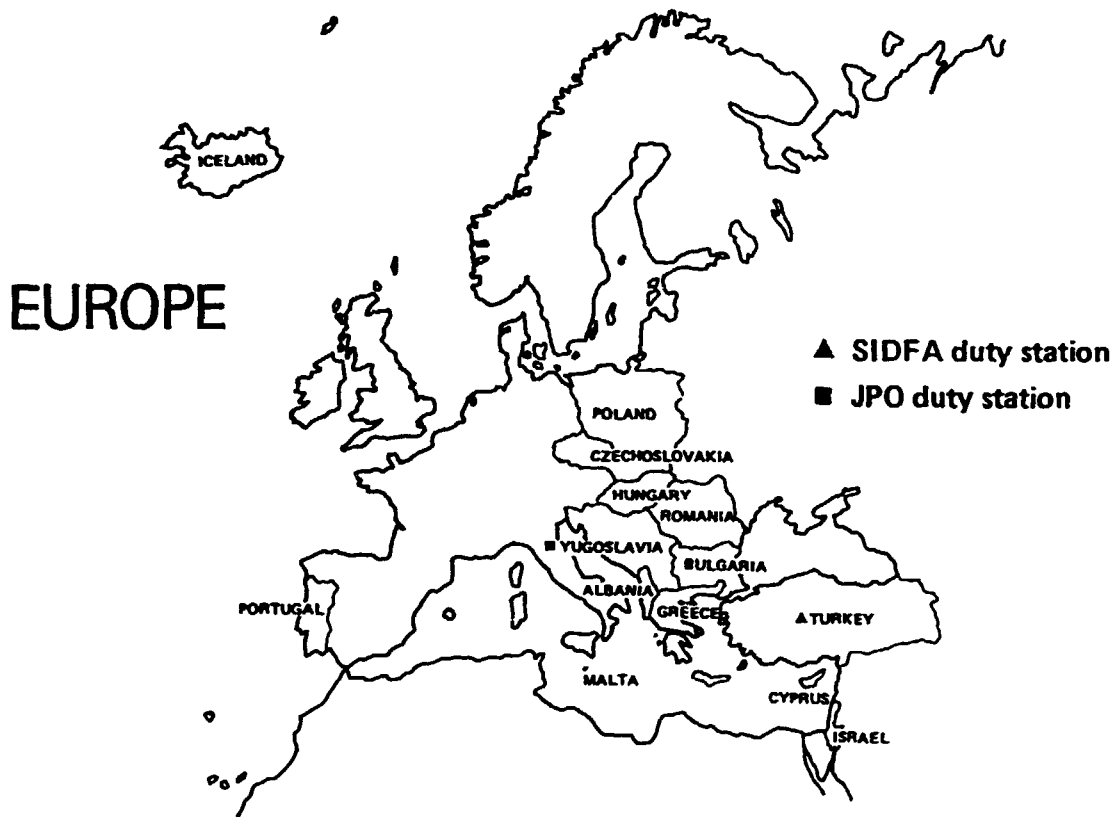
EXPENDITURES IN 1989 BY SOURCE OF FUNDS
(In millions of US dollars)



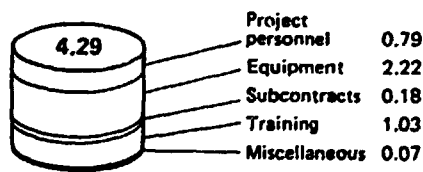
▲ SIDFA duty station
■ JPO duty station

ASIA AND THE PACIFIC

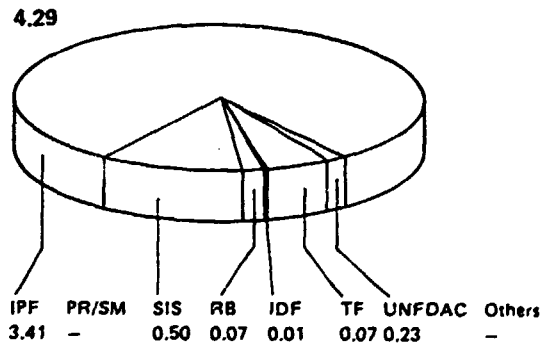




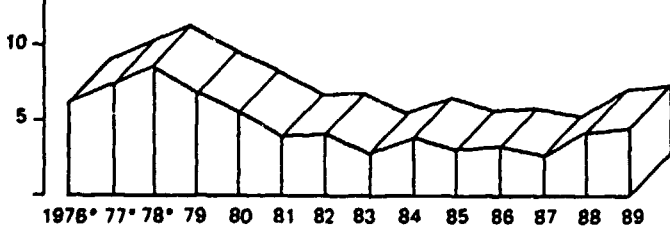
EXPENDITURES IN 1989 BY PROJECT COMPONENT
(In millions of US dollars)



EXPENDITURES IN 1989 BY SOURCE OF FUNDS
(In millions of US dollars)



EXPENDITURES 1976 TO 1989
(In millions of US dollars)

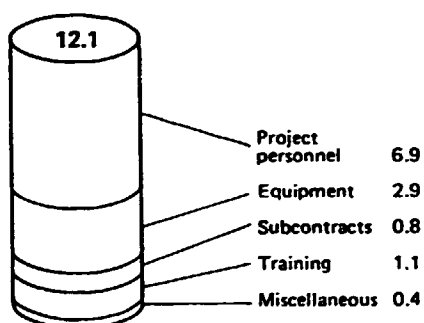


*The figures for 1976-1978 combine Europe and Western Asia and include twelve countries which, since 1979, are listed under Arab States.

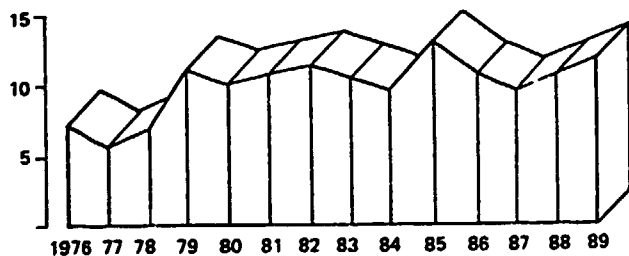
LATIN AMERICA AND THE CARIBBEAN

▲ SIDFA duty station
 ■ JPO duty station

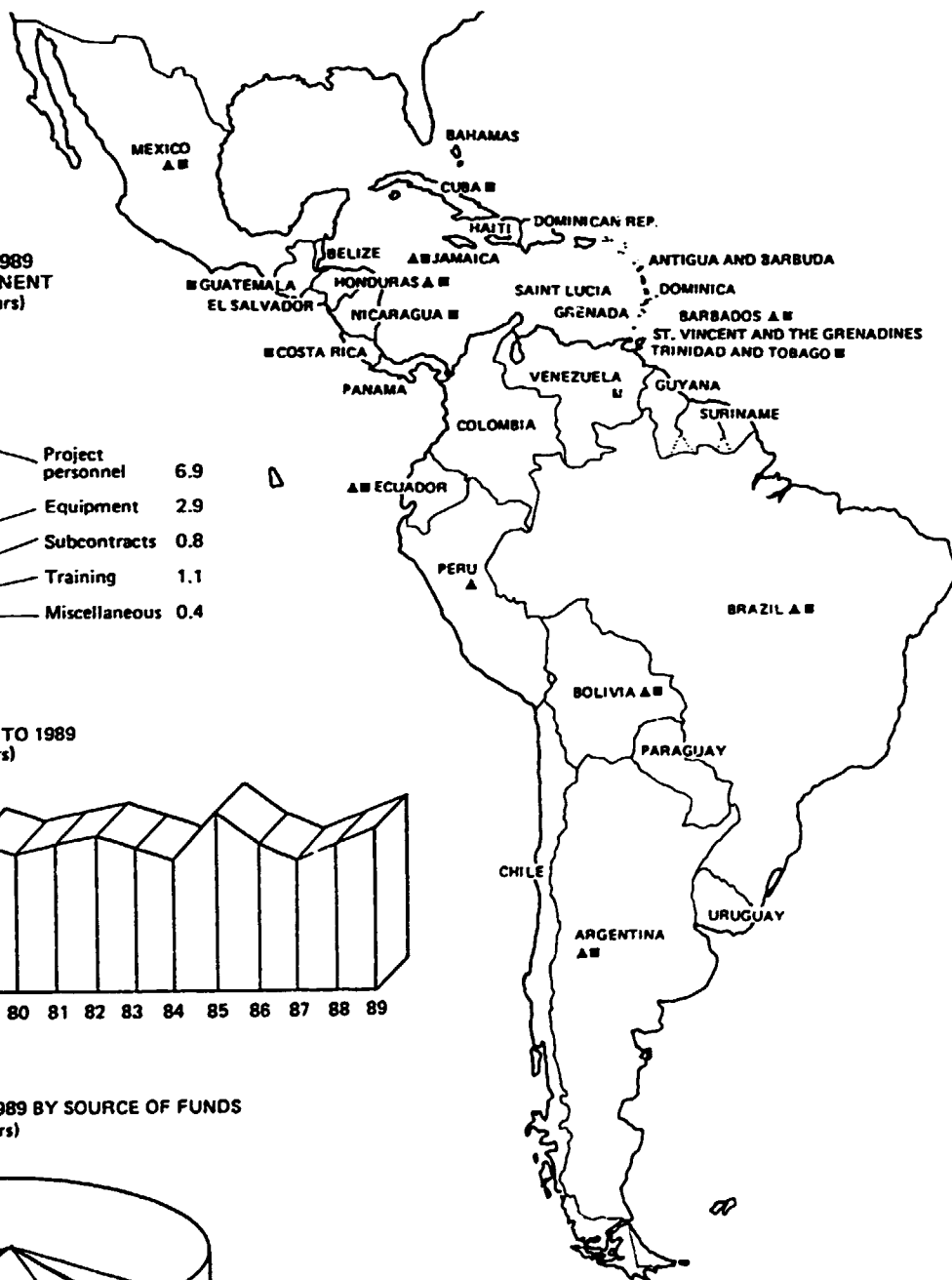
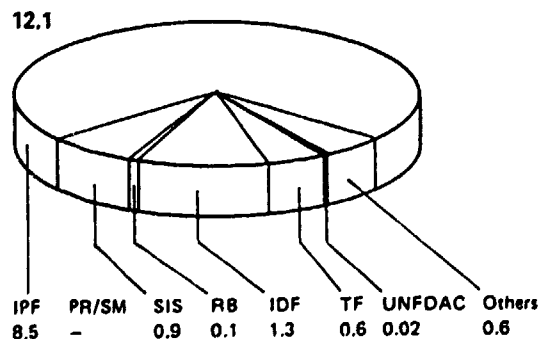
EXPENDITURES IN 1989 BY PROJECT COMPONENT
 (In millions of US dollars)



EXPENDITURES 1976 TO 1989
 (In millions of US dollars)



EXPENDITURES IN 1989 BY SOURCE OF FUNDS
 (In millions of US dollars)



therefore remains low. Furthermore, the designs are frequently imported along with the fabrics, thus leaving the actual sewing operation as the only value-adding activity. Recognizing that this situation represents only an interim phase, several countries are focusing on developing local fashion design skills which, combined with the availability of better quality fabrics from domestic textile manufacturers, should ensure continued competitiveness of the garment industry as labour costs rise. It is against this background that UNIDO activities in the garment industry continued to increase. Projects in this area were operational in Botswana, China, ^{1/} Democratic People's Republic of Korea, ^{1/} Egypt, ^{1/} and the Solomon Islands; several others were under preparation. The recently developed CAD/CAM techniques are costly but indispensable also for the developing countries for they not only reduce labour but contribute decisively to product quality and permit fast response to market requirements. Wider application of such techniques in developing countries is essential if they are to remain competitive in the international market.

70. In the food industry, special emphasis was placed on the technological updating of industrial production processes and the improvement of quality in line with established product quality standards. To this effect, with UNIDO assistance, several national food development centres were started or further developed, e.g. in China, Egypt, Sri Lanka, Viet Nam, ^{2/} and Thailand. Such centres are expected to assume a leading role in future development activities. A special regional programme started in Latin America on the development of integrated agro-industries involves the setting-up of model plants applying special automation and instrumentation techniques in combination with centres for the collection and dissemination of information on integrated agro-industrial operations.

71. Further activities were aimed at the economic improvement of existing food production plants. A development programme for the sugar industry was started in Africa: the sugar industry in 12 countries will be evaluated in order to formulate appropriate development projects to be implemented on a case-by-case basis. In recognition of the need to programme IDF-funded operations in specific branches of the food industry, the framework was prepared for a global development programme for the coconut-processing industry

involving small-scale and industrial-scale coconut processing operations. The programme includes product and market development activities for traditional and non-traditional coconut-based food and non-food products. Following the programming approach in the food industry of defining and formulating national priority projects for which international co-operation including investment is required, special advisory services were made available to interested government authorities, e.g. in Bolivia, Brazil, Mexico and Venezuela. ^{3/} UNIDO rehabilitation efforts continued in Angola with respect to a bakers' yeast factory, flour milling and bakery chains in accordance with national development plans. ^{4/}

72. In line with the world-wide trend, UNIDO activities stressed the optimum utilization of agricultural raw materials and agro-industrial by-products and residues. At the global level, with financing from IDF, the development of new technologies continued, as did the transfer to industry of newly developed technologies: the new castor-bean detoxification technology developed by UNIDO was applied for the first time in a large private castor-oil factory in Thailand; ^{5/} also based on technology developed by UNIDO, a detailed model scheme for utilization of *Balanites aegyptiaca* in rural areas was set up in the Sudan; ^{6/} another new technology developed by UNIDO - rubber-seed processing for the production of vegetable oil and animal feed - was successfully tested in Sri Lanka and made available for global industrial application. ^{7/}

73. As the result of contributions pledged by several donor countries, activities of the large-scale regional hides and skins, leather and leather products improvement scheme ^{8/} - including eight associated country projects - started in the East African subregion with the Leather Development Centre at Nairobi, Kenya, as regional headquarters. A component was incorporated in the scheme to ensure the integration of women in the industries involved. Surveys were made in individual countries to identify suitable objects for the complementary, mainly machinery-

^{3/} *Ibid.*, para. 64.

^{4/} IDB.4/10, chap. II, para. 61.

^{5/} *Ibid.*, para. 63.

^{6/} IDB.3/10, chap. II, para. 32.

^{7/} IDB.4/10, chap. II, para. 62.

^{8/} IDB.5/10, chap. II, para. 67.

^{1/} IDB.5/10, chap. II, para. 63.

^{2/} *Ibid.*, para. 66.

oriented, tannery rehabilitation programme; the purchasing of the required equipment is in progress. Implementation of the scheme in the Western and Central African subregions did not commence owing to insufficient funding. Special attention was given to the inclusion of anti-pollution measures in all technical co-operation projects concerning the tanning industry, and specifically in Burkina Faso, Indonesia, Kenya, 8/ Malawi and Mozambique. Preparatory assistance was completed for an effluent treatment project in Pakistan. Preparatory assistance was also initiated for the elaboration of a programme for the treatment of tannery effluents in selected countries of South-East Asia.

74. The new approach of providing assistance to private industry proved to be successful, particularly in the case of a private enterprise in Egypt that upgraded its production to exportable footwear under a UNIDO sub-contract with an internationally renowned shoe manufacturer.

CHEMICAL INDUSTRIES

75. Technical co-operation expenditures under the heading of chemical industries amounted to \$30.2 million. Some 58 per cent of the total implementation was financed from UNDP resources. A total of 356 projects were implemented or under implementation.

76. The activities in the biennium 1988-1989 reflected the adoption of a more integrated approach towards the chemical industry, starting from raw materials improvement through product design to technological aspects (input - output) with the aim to create more efficient and competitive products. Increased attention has also been given to environmental and energy aspects within the chemical industry, such as recycling, waste utilization and waste minimization. The project pattern has thus shifted from simple, issue-related projects to projects that are compact and conceptually more integrated. The experience gained in the past enabled UNIDO to advise government authorities, institutions and enterprises from both the public and private sector in developing countries on the development of their chemical industries, particularly as concerns the optimal use of the limited resources available.

77. Activities to protect industrial development through improved capacity utilization continued to make headway in the cement industry as the result of increasing interest by recipient countries in financing UNIDO assistance. A total of

10 cement factories in four developing countries (Egypt, Libyan Arab Jamahiriya, Nigeria and Yemen) received technical management assistance under the self-financed trust fund scheme 9/ (see also chap. VIII, para. 25). Technical support for the cement industry in the PTA countries was promoted through an African regional project under which experts on cement and lime were provided for brief advisory missions to the countries concerned. Project activities carried out for the PTA showed a need for improved maintenance of factory installations and training of local personnel. The regional project is expected to play a leading role in this respect through the facilities for training already available in the region. Activities relating to the development of small-scale lime production facilities continued through the creation of small and efficient installations in several African countries. 9/

78. Promotion of small-scale building materials production units received a high priority, especially in Africa. Projects in Chad and Madagascar generated considerable interest in the low-cost housing sector for building materials based exclusively on local raw materials. These are manufactured using inexpensive equipment which, in Madagascar, is being locally produced based on designs developed within the project. In these and other projects high priority is being given to support for private entrepreneurs.

79. The first phase of the assistance extended to the Ceramic Research and Development Centre in Colombo, Sri Lanka, was concluded. The Centre was established with UNIDO assistance by means of a special-purpose contribution from the Federal Republic of Germany in 1983-1984. It is now able to carry out its role of providing strong support for the further development of the ceramic industry within the country, and its activities in the field of quality control, technology development and energy management in the ceramic industry will continue without further UNIDO assistance. While the main thrust of future co-operation with the Centre will be towards reducing production costs and increasing product value for existing industries, it is expected to include as well technology development for the creation of new industries using the country's abundant non-metallic mineral resources such as apatite, corundum, graphite and kaolin.

80. In the field of non-metallic minerals, activities culminated in the

9/ *Ibid.*, para. 69.

Second World Congress on Non-Metallic Minerals, held at Beijing in October, with the Chinese Silicate Society as the host and UNIDO as co-sponsor. This event was given considerable attention by other developing countries which were represented at the Congress by a total of 42 participants. In a set of recommendations adopted at a round-table meeting on the development of the non-metallic minerals industry, the appreciable potential of this sector was stressed and participants also confirmed their desire to co-operate and exchange know-how in order to accelerate development. These views supported the resolutions of the Action Committee on Raw Materials of the Group of 77 which met at Abuja, Nigeria in April.

81. In the field of special ceramics, significant results were achieved in co-operation with the Hungarian Central Research and Design Institute for the Silicate Industry in the promotion of bio-ceramics. ^{10/} High alumina technologies developed by the project team were successfully transmitted to a private production unit and the products were already being applied in the health sector. This has led to two important new developments: the private entrepreneur has received a joint venture proposal from an Austrian company; and, in concert with UNIDO, the Institute is now seeking financing for a second project focusing on development of a new series of products based on hydroxyapatite. Throughout the project the Institute has been linked informally to the Council of Europe Biomaterials Group in order to benefit from the know-how available.

82. Technical co-operation in the petrochemical industries continued to concentrate on downstream and related industries. A project on the development of carbon fibres (CF) and CF-reinforced composite materials from pitch in the Republic of Korea was successfully completed and carbon fibres are now being produced in the country; ^{11/} as a follow-up, a new project on applications of composites and the development of new materials was recently approved. In Romania a project on the use of composite materials in the aeronautical industry was also approved. Other developing countries, such as Egypt and Iraq, were interested in these materials and related projects were being prepared. With respect to recycling plastics waste, which continues to be an environmental problem, a project in China

was completed with a workshop where the results were demonstrated to Asian countries, and a number of them have expressed interest in collaborating with China in this area. As a result of the project, the Government of China is interested in organizing an international conference on the subject in the near future. Within the framework of the United Nations Decade of Disabled Persons, a project concerning artificial limbs employing plastics and composites was developing well in China and a project document was being prepared for Indonesia. ^{11/}

83. Also in China a project concerning the production of speciality gases was concluded, having achieved its objectives while another project for the production of chemical reagents started producing useful practical results and an extension for further developments in the field of fine chemicals has been requested. Another project was successfully completed in China for a synthetic fibre research centre and a similar one had started in Pakistan. India also requested UNIDO to assist in rehabilitating its polymer science and engineering centre at the Silk and Art Silk Mills Research Association, which had been established earlier under a UNIDO project. The Flexilo project in Thailand, under which small-scale, easily manufactured flexible silos using polymer composites have been produced for storage of paddy rice and maize, was completed successfully with a workshop in which possibilities of harvest storage using cheap and simple methods were demonstrated to Asian participants. Entrepreneurs in both India and Indonesia expressed considerable interest in the project and were negotiating with the sub-contractor for production of such units in their countries.

84. A global project on development of the application of liquid natural rubber was successfully completed by means of a workshop through which the results have been disseminated to the natural rubber producing developing countries as well as to the industrialized countries with a view to increasing the competitiveness of rubber *vis-à-vis* synthetic materials. A new project was started in China on reclaiming butyl rubber by means of irradiation technology. If successful, this technology can be employed in other developing countries to help save hard currency.

85. In the area of oil refining and intermediate petrochemical production, a project at the National Chemical Laboratory (NCL) in India has led to a novel process for the manufacture of

^{10/} *Ibid.*, para. 70.

^{11/} *Ibid.*, para. 74; IDB.4/10, chap. II, para. 72.

aromatics from naphtha as well as to the production of new catalysts which have been patented. The work involved has been reported on at Indo-French and Indo-American symposia held at the NCL. Also in India, a project was started dealing with the evaluation of lubricating oils through upgrading of an automated engine laboratory. Projects concerning the petroleum industry were initiated in relation to training in safety and security (Libyan Arab Jamahiriya), process design in steam injection (Albania), and sand control in oil wells with high-viscosity crudes (Albania).

86. In respect of fertilizer production and related areas, emphasis was largely given until recently to the promotion of locally available raw materials. This was typified by projects being carried out in China in 1989 for the development of technology for phosphate rock beneficiation and production of phosphate fertilizers from low-grade phosphates, ^{12/} and by a project in Mauritania to investigate the economic and technical viability of exploration of phosphate rock deposits. A new dimension has been added, however, through efforts towards the improvement of maintenance. One example is a project in India under which assistance is being provided in relation to general maintenance procedures and non-destructive test maintenance, as well as corrosion evaluation and control. In other developments, aid was given to Egypt in relation to the promotion of nitrogen, phosphorus and potassium (NPK) fertilizers in the country, ^{13/} and consultancy assignments were carried out within the framework of IDDA in respect of the Nigerian fertilizer industry and Sudanese nitrogen fertilizer production. In related industries, assistance was provided to Peru for increasing its production of sodium tripolyphosphate. Further steps were taken as well to increase co-operation with the World Bank, FAO, the Fertilizer Advisory, Development and Information Network for Asia and the Pacific (FADINAP) of the Economic and Social Commission for Asia and the Pacific (ESCAP) and several other institutions. UNIDO actively participated in the exchange of statistics with these institutions as well as in the preparation of certain joint activities.

87. In the field of pharmaceuticals and allied industries, a project in the Republic of Korea for the establishment of a pharmacological facility has led to the

^{12/} IDB.4/10, chap. II, para. 73.

^{13/} IDB.5/10, chap. II, para. 77; IDB.4/10, chap. II, para. 73.

screening of several pharmaceutical compounds. In Viet Nam, technology is being developed for the production of reagents utilized in the quality control of pharmaceuticals. In the field of biotechnology, several projects are contributing to applied research efforts in various countries, and in Latin America under a regional programme ^{14/} good results have been obtained in relation to industrial enzymes and new biological diagnostics. The programme is now being expanded to cover aspects of industrial applications and marketing. In Poland, Tunisia and Turkey activities are continuing aimed at the development of biotechnologies for the conversion of locally available raw materials and the production of antibiotics and diagnostics kits. Construction activities continued in the Islamic Republic of Iran for the establishment of a multi-purpose pilot plant for the production of 13 essential synthetic drugs; work on installations has begun and it is planned to start operational testing by the third quarter of 1990. At the same time, special assistance was provided for the study and selection of the most suitable system for the treatment of effluents, and arrangements were made for the training of personnel. In the Republic of Korea, special assistance was given to an antibiotic fermentation plant which faced difficulties in respect of the quantity and quality of production.

88. In accordance with a master plan for an integrated pharmaceutical industry in the Philippines, pre-feasibility studies were initiated in relation to: processing of cinchona for quinine; the expansion of CHEMFIELDS, a drug-producing company, for the production of erythromycin derivatives and rifampicin; and the establishment of a multi-purpose pilot plant for chemical synthesis. In Cuba a project for the establishment of a pilot fermentation plant for the development of technology in steroid production was under implementation. In Mongolia, a comprehensive programme for utilization of natural resources in the production of pharmaceuticals was under way. Following the introduction of modern technology for quality control and the formulation of sterile enzyme products, technology for production of stable enzyme ointments similar to those produced by French pharmaceutical companies was introduced. As a logical continuation of the programme, a project was initiated aimed at the establishment of a genetic engineering laboratory and a cell biology laboratory to increase the potential of

^{14/} IDB.5/10, chap. II, para. 80.

existing facilities, and construction of a pilot plant is expected to be completed in 1990.

89. Within the framework of IDDA, a large-scale project on the establishment of a tetanus vaccines plant, the first of this type in Africa, was nearing completion in Cameroon. The plant will enable the country to produce more than 14 million doses of tetanus toxoid vaccine annually as well as to formulate in accordance with the requirements of the World Health Organization (WHO) adsorption tetanus toxoid vaccine, diphtheria-tetanus vaccine and diphtheria-pertussis-tetanus vaccine. As a follow-up, establishment of a new bacterial vaccine production unit for diphtheria toxoid and pertussis suspension is being recommended to replace the present system of bulk importation of vaccines.

90. In the area of medicinal and aromatic plants UNIDO continued to strengthen national institutes and to set up pilot facilities for the extraction or distillation of indigenous herbs while planning for additional technical co-operation in the essential oils industry. Two new projects commenced in the Democratic People's Republic of Korea: one of them responds to the need for essential oils and fragrance materials to supply the cosmetic industry; the other deals with the extraction of stevia leaves as a sweetening material replacing sugar. In Turkey the Medicinal Plants Research Centre (TBAM), strengthened through earlier UNIDO assistance with the aim of serving indigenous industry, identified the need to refurbish an abandoned factory originally designed to produce laurel leaf oil and which was to be sold for scrap. By means of an SIS project executed through TBAM, UNIDO was able to assist in making the factory fully operational. A newly initiated project in the United Republic of Tanzania has been designed to rehabilitate the clove oil distillery through the training of personnel and supply of critical spare parts. The strengthening of the Centre National de Recherches Pharmaceutiques and the pilot plant now operational in Madagascar resulted in the increased cultivation of medicinal and aromatic plants by local farmers, which encouraged the extension of the project by UNDP to permit the transfer of additional processing technology. In Viet Nam, a pilot plant for the utilization of locally available medicinal plants was successfully established and the facilities of the Centre National de Recherches Scientifiques in Hanoi were strengthened to enable the processing of quality essential oils. ^{15/}

^{15/} IDB.4/10, chap. II, para. 75.

A project was initiated in Guatemala for the utilization of medicinal and aromatic plants for the pharmaceutical industry, for which the main input will be the investment in industrial equipment for pilot-scale processing of essential oils and medicinal plant extracts. In Honduras, plans were developed to use a former industrial facility as a quality control laboratory, for limited R and D tasks and the production of extracts and essential oils from medicinal and aromatic plants.

91. In the field of pulp and paper UNIDO continued to support R and D work in developing small-scale chemical recovery systems for pulp mills. A demonstration production plant for desilication of bamboo/reed black liquors in India was in operation and an international conference was held to disseminate the technical know-how on this process which was developed under the auspices of UNIDO, the Swedish International Development Authority and the Central Pulp and Paper Research Institute at Saharanpur. ^{16/} Research was carried out on the development of lignin by-products from black liquors in non-wood pulp mills (India, Myanmar) and various lignin products have been identified by ultra-filtration or acidification which now await industrial production. An egg-tray moulding machine which makes use of waste paper was successfully started up in Botswana, and local paper-filler production facilities were erected in Myanmar. A rehabilitation programme for a Nigerian pulp and paper mill was initiated.

92. Considerations relating to energy and the environment were given strong emphasis, with high priority being assigned to clean, low-waste, energy-efficient technologies, pollution abatement and, where appropriate, post-consumer recycling. Projects on the environmental impact of energy production totalling \$2.0 million were implemented. These focused on the protection of resources; for example, by using waste materials for making charcoal fuels, and by recycling industrial and municipal solid and liquid wastes. Preparations started for a UNDP-funded workshop scheduled for 1990 which will address environmental issues affecting the development of the chemical industries in the Asia and Pacific region. Initial steps have been taken to strengthen all of these activities by giving special attention to some of the rapidly advancing areas of biotechnology and new materials science from which many of the new non- and low-waste technologies are derived.

^{16/} *Ibid.*, para. 79; IDB.5/10, chap. II, para. 81.

93. Safety and environmental protection were heavily stressed in relation to pesticide production. During the second phase of the Regional Network on Pesticides for Asia and the Pacific (RENAP), among other activities a regional seminar was held at Jakarta, Indonesia in November/December on environmental aspects of pesticide production and use. This was well supported by representatives of both private enterprise and public institutions and the meeting clearly gave UNIDO a mandate to assist the Asian region in effluent control and waste management in the pesticide industry. RENAP was extended for a third phase during which efforts will be concentrated on environmentally friendly pesticides, quality control, ecotoxicology and industrial safety. 17/ Technical advice was provided to the United Republic of Tanzania in respect of pesticide formulation and production as well as improved effluent control measures. The pesticide development programme being carried out in India was extended for a second phase in which modern formulation and quality control will play a major role in assisting private industry. 18/ Within that project, a workshop on pesticide formulation technology for the benefit of the Asian countries was held at New Delhi, India in March/April. In the Republic of Korea, the first phase of a project to establish a toxicology centre was completed successfully and the second phase has been approved with UNIDO as associated agency. In Poland, as an "outreach" of a project on pesticide formulation, 18/ a global workshop was held at Warsaw in September on biological aspects of developing pesticide mixture formulations involving a new technology to increase efficiency and decrease the occurrence of resistance to pesticides. A preparatory assistance project was completed within the framework of IDDA to assist PIA countries in developing mobile seed treaters specially suited for small- and medium-scale farmers, and a project proposal for the follow-up phase was being prepared.

94. In the basic chemicals industry, the production of higher-value salt by-products represents a new highlight. Potassium and magnesium-based products from salt brines were under investigation in Egypt and the Islamic Republic of Iran. A manual on the technology of growing artemia cysts - a biomass used for

17/ IDB.5/10, chap. II, para. 88;
IDB.4/10, chap. II, para. 74.

18/ IDB.4/10, chap. II, para. 74.

fodder in fish farms - was prepared and distributed. There is also a new interest in some developing countries (Djibouti and the Islamic Republic of Iran) in the use of local salt lakes for the production of salt and soda ash.

95. Information on the methodological approach of integrated planning for the development of the chemical industry 19/ continued to be disseminated. UNIDO participated in two workshops held on the development of the fine chemical industry: one in the Philippines in February and the other in Argentina in June. In view of the importance of having up-to-date information in these areas, a data bank concept was worked out and the first chemical industry data bank was established in Algeria with UNIDO assistance.

METALLURGICAL INDUSTRIES

96. Technical co-operation expenditures under the heading of metallurgical industries amounted to \$9.1 million. Some 85 per cent of the total implementation was financed from UNDP resources. A total of 130 projects were implemented or under implementation.

97. Technical assistance rendered during 1988-1989 was rapidly adjusting to the changing needs of the metallurgical industries, which constitute an essential element in the development of new and advanced materials for other industries. Special attention was given to the introduction and adaptation of new technologies in technical co-operation activities in the field of metallurgy to ensure not only rationalization of the production process and improved product quality, but also better management of material and energy resources as well as the development of solutions to pressing environmental problems through increased waste utilization. Emphasis was placed on the application of advanced technologies such as vacuum degassing, argon-oxygen decarburization (AOD), and other clean and alloy steel processes like high-strength low-alloy (HSLA) steel production. Examples are: the introduction of new technology for production of new steels in a basic oxygen furnace, resulting in reduced wastes and energy savings in Egypt; the establishment of a pilot/demonstration plant in India for utilization of industrial wastes from a direct reduction sponge iron plant; and the improvement of treatment of copper dross in a rotary furnace in Yugoslavia. Following the successful completion of a

19/ Ibid., para. 82.

project that introduced energy-saving measures into plants of the Steel Authority of India, the reduction of energy consumption was pursued in India through introduction of a rehabilitation programme for over 150 mini-steel mills. Industrial automation activities leading to cost savings and more consistent product quality played an increasing role. Careful attention was also given to the production of super-purity metals and metallic parts for the electronics industry as well as composites and materials for high-tech applications. Projects aimed at transfer of technology, rehabilitation, restructuring and modernization were strongly promoted. Technical co-operation activities increased in relation to the establishment of small-scale metallurgical operations, such as mini-steel plants based on low-grade or non-coking coal. In this respect experimental production of sponge iron was carried out at a pilot and demonstration plant in Zambia. 20/

98. In the area of non-ferrous metals, the major activities continued to concern themselves with bauxite processing and production of alumina, aluminium and semi-finished products. A large-scale project was initiated in India for the establishment of an aluminium research, development and design centre aimed at upgrading the technical level of the entire vertical aluminium industry of the country and the introduction of new alloys and materials. To enable the Indian counterpart to take a final investment decision, a study was approved to determine the techno-economic viability of utilization of locally available sillimanite concentrates for the production of aluminium-silicon alloys. In Viet Nam, a bauxite processing laboratory, 21/ established under a UNDP/UNIDO project, commenced operations and, with the support of the Joint UNIDO/Hungary Programmes for International Co-operation, a group training course on alumina production was held at the laboratory. A project for establishing a tin ore processing laboratory in Viet Nam became operational. For the Islamic Republic of Iran, a feasibility study was carried out for alumina production from low-grade Elburz bauxites by the most efficient energy saving process. 21/ Other activities were related to heavy and precious non-ferrous metals; for example, bacterial leaching of copper ores in India and recovery of gold and platinum in China and Niger.

20/ IDB.5/10, chap. II, para. 95

21/ IDB.3/10, chap. II, para. 59;
IDB.4/10, chap. II, para. 85.

99. In the iron and steel sector, technical co-operation was focused on the introduction of new steel production technologies, modern process control, energy conservation and utilization of industrial wastes. In Yugoslavia, 20/ assistance was continued to adapt AOU technology and production of HSLA steels. Assistance provided to India under two SIS projects concerned the introduction of new technologies that utilize industrial wastes from sponge iron production. The groundwork was laid for large-scale iron and steel projects in Argentina, Brazil and Mexico; these projects will focus on new technologies, energy conservation and environmental aspects. UNIDO assisted PTA in the establishment of a rehabilitation programme for existing iron and steel plants, including rolling mills, and consultants were sent to plants in Angola, Ethiopia, Kenya, Mauritius, Mozambique and the United Republic of Tanzania to improve metallurgical operation techniques. To promote TCDC, another African regional project concentrated on providing technical assistance to a steel plant selected from within the PTA region in strengthening technological capability, management and operations through the provision of expertise, equipment and on-the-job training by the Zimbabwe Iron and Steel Company (ZISCOSTEEL). The latter in turn, with UNDP/UNIDO assistance, was able to strengthen its role as the leading iron and steel producer in this subregion of Africa. 22/

100. Concerning the introduction of computerized management maintenance systems (CMMS), a project for a steel plant in India was successfully completed, enabling the plant to provide assistance in this field to other firms in the country as well as on an international basis. At SIDERMEX in Mexico, where CMMS was already operational, plant condition monitoring was installed to improve plant efficiency, while in Algeria, a large-scale project to introduce maintenance and quality production control became operational. A number of workshops on computer applications and maintenance techniques in the metallurgical industry were organized for specialists from developing countries within the framework of the Joint UNIDO/Czechoslovakia Programme for International Co-operation.

101. In the foundry and metal transformation sector, a trend towards modern "near net shape" manufacturing is noticeable. The greater precision in casting and forging, for example investment (lost wax) casting, leads to savings in cost of energy consumption in the manufacturing

22/ IDB.4/10, chap. II, para. 87.

and in expensive finishing operations. The metallurgical industry of Paraguay continued to benefit from technical co-operation which resulted in improved utilization of installed capacity, the promotion of new investment and the establishment of a strong TCDC connection with Brazil, the country which provided virtually all of the experts involved. Technical assistance to the United Republic of Tanzania in the production of spare parts for the PTA countries aimed at organized metallurgical/metallographical chemical and dimensional analyses of metal parts in order to provide full specifications and drawings to the consumers and thus induce private industry to set up similar systems. Important projects for the foundry industry, resulting in recommendations for either large-scale activities, detailed market studies or the establishment of foundries, were executed in Bolivia, Ethiopia, Indonesia, Pakistan and Viet Nam. Co-operation with the African Regional Centre for Engineering Design and Manufacturing (ARCEDEM) continued through joint organization of a workshop on core metallurgical industries held at Szeged, Hungary, in October.

102. A number of projects dealt with ore and mineral beneficiation and waste utilization. Based on previous assistance rendered, a large-scale project was initiated for the establishment of a mineral processing technological centre for the mining industry in Mongolia. In Cuba, a mineralogy and bacterial leaching laboratory as well as a pilot plant for gravimetric concentration were installed.

103. Assistance continued to be provided in the establishment of centres for metallurgical technology. ^{23/} A high-level steering group, comprising representatives from selected PTA countries and metallurgical technology centres in Egypt and India - both of which had earlier received UNDP/UNIDO assistance - worked out a five-year programme for the establishment of a regional metallurgical technology centre for the PTA countries. Project programming activities were carried out and other preparatory steps taken for a large-scale project on assistance to the National Metallurgical Development Centre in Nigeria. In China, activities directed towards the establishment of a research and development centre for tungsten wire at the Research Institute of Electric Light Source Materials at Nanjing concentrated on training abroad while another project provided expert assistance in the production of brazing alloys to the Non-ferrous

Metals and Rare Earth Research Institute at Beijing. Also in China, a large-scale project for protection against metallic corrosion was implemented at Beijing, and a machine-building institute at Shanghai benefited from a project directed towards the establishment of a heat treatment centre.

ENGINEERING INDUSTRIES

104. Technical co-operation expenditures under the heading of engineering industries amounted to \$17.2 million. About 82 per cent of the total implementation was financed from UNDP resources. A total of 210 projects were implemented or under implementation

105. During the biennium 1988-1989, a concerted effort by both counterparts and UNIDO staff, including experts, resulted in more in-depth field analysis, more accurate information and better inputs which permitted an improvement in project design and formulation in the engineering industries sector. More effective recruitment of chief technical advisers and experts as well as the increased participation of local institutions, SIDFAs and UNDP offices in project implementation led to improved project management.

106. The focus of technical co-operation activities remained on: rural development through the incorporation of agricultural implements and rural equipment in the metal sector; the application of electronic high technology to industry; the use of CAM techniques in the machine tools sector; spare-parts manufacture in the transport industries; and equipment development in the energy sector. Activities on materials and technology for the packaging industry were also initiated, using an integrated approach, to serve the industry as a whole and particularly the agro-industrial sector.

107. Special concern was given to the development of the agricultural tools, implements and machinery industry. Dynamic changes in the agricultural pattern have increased the demand for industrial inputs for agriculture, and the Governments of developing countries continue to place emphasis on local production of suitable agricultural tools, implements and machinery to meet this demand. The agricultural machinery industry is special in that it offers a wide choice of technologies appropriate to local conditions. It also provides a variety of products, ranging from handtools and animal-drawn implements to tractors and complex, self-propelled machinery suitable for

^{23/} IDB.5/10, chap. II, para. 98.

specific soils and climates as well as for various crops, animal husbandry and post-harvesting activities (e.g. handling, sorting, transporting and storing of agricultural outputs). The following are examples of UNIDO technical co-operation activities in this area. An initial study for the manufacture of agricultural tools, implements and farm machinery was prepared for the agricultural machinery factory at Soroti, Uganda, to serve as a basis for the development of a large-scale project in co-operation with the United Nations Capital Development Fund. In Yugoslavia, through an SIS project, assistance was provided to improve the reliability and quality of drive-shafts and over-stress limits for agricultural machinery by means of more accurate design and upgraded quality control techniques, including measurement and testing. In Nicaragua, activities were aimed at strengthening the technological basis for, and improving the nomenclature of, agricultural tools production as well as of supporting the metal product industries by creating additional technological capacity. Prototype testing and development for the serial manufacture of simple agricultural implements was carried out in the United Republic of Tanzania, in co-operation with the Centre for Agricultural Mechanization and Rural Technology (CAMARTEC) at Arusha, under a trust fund supported by the Japanese Government. ^{24/} In Asia and the Pacific UNIDO continued to contribute to the implementation of the Regional Network for Agricultural Machinery in relation to the design of agricultural equipment and implements and to production technology. This project was carried out in co-operation with ESCAP as executing agency, and FAO as associated agency.

108. Several countries with a fairly well-developed industrial and technical infrastructure made considerable progress in bridging the gap in certain areas of high technology. ^{25/} In the field of electronic equipment and computer applications, the interest of these countries focused on the design, development and manufacture of electronic components and equipment and on the application of CAD/CAM techniques in industry, including the areas of process control and automation. Projects and programmes were aimed at the design and manufacture of complex micro-electronic components, including application-specific, very large-scale integrated circuits (ASIC/VLSI), opto-electronic parts and assemblies such as light-emitting diodes (LED), and gallium

arsenide laser diodes (GaAs) and yttrium aluminium garnet (YAG) lasers. Another concept stressed was the development of low-cost electronic equipment. The present global trend in the instruments industry is to design and manufacture equipment of constantly increasing complexity and price. Under the low-cost concept, however, only those functions of the instrument that are absolutely necessary for its task are considered and the goal is to develop the simplest piece of equipment (in terms of design and manufacture) required for the job. Products selected in the various projects using this concept included humidity measuring equipment, computer equipment and combinational instruments for technical training, i.e. instruments combining digital-multimeters, function generators, power supply and oscilloscopes. In Bulgaria, implementation continued of a project aimed at developing electronic devices for measurement and control of the treatment of industrial waste water, the results of which will be provided to other interested countries. ^{26/} Technical know-how provided to Viet Nam in relation to the repair and maintenance of electronic and optical instruments showed encouraging results. In the final phase of the project, local technicians proved their ability to run the workshop established under the project and to satisfactorily render service to the end-users.

109. Considerable effort was dedicated to the development and implementation of programmes in the field of automation and process control. Concepts dealt with in the programmes included: computer-aided process design and modelling; the design, development and application of microprocessor-based controllers; the computer control industry; distributed computing; parallel processing for large-scale processes; and flexible manufacturing and robotics. Automation techniques for small-scale manufacturing industries have been promoted by the Government of the Republic of Korea, ^{25/} and UNIDO has co-operated on a technical basis with a company in Seoul with the aim to introduce low-cost automation into small-scale enterprises through the training of engineers abroad and the services of expatriate experts. Many developing countries showed strong interest in projects involving the industrial application of computer-based techniques, such as computer-aided engineering (CAE) and CAD, finite element method analysis and CAM for the design and production of electronic components, assemblies and equipment. The number of

^{24/} *Ibid.*, para. 104.

^{25/} *Ibid.*, para. 105.

^{26/} *Ibid.*, para. 106.

operational and pipeline projects in this area has been rapidly increasing. Although the installation of complex electronic equipment and systems - including software packages - has been spreading rapidly in the industries of developing countries, their effective utilization is heavily dependent on the availability of maintenance and repair services. Considerable effort has therefore been given to the establishment or improvement of such services; an increasing number of projects were formulated dealing with the application of modern maintenance techniques, such as computer-based expert systems, graphic information systems and noise-signature analysis. In line with the ever-increasing awareness of environmental problems, a concerted review of the engineering industries programme was carried out. New concepts that were developed included: the application of noise engineering techniques; remote sensing/telemetry of environmental parameters; and the design, development and manufacture of analytical instruments for pollution monitoring. In Mexico, a project is being implemented on the application of CAD/CAM techniques for the fabrication of prototypes in accordance with the requests of different industries in that country.

110. The introduction of high technology and related training is an important activity in the area of metalworking and in the machine tools sector, and, in that respect, the strengthening of national technical institutional capabilities was given considerable attention by many developing countries. Emphasis was placed on the improved utilization of installed industrial capacity through diversification of the product mix, and on the improvement of product quality through the introduction of numerically controlled and computer numerically controlled machine tools and improved tooling. The introduction and strengthening of design capabilities for consumer and capital goods were also areas of technical co-operation that received high priority. Repair and maintenance of machinery and industrial plant equipment, including the reconditioning of worn parts and components by using metal-spraying techniques and electro-chemical technologies, also received considerable attention in view of their importance to reduce to a minimum unexpected breakdowns and thus reduce the risks of capital-intensive investment. Steady progress in relation to institutional development was made on several large-scale technical co-operation projects, including the one on tool manufacturing and product development for the metalworking and plastics industries in Trinidad and Tobago, as well as those

involving the Ethiopian Engineering Design and Tool Centre, 27/ the Indonesian Machine Tool Design and Development Centre, 27/ and the Specialized Institute for Engineering Industries in Iraq. In India, the Fluid Control Research Institute will soon be in a position to operate with minimal external assistance, as will the Fatigue Testing Laboratory within the Automotive Research Association. On the basis of a preparatory assistance project and clarifications made by a UNIDO mission, a large-scale project was approved to enhance the engineering capabilities of the Kenya Industrial Research and Development Institute. The project also aims at providing technical services in the form of engineering design and prototype production as well as common engineering facilities and specialized training to a few selected industries, thereby assisting both public and private industry.

111. CAD/CAM application is becoming a prerequisite in the developing countries to accelerate their manufacturing activities and ensure their competitiveness. In co-operation with UNIDO, the Government of Sri Lanka established a CAD/CAM centre at the Technical University of Moratuwa, where a continuous training programme for engineers and post-graduate students has been organized. 28/ One important project concept in the field of computer applications in industry is the digitizing and CAD inputting of geometries of products for which no, or very limited, design documentation exists. This so-called reserve engineering approach has already attracted great interest. In the metalworking sector, the introduction of CAD/CAM has further improved the quality and life span of tools such as moulds and dies, resulting in increased productivity in industries in China, the Republic of Korea and Tunisia.

112. Precision engineering is an area which has contributed to the overall metalworking and machine tool sector, and the design and development of bearings is a critical factor. A project executed by the Chinese Government involving technical co-operation with the Hangzhou Bearing Test and Research Centre has helped to improve the vibration and noise testing of rolling bearings and to strengthen the application of CAD in the design of rolling bearings. 28/ New technologies were introduced in China for the manufacture and quality control of specific gears that meet international standards.

27/ *Ibid.*, para. 109.

28/ *Ibid.*, para. 110.

113. A preparatory assistance project was started in China for the establishment of a fineblanking technology centre within the Beijing Research Institute of Mechanical and Electrical Technology. Fineblanking requires special skills and experience in areas such as component and tool design, material behaviour, the appropriate selection of materials, heat treatment, and various machining and metrology operations. This technology is relatively new and mastering it is only possible after high precision machinery has been developed. Preparatory work has also started on two other projects in China: one concerns machine tool modernization and restructuring that will improve the productivity of three technical design and production areas at the plant level; the other deals with foundry equipment design and manufacturing and is intended to strengthen the capabilities of the Jinan Foundry and Metal Research Institute.

114. Technical co-operation activities in the transport industry focused on land transport and water-borne equipment. In China, a prototype of a high-performance locomotive diesel engine was developed and has reached the testing stage. A fully automated railway locomotive test stand that was nearing completion, also in China, will permit performance and traction testing according to international standards. In Pakistan, automotive vehicles were previously assembled by importing the individual components; with UNIDO assistance, the local content of parts production increased significantly. Technical co-operation activities in the field of shipbuilding and marine engineering were extended to include technical and managerial advice to shipyards and port authorities as well as the development of new technologies in ship and boat production. Joint programmes or projects were conducted with the Arab Railway Union, Swissrail, the Bulgarian Shipbuilding Corporation and other engineering associations and companies. Co-operative and joint programmes were formulated by the FAO/UNIDO Joint Technical Working Group on the Fisheries Industry. An agreement between the International Maritime Organization and UNIDO has led to joint programmes for the development of shipbuilding and marine engineering as well as safety rules for transport, cargo and fishing vessels. International Labour Organisation (ILO)/UNIDO working sessions were held on training of personnel for transport and shipbuilding.

115. In the field of energy, technical co-operation activities continued in the areas of conventional, renewable and new

sources of energy with emphasis on the local manufacture of components and assemblies. In Egypt, prototype components for wind turbines generating electricity were produced and will be tested on a large scale. In Uruguay, consultancy services and training were provided in relation to potential wind energy conversion systems for the national electricity grid. Local production of solar water heaters and related components was introduced in Jordan, Madagascar and Sierra Leone, resulting in appreciable savings in fuel oil. Also in Madagascar, a project led to the development of local capabilities for the manufacture and assembly of small hydropower equipment and components. A project was launched in Jordan in the field of solar and wind energy utilization. In conjunction with that project, a Practical Workshop for Technicians and Engineers in the Field of Design, Manufacture, Repair and Maintenance of Solar Water Heaters was held at Amman in February/March for selected African, Arab and Asian developing countries. The programme provided small-scale manufacturers with practical guidance on how to measure the capacity of solar radiation, prepare an appropriate design, choose the site and manufacture simple solar panels.

116. Technical co-operation activities in the packaging industry focused on the production and conversion of packaging materials and on package development, manufacture and quality control according to products, markets and distribution systems. Emphasis was placed on the creation or strengthening of packaging R and D capability by establishing or upgrading national packaging centres or units, which could in turn provide assistance in packaging technology and quality control to interested local packaging manufacturer and user industries. Such assistance was provided to Brazil, Chile, Indonesia and Tunisia within the framework of operational projects and to China, India, Saudi Arabia and Thailand as related preparatory or ad hoc activities. An important part of the assistance related to packaging was provided within projects dealing with the manufacturing of the basic materials required, i.e. paper and board, plastics, glass, tinplate and aluminium. Direct assistance to the converting industries was provided in Iraq and Viet Nam and related preparatory assistance was given in the Democratic People's Republic of Korea. In co-operation with the International Trade Centre (UNCTAD/GATT), UNIDO took part as associate agency in the implementation of a project in Tunisia that dealt with improving quality control in export packaging.

117. As described in the above paragraphs, considerations of repair and maintenance continued to represent a major component of all technical assistance provided in engineering industries. In addition, special attention was given in certain projects to the introduction of high technology, equipment accessories and training. One of the most acute problems confronting many developing countries continued to be maintenance, repair and spare-parts production for agricultural tools and machinery. In that context, Bangladesh received assistance in relation to the manufacture and supply of diesel engines for the agricultural sector as generator sets for irrigation pumps and other uses in rural areas; an emergency rehabilitation programme was also carried out to repair thousands of pumps damaged by floods. In Burkina Faso, a project was completed on the establishment of independent workshops for repair of tractors and agricultural machinery and the manufacture of spare parts. In other African countries such as Angola, Madagascar, Senegal and Togo, specific maintenance and repair centres and workshops were established to help local industries maintain production equipment through the introduction of maintenance schemes and local production of spare parts.

INDUSTRIAL PLANNING

118. Technical co-operation expenditures under the heading of industrial planning amounted to \$8.1 million. Some 83 per cent of the total implementation was financed from UNDP resources. A total of 113 technical co-operation projects were implemented or under implementation.

119. During the year there was an increase in project approvals which reflects a greater demand for assistance in the areas of industrial strategies, policies and planning. Whereas the quantitative targets for the subprogramme of industrial planning were largely exceeded for the biennium 1988-1989 new approaches were adopted and the activities have been gradually redirected towards (a) strategic management; (b) enhancement of the productive performance; and (c) decision support systems for planning and formulation.

120. In order to respond to the needs of developing countries in an environment of rapid structural change, domestically and internationally, emphasis was placed on the process of decision-making under conditions of uncertainty and on efficient co-operation between the public and the private sector, rather than on the

creation of blueprints for further industrial production. This approach is referred to as strategic management of the industrialization process and has been applied in a number of countries in Africa, including Cameroon, Côte d'Ivoire, Guinea, Senegal and Zaire. The project in Zaire is an example in which four consecutive steps can be discerned: an industrial survey; identification of priority subsectors; in-depth diagnosis of subsectors; and formulation of strategies and action programmes for each subsector by consultative groups that included both public and private sector actors. As was the case in Côte d'Ivoire, the project is expected to result in the formulation of UNIDO support programmes to industrial subsectors and thereby provide a basis for expanded technical co-operation in the form of rehabilitation measures, assistance to infrastructure, feasibility studies and technological co-operation. In order to make use of the experience gained to date in relation to the industrial restructuring process in Africa, a major regional workshop - financed out of IDDA resources - was held in Vienna in December on the strategic management of the adjustment process in the industrial sector in Africa. Representatives from most African countries and from international and regional institutions working in Africa participated in the evaluation of policies affecting the adjustment process, and expressed their strong belief in the strategic management approach as a means of enhancing growth and competitiveness.

121. Similar projects are in advanced stages of development, for example in Bangladesh and Nigeria. Both of these projects are considered to be essential for future industrial development in those countries. In Bangladesh, a preparatory assistance project served to identify strategic themes, such as competitiveness, export orientation, advanced technology, privatization and a new corporate culture, on which the main project will concentrate during 1990. Assistance was rendered along similar lines for Bhutan and Nepal, 29/ two least developed and land-locked countries. Special attention was given in all such projects to environmental protection and to maintaining the ecological balance. Work on a project in Papua New Guinea 29/ concentrated on building up a managerial system for small-scale industries.

122. The introduction of industrial automation technologies, as well as the strengthening of productive performance in the capital goods producing sectors,

29/ IDB.5/10, chap. II, para. 117.

continue to underlie the industrial strategies of many developing countries. This strategy is well illustrated by a Colombian project, ^{30/} in which major enterprises were able to buy domestically produced capital goods for a value of at least \$10 million in the year 1988 alone. For example, the national petroleum company of Colombia was able to buy essential spare parts and accessories produced in the country instead of importing the items. Implementation of a capital goods project in Venezuela continued and new projects for industrial restructuring were started in Costa Rica, Peru and Venezuela.

123. A meeting of international experts was held in Vienna in November, during which a proposal was endorsed for a regional programme in Latin America concerning the introduction of industrial automation technologies in the capital goods industries. It is hoped to initiate this programme towards the end of 1990.

124. A number of technical co-operation projects were executed under the UNIDPLAN programme ^{31/} that were aimed at transferring computer-aided planning tools to the developing countries as components of decision support systems. A project intended to develop planning tools for the agro-industry sector was initiated and it is expected that field studies in several developing countries will be carried out in 1990. At a High-level Expert Group Meeting on Computer-aided Tools of Environmental Impact Assessment for Industrial Planning, held at Kiev, Union of Soviet Socialist Republics, in October, available models for the assessment of environmental impact were reviewed. During 1990, participating research institutes are expected to contribute a number of operational models for use in assessing the environmental consequences of industrialization, thus enhancing the internal capacity of UNIDO in this area. In connection with the projects in Bhutan and Nepal (see para. 121 above), an industrial data base and information system was developed to assist in planning, formulation of policy, and monitoring industrial development with special emphasis on industrial manpower planning.

125. Planning continued for the development of the fisheries industry sector. The typology of fisheries industry systems, originally established in 1987, was updated

as a basis for further programming and planning for this sector. Several experts from developing countries were trained in the use of the methodology for assessing and programming integrated production/consumption systems (MEPS) ^{32/} for application in their countries (see paras. 51-54 above).

INSTITUTIONAL INFRASTRUCTURE

126. Technical co-operation expenditures under the heading of institutional infrastructure amounted to \$15.0 million. Some 81 per cent of the total implementation was financed from UNDP resources. A total of 208 projects were implemented or under implementation.

127. During the biennium 1988-1989, a comprehensive and integrated modular approach for the formulation and implementation of technical co-operation projects was adopted and an integrated package of interventions at various levels (policy, institutional support systems and enterprise operations) was applied in order to render assistance more effective. Technical co-operation activities thus programmed in an integrated manner involved mutually supportive and innovative projects designed to foster development in areas such as small- and medium-scale industry, entrepreneurship, rural industry, institutions for industrial research and industrial information, quality control, standardization and metrology, international - including enterprise-to-enterprise - co-operation, industrial sub-contracting and privatization.

128. Extensive support was provided in relation to the development of effective R and D institutions. This implied not only the development of facilities required, but the steps needed to assure the integration of these institutions with industrial enterprises as well as the establishment of links to all relevant sources of scientific and technical information at the national and international level. Priorities in R and D activities are most effectively formulated not only in accordance with the immediate needs of a given country, but should encompass as well such parameters as energy savings, preservation of the environment, and optimal use of human resources. The diversified field of R and D activities monitored by UNIDO thus not only includes higher and cleaner technologies as priority areas but also the

^{30/} *Ibid.*, para. 119.

^{31/} IDB.4/10, chap. II, para. 107; IDB.5/10, chap. II, para. 118.

^{32/} IDB.3/10, chap. II, para. 10; IDB.4/10, chap. II, para. 10.

improvement of R and D management and performance through the installation of information networks. In a large-scale project in the Syrian Arab Republic, ^{33/} assistance was provided in relation to the establishment and functioning of equipment for small-scale manufacturing of optical instruments for medical and educational purposes. At the Institute of Applied Science and Technology in Guyana, ^{33/} a local area network with dedicated access to the international networks via satellite was designed by international experts and is expected to become operational shortly. A project in Malawi aims at establishing an R and D centre with an unusual structure combining both a consulting-cum-engineering bureau with special industrial information services. This structure aims to take into account the scarcity of local qualified personnel serving the industrial sector and lead to efficient use of the expertise available. In Zambia, the current status of R and D activities was analysed and a technology audit involving 50 companies was undertaken in several industrial sectors. A project was initiated in Mongolia in which UNIDO co-operates closely, both technically and financially, with the International Centre for Scientific and Technical Information in the Union of Soviet Socialist Republics. The objective of the project is to establish a national on-line network of computerized industrial information and link it with international data banks. A project under implementation in Cameroon aims at setting up a service that will provide investors and industrialists - particularly entrepreneurs in small- and medium-scale industries - with all the information needed to establish and operate their enterprises.

129. The UNIDO programme in quality control, standardization and metrology remains an important element of the integrated programmes designed to provide assistance to small- and medium-scale industries. The programme is intended, on the one hand, to help entrepreneurs maintain an adequate level of product quality in order to compete successfully in the international market and, on the other, to help government authorities assure the quality of both locally-produced and imported goods for domestic consumption. Towards these ends, UNIDO has been following both an integrated approach and, wherever feasible, a regional one; these interrelated approaches are intended to aid in the establishment of effective systems contributing to more rapid industrialization.

^{33/} IDB.4/10, chap. II, para. 120; IDB.5/10, chap. II, para. 125.

Improvements in quality involve considerations of quality control, quality assurance, certification marking, laboratory accreditation, and measurement and testing. Such improvements cannot be achieved without taking into account four interlinked components, i.e. standardization, metrology, testing laboratories and service centres to industry in quality techniques. All of these factors must therefore be integrated in the elaboration and execution of technical co-operation projects. Following this integrated approach, UNIDO assisted in the establishment of national systems and institutions, for example, the National Bureau of Standards in Nepal ^{34/} and the Institute for Standardization, Quality Control and Metrology in Yemen, ^{35/} and a network of testing laboratories in Viet Nam. Because the regional approach tends to assure complementarity, improve co-ordination and promote co-operation among countries with similar conditions, assistance was provided, for example, to the African Regional Organization for Standardization in the development of metrological activities in Africa. A new concept of direct support to small- and medium-scale industries in relation to quality assurance has also been developed, under which a selected institution provides training and advisory services to managers and staff. An example is a project in Indonesia designed to upgrade the quality of production in the automotive sector.

130. The promotion and development of small- and medium-scale industries continued to represent an area of high priority and a major programme element. In this area as well technical co-operation activities continued to follow an integrated, comprehensive, modular approach aimed at the policy, institutional and enterprise levels. While special activities and new, innovative concepts have been developed and initiated - such as enterprise-to-enterprise co-operation and the Analysis of Technological Complexity (ACT) ^{36/} - substantial assistance continued to be provided in more traditional areas of institutional support. These included the establishment and strengthening of organizations dedicated to fostering small industry development, the creation of industrial estates, the development of extension services and common service

^{34/} IDB.4/10, chap. II, para. 123.

^{35/} IDB.4/10, chap. II, para. 123; IDB.5/10, chap. II, para. 126.

^{36/} IDB.3/10, chap. II, para. 94.

facilities, and the provision of advisory services to government departments, ministries and financial institutions concerned with the development of small- and medium-scale industries. This focus on institution building was designed to improve the capacity of local institutions engaged in the promotion of small- and medium-scale industries to provide the necessary technical services and facilities for the development and upgrading of these industries. As an example of the approach being taken, an integrated package of technical assistance was provided in Mozambique at three levels: institution building through strengthening the capacity of the National Institute for the Development of Local Industry to respond to the needs of small-scale industries; direct support at the enterprise level through rehabilitation of 10 small-scale industries as pilot demonstration projects; and at the policy level by means of a business environment study carried out by the World Bank under an inter-agency sub-contracting agreement. Assistance was also provided to financial institutions to strengthen their capacity to promote small- and medium-scale industries. In Colombia, for example, the Corporación Financiera Popular was assisted in consolidating its programme as a designated institution for financing smaller scale industrial development. Industrial estate development and management continued to represent a major portion of technical co-operation provided in relation to small- and medium-scale industries. For example, technical assistance was provided in Peru to reactivate the Industrial Park of Lima Southern Core and enable it to provide support to small-scale industry and related associations.^{37/} This was considered to be a pilot project as the concept appears to be applicable to similar congested urban areas throughout Latin America. Another example was the technical support provided to an industrial estate in Kenya.

131. With regard to new activities concerning the development of small- and medium-scale industries, the programme on enterprise-to-enterprise co-operation^{38/} proved to be a successful pioneering effort, combining for the first time external financial resources with technical co-operation activities. The programme was instrumental in arriving at a number of financial investment agreements. The project on enterprise-to-enterprise

^{37/} IDB.5/10, chap. II, para. 44.

^{38/} IDB.4/10, chap. II, para. 115; IDB.5/10, chap. II, para. 127.

co-operation between small-scale industries in Italy and small-scale industries in Argentina, Brazil and India^{38/} resulted to date in 16 co-operation agreements in Argentina, six in Brazil, and eight in India; an additional 122 proposed agreements are in an advanced stage of preparation and will be concluded shortly. In total, the partnership agreements involved will generate an estimated \$120 million of investment in the three developing countries. The type of co-operation envisaged between Italian firms and their partners in Argentina, Brazil and India ranges from technical assistance, transfer of know-how, licensing and sub-contracting to joint ventures. For example, an agreement was reached recently between an agro-company in India and an Italian firm for setting up a joint venture to manufacture food-processing machinery. The joint venture contract foresees the creation of a mixed capital Indo-Italian firm with a total investment of \$1.5 million in the first phase, which envisages the transfer of Italian technology for potato processing. Subsequent phases foresee the inclusion of other vegetables and fruits. The plant, when completed in April 1990, will employ about 100 persons, including e.g. Indian technicians trained in Italy. The project initiated on South-South enterprise-to-enterprise co-operation between India on the one hand and, individually, Egypt, Malawi and the Philippines on the other has already resulted in two agreements between Egyptian and Indian entrepreneurs that are likely to lead to important financial investments. As the result of a financial contribution from Belgium and a special allocation from the European Economic Community, a programme has been launched for the promotion of international partnership agreements between small and medium enterprises in Belgium on the one hand and, individually, Morocco and Thailand on the other. This programme usefully supplements credit lines granted by the Belgian Government to development organizations or banks for loans to smaller industries in Morocco and Thailand entering into co-operation agreements with Belgian partners.

132. An integrated, computerized package referred to as IMPACT (industrialisation maîtrisée par l'ACT) and based on the ACT method has been created to aid in the development of smaller industries,^{39/} with a particular focus on the electro-mechanical sector. Initial results have been promising, and have generated strong interest among both recipient and donor

^{39/} IDB.4/10, chap. II, para. 115.

countries. The package is based on the use of a micro-computer and will be made available to interested users through licensing agreements with UNIDO. One of the main applications of ACT, the filtering and identification of technologically sound project opportunities, proved to be fully operational at the field level; about 70 project ideas were developed, resulting in nearly 30 in-depth studies or negotiations between industrial partners. The countries concerned were Algeria, Brazil, France, Germany, Federal Republic of, and Morocco. The ACT programme has proven to be an effective tool for enterprise-to-enterprise co-operation and some \$30 million of investment has been generated to date. With the co-operation of the Government of Algeria, use of the ACT method also led to the first meeting of all industrialists of the Maghreb in the automotive components industry at Algiers in March. The way has been paved for the use of the IMPACT programme in Latin America through the launching of a joint programme between UNIDO and the 13 Member States of the Latin American Integration Association (ALADI). 40/

133. In an increasing number of developing countries, the export processing zone (EPZ) has gained in popularity as an instrument to attract foreign investment for the manufacture of goods for export and to encourage local industries to focus on export development. Such zones also contribute to the creation of new employment possibilities and the transfer of knowledge, skill and technology to the country concerned. In the past 10 years EPZs have grown rapidly in number and find themselves in strong competition. While some have an impressive record, the majority are in a relatively vulnerable position because of just having started operation, or as the result of an unstable investment climate, the difficulty of operating under complex laws and regulations or because of problems of management, infrastructure or high costs. A number of developing countries have approached UNIDO for advisory services related to the establishment of such zones, their management and operation and, in particular, the marketing and promotional arrangements involved. Technical co-operation projects in relation to EPZs were carried out in Bolivia, Fiji, Nepal and Nigeria. UNIDO also organized a seminar at Xiamen, China, in January, where EPZ managers and investment promotion specialists, experts from China's special economic zones and non-governmental organizations involved in free zone development were brought

together in order to exchange experience and information on the latest techniques for the promotion, management and operation of EPZs.

134. In recognition of the role of rural industrial development, the Administrative Committee on Co-ordination (ACC) Task Force on Rural Development established a Working Group on Industrial Contribution to Rural Development. The Group will be concerned with the exploration of possibilities for integrating industrial, agricultural and rural development with a view to creating opportunities for non-farm employment, improving and developing infrastructure in rural areas and enhancing rural development in general through further inter-agency co-operation. With respect to technical co-operation activities concerning rural industrial development, a total of 14 projects were executed in Africa (Guinea, Guinea-Bissau, Liberia, Madagascar, Rwanda, Sierra Leone, United Republic of Tanzania and Zambia) and in Latin America (Argentina and Suriname). 41/ By the end of the year, activities carried out under the rural industrial development programme during 1988 and 1989 had led to a total investment in Africa of some \$20 million.

135. The UNIDO programme for the development of industrial sub-contracting between large contracting enterprises and small- and medium-scale sub-contracting and ancillary industries has been designed to assist in the industrial development, modernization and integration of an economy, especially for the small- and medium-scale industries sector. At the regional level, work was carried to an advanced stage in relation to a regional programme for the development of sub-contracting aimed at the establishment of an integrated Arab sub-contracting system and network including Algeria, Egypt, Iraq, Jordan, Morocco and Tunisia. 42/ Similarly, a large-scale regional programme was prepared and negotiated for the development of sub-contracting in Latin America; this will be launched in 1990 by UNIDO in concert with Argentina, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay and Venezuela with the support of a financial contribution from Italy. At the international level, by means of financial contributions from Belgium and France, programmes for the promotion of international sub-contracting and partnership between industrialized and developing countries were being established or

41/ IDB.4/10, chap. II, para. 119.

42/ IDB.4/10, chap. II, para. 117; IDB.5/10, chap. II, para. 129.

40/ IDB.5/10, chap. II, para. 128.

already under implementation. These programmes rely on existing national sub-contracting exchanges set up under the aegis of UNIDO. Activities carried out during 1988 and 1989 under the sub-contracting programme at the national, regional and international levels in relation to Africa, the Arab States and Latin America had, by the end of the year, led to a total investment of some \$140 million by small and medium-size enterprises. Negotiations with the *Marché international de la sous-traitance* (MIDEST) concerning their sub-contracting fair have resulted in an agreement for co-operation according to which MIDEST will grant special facilities to countries receiving UNIDO assistance and willing to participate in the fair as exhibitors or visitors.

136. Because of the key role played in the industrialization process by institutions created for the promotion of industrial development, UNIDO is offering a number of developing countries technical assistance either in establishing national chambers of commerce and industry - such as the newly established Chamber of Commerce, Industry and Agriculture of Guinea ^{43/} - or in strengthening the functions carried out and services provided by existing chambers to their industrial affiliates, as in Democratic Yemen, Swaziland, and Turkey. The UNIDO programme of product adaptation for export aims at upgrading and adapting industrial products manufactured in developing countries to the requirements of selected target markets. Large-scale assistance in this respect was provided in establishing the Industrial Design Centre of Jamaica and preparatory assistance was also given to the five Indian Ocean islands.

INDUSTRIAL MANAGEMENT AND REHABILITATION

137. Technical co-operation expenditures under the heading of industrial management and rehabilitation amounted to \$7.5 million. Some 82 per cent of total implementation was financed from UNDP resources. A total of 103 projects were implemented or under implementation.

138. With the aim of improving the quality of technical co-operation the assignment of staff to specific programme elements for both development of concepts and implementation was streamlined during the biennium 1988-1989. The use of computers facilitated energy auditing and costing and will provide a powerful tool

when integrating in future projects considerations such as the financing of energy conservation and environmental rehabilitation measures.

139. Many large-scale projects dealt with the upgrading and modernization of production and management capability; typical were those implemented in China and Indonesia. Attention was also centred on particular issues of plant performance and managerial improvement, such as maintenance and accounting, as well as on modernization of plants and enterprises in general. Increased attention was given to project management in establishing new production facilities. Assistance in relation to repair and maintenance schemes as well as computer-aided management and accountancy training programmes was provided to Burkina Faso and Sao Tome and Principe. Preventive maintenance was the theme of a project in the Philippines, where a centre was created to promote the development of local skills and to improve national consultancy capabilities in that field. A laboratory was also established there for testing machine tools.

140. A number of projects designed to back up government restructuring programmes became operational, for example in Uganda (financed by means of loans from the World Bank/International Development Association) and in Guyana. The latter, though originally aiming only to improve existing centralized managerial structures of the Public Corporation Secretariat, ^{44/} was reoriented during the year to emphasize disinvestment, and allow for more flexible and diversified actions with a broader scope.

141. The programme in energy management and conservation grew during the year, and activity continued under a project to strengthen the industrial energy conservation network in Europe involving aid-recipient and other countries. ^{45/} The first volume of a series on energy auditing and management was prepared; this is of a general nature, and subsequent volumes will be prepared on specific industries. A large-scale project in the Philippines further strengthened the national energy management consultancy service and a new computerized system was developed under the name of "ENERCOST" for carrying out economic and financial analyses relating to energy use. A project in the Republic of Korea focused on applying highly specialized energy technologies.

^{43/} IDB.4/10, chap. II, para. 118.

^{44/} IDB.5/10, chap. II, para. 137.

^{45/} *Ibid.*, para. 136.

142. Rehabilitation continued to receive high priority ^{46/} with the primary thrust remaining at the enterprise level on diagnostic and modernization programmes and their implementation. Examples of this were projects implemented in the public and private sectors in Kiribati, Mali, Sao Tome and Principe, ^{44/} and Togo. A significant contribution was made towards the development of an integrated approach to this field - at the macro-economic, sectoral and subsectoral levels - which takes into account other programmes in the Organization, particularly industrial planning, country studies and feasibility studies.

143. The importance of developing the capability of national consultant firms to provide an increasing share of technical expertise in their own countries was recognized through the continuation of projects in Malawi, Somalia ^{47/} and Uganda. A seminar on industrial consultancy, held in co-operation with the Federation of African Consultants and the African Development Bank, with financial and technical inputs from Spain, took place at Abidjan, Côte d'Ivoire, in May. Additional seminars in this area are envisaged and it is expected that these activities will form a basis for increased national professional involvement in rehabilitation programmes.

144. Since the secondary wood processing sector is somewhat fragmented and characterized by smaller firms and lower investment levels than forestry and primary conversion projects, activities in this sector continued to be in the form of small, high impact projects. In Cameroon, specialized advice was provided to the National Forestry Development Centre ^{48/} on furniture and joinery design, timber structures and production planning as part of a programme to demonstrate industrial production techniques. Advice on design and production management for serial production continued to be provided in relation to a pilot furniture plant in the Democratic People's Republic of Korea. ^{48/} In relation to senior management techniques, advice was given by high-level consultant teams through seminars in Indonesia and Malaysia; in the latter case, advice was also provided at the plant level. Timber construction projects were completed in Bolivia and Nicaragua, and substantial progress realized in relation to a large bridge project in

Panama. Activities were initiated in relation to the UNIDO portion of a large FAO regional project aimed at modernizing furniture and joinery plants, promoting national construction projects using wood products and identifying export possibilities.

145. Work progressed on the preparation of manuals on project management as well as on computer applications. A second revised edition of the manual on Furniture and Joinery Industries for Developing Countries (ID/108/Rev.2) was issued as a sales publication.

146. In addition to the activities reported on above, a great deal of activities related to industrial management and rehabilitation were carried out in connection with projects related to specific sectors and are reported on under other headings in this chapter (e.g. paras. 71, 97, 99 and 100 above).

INDUSTRIAL HUMAN RESOURCE DEVELOPMENT

147. In keeping with the findings and recommendations of the Director-General on the management review of the organizational and staff structure of UNIDO and Board decision IDB.5/Dec.21 (see chap. 1, paras. 8-9), and with a view to eliminating duplication of functions, the Industrial Training Branch in the Department of Industrial Operations was renamed the Industrial Human Resource Development Branch, and its functions were redefined with effect from 1 September 1989. ^{49/} Selected technical co-operation field projects implemented by the former Industrial Training Branch were reassigned to the substantive branches in the Department in accordance with their respective functional responsibilities. The purpose was to enable the Branch to assume its rightful role as a service and policy branch, especially in light of the high priority attached to human resources development by Member States.

148. Expenditures for fellowships and training components in all technical co-operation projects implemented by UNIDO amounted to \$20.2 million. Of that total, \$13.6 million was spent on fellowships and study tours and \$6.6 million on group training activities and meetings. Technical co-operation expenditure under the heading of training that received substantive backstopping from the former Industrial Training Branch amounted to

^{46/} *Ibid.*, para. 134.

^{47/} *Ibid.*, para. 138.

^{48/} *Ibid.*, para. 139.

^{49/} For details of the functions, see UNIDO/IX/B.113.

\$6.4 million. Some 11 per cent of this implementation was financed from UNDP resources. A total of 179 projects were implemented or under implementation.

149. A detailed breakdown of in-plant and other group training programmes as well as fellowships and study tours is given in appendix I, including the number of female participants and participants from least developed countries and African countries.

150. During the biennium 1988-1989 UNIDO training programmes responded to the growing needs of the developing countries. This was achieved through a number of initiatives taken to assist those countries in assimilating new and advanced technologies. The innovations included the design and development of training activities in areas such as automation and computer-based design and manufacture (CAD/CAM) of tools and spare parts. Moreover, special attention was given to strengthening the related training capacities and capabilities of institutions and industry through the training of trainers in computer-based advanced training systems and the preparation of relevant training materials; at the same time industry was encouraged to assume a greater role in upgrading the skills of its industrial personnel.

151. As described in the following paragraphs, a series of initiatives were taken, most of them in the Africa region within the framework of IDDA. A pilot training centre was established at the Centre Ivoirien pour la Gestion des Entreprises (CIGE) to assist and train women entrepreneurs in relation to human resource development, management and organization. A total of 120 women from 10 countries (Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Guinea, Mali, Mauritania, Niger, Senegal, Togo) took part in the five training workshops organized.

152. UNIDO co-operated with the Economic Community of West African States (ECOWAS) in a number of training projects for the benefit of ECOWAS countries. In Côte d'Ivoire, training capabilities of the Centre Africain de Management et de Perfectionnement des Cadres were strengthened through the development of pedagogical support for training programmes for small-scale entrepreneurs and managers. In Senegal, a training workshop was held at the Centre Africain d'Etudes Supérieures en Gestion for French-speaking industrial managers from seven countries (Cape Verde, Côte d'Ivoire, Burkina Faso, Mali, Mauritania, Niger, Senegal). Moreover, a large training programme was carried out

for five English-speaking countries (Gambia, Ghana, Liberia, Nigeria and Sierra Leone) in Nigeria and the United Kingdom of Great Britain and Northern Ireland. The programme aimed at establishing a network of management institutions at the national and subregional levels and strengthening the training capabilities of 10 such institutions (e.g. the Centre for Management Development in Nigeria and the Small Enterprise Development Foundation in Sierra Leone). These activities included introduction to advanced training technology for senior trainers, training in industrial management for industrialization and training in computer information systems for managers of training institutes.

153. As part of a strategy for planned maintenance in PTA countries, the training capacity of five iron and steel enterprises was strengthened through the development of a training system and the training in the United Kingdom of eight trainers from Ethiopia, Mozambique, Uganda and the United Republic of Tanzania. To complement the training provided to engineers in planned maintenance, a programme was also organized in the United Kingdom for senior policy and decision makers in developing countries. With a view to formulating a strategic approach in relation to human resource development for industry, a meeting was held with representatives of selected sub-Saharan organizations in Vienna in November/December.

154. Manpower and training requirements for the petroleum and hydropower sub-sectors were assessed in PTA member countries, specifically in Angola, Burundi, Djibouti, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Rwanda, Somalia, Swaziland, Zambia and Zimbabwe. This resulted in the preparation of an action plan for manpower development and training for the consideration of the PTA Ministers of Industry. A guide was also prepared outlining a modular approach to meet the training needs of various target groups. Preparatory assistance measures were developed for a programme in Ethiopia to support a spare parts and hand-tools factory. A training programme was designed for industrial co-operatives in Guinea Bissau. As a follow-up to the 1987 workshop on mini-hydropower plants in Austria, 50/ preparatory work started on a techno-economic study for such a plant in Madagascar. Two programmes were carried out involving the training of trainers for development financing institutions; one, organized in co-operation with the Economic Development Institute of the

World Bank and the Centre for Financial Assistance to African Countries (FINAFRICA), was held in Milan and financed under a contribution of the Government of Italy; the second, held within the framework of IDDA, took place in Cameroon.

155. As a follow-up to the regional programme for Latin American countries on computer-based advanced training systems, 51/ a study was made on introducing a distance-learning system in Uruguay. The study was carried out in co-operation with the Distance Study University of the Federal Republic of Germany. A modular approach designed for training programmes in entrepreneurship development was field-tested with selected Asian institutes under a regional preparatory assistance project.

156. An environmental management training programme for industry was launched by the United Nations Environment Programme (UNEP) in co-operation with the Centre for International Projects in the Union of Soviet Socialist Republics, the Leningrad Technological Institute of Pulp and Paper, the Tampere University of Technology in Finland and UNIDO for participants from 11 Asian countries (Afghanistan, China, Democratic People's Republic of Korea, Indonesia, Malaysia, Nepal, Papua New Guinea, Philippines, Sri Lanka, Thailand and Viet Nam). UNIDO prepared a guide outlining a programme for training in relation to industrial environment management and the use of clean technologies. A joint working group was established to provide for continuing co-operation.

157. To support the training activities taking place throughout the Organization, initiative was taken to create a data base for training materials. A data base was also established to provide information on training possibilities in both the developed and developing countries, with a view to facilitating co-operation among institutions in the developing countries as well as among developed and developing countries in the field of human resources development.

158. A new dimension was added to the UNIDO fellowship programme through the fielding of training staff to selected countries in order to introduce strategy planning systems for fellowship and study tour programmes. As part of this effort, a Meeting of Host Training Institutions and Placement Agencies was held in Vienna in November/December to examine ways and means to better respond to the evolving

training needs of managerial and technical personnel of developing countries. A number of scientific directors of UNIDO group training programmes also attended the meeting to review the constraints faced by the host institutions; this gave rise to an exchange of views as to possibilities for harmonizing approaches wherever feasible. The meeting, *inter alia*, examined possibilities for the introduction of computer-aided advanced training systems and the use of other advanced training technologies.

159. Efforts continued to be made wherever possible to gradually transfer training capabilities from the developed to the developing countries. Of the total of 88 in-plant and other group training programmes, 45 were carried out in developing countries. An annual programme for maintenance and repair of small and medium-sized ships, which was previously held in Belgium, was expanded to include an important component in Morocco, while the maintenance and repair programme for engineers carried out with the Union of African Railways, usually held in the United Kingdom (see para. 152 above), was organized for the first time for decision makers and managers responsible for the rehabilitation of rolling stock. Both Egypt and Kenya served as hosts for those portions of the railroad training programme that took place in the developing countries. In support of Niger's industrial rehabilitation strategy and its structural adjustment programmes, an industrial maintenance training programme was initiated for trainers.

160. Co-operation among developing countries was the basis for a number of activities. The management of small- and medium-scale enterprises in Africa was the subject of a training programme carried out in the Islamic Republic of Iran for participants from Cameroon, Ethiopia, Gambia, Ghana, Kenya, Nigeria, Somalia, Sudan, Uganda, United Republic of Tanzania and Zambia. A seminar was held in Turkey for senior policy and decision makers from least developed countries and African countries engaged in the development of small-scale foundries. An industrial maintenance and repair programme at the Ecole Mohammadia d'Ingénieurs, in Morocco, aimed at fostering co-operation among Arab countries in that area, was organized in co-operation with AIDO.

161. To analyse the variables influencing in-service training and the possibility of enhancing the respective roles of Governments, industries and donors, a synthesis of views was prepared in the form of a report on the basis of the

51/ IDB.5/10, chap. II, para. 145.

Vocational, Education and Training (VET) brief of the World Bank, a study on in-service training in Asia carried out by the Development Centre of the Organisation for Economic Co-operation and Development, and four UNIDO case studies on in-service training in Africa. The report will be reviewed during a round-table discussion with selected representatives from sub-Saharan countries, which will be held in Paris in June 1990 and will involve the above organizations and the International Centre for Advanced Technical and Vocational Training of ILO at Turin, Italy. The entire activity is financed under a contribution from the Government of France.

162. In the field of maintenance of biomedical equipment a training programme was held in Paris in September in co-operation with WHO and the International Atomic Energy Agency (IAEA), financed by a contribution from the Government of France. Encouraged by the results of the programme, UNIDO, WHO and IAEA agreed to step up their co-operation in this field. An interregional programme in Brazil on manpower development and training for the management, maintenance and repair of health care equipment was carried out by WHO, in co-operation with UNIDO. UNIDO was associated in an inter-institutional meeting hosted by IAEA in Vienna in May to discuss problems relating to the maintenance of scientific equipment in Africa. Moreover, UNIDO and WHO co-operated in an IAEA regional training course on the care and maintenance of diagnostic medical instrumentation held in the United Republic of Tanzania in November.

FEASIBILITY STUDIES

163. Technical co-operation expenditures under the heading of feasibility studies amounted to \$7.0 million. Some 64 per cent of the total implementation was financed from UNDP resources. A total of 125 projects were implemented or under implementation.

164. During the biennium 1988-1989, the quality of UNIDO activities in feasibility and pre-investment studies was evidenced by the increasing number of requests for project appraisals received from industrialized countries, which involve work carried out on a commercial basis against payment of a fee. This general acceptance resulted from a continuous process of refinement and updating of the techniques employed.

165. Thirty-five pre-investment studies were initiated in a number of developing countries. Some of these were completed

and investment negotiations have begun. More than a quarter of pre-investment studies recently completed have led to actual investment, a figure considerably above standard practice. Financing of pre-feasibility and feasibility studies has increasingly been met through special-purpose contributions - notably by France, Italy, Japan and the Netherlands - to the Industrial Project Preparation Facility which has become a major funding source for pre-investment studies in developing countries.

166. Assistance continued to be given to selected countries in relation to the identification and promotion of modern technologies for the construction of wooden fishing boats. These activities commenced earlier in Indonesia, ^{52/} where technologies developed by UNIDO are now being employed in boat building on a commercial scale. Nearly 150 boats of varying type and size were designed and construction was started; 10 of these are for export to Japan. An Indonesian entrepreneur, who is exporting the boats and to some extent the technology, has also been involved under TCDC arrangements in the transfer of modern wooden boat-building technology to Cameroon, Madagascar, Papua New Guinea and Philippines. Promotional activities on wooden boat production have been carried out.

167. Continued emphasis was given to the initiation and promotion of institution-building projects designed to improve capability at the national level to identify the need for, prepare and evaluate industrial feasibility studies. Such assistance, to be effective, must be carried out over a period of several years. Good results have been achieved in strengthening the necessary infrastructure at the institutional level, in upgrading staff capability through the introduction of up-to-date techniques and in improving the quality of work in the preparation and appraisal of industrial feasibility studies. Projects of this nature have been carried out in Algeria, Cameroon, Democratic Yemen, Ethiopia, Madagascar, Saudi Arabia, Yemen and Zambia.

168. In response to the pressing need for developing countries to upgrade the level of skills required for the preparation of pre-investment studies, nearly 50 seminars have been carried out in which 900 individuals have been given training. Twenty-five of these, involving 600 participants from developing countries, were carried

^{52/} YDB.4/10, chap. II, para. 148; IDB.5/10, chap. II, para. 153.

out as individual projects in 21 countries, and 18 involving 300 participants were carried out within the framework of UNIDO-executed field projects in nine countries. The ability of a country to increase its rate of industrial development depends on its capacity to design and carry out viable projects. For this reason human resource development in the field of pre-investment work must be accorded a very high priority. An important objective of the training programme is to achieve self-sufficiency in meeting training requirements. All seminars held were conducted by teams of consultants and staff members, using the UNIDO Manual for the Preparation of Industrial Feasibility Studies (ID/206) and the computer software COMFAR (Computer Model for Feasibility Analysis and Reporting) as basic teaching materials. Since a number of requests for training could not be accommodated under UNDP or UNIDO funding, financing or co-financing from donor countries and co-operating institutions was increasingly sought. Requests for such training were also received from industrialized countries, providing additional confirmation of the validity of the UNIDO methodology on project preparation and evaluation. As the result of a formal competition, UNIDO carried out two specialized training courses on the financial and economic analysis of investment projects for 30 officials from an institution in an industrialized country involved in technical assistance programmes, thus adding further to the breadth of applicability of the UNIDO methodology. The increasing number of training courses on the application of the methodology has necessitated the involvement of a much larger number of individual experts and training institutions than hitherto. The programme of inter-university co-operation on project preparation and evaluation has therefore been expanded as well as the network of training institutions; universities and specialized institutes at Copenhagen and Rome have been added to the list of institutions involved. 53/

169. Work on the second, revised edition of the Manual for the Preparation of Industrial Feasibility Studies was nearly completed. 54/ The new edition, which incorporates the vast experience gained with the first one in relation to practical pre-investment work, expert group meetings and training seminars, will be issued during 1990. Work continued on the promotion and use of

53/ Ibid., para. 154.

54/ Ibid., para. 155.

COMFAR. 55/ The number of licensees reached 450 in a total of 113 countries. Completion of the Arabic version of the COMFAR user's guide attracted additional licensees from Arabic speaking countries, particularly from Saudi Arabia. Software development continued with the completion of a COMFAR data bridge, which permits the transfer of data between LOTUS 1-2-3 and COMFAR. This was developed in response to demand to link COMFAR with other spreadsheet-based software.

170. An integrated approach was developed to provide direct assistance to individual enterprises in industrial restructuring. Enterprises are thus given assistance in relation to the complete range of activities required, from financial analysis, marketing and general management through preventive maintenance and quality control to effluent control and policy advice on pricing and distribution. In addition to training in the basic disciplines - fundamental to the restructuring of an industrial enterprise - attention is given to the need to promote investment in new equipment required for long-term restructuring. In order to respond more effectively to requests for technical assistance to development finance institutions (DFIs), a programme was designed to meet the requirement for modern, commercially-oriented financing methods with a view to reducing the heavy debt burden of the developing countries. Such programmes were designed and implemented at the Ghana National Investment bank, the Eastern and Southern African Trade and Development Bank (PTA), the Nigerian Industrial Development Bank, the West African Development Bank and the Zimbabwe Development Bank. Four others are in an advanced stage of preparation. More than 60 DFIs in all regions are licensees of the computer software COMFAR, which is applied by them for economic appraisal of feasibility and rehabilitation studies.

171. Special attention was given to activities within the framework of IDDA. Apart from several training projects, individual pre-investment studies were carried out under short-term advisory services (STAS) in Zaire and Zambia as well as a regional study on the application of modern, low-cost technologies in relation to a group of West African countries.

INTEGRATED INDUSTRIAL PROJECTS

172. Activities under the heading of integrated industrial projects included the co-ordination and monitoring of the

55/ Ibid., para. 156.

implementation of large-scale multi-disciplinary technical co-operation projects as well as activities such as organization of workshops and preparation of reports in the fields of energy, computer systems and environment. Activities related to environment are reported on under a separate heading.

173. Examples of multi-disciplinary technical co-operation projects successfully carried out during the year are given below. In Indonesia, a project to promote the development of medium-scale industries was completed. ^{56/} Under this project, counterpart personnel were trained by international experts in their respective functional areas, studies identified regional industrial investment opportunities in the rubber and leather subsectors, and promotional material was prepared for use by entrepreneurs and investors to aid them in identifying desirable investment opportunities. Field activities in relation to the first phase of a large-scale project in the Sudan concerning the rehabilitation of the sugar industry were also completed. ^{57/} The responsibilities of UNIDO as a sub-contractor under the project, which will cost \$2.84 million for both phases and is being financed through a World Bank loan to the Government, were to assist in strengthening the training capabilities of the Sugar Training Center at Sennar in a variety of subsectoral disciplines, including engineering, instrumentation, and sugar processing technology. Activities carried out by the Center, on the basis of modular training systems supported by audio-visual methods and materials, will henceforth serve as the basis for upgrading the capabilities and skills of managers, engineers and technicians in the sugar industry. A proposal for implementation of the second phase was submitted to the Government.

174. In the Syrian Arab Republic, a project aimed at improving industrial performance at the sectoral level was under implementation. ^{57/} The principal objective of the project is to utilize existing capacity in different branches of the public sector, including the engineering, cement, sugar and chemical industries. A large-scale project was initiated in Jordan to provide specialized services to strengthen the capability of the Ministry of Industry and Trade in the areas of planning and standardization, as well as the utility of a computerized industrial data and information system

designed to support industrial planning, development and monitoring. Analyses of the current situation were carried out in respect of quality control programmes, difficulties encountered in quality improvement were reviewed, and measures required to strengthen the capability of the Food Quality Control Laboratory of the Ministry were formulated, including the organization of seminars on the subject. An appraisal was completed of existing capabilities for data processing, a remedial plan developed, and a strategy worked out which includes a target for establishing an industrial data base. Various requests for technical co-operation at the sectoral and enterprise level were also accommodated in such subsectors as foundries, steel, ceramics and food processing. A large-scale project continued to be implemented in Egypt through the Ministry of Industry to provide advisory services to public and private sector enterprises. ^{58/} In order to examine and improve production processes and maintenance and quality control systems, as well as to increase managerial capabilities, seven high-level experts provided services at the plant level in different subsectors of industry, including rubber, metallurgy, plastics and leather.

175. Preparatory work was completed for an interregional symposium on the role of the industrial co-operative movement in economic and industrial development. The symposium, which will be held in Moscow in 1990, is designed to provide a forum for the discussion of issues concerning the role of co-operatives and their utilization in introducing greater flexibility and responsiveness to the economic structure, as well as improved industrial efficiency.

176. A preparatory assistance project in Indonesia was initiated to establish an institution to deal with preventive maintenance systems in industry. The purpose of the project is to carry out a diagnostic study of 21 selected enterprises, focusing primarily on: existing levels of technology; maintenance organization and its effectiveness; the overall organizational structure and top management commitment to maintenance; existing diagnostic facilities; and manpower skills. Based on the results of these analyses, alternative strategies for introducing preventive maintenance systems will be examined and a complete draft project document prepared.

177. A number of proposals for technical co-operation projects were prepared in

^{56/} IDB.5/10, chap. II, para. 160.

^{57/} *Ibid.*, para. 161.

^{58/} *Ibid.*, para. 159.

relation to energy conservation, the utilization of new and renewable sources of energy, and the use of innovative low- and non-waste technologies for energy production. Some of these, including proposals for strengthening the capacity of the Industrial Energy Conservation Centre in Egypt and the creation of a pilot mobile energy unit in India, were submitted for consideration by UNDP and the Governments concerned. In an effort to strengthen co-operation among the organizations involved in energy matters, several reports on the energy-related activities of UNIDO were prepared for various United Nations meetings and international symposia. A regional workshop on energy conservation in industry was held in Egypt within the IDDA programme for participants from 10 African countries. The focus of the workshop was on: identifying the most effective ways to develop industrial energy conservation policies; familiarizing participants with modern technologies and measures on the subject; and exchanging information and experience among the participants. In their recommendations, the participants requested UNIDO assistance in strengthening regional co-operation in energy conservation with the following specific objectives: development of the necessary manpower resources; design and implementation of pilot energy conservation systems at the plant level in one or two energy-intensive industrial subsectors; and establishment of an African regional information network on industrial energy conservation.

178. In the area of computer systems, preparatory assistance was provided to Saudi Arabia to examine the possibility of establishing a national software development centre. ^{59/} Such a centre could provide Saudi Arabia with modern computing technology as well as provide training in high-level software development methodologies. The project, at a value of \$6.4 million, is expected to commence in 1990. The aim is to develop the centre and make it operational so that it can work actively both with government institutions and the private sector, including small- and medium-scale enterprises. Requests are also being followed up from the Libyan Arab Jamahiriya and the Syrian Arab Republic for consultancy services regarding computer applications in offices and industry. The pipeline project data base system, ^{60/} in operation since June 1988 to assist programme managers to effectively make use of staff resources

and to plan future work and technical co-operation activities, was improved to meet technical innovations in the software application sector, thereby increasing its effectiveness. Existing data are drawn upon to prepare statistical reports that better meet the requirements of programme managers in the Organization.

ENVIRONMENT

179. In response to United Nations General Assembly resolutions 42/186 on an environmental perspective to the year 2000 and 42/187 on the Report of the World Commission on Environment and Development, and Industrial Development Board decision IDB.4/Dec.19 on UNIDO contributions to environment and industrial development, measures were undertaken to develop a comprehensive UNIDO environment programme through which environmental aspects could be systematically integrated, as appropriate, in the activities of the Organization. Following the initial elaboration of a draft programme, which was reviewed by an expert group meeting held in Vienna in July, a fully integrated programme was drawn up in co-operation with all organizational units working on the environment. The final version was proposed to the General Conference as the UNIDO environment programme in November. ^{61/} The General Conference, while taking note of that proposal, called upon the Director-General to take account of the opinions expressed at its third session with a view to achieving a more balanced and comprehensive perspective on environmental problems and sustainable development, and to resubmit the proposed environment programme to the Board at its sixth session (resolution GC.3/Res.16). The Conference also requested the Director-General to proceed without delay with the implementation of those parts of the programme that aim at enhancing in-house awareness and capacity, as well as strengthening the advisory role of UNIDO in relation to the environment.

180. Co-operation with other United Nations organizations on environmental matters was given a high priority. UNIDO worked with UNEP to establish a framework for activities outlined in the United Nations System-wide Medium-term Environment Programme ^{62/} and to develop specific joint projects. One such project, an inter-agency activity for the incorporation of environmental considerations into national development policy and

^{59/} *Ibid.*, para. 162.

^{60/} *Ibid.*, para. 163.

^{61/} GC.3/32.

^{62/} UNEP/GC.SS.1/7/Add.1.

planning, involves at least eight organizations of the United Nations system. Other project concepts are being developed under an informal agreement with UNEP. UNIDO also participates regularly in the inter-agency deliberations of the Designated Officials for Environmental Matters (DOEM), which convened its September meeting at UNIDO Headquarters in Vienna.

181. In 1989, a total of 41 environment-related projects were implemented and 77 were in the pipeline. It is envisaged that these numbers will increase in coming years as environmental aspects become more highly integrated into UNIDO technical co-operation activities. This will be reflected, inter alia, in the rehabilitation of existing industries, the reduction and recycling of waste and the conservation of materials and energy. Examples of projects in these fields are given below.

182. A project involving eight African countries and financed by a special-purpose contribution from Sweden, concerned the examination - in co-operation with UNEP - of waste water treatment in a number of industrial sectors. Under another project, special advisory assistance was provided to the Government of Bolivia on the disposal of an asbestos factory. In Thailand, the first phase of a project to advise the Government in relation to the recycling of used lubricating oil yielded positive results and a recommendation was made for the construction of a re-refining plant costing approximately \$12 million. Negotiations for the next phase are underway.

183. A technical workshop on non-metallic minerals for environmental protection was held at Pilsen in May/June under the Joint UNIDO/Czechoslovakia Programme for International Co-operation, and another one on the same topic is planned for 1990. The focus of the workshop, which was on treatment of industrial and domestic waste water with non-metallic mineral sorbents, is of relevance to all countries. Environmental aspects were emphasized in group training activities, and particularly in courses related to feasibility studies, for which a training module on the environment is being developed. Moreover, environmental aspects were given consideration in every chapter of the second revised edition of the Manual for the Preparation of Industrial

Feasibility Studies currently under preparation (see para. 169 above) and environmental impact analyses and assessments were incorporated as an integral part of the UNIDO methodology for pre-investment analyses. The software programme for the computer-based analysis tool COMFAR was also revised to give increased attention to elements of environmental impact assessment. Two training programmes dealing with environmental issues were implemented. The first, carried out in Belgium, concerned environmental assessment and management aspects of air and water pollution from industrial sources; the second, organized together with UNEP, the Tampere University of Technology in Finland, and the Centre for International Projects and Leningrad Technological Institute of Pulp and Paper, both in the Soviet Union, was held in Finland and the Union of Soviet Socialist Republics and covered industrial environment management and the use of clean technologies (see para. 156 above).

184. A state-of-the-art study on environmental impact assessment in relation to industrial development was revised and a High-level Expert Group Meeting on Computer-aided Tools of Environmental Impact Assessment for Industrial Planning as an element of industrial planning was convened in October at Kiev, Union of Soviet Socialist Republics. At this meeting models available within the UNIDPLAN programme 63/ were reviewed (see para. 124 above). Advisory assistance was provided to Bulgaria in relation to a project on environmental monitoring for an aluminium casting plant at Pleven, which is in need of systematic assistance to restructure its activities in view of the serious environmental situation there. Efforts were also made within the fields of informatics, diagnostics, training and software development to modify and complement present activities in the energy area with environmental modules or components.

185. Other activities related to the protection of the environment in the context of industrial development are reported on in various parts of the Annual Report (e.g. chap. III, para. 35; chap. V, para. 5).

63/ IDB.4/10, chap. II, para. 107;
IDB.5/10, chap. II, para. 118.

CHAPTER III. INDUSTRIAL PROMOTION

SYSTEM OF CONSULTATIONS

Consultations convened in 1989

1. Four Consultations were convened in 1989 that brought together a total of 385 participants from 81 countries, 9 representatives of United Nations organizations, and 15 from other international, regional and non-governmental organizations. Some 46 per cent of the participants came from industry or manufacturing associations. Similar opportunities for contacts were provided by the three preparatory meetings held during the period under review. The Consultations provided for the identification of 51 technical co-operation projects and for initial bilateral contacts with regard to investment opportunities. The Consultations also benefited from the participation and inputs of other United Nations organizations in the preparatory processes as well as the Consultations themselves, especially the International Labour Organisation (ILO), the Food and Agricultural Organization of the United Nations (FAO), the International Telecommunications Union (ITU), the United Nations Conference on Trade and Development (UNCTAD), the International Trade Centre UNCTAD/GATT (ITC), the United Nations Environment Programme (UNEP) and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

2. The Consultation on the Food-Processing Industry with Emphasis on Fruit and Vegetable Processing was held at Tbilisi, Union of Soviet Socialist Republics, from 18 to 22 September. ^{1/} The Consultation was hosted by the Government of the Georgian Soviet Socialist Republic. The issues dealt with at the Consultation had been identified at the Global Preparatory Meeting that took place in Vienna in May. The Consultation recommended measures aimed at integrating the subsector into the agro-industrial system of a country and set out guidelines for policy and strategy formulation to promote the design and implementation of suitable programmes and projects in

^{1/} For the report of the Consultation on the Food-processing Industry with Emphasis on Fruit and Vegetable Processing, see ID/366.

priority areas such as training, raw-material management, research and development in alternative technologies, packaging, and marketing. It also adopted a number of recommendations on international co-operation in financing, technological development, training and technical assistance.

3. The First Consultation on Small- and Medium-scale Enterprises including Co-operatives, hosted by the Italian Government, was convened at Bari, from 9 to 13 October. ^{2/} The Consultation highlighted the fundamental need for creating a socio-economic environment that is conducive to the growth of small- and medium-scale enterprises and recommended measures on the demand and supply sides to achieve the objectives of a vibrant and competitive entrepreneurial sector. These measures covered policy instruments, financing and skills and institution building. It also called for closer co-ordination of bilateral and multilateral aid at the country level and at the global level, including enhanced interaction among the agencies providing technical and financial assistance.

4. The First Consultation on the Electronics Industry was held at Valletta, from 6 to 10 November, at the invitation of the Government of Malta. ^{3/} The recommendations of the Consultation included guidelines for entry into the electronics industry at various levels of technology, skills and investments and for progressive development of the industry. It also set out areas of international co-operation to assist developing countries in development of technology, training and financing. In that context the significance of South-South co-operation was underlined and the creation of regional centres was recommended.

5. The Third Consultation on the Capital Goods Industry with Emphasis on Rural

^{2/} For the report on the First Consultation on Small- and Medium-scale Enterprises including Co-operatives, see ID/368.

^{3/} For the report on the First Consultation on the Electronics Industry, see ID/367.

Transport Equipment was held in Vienna from 4 to 8 December. ^{4/} Two main issues were considered: strategies for the integrated development of rural transport equipment in developing countries, and the promotion of, and international co-operation in, local manufacture of rural transport equipment. The issues dealt with at the Consultation had been identified at the Global Preparatory Meeting convened in Vienna in May, at which participants exchanged information and experience in the planning, design, manufacture and marketing of rural transport equipment with emphasis on low-cost methods, and identified common and specific constraints confronting the small- and medium-scale industries in that sector.

Follow-up to earlier Consultations

6. As a follow-up to the First Interregional Consultation on the Food-processing Industry with Emphasis on Sugar-cane Processing (1988), ^{5/} members of a committee of experts, acting as a panel, were being selected. Arrangements were finalized to recruit senior consultants to prepare a study on the creation of an institutional framework among African producers and research centres and to select issues for an expert group meeting on dissemination of alternative technologies for diversification programmes, to be held in 1990.

7. As a follow-up to the First Consultation on the Non-ferrous Metals Industry (1987), ^{6/} the Regional Expert Group Meeting on the Development of the Non-ferrous Metals Industry in Latin America and Possibilities for Complementarity was held at Córdoba, Argentina, in March. The experts analysed the situation and prospects of the non-ferrous metals industry in the region, particularly with regard to copper, aluminium, tin and nickel and examined and identified the possibilities for production complementarities among countries in Latin America as regards concentrates, refined products and semi-finished products. As a follow-up to the Córdoba meeting, a regional meeting on aluminium will be held in Jamaica in mid-1990. Preparations for the latter meeting

included studies undertaken to determine viability of production complementarities between Argentina, Guyana, Jamaica, Mexico and Venezuela, covering primary production and semi-finished products.

8. As a follow-up to the recommendations of the Regional Consultation on the Phosphatic Fertilizers and Pesticides Industries in Africa (1988), ^{7/} the Expert Group Meeting on the Pesticides Industry was held in Hungary in March. That meeting provided advice on, inter alia, the potential of pesticides active ingredients derived from plant origin and available in developing countries; the impact of biological and bio-engineering techniques on pesticides control; the necessity of elaborating and implementing adequate registration procedures for pesticides. Preparations were completed for the Expert Group Meeting on the Processing and Utilization of Phosphates which was to be held at Dakar, Senegal, in January 1990. Documents prepared for the meeting included studies on the production and application of pesticides in developing countries as well as a manual on integrated approach to food production and technologies available for the production and use of medium- and low-grade phosphate rocks as fertilizers.

9. The main activities undertaken towards implementing the recommendations of the Third Consultation on the Pharmaceutical Industry (1987) ^{8/} included preparation for an interregional meeting on co-operation among developing countries for the development of the pharmaceutical industry. The meeting, which is to be held at New Delhi, India, in March 1990, will concentrate on issues concerned with medicinal plants. Preparation of substantive documents was undertaken on major data bases that cover information on medicinal plants, guidelines for setting up a national data base and for testing herbals/herbal preparations, and factory-produced herbal medicine.

10. A number of technical co-operation proposals have been developed as a general follow-up to Consultations. These include: a project for construction of small hydropower plants in selected countries, particularly in Africa; pilot mini-fertilizer plants; a polyvalent plant for the production of drugs from medicinal plants and herbs; and multi-purpose manufacturing units in the area of agricultural machinery. Another follow-up is a proposal for the elaboration, in

^{4/} For the report on the Third Consultation on the Capital Goods Industry with Emphasis on Rural Transport Equipment, see ID/370.

^{5/} IDB.5/10, chap. III, para. 1.

^{6/} IDB.4/10, chap. III, para. 6.

^{7/} IDB.5/10, chap. III, para. 2.

^{8/} IDB.4/10, chap. III, para. 5.

co-operation with ILO, of a manual on maintenance management.

Preparation of Consultations scheduled for the period 1990-1991

11. In preparation for the second Consultation on the building materials industry scheduled for October 1990, the Interregional Expert Group Meeting for Africa and Asia took place at Nairobi, Kenya, in collaboration with the United Nations Centre for Human Settlement (Habitat), in November. Experts assessed the use of building materials for low-cost housing as well as the opportunities for regional co-operation in the field of transfer of technology within African and Asian countries and interregional co-operation between Africa and Asia.

12. In preparation for an expert group meeting to be held at Santiago, Chile, in November 1990 for the Consultation on machine tools scheduled for 1991, a global study, together with five case studies (in Asian, African and Latin American countries), was launched on the machine tool industries focusing, *inter alia*, on the development of this industry, technology alternatives and regional co-operation in the production of machine tools in developing countries.

13. The Expert Group Meeting on Industrial Rehabilitation and Restructuring with Special Focus on the Food-processing Subsector in Africa was held in Vienna in October to establish the conceptual framework for the forthcoming regional Consultation on the subject. Participants were from government, research institutes and public and private industry in the food-processing sector. The meeting underlined the need for a clear policy at macro-, sectoral and subsectoral levels to foster the competitiveness of enterprises through rehabilitation programmes, and outlined a number of institutional and infrastructural prerequisites for rehabilitating and restructuring the industry, as well as the need for provision of adequate financing. It recommended a number of basic issues which the Consultation could address.

14. In preparation of the second Consultation on the wood and wood products industry, to be held in 1990, an Expert Group Meeting was convened in Vienna in December. Five regional studies on secondary wood processing and two regional studies on maritime transportation costs are being finalized, the latter in co-operation with UNCTAD. A study on co-operative arrangements between research

and development centres is also being prepared jointly with the International Union of Forestry Research Organizations, to be presented at the next global expert group meeting, to be held at Nairobi in 1990. Finally, as a contribution by Habitat to the second Consultation, a study on the utilization of secondary species of wood in construction was being carried out and will be ready by early 1990.

15. Activities in the petrochemical field were directed towards the preparatory work and substantive documentation for the selection and finalization of issues for the regional Consultation on the petrochemical industry in the Arab countries scheduled for 1991. The first Technical Preparatory Meeting to the regional Consultation was held jointly with the Arab Industrial Development Organization (AIDO) and the Organization of Arab Petroleum Exporting Countries (OAPEC) at UNIDO Headquarters in September. An Arab-Asia Preparatory Meeting for the Regional Consultation on the Petrochemical Industry was held at Karachi, Pakistan, in November to define the issues for the regional Consultation and outline modes of co-operation between the two regions in this sector.

16. Preparatory work and documentation were undertaken for a workshop on co-operation among developing countries on plastics in agriculture in arid and semi-arid zones to be held at Algiers in February 1990. Technical papers and case studies on plastics application as well as papers dealing with co-operation, co-ordination and integration, marketing strategies, impact of technology and development of infrastructure were prepared.

DEVELOPMENT AND TRANSFER OF TECHNOLOGY

17. The work in the field of development and transfer of technology, including promotional projects, continued to expand. For the 1988-1989 biennium, the major outputs were achieved. These included a number of studies examining developments on policy aspects of the management of technological change which will provide guidance on the formulation of new programmes.

18. In the area of informatics, approval of the United Nations Development Programme (UNDP) was obtained for a regional project designed to strengthen infrastructure and capabilities in the micro-electronics field in selected Latin American countries. ^{9/}

^{9/} IDB.5/10, chap. III, para. 17.

Work started with the collection and analysis of information and the preparation of a study on informatics in Latin America. A meeting of the Consultative Group on Informatics Technology for Development was held at Buenos Aires, Argentina, in December, at which Latin American co-operation was examined and the direction for UNIDO activities in the field was recommended. A project was also initiated to provide assistance in the development of a software industry in Trinidad and Tobago. Following preparatory work to establish an informatics development centre for the Eastern and Southern African Subregion, a project proposal was developed together with the Eastern and Southern African Management Institute.

19. In the area of manufacture of telecommunications equipment, a Conference on National and International Co-operation for the Telecommunications Industry in Africa was held in co-operation with the International Telecommunication Union at Arusha, United Republic of Tanzania, in December. A detailed programme of action was elaborated at the conference and several project proposals were presented. Recommendations from the conference reinforced the need for UNIDO involvement and for international co-operation, including co-operation among developing countries.

20. Activities related to genetic engineering and biotechnology were accelerated with the approval of a five-year work programme by the Preparatory Committee on the Establishment of the International Centre for Genetic Engineering and Biotechnology (ICGEB). Two five-year projects amounting to a total of \$42 million have been signed with the Government of Italy and the Research Area of Trieste, and another ICGEB project with a value of \$3 million is expected to be signed soon by the Government of India. The adoption of the five-year programme has given fresh impetus to ICGEB by ensuring continuity of the research programme and career stability for senior scientists. Mr. A. Falaschi, earlier the Head of the Trieste component, was elected as the new Director of the Centre and assumed his duties in July, and four senior scientists were recruited on a long-term basis. In addition to the increasing research work in the two components (at Trieste and New Delhi), grant requests amounting to some \$800,000 were processed for 14 collaborative research projects with the ICGEB affiliated centres. Sixteen fellows for long-term training were assigned to the two component laboratories and selected Italian institutes. In addition, 133 trainees from 20 member

countries attended eight workshops. Apart from the collaborative research and training programmes, two important new services have been established, namely at the New Delhi component, a unit for synthesizing and supplying synthetic polypeptides and oligonucleotides and, at the Trieste component, a computer service laboratory located at Trieste, for providing a central software library for computer applications in molecular biology and a gateway to public domain data banks. Two private companies have already made enquiries about possible co-operation with ICGEB. Member countries of ICGEB have continued to develop national programmes, and several African countries are also interested in regional networking. On request, ICGEB experts visited Ethiopia, Kenya, Nepal and Senegal to provide advice in the preparation of long-term biotechnology policies and programmes.

21. The informal UNIDO/World Health Organization/UNEP working group on biotechnology safety met in Vienna in December along with experts and recommended, *inter alia*, the preparation of a manual on safety guidelines. Co-operation with the United Nations Conference on Trade and Development resulted in the joint preparation of a study on the impact of biotechnology on exports of agricultural products.

22. Preparatory work for the establishment of an international centre for science and high technology at Trieste proceeded ahead of schedule.^{10/} Detailed technical reports were prepared on the structure of the three institutes of the Centre. A project for pilot activities was initiated with the support of the Government of Italy.

23. The major activity in the area of new materials was preparation, at the request of Brazil, of a detailed report on, and development of a project for, the establishment of an international materials assessment and applications centre.^{11/} A project on the promotion of a regional network of materials technology in Asian developing countries was elaborated in co-operation with the Economic and Social Council for Asia and the Pacific (ESCAP). A dialogue was arranged in Vienna with members of the American Society for Materials International concerning co-operation in the area of new materials. A project was approved for study of the innovation process in new materials to be

^{10/} *Ibid.*, para. 20.

^{11/} *Ibid.*, para. 21.

financed by the Commission of the European Communities under a trust fund agreement with UNIDO. It is anticipated that this co-operation between the European Economic Community and UNIDO in the field of science and technology will be expanded in the future.

24. Work on marine industrial technology intensified during the year. A Meeting of Experts on the Establishment of a Mediterranean Regional Centre for Research and Development in Marine Industrial Technology was held in Vienna in April in co-operation with UNEP, UNESCO and the United Nations Office for Ocean Affairs and the Law of the Sea. At the Meeting, agreement was reached on the need for such a centre as well as on its objectives and functions. To date, three Mediterranean countries have offered to host the centre and UNIDO is consulting with all interested parties to facilitate its early establishment. Preparatory work has also started on marine industrial technology in the Caribbean region.

25. In the area of new and renewable sources of energy, special attention was given to new developments in solar energy. The Second Meeting of the Consultative Group on Solar Energy Research and Application (COSERA) ^{12/} was held in Beijing, China, in December. Specific project concepts and proposals for research, development and application of solar energy with emphasis on international co-operation were reviewed, and guidance on areas for further R and D as well as suggestions for the formulation and co-ordination of such projects were provided. In addition, the Meeting recommended that UNIDO provide assistance to R and D institutions in developing countries in the formulation of viable projects and prepare studies on market development in solar energy devices. At the Meeting UNIDO was requested to represent COSERA in the proposed consultative group on new and renewable sources of energy being promoted by the United Nations. Co-operation continued and expanded with the Regional Energy Development Programme of ESCAP, especially related to the Regional Network on Small Hydropower in Asia and the Pacific. A pilot gasification plant was installed in Zimbabwe for investigating the feasibility of utilizing agricultural residues; an in-depth testing programme will be conducted in 1990. Assessment will be made of the viability of applying this technology as a substitute for diesel

generators in rural areas of South African countries.

26. Studies were commissioned on the management of technical change and related strategies for the introduction of advanced manufacturing technology. These studies will be used in the development of future UNIDO activities on technology policy and advances in manufacturing systems. Monitors for current awareness in micro-electronics, biotechnology and genetic engineering and new materials continued to be published on a regular basis. Studies in the Technology Trends Series were also published. A new feature of that Series was the preparation of studies on technological intelligence as the basis for the development of a programme on this subject.

27. Institutional inter-agency co-operation was intensified when UNIDO hosted meetings of the Administrative Committee on Co-ordination (ACC) Task Force on Science and Technology, of the Advisory Committee on Science and Technology for Development, and of stakeholders in science and technology. Members of the Secretariat also participated actively on request in several international meetings, including a conference on new technologies organized by the Islamic Academy of Sciences and the Kuwait Foundation for the Advancement of Sciences in Kuwait in November.

28. The activities of the networking system of the Industrial and Technological Information Bank (INTIB) were further developed to provide more efficient direct services to end users (industry, in particular small and medium enterprises). The network itself continued to expand and now includes over 70 participating national focal points and 4 regional focal points. The African regional sub-network was expanded to include 21 countries with one regional focal point. Advisory services were provided and meetings, workshops and training programmes were held to introduce the participants to the use of INTIB and other UNIDO information systems and data bases and to the use of personal computers (PCs), hardware/software maintenance, information resource management and electronic communication. A human resources development programme for INTIB national focal points and users was the result of the preceding activities. Better access to world-wide technology information sources for INTIB network users was also guaranteed with the development of a referral service and licensing agreements to provide users with the on-line data bases "Materials information" and "Food science and technology abstracts" in PC format. Thirty-five

^{12/} IDB.3/10, chap. III, para. 19; IDB.4/10, chap. III, para. 25.

countries have now contributed to the technology supply data base, which contains over 3,500 technologies.

29. The exchange mechanism of the Industrial Inquiry Service was increased to include both developing and developed countries. Co-operation with other United Nations organizations was also strengthened. The publication programme of INTIB included four initial issues of the newsletter INTIBNET, four volumes of the Industrial Development Abstracts, and other guidelines for the operation of national focal points, information packages, industry profiles and directories in both electronic and printed form.

30. A marked expansion of activities took place in the formulation or readjustment of the technology development and transfer policies of developing countries. National workshops and seminars were organized in collaboration with respective government agencies in Ghana, Nigeria, Tunisia and the United Republic of Tanzania. A meeting of the Technological Information Exchange System (TIES) held at Lima, Peru, in July, opened the way for launching promotional activities aimed at stimulating technology flows and closer co-operation at the regional level in Latin America. A new TIES publication series, Regulatory rules and practices on the transfer of technology was prepared for publication. The Computerized Registry Information System (CORIS) software package was installed in Ethiopia and Ghana.

31. For the purpose of strengthening negotiating capabilities of local technology buyers in developing countries, two national (Ethiopia and Madagascar) workshops on technology transfer negotiations were combined with advisory programmes for selected companies. A similar regional workshop took place in Ghana in conjunction with an African-TIES meeting, during which the proposed concept and contents of a manual on technology transfer negotiations was reviewed. The Technological Advisory Services programme for providing ad hoc assistance to technology buyers achieved full maturity and some 40 firms from developing countries benefited from the service in 1989.

32. The basic technologies programme was given a more pragmatic orientation in order to take account of the requirements involved, especially in areas that call for innovative approaches. Among others, a programme to promote technology management was prepared and an expert group meeting on technology management in Latin America was organized with ALTEC (Asociación Latino Americana de Gestión Tecnológica). New activities were also launched in the

areas of technology and financing, industrial incubators and technological parks; in the latter area preparatory assistance was provided to Venezuela.

33. With respect to the technological development programme for Central America, an expert group meeting on technological trends was held in Guatemala with the co-operation of the Central American Research Institute for Industry (ICAITI), to assist countries in foreseeing their technological needs and preparing appropriate technological development programmes and to determine the role of ICAITI in those endeavours. An appraisal was carried out of the potential of technological centres in the region with the aim of optimizing their utilization at the regional level. Furthermore, an appraisal of the potential of the Latin American technology market is under preparation.

34. A Forum on Appropriate Industrial Technology for Africa was held at Dakar, Senegal, in November 1989. On that occasion 87 participants from 38 countries shared their experience and examined possibilities for future joint action in relation to the principal sectors of food processing, agricultural machinery and fisheries. A follow-up programme is under preparation. The development of local technologies in Niger was promoted through the "Salon national de l'invention et de l'innovation", while advisory services were provided to Nigeria on engineering, design and consultancy.

35. Environment and energy-related activities were promoted with the aim of applying industrial know-how and experience and identifying, assessing and transferring those technologies that have a minimum impact on the environment within cost-effective and energy-saving criteria. A methodological approach for the steel industry, especially the demonstration plant concept, and recycling technologies were investigated. A network of institutions was initiated to provide for information exchange on environment issues and to support R and D and its application potential. UNIDO sponsored or participated in a number of events aimed at enhancing its advisory role in relation to the environment.

36. Under the special technologies programme, a closer relationship was initiated, inter alia, between manufacturers and research institutions in China, German Democratic Republic, India, Poland, Republic of Korea, Sweden, Union of Soviet Socialist Republics and Yugoslavia with the aim of adapting and improving existing technologies in fine chemicals, pharmaceuticals, petrochemicals and fine mechanics.

INDUSTRIAL INVESTMENT PROGRAMME

37. UNIDO was increasingly called upon to assist developing countries in identifying sound investment projects and finding local investors and overseas partners to implement the projects. As in earlier years, this form of industrial co-operation went beyond investment to include marketing expertise, plant and equipment, technical know-how and licenses, management support and training of local staff. This trend was evidenced by the steady growth in technical co-operation activities of that type provided, notably in the African and Latin American regions. The increase in these activities may be attributed partly to the continued indebtedness of developing countries leading to curtailed private lending and therefore to a search for assistance which will facilitate the access to other sources of financing, particularly direct foreign investment. The upward trend in requests to UNIDO for this type of assistance is also an indication of how the quality of the assistance provided is perceived by the developing countries concerned.

38. In its resolution GC.3/Res.19, the General Conference requested the Director-General to make available analytical information on investment trends, disaggregated by sector and subsector. In order to respond to that request and to optimize and enhance the quality of the assistance being offered to developing countries, the Industrial Investment Division was restructured during 1989. The restructuring, which would come into effect on 1 January 1990, aimed at a clearer regional focus and was directed at promoting programmes at the sectoral and subsectoral levels.

39. In view of the critical economic situation of many African countries, particular attention was given in 1989 to that region where three major promotional programmes took place. In January, within the framework of Africabat 1989 at Dakar, Senegal, 15 African investors discussed implementation of investment projects in the building materials sector with potential partners from European countries. Jointly with the European Economic Community (EEC) and the Central African Customs and Economic Union (UDEAC), for the third time a programme was held for identification, preparation, promotion and follow-up of investment projects in the food and wood-processing industries for Central African countries; this programme was held at Yaounde, Cameroon, in December. In May, an Investment Project Promotion Forum was held at Freetown, Sierra Leone for five English speaking West-African

countries (the Gambia, Ghana, Liberia, Nigeria and Sierra Leone). A total of 234 projects, mainly in agro-related and building materials industries, were identified and presented for bilateral negotiation. At the Forum, 77 letters of intent were signed: follow-up showed that one investment project in Ghana was implemented and 18 projects were being finalized. Also in the Africa region, preparatory assistance was provided in investment project identification and promotion to the Ghana Investment Centre, the Mano River Union and Uganda Manufacturers Association and assistance was extended to Sierra Leone in the establishment of a centre for project identification and promotion. A number of other activities were undertaken in Africa during the year: investors' guide books were prepared for the Gambia, Ghana, Liberia, Nigeria, Sierra Leone and Zambia; an investment promotion tour to Europe was organized for a group of Zambian businessmen and government officials; an expert group meeting on project selection, promotion and follow-up for countries of the Preferential Trade Area for Eastern and Southern African States (PTA) was convened in Vienna in October; 28 investment projects were identified and promoted for an investment promotion tour to Europe organized for 18 Zambian businessmen and government officials; and 179 investment projects were identified in agro-related, building materials and chemical industries in 16 PTA member countries for presentation during the Forum in May 1990.

40. In the Asia and Pacific region, advantage was taken of promotional events in Europe to assist developing countries in their industrial co-operation efforts. For example, UNIDO organized the attendance of 40 Chinese entrepreneurs at the Hanover Fair (Federal Republic of Germany) in April. As a result, 35 investment projects are under serious negotiation. A new investment programme was launched in the packaging industry in China and the countries of the Association of South-East Asian Nations (ASEAN), with a view to promoting the industry at the specialized packaging fair, Interpack, at Duesseldorf, Federal Republic of Germany, in June 1990. A series of individual country programmes are planned for implementation in Asia. In Viet Nam some 100 investment projects were identified for promotion, while in Sri Lanka preparations started for an industrial investment programme including a forum to be held in February 1991. Special programmes were also developed to assist the promotion of foreign investment in export processing zones in Bangladesh and Pakistan.

41. Co-operation with the Gulf Organization for Industrial Consulting

(GOIC) continued with the preparation of 10 plant profiles on possible manufacturing opportunities for implementation in the Arab States. Based on its positive evaluation of the first set of profiles, GOIC requested the preparation of 11 more profiles. A total of 22 projects in Arab States were identified and promoted in connection with a conference on industrial co-operation between Arab countries and Japan held in Tokyo. Furthermore, UNIDO arranged the participation of delegates from Bahrain and Morocco in the on-the-job investment promotional orientation programme organized by the Tokyo Investment Promotion Service.

42. The Consultation meetings continued to be used as an instrument for identifying investment opportunities. In particular, in Europe and the Mediterranean region, a programme for the identification and promotion of investment projects in the electronics sector of Malta was implemented in connection with the First Consultation on the Electronics Industry, held at Valletta, Malta in November. Of 15 investment opportunities identified, four of them soon reached the stage of negotiation between the prospective Maltese and foreign partners. At the Consultation on the Food-processing Industry, with Emphasis on Fruit and Vegetable Processing, held at Tbilisi, Union of Soviet Socialist Republics, in September, a number of investment opportunities were identified for which foreign partners were being sought.

43. For the Latin American and Caribbean region, investment promotion was undertaken both at the regional and country level. At the regional level, a programme was prepared which will be implemented in co-operation with the Andean Development Corporation (CAF) and the United Nations Development Programme (UNDP), valued at \$1.2 million. Concurrently with those preparations UNIDO and the Latin American Association of Development Financing Institutions undertook a mission to Argentina, Brazil and Uruguay with a view to developing investment projects in the countries concerned. Throughout the year, emphasis was placed on involving a greater number of financial institutions in the strengthening of co-operation within the region. Moreover, within the framework of the Special Plan of Economic Co-operation for Central America, diagnostic analyses of five countries (Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua) were undertaken, which will serve as inputs for the designing of an overall programme for Central America for 1990 to be carried out in co-operation with the Central American Bank for Economic Integration (CABEI). At the national level, industrial investment

programmes were designed for Chile and Venezuela. The Ecuador programme continued and the Bolivian programme was extended, ^{13/} and a new programme was initiated for the Dominican Republic. For Mexico, design began of an investment promotion information system. The programme of co-operation between France and Latin America continued, ^{14/} with main emphasis on Brazil.

44. Illustrative of the sectoral approach (see para. 38, above) was the programme for the promotion of industrial investment projects in developing countries in the agro-industry sector. ^{15/} This project was approved in 1988 when implementation commenced with the participation of the International Finance Corporation (IFC). The first, or survey phase, which was to identify French companies in the agro-industry and food sectors interested in participating in industrial investment projects in developing countries, was completed and a computerized file of more than 500 companies was set up. In addition, 30 plant profiles and 14 sectoral briefing papers were prepared for distribution in the developing countries. During the ongoing operational phase identification missions were undertaken to Indonesia and the Philippines, and investment projects were identified in Ecuador, Indonesia, Turkey and Viet Nam. In June, UNIDO and IFC visited 10 companies to determine future possibilities of co-operation. The next phase will consist of the identification of potential partners and assistance in the preparation of the respective projects.

45. Fundamental to the development of the industrial investment programme has been the network of Investment Promotion Service (IPS) offices. Negotiations were undertaken with the Governments of Portugal and the United Kingdom of Great Britain and Northern Ireland with the aim of establishing an IPS office in those countries. Moreover, an evaluation was undertaken of the Warsaw IPS office with a view to ensuring that this Service is providing the maximum benefit to both the host country and developing countries. A total of 749 investment projects were identified and formulated by UNIDO Headquarters. In all, 143 industrial investment projects were successfully concluded (of which 41 were promoted by Headquarters and 102 by the IPS offices), representing a total investment

^{13/} IDB.5/10, chap. III, para. 43.

^{14/} *Ibid.*, para. 44.

^{15/} *Ibid.*, para. 37.

of \$556.4 million (Africa: \$140.3 million; Latin America: \$134.2 million; Asia: \$257.9 million; Arab, Europe and Mediterranean region: \$24 million) as compared with 121 concluded projects and a total investment of \$413.8 million in 1988. A total of 38 delegates from 22 developing countries (Africa: 4; Asia: 23; Latin America: 6; Europe and the Arab States: 5) participated in on-the-job investment promotion orientation programmes for officials from developing countries organized by the IPS offices.

46. The project development facility launched in 1988 ^{16/} at the IPS office in Cologne, Federal Republic of Germany, became operational. The facility is designed to assist local project sponsors and their potential partners in the Federal Republic of Germany by bearing part of the cost of preparing pre-investment studies and joint venture agreements. During the

^{16/} *Ibid.*, para. 35.

year, two applications from entrepreneurs from the Federal Republic of Germany were submitted to the facility, one relating to the leather industry, the other to the fishing industry.

47. In line with General Conference resolution GC.2/Res.10 on mobilization of financial resources for industrial development, UNIDO continued to promote ways and means of mobilizing additional financial resources within the framework of national development objectives and priorities. In that respect, a contribution was obtained from the Government of the Netherlands to the Industrial Development Fund (IDF) for a programme to strengthen the co-operation between UNIDO and development financing institutions. Under this programme, an expert took up his duties in Vienna in November who will give advice on how industrial investment projects identified by UNIDO can meet the criteria for receiving loans from multilateral and national development finance institutions.

CHAPTER IV. SPECIAL THEMES

INDUSTRIAL DEVELOPMENT DECADE FOR AFRICA

1. The mid-term evaluation of the first Industrial Development Decade for Africa (IDDA) was completed and submitted to the African Ministers of Industry at their ninth meeting at Harare, Zimbabwe, in May 1989. ^{1/} In summary, the report traced a new course of development and emphasized the need for Africa to shift dependence from external to internal engines of growth. It also pin-pointed the weaknesses of the IDDA programme that had become apparent during its implementation, as well as the difficulties that had arisen in the region in the course of the 1980s and would have to be solved in the 1990s. The report also identified the areas in which Governments would have to take action, as well as the role of external agencies and multilateral/bilateral organizations which, however, could not assume the sole responsibility for industrializing Africa. The final chapter of the evaluation report described an integrated package of action that the team had envisaged for Africa.

2. The report played a major role in determining the approach that is to be adopted in the second Decade over the period 1991-2000. It was also used in the contribution by UNIDO to the formulation of the industry section of the recent World Bank report on "Sub-Saharan Africa: From Crisis to Sustainable Growth". The concept of a second IDDA and the formulation of an appropriate programme was supported by the Council of Ministers of the Economic Commission for Africa (ECA), the Economic and Social Council and the General Conference of UNIDO, culminating in its proclamation by the United Nations General Assembly at its forty-fourth session together with the proclamation of 20 November as Africa Industrialization Day (resolution 44/237). A timetable was drawn up by the African Ministers of Industry for the preparation and adoption of a programme for the Second Decade that would be based on the elaboration of national programmes. Subsequently, initial agreement was reached between UNIDO and ECA on the contribution that the two organizations could make to

the preparation of both the national programmes and the Decade programme itself, as was duly reflected in the resolution adopted by the United Nations General Assembly.

3. Work continued throughout the year on the implementation of activities related to the first Decade. The technical assistance component of the programme drawn up for the biennium 1988-1989 was fully programmed and implemented. Related to three main areas - the establishment of pilot and demonstration plants, the accelerated development of human resources and institutional infrastructure for industrial development - 34 projects valued at \$4,065,974 were initiated and implemented in the course of the biennium. These technical co-operation activities were supplemented by: the provision of short-term technical advisory services (STAS) related to the identification and formulation of technical co-operation projects funded from other sources; evaluation of investment project profiles and pre-investment studies; assessment, selection and acquisition of technology; the preparation of technology policies and assessment of industrial policies, strategies, plans and institutions; as well as advisory services to regional and subregional organizations. These activities helped to identify the technical co-operation requirements and thus to overcome one of the major current constraints upon industrial development in the region: the lack of suitable projects.

4. Short-term advisory services were also used to contribute to the integrated programming exercise that was launched in 1989 to identify projects for funding under the technical assistance component of the programme for the period 1990-1991. By the end of the year, 24 programmes had been drawn up for 13 countries, with an additional 22 programmes under preparation. The programmes elaborated were directly related to the priority area set for the biennium: agro-industries and related sectors, including such inputs as fertilizers, pesticides and agricultural machinery.

5. Under the supplementary activities component, a number of scheduled meetings were held. By far the most important were the ninth meeting of the Conference of African Ministers of Industry and the preceding meeting of the Intergovernmental

^{1/} CAMI.9/20 and Add.1.

Committee of Experts of the Whole on Industrialization in Africa. Both were held at Harare, Zimbabwe, at the end of May and adopted a series of decisions and resolutions with far-reaching impact on future industrial development activities in the region (see paras. 1 and 2 above). Other meetings included two Follow-up Sub-regional Meetings on the Promotion of Intra-African Industrial Co-operation within the Framework of IDDA; one was held at Dakar, Senegal, in October/November and the other at Bamenda, Cameroon, in November/December. At both meetings, revised subregional co-operation programmes were adopted and agreement reached on strengthening training, consultancy and entrepreneurial capabilities in the sub-regions.

6. In September, a Meeting of High-level Experts on the Formulation, Planning, Negotiation, Implementation and Monitoring of Multinational Industrial Projects in Africa was also held in Vienna. Work has since started on elaborating an appropriate monitoring system at the national, regional and subregional levels. Industrial rehabilitation in Africa was the subject of two meetings in the year: one at Lusaka, Zambia, in March and the other, six months later, in Vienna. A National workshop on Industrial Strategies and Policies for Nigeria was held in that country in September, followed by a Regional Workshop on Strategic Management of the Adjustment Process in the Industrial Sector in Africa that was convened in the last month of the year in Vienna. The strategic management approach propagated by UNIDO at that workshop met with a positive response. It was seen to offer a way to ensuring better management of the industrial sector that had to be supported in its efforts to restructure. Governments, it was stressed, had to play a key role in helping enterprises adapt to adjustment, with due emphasis on harmonizing the adjustment and industrial development process.

7. An African Expert Group Meeting on Establishing the African Iron and Steel Association was held in November at Algiers, Algeria, and a Workshop on Enterprise-to-enterprise Co-operation in the Food-processing Sector, with particular Reference to Grains, Meat-, Fruit- and Vegetable-processing was held at Novi Sad, Yugoslavia, in September, where the emphasis was on the African region. A workshop on small- and medium-scale industries in the Preferential Trade Area for Eastern and Southern African States (PTA) was also held at Kampala, Uganda, in October. Regional Workshops on Preparation and Evaluation of Pre-investment Studies were held at Douala, Cameroon, and at Nairobi, Kenya, in June and November,

respectively. National workshops on technology policies were held at Accra, Ghana, in February, at Arusha, United Republic of Tanzania, in March and at Addis Ababa, Ethiopia, in November, with a Workshop on Technology Transfer Negotiations held at Accra, Ghana, in the final month of the year. A Forum on Appropriate Industrial Technology for Africa was held at Dakar, Senegal, in November, while a Conference on National and International Co-operation for the Telecommunications Industry in Africa was held a month later at Arusha, United Republic of Tanzania. A Working Meeting on Co-operation in the Field of Agro-industries between Brazil and African countries was held in November at Sao Paulo, Brazil. Preparations were under way for other meetings such as a technical meeting on the application of modern technologies in the engineering industry in North Africa, a donors' conference on financing industrial manpower development programmes and projects in Central and West Africa as well as another donors' conference to be convened as a follow-up to the Afro-Asian co-operation meeting held in 1986 at New Delhi, India.

8. As in previous years, close co-operation was maintained between the secretariats of the Organization of African Unity (OAU), ECA and UNIDO. In addition to the joint intersecretariat committee which held its ninth meeting at Addis Ababa, Ethiopia, in February, UNIDO participated in meetings of the legislative bodies of both ECA and OAU, as well as in the meetings of the Inter-agency Task Force on the Follow-up to the United Nations Programme of Action for African Economic Recovery and Development 1986-1990.

ASSISTANCE TO THE LEAST DEVELOPED COUNTRIES

9. In response to General Assembly resolution 42/177, UNIDO participated in the various preparatory meetings held in connection with the Second United Nations Conference on the Least Developed Countries, which is scheduled to take place in Paris in 1990. The Conference will review progress made in implementing the Substantial New Programme of Action for the 1980s for the Least Developed Countries (SNPA) adopted at the first United Nations conference on the subject in 1981^{2/} and is expected to make recommendations for further action. As

^{2/} Report by the United Nations Conference on the Least Developed Countries, Paris, 1-4 September 1981 (United Nations publication, Sales No. E.82.L.8), part one, sect. A.

its contribution to the second conference, UNIDO is updating the review of the manufacturing sector in the least developed countries (LDCs) which was prepared in 1988. A document on industrial development in the African LDCs, containing proposals for priority action in relation to the IDDA programme, was presented in May at the ninth meeting of the Conference of African Ministers of Industry.

10. In accordance with General Conference resolution GC.3/Res.11 and Industrial Development Board decision IDB.5/Dec.6, UNIDO has endeavoured to increase both the quantity and quality of its technical assistance to LDCs. Within the fourth country programming cycle of the United Nations Development Programme (UNDP), total indicative planning figure (IPF) resources approved in 1989 for UNIDO execution amounted to a net value of \$11.78 million. Net approvals under other sources of funds included \$1.6 million under the regular programme of technical co-operation, \$0.91 million under the Special Industrial Services (SIS) programme, \$3.13 million under the Industrial Development Fund (IDF) and \$3.69 million from other sources (UNDP special measures, World Bank, trust funds), thus bringing the overall total of net approvals in 1989 to \$21 million. New projects approved during the year under all sources of funds amounted to \$15.05 million; these are mainly concerned with agro-related development projects, strategic management of industrial development, pre-investment activities, promotion of small- and medium-scale industries and rehabilitation programmes. For the first time, the International Fund for Agricultural Development (IFAD) approved the financing of a project for UNIDO execution; the project is aimed at developing and disseminating cereal processing equipment to alleviate the work of women in the Sahel zone. The delivery of technical assistance to LDCs reached an amount of \$22.34 million (1988: \$17.0 million) representing an increase of 31.1 per cent.

11. In order to better understand the perceptions of individual countries, UNIDO organized and financed from the regular programme visits to Headquarters of high-level government officials from seven countries (Benin, Burundi, Djibouti, Guinea-Bissau, Ethiopia, Sudan, Uganda). Fifteen programme review and 14 project formulation missions were undertaken during the year. Moreover, as an important new feature, UNIDO participated in UNDP country programme mid-term reviews (Botswana, Chad, Democratic Yemen, Guinea, Lesotho, Malawi, Niger) the purpose of which was not only to review the ongoing programmes but also to define the

orientation of, and priority areas for, UNDP action during its fifth programming cycle. A workshop was held by UNIDO in November in Vienna for some 30 high-level officials from LDC ministries of industry, the main purpose of which was to enable the participants to assess the process of industrialization in their countries and to evaluate obstacles hindering the development and implementation of industrial programmes. The workshop was also aimed at facilitating the exchange of views with UNIDO staff involved in policy making in relation to the promotion of industrial development in the LDCs.

12. Within UNIDO's programmes a number of activities were geared towards the specific problems of the LDCs. Two group training programmes and one seminar were organized for the sole benefit of participants from these countries. As may be seen in appendix G, UNIDO also awarded specialized fellowships and financed the participation of representatives from LDCs in the group training programmes it organized. Promotional activities related to industrial investment projects were carried out in Nepal and Bangladesh; a regional Investment Project Promotion Forum for five English-speaking West African countries was held (see chap. III, para. 39); and negotiations for the formulation and preparation of industrial investment promotion programmes were initiated in the case of Haiti and LDCs in the South Pacific. A sectoral review mission was fielded to Myanmar to review United Nations financed programmes in the light of the Government's reassessment of the country's economic policies. In the United Republic of Tanzania, a diagnostic survey of the rehabilitation needs of selected agro-based industries was also carried out.

13. Pursuant to Board decision IDB.5/Dec.23, UNIDO initiated action to establish a special programme for the industrial development of Asia and the Pacific which is to be geared to rapid industrial growth of the developing countries of the region, with specific emphasis on LDCs. During the first two years (1990-1991), the programme will focus on a selected group of countries comprising most of the Asian and Pacific LDCs and on one industrial subsector (metalworking industries with special emphasis on agricultural linkages).

14. Economic co-operation among developing countries (ECDC) continued to interest a number of African LDCs and a Solidarity Ministerial Meeting was held in Guinea in November (see para. 16 below). Apart from activities and programmes carried out at the national level, LDCs also participated in and benefited from UNIDO activities

organized at the regional and subregional levels, such as the follow-up subregional meetings on the promotion of intra-African industrial co-operation within the framework of IDDA. These were held in Senegal and Cameroon, and were attended by 15 participants from LDCs. With regard to the System of Consultations, LDCs participated in each of the four Consultation meetings held during the year.

INDUSTRIAL CO-OPERATION AMONG DEVELOPING COUNTRIES

15. Work related to industrial co-operation among developing countries during the biennium 1988-1989 was characterized by a greater diversification of activities. There was a qualitative improvement in the preparation of programmes for economic and technical co-operation among developing countries (ECDC/TCDC), more focus on enterprise-to-enterprise co-operation, increased attention to follow-up of preliminary ECDC/TCDC agreements reached at promotional meetings, and arrangements for installation of a TCDC data base.

16. Promotional activities for co-operation among developing countries in the field of industrial development included a Solidarity Ministerial Meeting held at Conakry, Guinea, in December. More than 30 projects were examined, which attracted considerable interest on the part of 15 potential co-operating partners. A number of agreements were reached and follow-up action was recommended. Earlier solidarity ministerial meetings in favour of least developed countries (LDCs) resulted in several technical co-operation projects such as: the completion of studies for the establishment of a tannery and a small hydro-electric power station in Burkina Faso; ^{3/} a survey concerning the development of the leather industry, training of personnel in the field of aquaculture, and development of the ceramic industry in Cape Verde; and the establishment of a standardization and quality control unit in Mali. ^{3/}

17. As part of a relatively new mechanism to promote ECDC/TCDC, attempts were made to enhance promotional meetings by timing them to coincide with related events such as trade fairs and exhibitions. Thus, a Working Meeting on Co-operation on Production and Application of Machine Tools among Selected Developing Countries was held in conjunction with the China International Machine Tools Show at Shanghai, China, in May. Nearly 20

participants from 10 countries attended the meeting, which led to 32 working agreements for future co-operation. Moreover, recommendations were made at the meeting concerning specific measures in the areas of R and D, training, regional and interregional co-operation and the development of an interregional network. UNIDO and UNDP co-sponsored a Workshop on Industrial Co-operation among Selected Asian Developing Countries, at Seoul, Republic of Korea, in June. The 16 participants from seven countries reached nearly 70 working agreements on textile machinery and electronics industries with counterparts in the Republic of Korea and among themselves. The Workshop also resulted in a self-financed technical visit to China of the small-scale industrial entrepreneurs involved to discuss with their Chinese counterparts a number of possibilities for co-operation, such as joint ventures and the supply of machinery. Further visits are planned for April 1990.

18. In support of the IDDA programme, a Working Meeting on Co-operation in the Field of Agro-industries between Brazil and African Countries took place in Sao Paulo, Brazil, 7 November. This resulted in the identification of several specific areas for co-operation, such as training and institutional development. The recommendations of a UNIDO consultant concerning the establishment of an African iron and steel association were evaluated at a meeting in Vienna in July. As a result, an African expert group meeting on the subject was held in co-operation with the Arab Iron and Steel Union (AISU) in Algiers, Algeria, in November. ^{4/} At the meeting, which was attended by representatives of 12 African countries, the establishment of such an association was recommended, a draft statute adopted, and it was agreed to convene the constitutive assembly of the association in 1990. Both UNIDO and AISU were requested to provide assistance in this respect.

19. Co-operation in an important field was given impetus through the organization of a Meeting on Co-operation between Middle Eastern and North African Countries on Research and Development in the Petrochemical Industries, held at Aliaga-Izmir, Turkey, in October; this was attended by 17 leading experts from 11 countries. In a separate effort intended to aid in the process of resource mobilization, preparations - including the elaboration of 30 project portfolios - were completed for a

^{3/} IDB.4/10, chap. IV, para. 18.

^{4/} IDB.5/10, chap. IV, para. 21.

donors' conference, originally scheduled for 1989, to be held in Cameroon in early 1990. ^{5/}

20. A number of activities were implemented which resulted from previous preliminary agreements and recommendations. These concerned, for example: co-operation between the Republic of Korea and Turkey on the use of high-sulphur lignite without the resultant excessive pollution; ^{6/} creation, in co-operation with the Instituto de Tecnologia Alimentaria (INTA) of Argentina, of an African regional training centre for the maintenance of agricultural machinery for Portuguese-speaking countries; co-operation between Cuba and China in the production of newsprint and in the establishment of mini hydro-electric plants; ^{6/} and the identification of possibilities for co-operation between Cuba, India and Mexico in the production of newsprint from bagasse. In accordance with recommendations made at an earlier meeting, ^{7/} further action was taken to promote industrial co-operation among Islamic countries. This included the preparation of six feasibility studies and four detailed techno-economic studies for Bangladesh, Cameroon, Gambia, Niger and Somalia, which were submitted to potential co-operating partners from the Islamic Republic of Iran, Pakistan, Turkey, and the United Arab Emirates. As a further part of this effort, preparatory work was initiated with the Islamic Chamber of Commerce, Industry and Commodity Exchange and the Federation of Pakistan Chambers of Commerce and Industry for a meeting on industrial co-operation among Islamic countries, to be held at Karachi in late 1990. As a follow-up to the Expert Group Meeting on the Processing of Raw Materials, held in Vienna in 1988, UNIDO contributed to the preparations for and organization of the First Meeting of the Action Committee on Raw Materials of the Group of 77, held at Abuja, Nigeria, in April.

21. An agreement was concluded with an institution in Turkey for the preparation of an inventory of Turkish capabilities in selected industrial sectors as a basis for matching these with offers received from other developing countries.

22. Major reports documenting the scope and value of UNIDO ECDC/TCDC activities were prepared for the sixth session of the High-Level Committee on the Review of TCDC

and the seventh session of the Inter-Governmental Follow-up and Co-ordination Committee for ECDC of the Group of 77. In accordance with General Conference resolution GC.3/Res.9, close liaison was maintained with the UNDP Special Unit for Technical Co-operation among Developing Countries. With a view to ensuring a better flow of information to developing countries on programmes for upgrading industrial capabilities, arrangements were completed for obtaining a working copy of the TCDC Information Referral System (INRES) - South database - of UNDP for use at UNIDO Headquarters.

23. UNIDO continued to make all possible efforts to increase the use of resources from developing countries by awarding contracts to their organizations and institutions and by hiring their experts. Efforts were also made to ensure that, to the maximum extent possible, bidder lists included companies from developing countries. As a result, for 1989, of the 185 contracts awarded in connection with technical co-operation projects, 69 (i.e. 37 per cent of the total) went to organizations and institutions in 34 different developing countries. Their value was \$3.6 million (18.7 per cent of the total). Some 4,063 experts on the UNIDO roster (nearly one third) were from developing countries at the end of 1989. During the year, 469 candidates from developing countries were submitted to Governments (27.6 per cent of the total). Including national experts, 678 experts from developing countries were appointed (31.8 per cent of the total) (see chap. VII, para. 31 and table 4).

24. Similar efforts were made on the equipment purchasing side. Nevertheless, with developing countries needing increasingly sophisticated equipment, much of what they require is not available in developing countries or, if available, is often not serviced in the recipient countries. As a result, only 22.3 per cent of equipment orders were placed with vendors and manufacturers in developing countries, i.e. 741 orders out of 3,315 valued at \$6.7 million, (16.7 per cent of the total \$40.1 million). Vendors in some developing countries are often not aware of the supply opportunities in connection with UNIDO technical co-operation; therefore, a major exercise in redesigning and expanding the supply roster is on the way (see chap. VII, para. 30).

^{5/} *Ibid.*, para. 20.

^{6/} *Ibid.*, para. 21.

^{7/} IDB.4/10, chap. IV, para. 20.

INTEGRATION OF WOMEN IN INDUSTRIAL DEVELOPMENT

25. The number of technical co-operation projects specifically targeting women

increased in 1989. Twenty-two projects with a total value of over \$4.5 million were under implementation and 21 projects with a total value of \$7 million were in the pipeline.

26. Strong emphasis was placed on the development of a more systematic approach to the integration of women into the activities of the Organization and thus ultimately into the process of industrial development. ^{8/} Based on an intersectoral approach a programme was drawn up for the medium-term plan period (1990-1995). Policy objectives and implementation strategies were outlined as well as mechanisms for their implementation; individual activities and estimated resource requirements for the biennium 1990-1991 were specified in an action plan. The 1990-1995 programme, which was submitted to the General Conference at its third session (GC.3/CRP.3), will also serve as a basis for resource mobilization. The extent to which the plan and the programme can be implemented will largely depend on the extrabudgetary resources that can be mobilized.

27. Another area of concentration was the organization of training programmes specifically for women in fields such as management, industrial project preparation, evaluation, financing and investment promotion as well as food-processing technology. A training package aimed at providing women entrepreneurs with the managerial and technical skills needed to establish and operate small-scale enterprises within the food-processing sector was developed in the Southern African Development Co-ordination Conference (SADCC) region under a trust fund agreement with the Government of Norway. ^{9/} The package comprises a manual for trainers, a workbook for students, guidelines for recruitment and selection of participants, and a proposed follow-up scheme. The technology component of the package provides detailed technical information on 10 different food-processing technologies. The training package was tested in a five-week training course for 20 women entrepreneurs from Zambia carried out in January/February in co-operation with the Pan African Institute for Development - East and Southern Africa, at Kabwe, Zambia, and in a six-week course for 20 women entrepreneurs from Zimbabwe organized with the Ranch House College and the Small Enterprise Development Corporation (SEDCO) of Zimbabwe at Harare in October/December. A workshop to train trainers in the use of the package was

conducted at Lusaka, Zambia, in September for management trainers and food technologists from Malawi, the United Republic of Tanzania, Zambia and Zimbabwe. As the result of these two field tests and the recommendations made at the workshop, the training package was modified and will be available for dissemination to other countries early in 1990. Complementary technical assistance can be provided to institutions interested in using the package. Such assistance will focus on adapting the package to the national business environment and local availability of raw materials and processing equipment, on training of trainers, and on the conduct of an initial in-country course. Several African countries have already expressed their interest in the training package.

28. Five training programmes for women entrepreneurs and women managers were held at the Centre Ivoirien de Gestion des Entreprises at Abidjan, Côte d'Ivoire, for some 120 participants from West African countries. A training course for women participants from Central American countries, funded by means of a special-purpose contribution from the Netherlands to IDP and focusing on industrial project preparation, evaluation, financing and investment promotion, was held at Tegucigalpa, Honduras, in August/September (see chap. II, para. 151).

29. Advisory services were provided to Cameroon and to Zimbabwe, where a plan of action for the integration of women into the industrial development of Zimbabwe was drawn up at a national workshop on the subject. Technical co-operation projects to improve traditional food technologies were formulated for Burkina Faso, Guinea, Mali and Senegal.

30. Close co-operation continued with organizations of the United Nations system, as well as with governmental, inter-governmental and non-governmental organizations. Programme and project discussions were held at meetings organized by the Economic Commission for Africa, the International Research and Training Institute for the Advancement of Women, the United Nations Development Fund for Women, the United Nations Educational, Scientific and Cultural Organization, the African Development Bank, the International Federation of Business and Professional Women, the German Foundation for International Development, SADCC and SEDCO.

31. During the biennium 1988-1989, experience was gained with regard to the design and implementation of activities specifically targeting women, whereby attention was focused on careful analysis

^{8/} IDB.5/10, chap. IV, para. 27.

^{9/} IDB.4/10, chap. IV, para. 25.

of socio-economic considerations so that projects related to women are not only technically sound but also suited to local social and environmental conditions. The goal of more visibly integrating women in general projects and programmes has not yet been achieved. A first step in that direction was the elaboration of the intersectoral programme approach which will require the collection of gender-specific data and special measures to assure that women are explicitly targeted as participants and beneficiaries of programmes and projects.

CO-OPERATION WITH INDUSTRIAL ENTERPRISES AND NON-GOVERNMENTAL ORGANIZATIONS

32. The UNIDO policy of fostering increased co-operation with the entrepreneurial sector gained momentum. New activities were developed to promote industrial co-operation directly through industrial enterprises and non-governmental organizations (NGOs) that were aimed primarily at enterprise-to-enterprise co-operation between developing and developed countries. The main objective of the programme is to mobilize funds for industrial co-operation mostly from the entrepreneurial sector itself. Support to the UNIDO enterprise-to-enterprise co-operation programme by industry in both developed and developing countries was most encouraging. Companies and organizations realized that there was much to be gained in working through UNIDO and were willing to provide UNIDO with the funds to exercise this new intermediary role.

33. The enterprise-to-enterprise co-operation approach resulted in third-party and self-financing trust fund arrangements (see chap. VIII, paras. 22-28), which made possible the implementation of additional activities for the benefit of the developing countries beyond those funded by UNIDO or UNDP. Examples of the type of activities organized were: a fact-finding mission undertaken with a consulting engineering company, and fully financed by the company through a trust fund contribution, to advise the Government of the Democratic Peoples' Republic of Korea on gold exploitation, the technical co-operation requirements involved and the possibilities of international co-operation in that field; a promotional workshop on railway transport systems for developing countries, organized in co-operation with a national association of railway equipment manufacturers and consulting organizations active in the railway industry, which provided a forum for the establishment of contacts for further technical and industrial co-operation at the enterprise level;

and a mission to Ecuador and Venezuela, undertaken with a consulting company, which resulted in the identification of several opportunities for enterprise-to-enterprise co-operation as well as technical and industrial co-operation projects for self-financing and financing through third-party trust fund arrangements.

34. One significant aspect of such enterprise-to-enterprise co-operation was the development of a new approach to institutionalize contacts between potential partners from developed and developing countries. Agreements with the Governments of China and the Union of Soviet Socialist Republics were concluded in relation to the establishment of UNIDO Centres for International Industrial Co-operation at Beijing and Moscow, which are to be financed through trust fund contributions by the respective Governments. Both Centres aim to promote industrial co-operation between foreign enterprises and partners in the countries where they are located. Through contributions provided by industrial enterprises or associations from developed countries, foreign experts and short-term consultants recruited by UNIDO could be assigned to work in the Centres to promote technical and industrial co-operation at the enterprise level. Several organizations from developed countries expressed their interest in joining the Centres, and one expert from a developed country has already started his assignment in the UNIDO Beijing Centre. Discussions on the establishment of additional focal points of this nature for the promotion of enterprise-to-enterprise co-operation have been initiated by the Secretariat.

35. Through the Industrial Partnership and Co-operation for Development Scheme, a new programme funded by a donor country, UNIDO was able to assist a number of private and public enterprises in solving specific industrial problems and entering into co-operation arrangements with partners from developed countries.

36. In order to provide additional opportunities for co-operation to companies from developed countries, surveys were undertaken in six developing countries to identify concrete possibilities for enterprise-to-enterprise co-operation. These surveys were used to focus the discussion in an expert group meeting on co-operation between industrial enterprises from developed and developing countries held in Vienna in December. At the meeting, practical recommendations were formulated for future activities.

37. Efforts continued to further involve NGOs, industrial institutions and co-operatives in the work of UNIDO. Meetings

held with these organizations were directed towards intensifying working relations for promoting and strengthening the North-South as well as the South-South dialogue. At its fifth session, the Industrial Development

Board, in decision IDB.5/Dec.41, granted consultative status to four international NGOs, thus bringing to 81 the number of organizations having consultative status with UNIDO (see document GC.3/29).

CHAPTER V. APPRAISAL AND EVALUATION

1. In 1989, 505 project proposals with a total value of over \$247 million were submitted for appraisal, comprising 28 United Nations Development Programme (UNDP) projects over \$700,000 in value, 469 Industrial Development Fund-financed projects, and eight Special Trust Fund-financed projects over \$50,000. Project proposals requiring no modification after appraisal decreased from 17 per cent in 1988 to 15 per cent in 1989 and some 78 per cent required various degrees of reformulation, and 7 per cent were the subject of divergent views. However, not all projects were subsequently approved and implemented, since many of them did not obtain the required financing, while others were later withdrawn.

2. One aspect of technical co-operation is the provision of advice and assistance to counterparts so they may solve specific problems independently. Project appraisal involves the assessment of the relevance of a project proposal and its feasibility and potential effectiveness in solving well-defined problems. In 1989 the main weaknesses in project development continued to be the lack of clarity of the problems addressed and inadequate specification of the absorptive capacity of the counterparts and their potential contribution to the project. One of the reasons is that requests for technical co-operation are often submitted to UNIDO with inadequate information so that correct project design and formulation are hampered from the outset.

3. One of the difficulties encountered in the appraisal of IDP-financed project proposals within the context of a specific developing country is the absence of an overall UNIDO programme and resource allocation for technical co-operation for that country that would provide a clear priority plan and adequate linkages between the various proposals considered. As a result, each project proposal is appraised in isolation on a first-come first-served basis. A further difficulty is introduced when in a project proposal, its design and funding have been the subject of agreement with a donor country prior to the completion of the project formulation and approval process at UNIDO. In this connection UNIDO has sought the appraisal criteria of donor countries so that such criteria may be taken into

account during the appraisal process, when appropriate.

4. The Project Appraisal Section (APP) data base, which became fully operational at the end of 1988, facilitated the substantive assessment of the broad trends and characteristics of UNIDO project development in the 1988-1989 biennium. One study, ^{1/} prepared with information from the data base, highlights characteristics of projects in terms of primary function, industrial area, industrial subsector and geographical region and draws some conclusions with regard to UNIDO technical co-operation programmes in Africa. Another study ^{2/} reviews a sample of 225 projects whose primary objective was industrial training; the study pin-points the subsectors and technologies in which developing countries are being trained through UNIDO technical co-operation. The studies are useful to UNIDO senior management and, in particular, to the Project Review Committee, for policy making and programming purposes.

5. In order to further improve project design, work was initiated on how to assess the potential impact and effectiveness of large-scale projects on the industrial development objectives of recipient countries. Similarly, with a view to underlining environmental consideration in project formulation and development, the preparation of an annotated check-list for environmental appraisal was started with the collaboration of selected countries and institutions. Workshops on project design were especially convened for representatives of three developing countries (Burundi, China, Thailand) and for a group of 22 least developed countries. Another seven workshops were organized for the benefit of UNIDO staff, experts,

^{1/} "The content of project proposals appraised in 1988 by the Project Appraisal Section with special attention to projects proposed for Africa", 16 October 1989 (PPD.135).

^{2/} "Human resource development: Analysis of 225 technical co-operation projects with reference to strengthening of national industrial training and development and transfer of technology capabilities", 15 December 1989 (PPD.148).

consultants and Junior Professional Officers. Preparations were finalized for similar workshops to be held in Nigeria in early 1990. In addition, the APP Project Design Reference File - which contains elements that are required for effective project design such as guidelines, project document formats, programming criteria and proforma costs - was issued to those parties concerned.

6. Three years after its introduction, the appraisal process has itself been reassessed, taking into account the suggestions made by representatives of Member States and UNIDO staff at a briefing on UNIDO project appraisal activities held in September. As a result, an Appraisal Memorandum was introduced on the relevance, feasibility and potential effectiveness of each project. The quality of the appraisal exercise has nevertheless been affected by the staffing constraints still prevailing in 1989 - only 50 per cent of the available posts in APP were occupied - and by the fact that all appraisal was based on desk work alone.

7. As a first output of the expansion of the UNIDO evaluation system to include in-depth evaluations of Headquarters programmes, the Report on the Evaluation of the System of Consultations was issued (ODG.8(SPEC.)) and presented to the Permanent Missions in Vienna at a briefing meeting in June. Subsequently, a summary of the report (IDB.5/CRP.7) was presented to the Board at its fifth session. The Board, in its decision IDB.5/Dec.11, requested the Director-General to submit to the General Conference at its third session his comments on the evaluation of the System of Consultations and to report on the proposed implementation of the evaluation. In his comments submitted to the Conference (GC.3/20) the Director-General included recommendations on how to improve the System of Consultations to better contribute to the development of a coherent organizational policy and programme for specific sectors of industry. The General Conference noted the recommendations of the Director-General with appreciation and UNIDO is in the process of issuing internal guidelines to put them into effect. Preparations are under way for the next internal programme evaluation, on UNIDO industrial investment identification and preparation activities, which is scheduled to be completed during 1990.

8. The UNIDO internal evaluation system for technical co-operation projects, based on project performance evaluation reports (PPERs), has been operational since 1982. Since 1989, the system covers all UNIDO projects and continues to provide project

performance information and sound analyses of the qualitative aspects of UNIDO technical co-operation projects for the benefit not only of the UNIDO Secretariat but also for donor and financing agencies and beneficiary countries.

9. A total of 234 project performance evaluation reports were processed. The average turnaround time required for processing the reports at UNIDO and sending them back to the field was 26 days during 1989 as compared with 23 days during 1988. The increase in turnaround time was attributable to severe staff constraints during a large part of the year.

10. There is an increasing recognition of the usefulness of the internal self-evaluation system for project performance monitoring and management. This was confirmed during a global evaluation of the revised policy and procedures manual of UNDP in the latter part of 1988, an exercise in which UNIDO participated. UNIDO is the only United Nations agency that has developed a system whereby all evaluation reports received are returned to the field with comments by Headquarters. An analysis has shown that the PPER findings are in line with those of in-depth project evaluations.

11. Based on results of the evaluation work carried out in 1989, it is clear that more work still needs to be done to improve project design and to obtain more detailed substantive project performance assessments and action-oriented recommendations from UNIDO field representatives and project backstopping officers. A concerted effort will continue to be made to improve UNIDO performance in these areas through workshops for Senior Industrial Development Field Advisers (UNIDO Country Directors) and for the provision of better guidance to UNIDO project backstopping officers.

12. Only 18 tripartite in-depth evaluations were conducted during 1989 as compared with 26 in 1988 and 20 in 1987. This trend also applies to UNDP system-wide evaluations. In-depth evaluations scheduled for 1990 have been postponed to 1991. The number of in-depth project evaluations actually carried out during 1990 will better enable an assessment of whether 1988 was an unusual year and to determine the expected average annual number of evaluations. The Evaluation Staff represented UNIDO in six in-depth project evaluations (1988: 6). The utilization of in-depth project evaluation results continued to show improvement. Bilateral donors and developing countries alike have become increasingly aware of the usefulness of this exercise for

improving effectiveness, impact and follow-up of projects as well as the application of lessons learned.

13. There has been a large and continuing demand for the 1988 publication on evaluation of the development of rural small industrial enterprise that was carried out jointly with the International Labour Organisation, the Government of the Netherlands and UNDP. ^{3/} A UNDP programme advisory note on the subject was issued for distribution to all field offices, Member States and interested donor and financing agencies.

14. In qualitative terms, the objectives set out in the 1988-1989 programme and budgets have been achieved in so far as

the successful operation of the appraisal process at UNIDO is concerned. Its effectiveness could however be strengthened through the inclusion of environmental appraisal and the organization of appraisal missions in the case of large and complex projects. In addition, the large number of project proposals which require either extensive modification or which are withdrawn as a result of appraisal reflects the continued need to further improve the capacity of UNIDO field and Headquarters staff in project design and formulation. The impact of the evaluation work became more visible than in the past. Decisions on monitoring of projects by management and on financing of projects by donors are increasingly being taken on the basis of evaluation reports. The evaluation reports of Headquarters programmes, which were first made available in 1989, also became a useful management tool to better oversee and guide such programmes.

^{3/} IDB.5/10, chap. V, para. 8.

CHAPTER VI. CO-ORDINATION, FIELD AND LIAISON ACTIVITIES AND PUBLIC INFORMATION

RELATIONS WITH GOVERNMENTS AND INTERGOVERNMENTAL ORGANIZATIONS

1. The external liaison activities of UNIDO cover relations with Governments, governmental and intergovernmental organizations and organs, organizations and specialized agencies within the United Nations system.

2. During the biennium 1988-1989 UNIDO external relations activities, while maintaining the quality of output, were streamlined to enable the limited staff available to concentrate on priority activities. As a result, certain activities related to co-operation with the organizations of the United Nations system could not be implemented within the time frame originally foreseen.

3. As at 31 December 1989, the membership of UNIDO comprised 151 Member States. During the reporting period, 62 government delegations - mostly at ministerial level - visited UNIDO Headquarters to discuss policy issues and ongoing and planned technical co-operation activities. The Director-General undertook 12 missions to Member States. Twenty-nine Permanent Representatives presented their credentials to the Director-General. At present, 120 Member States maintain Permanent Missions to UNIDO of which: 76 are located in Vienna, 21 in Geneva, 13 at Bonn, four at Brussels, two each in Paris and Rome, and one each at Bern and Bratislava.

4. Activities continued under the joint programmes or similar co-operation arrangements established with the following countries: Bulgaria, Czechoslovakia, Hungary, Poland, Romania, Turkey, the Union of Soviet Socialist Republics and Yugoslavia as well as with the Council for Mutual Economic Assistance and the International Centre for Public Enterprises in Developing Countries. The programmes are monitored through annual meetings of the joint committees set up for that purpose. The joint committee meetings held with Czechoslovakia, Hungary and the Soviet Union reviewed the 1989 activities and adopted work programmes for 1990. The Joint UNIDO/Turkey Committee for Co-operation discussed the 1989-1990 joint training programmes as well as economic

and technical co-operation among developing countries (ECDC/TCEC) activities with specific emphasis on the African region.

5. As requested in Board decision IDB.5/Dec.8, efforts were made to strengthen the co-operation and co-ordination with the existing 63 National Committees for UNIDO. In this context, a meeting of representatives from European countries was held at Warsaw in October to exchange experience on the structure and functions of National Committees. The participants agreed upon practical action-oriented conclusions and recommendations that aim at reactivating existing Committees and establishing new ones.

6. Relationship agreements in accordance with Article 19.1 (a) of the Constitution were concluded with three specialized agencies, the International Fund for Agricultural Development, the United Nations Educational, Scientific and Cultural Organization and the World Health Organization as well as a working arrangement with the Economic and Social Commission for Asia and the Pacific. Negotiations for a relationship agreement with the Food and Agriculture Organization of the United Nations have been finalized and the agreement will soon be signed. In implementing the 1987 relationship agreement with the International Labour Organisation (ILO), negotiations began on concluding a working arrangement that will further stipulate and define the areas of co-operation between ILO and UNIDO. The conclusion of a relationship agreement with the International Trade Centre UNCTAD/GATT (ITC) is also under negotiation.

7. Relationship agreements were also concluded with six intergovernmental organizations in 1989 (see appendix J) bringing the total number of agreements concluded to 17 since UNIDO became a specialized agency (see also document GC.3/29). Negotiations for concluding further relationship agreements continued and it is expected that agreements will be signed with a number of intergovernmental organizations during 1990. Visits continued to take place between high-level officials from intergovernmental organizations and UNIDO staff to follow up on the implementation of the agreements.

8. Whilst relationship agreements and working arrangements constitute the legal basis for co-operation, collaboration and consultations with the organizations of the United Nations system continued through various activities. For example, at a meeting with the United Nations Environment Programme various activities and projects were identified and agreed upon for joint implementation; at a meeting with ITC specific areas of co-operation were identified and concrete measures concerning their implementation were agreed upon; the FAO/UNIDO Joint Technical Working Group on Food and Agricultural Products Conservation and Processing Industries reviewed its collaboration in a specific field of mutual interest; a manual on maintenance management is being prepared and financed by ILO and UNIDO.

9. At the multilateral policy-making level, co-ordination was implemented through participation in the United Nations General Assembly, the Economic and Social Council, the Administrative Committee on Co-ordination (ACC), the Committee for Programme and Co-ordination (CPC), as well as in the governing bodies of the specialized agencies. As in the past, many inter-agency co-ordination activities were aimed at ensuring maximum complementarity, thus avoiding duplication and the consequent waste of resources. These included exchange of comments on medium-term plans and programme budgets, supply of information on study programmes and technical co-operation projects, joint programming and project formulation missions, visits by Headquarters' staff and project personnel, as well as inputs to documents for meetings organized by the United Nations system.

10. The number of volunteers from the United Nations Volunteer (UNV) programme assigned to UNIDO-executed projects increased to 41 (1988: 20). The Deputy Executive Co-ordinator for Programme Management and the Chief of the Asian and Pacific Section of the UNV programme visited UNIDO for consultations during which the present status of the programme and new policies and initiatives taken by the management of the programme were discussed. UNIDO was represented at the Special Consultation on Appropriate Use of Volunteers in Development, held at Geneva in September.

UNIDO FIELD REPRESENTATION

11. As a result of the recommendations of the Director-General on the organizational and staff structure of UNIDO (see chap. I, paras. 8-9) and their approval by the Board (IDB.5/Dec.21), the title of the

Senior Industrial Development Field Adviser (SIDFA) and Junior Professional Officer (JPO) Support Services Section was changed to Field Representation and Co-ordination Section and the Section was moved from the Office of the Deputy Director-General of the Department for Programme and Project Development to the Special Measures and Activities Division of the same Department. While certain personnel-related functions were transferred to Personnel Services, the previous functions of the Section were basically retained.

12. As requested in board decision IDB.4/Dec.10, negotiations were undertaken with the United Nations Development Programme (UNDP) to revise the 1967 Memorandum of Understanding on SIDFAs. 1/ The newly negotiated Memorandum providing, inter alia, for the integration of the UNIDO Field Service within the UNDP Field Office, was signed by the Administrator of UNDP and the Director-General of UNIDO in April 1989, and was brought to the attention of the Board at its fifth session (IDB.5/10/Add.1, para. 70). The Board on that occasion took note of the signing of the Memorandum.

13. The Memorandum encompassed the status and responsibilities of UNDP Resident Representatives who were confirmed as UNIDO Representatives under the guidance of the rules and regulations of UNIDO and the instructions of the Director-General. The SIDFAs became Deputies to the UNIDO Representatives, responsible for the industrial sector, acting as senior advisers to Governments on industrial matters under the general direction of the UNDP Resident Representatives. The SIDFA title is foreseen in the Memorandum to be changed to UNIDO Country Director. In line with the Memorandum, UNIDO will assume the responsibility for the financial and personnel administration of SIDFAs as of 1 January 1990. UNIDO will also issue specific job descriptions according to the needs of the host country or countries.

14. Document IDB.5/10/Add.1 (paras. 70 to 79), which updates the 1988 Annual Report of UNIDO, provides a progress report for the period January to April 1989 concerning the implementation of board decisions IDB.4/Dec.10 and IDB.4/Dec.11. Those decisions concern the questions of a long-term financing scheme for the SIDFA programme, invitations to Governments to provide funds on a voluntary basis to the SIDFA programme, the rotation of UNIDO Headquarters' staff between the field and Headquarters, and the holding of SIDFA regional meetings. Subsequently, a

1/ IDB.5/10, chap. VI, para. 10.

regional SIDFA meeting for Africa was held at Dakar, Senegal, from 4 to 8 December under the aegis of the Ministry of Industrial Development. Participants included the Director-General, senior UNIDO officers, a representative of the UNDP Regional Bureau for Africa and Government officials in addition to the SIDFAs and SIDFA designates. Two JPOs from the African region assisted in servicing the meeting. Discussions at the meeting focused on UNIDO activities in Africa, the Industrial Development Decade for Africa, the fifth UNDP programming cycle (1992-1996), sectoral analysis and rehabilitation, promotion of the System of Consultations, transfer of technology, the Industrial and Technological Information Bank, investment promotion, special trust funds, UNIDO field representation, the role of SIDFAs, and the personnel and financial policies emanating from the 1989 Memorandum of Understanding.

15. The activities of the Field Representation and Advisory Committee (FRAC) comprised a variety of far-reaching themes. Its terms of reference were instrumental in: recommending candidates for appointment as SIDFAs and extensions of SIDFA contracts; providing recommendations during the negotiations for the new Memorandum of Understanding on the SIDFA programme; approving the holding of the SIDFA regional meeting in Africa; and drafting guidelines for selection, classification, recruitment, appointment, contracts and performance evaluation of SIDFAs. To examine further ways and means of improving the functioning of the SIDFA programme, discussions were also held in FRAC on the rotation of Headquarters staff between Headquarters and the field. A continual analysis was carried out of the

status of SIDFA recruitment and recommendations were made on the introduction of a mechanism whereby work programmes are applied for monitoring the performance of SIDFAs, based on specific performance targets. Issues were taken up that were of relevance to the negotiations with UNDP, e.g. the grade levels of the SIDFAs, and the re-naming of the SIDFAs to UNIDO Country Directors.

16. In accordance with the programme and budgets for the biennium 1988-1989 (GC.2/10, section E.5.1.02), 37 SIDFA posts and 69 JPO posts were maintained in 1989. The breakdown of SIDFA posts by region and source of funds is shown in table 1 below. Of the 37 SIDFA posts, 30 were filled, three were under recruitment, three were vacant, and one was open for discussion with a Government. At present, one SIDFA post is financed by a contribution of the Federal Republic of Germany. An additional voluntary contribution (\$500,000) by the Government of Italy to the Industrial Development Fund (IDF) will enable the financing of two of the present posts.

17. In June/July, a mission was sent to Italy to discuss further co-operation and procedures for Italian contributions to the SIDFA and JPO programmes. Discussions were also held in Algeria, Côte d'Ivoire and Togo on SIDFA recruitment and office facilities. An effort was made to improve the quality of all SIDFA field offices by providing computer facilities and modernizing available equipment.

18. Representatives of the UNDP European Office at Geneva visited UNIDO several times with the object of improving co-ordination between the field and UNIDO Headquarters. Senior UNDP officials from

Table 1

Distribution of SIDFA posts
(by region and source of funds)

Region	Source of funds												Total			
	UNDP				Operational budget				Voluntary contributions							
	1986/1987/1988/1989				1986/1987/1988/1989				1986/1987/1988/1989				1986/1987/1988/1989			
Africa	6	5	7	8	5	7	5	5	1	1	1	1	12	13	13	14
Arab States	1	1	2	2	-	-	-	-	-	-	-	-	1	1	2	2
Asia and the Pacific	6	6	8	8	2	2	2	2	1	1	1	1	9	9	11	11
Europe	-	-	-	-	-	-	-	-	-	1	1	1	-	1	1	1
Latin America and the Caribbean	5	7	7	7	2	2	2	2	-	-	-	-	7	9	9	9
TOTAL	18	19	24	25	9	11	9	9	2	3	3	3	29	33	36	37

the Bureau for Programme Policy and Evaluation, the Regional Bureau of Asia and the Pacific and the Regional Bureau for Africa also visited UNIDO Headquarters for consultations. Visits were co-ordinated for 27 UNDP Resident Representatives and 34 SIDFAs and briefings were carried out for five newly recruited SIDFAs. At the request of UNIDO Headquarters, 30 SIDFAs represented the Organization at some 100 meetings.

19. The JPOs continued to provide valuable support to the technical co-operation and other programmes of UNIDO. Eleven donor Governments to the UNIDO JPO programme continued their support in 1989 (see table 2 below). The Government of the Netherlands continued to finance JPOs from developing countries in addition to its own nationals. A total of 69 JPOs, including seven nationals from developing countries, were on board during 1989; 38 JPOs were in countries with resident SIDFAs and 31 were in countries where there was no SIDFA coverage. During the year, 24 new JPOs began work and, by the end of the year, 10 further candidates had been submitted to UNDP for consideration, six of whom had been accepted to begin work in 1990.

20. Two briefing meetings for 22 new JPOs and two mid-assignment review meetings for 21 JPOs were held in Vienna. As in the past, the JPOs carried out missions to destinations outside the regular duty stations either to consult with non-resident SIDFAs or to monitor UNIDO projects and participate in evaluation missions; they contributed to meetings organized by UNIDO in their countries of assignment and represented UNIDO as observers at meetings where representation by Headquarters staff or SIDFAs was not feasible.

Table 2

JPOs financed in 1989

<u>Donor Government</u>	<u>Number</u>
Belgium	2
Denmark	11
Finland	4
France	1
Germany, Federal Republic of	18
Italy	5
Japan	2
Netherlands	18
Norway	3
Sweden	4
Switzerland	1
TOTAL	69

PUBLIC RELATIONS AND INFORMATION

21. During the biennium 1988-1989 the public information activities of UNIDO were generally successful and the targets to make the Organization more widely known and its activities more transparent to the public were achieved. By the end of the biennium the use of UNIDO printed information and audio-visual material by the news media and government representatives had increased.

22. A general information flyer entitled "UNIDO = industrial development" and an illustrated booklet of selected technical assistance success stories, UNIDO in Action, were issued in 1989. The main thrust was to show the dynamic and flexible approach of UNIDO in meeting the industrial needs of developing countries.

23. As the main event on the UNIDO calendar for 1989, the third session of the General Conference constituted a key focus for news media attention. For that event, a comprehensive, specially designed press kit was produced, 3,500 copies of which were distributed world-wide in English, French and Spanish to Governments, the media, and other interested parties prior to and during the Conference. The contents reflected the main themes of the future work programme of the Organization, and an overall picture of its current activities. In-depth press releases in English, French and Spanish were provided, covering the background, opening, general debate and results of the Conference. Ten video features on UNIDO activities were screened in English, French and Spanish and six video and 13 radio interviews with delegates were conducted.

24. A press briefing with the Director-General was held before the Conference, which also afforded the opportunity to present the publication Industry and Development: Global Report 1989/90 (ID/364) to the media. The results of the Conference were presented at another press briefing by the President and the Director-General, while press briefings on various topics were also held during the Conference. Press facilities were provided for journalists and broadcasters at the Austria Center Vienna, including a press working area, telephones, telefax, telex and radio and video studios. A wide cross-section of international media representatives were accredited during the Conference.

25. In its efforts to create greater awareness of the goals of the Industrial Development Decade for Africa (IDDA), a new magazine was launched on a trial basis,

Industry Africa. The two issues, produced in both English and French, met with a favourable response. The illustrated newsletter, UNIDO Update, continued to be published, but was transformed into a quarterly journal to allow its timely publication.

26. Developing further its depiction of UNIDO achievements in specific regions and sectors, five feature films were completed on technical co-operation: New Frontiers through Engineering, The Solar Option, Partners in Industrial Co-operation, Industrialize Africa: The Challenge and The Battle for More Food, as well as a feature on the General Conference. Reporters were assisted in the production of some 40 radio programmes about the Organization.

27. More than 100 press releases, features, information notes and publication notes were issued for the media, Governments and other interested parties to highlight the main activities of the Organization. All major UNIDO meetings held in 1989 were given written press coverage, including not only sessions of the policy-making organs, but also events such as the Consultations and the Conference of African Ministers of Industry. Some 1,700 photographs were taken of UNIDO events comprising meetings, official visits, accreditations and field projects. Photo exhibitions were mounted for display at sessions of UNIDO policy-making organs and a number of other meetings and fairs. Audio-visual services continued to be provided to the United Nations organizations based in Vienna and in that context photographs were taken of United Nations events, and photo exhibitions were set up for those organizations.

NEW YORK LIAISON

28. During the biennium 1988-1989, the New York Liaison Office was instrumental in ascertaining the interest of the North American private sector, the academic world, research institutes and foundations in the activities of UNIDO in addition to covering some 300 meetings, despite a constraint in staff resources and an increased workload.

29. The New York Liaison Office continued to serve as the main link between UNIDO and United Nations Headquarters and as the focal point for industrial development-related inquiries to UNIDO from North and South America. Within the framework of the forty-fourth session of the General Assembly, the Office provided representation and services on agenda items of interest to UNIDO, including the

repayment of the United Nations loan to UNIDO; the proclamation of the Second Industrial Development Decade for Africa (1991-2000); the report of the Economic and Social Council; the preparation of the international development strategy for the fourth United Nations development decade; integration of women in development; economic and technical co-operation among developing countries; environment; preparation for the special session of the General Assembly scheduled for 1990; external debt crisis and development; and operational activities for development; and personnel questions.

30. The Office also provided representation at, and reporting on, some 150 inter-governmental and inter-agency meetings which took place in New York or elsewhere in the Western Hemisphere, e.g. UNDP special session of February and regular thirty-sixth session; ACC and its subsidiary bodies; CPC, twenty-ninth session; the Committee for Development Planning, twenty-fifth session; the ninth Meeting of Experts on the United Nations Programme in Public Administration and Finance; the Ad Hoc Committee of the Whole for the Preparation of the International Development Strategy for the Fourth United Nations Development Decade; the Preparatory Committee of the Whole for the Special Session of the General Assembly Devoted to International Economic Co-operation; the Steering Committee on the United Nations Programme of Action for African Economic Recovery and Development (UNPAERD) 1986-1990; the Task Force on Long-Term Development Objectives; the High-Level Committee on the Review of Technical Co-operation among Developing Countries, sixth session; ACC/CPC joint meetings; the United Nations Pledging Conference for Development Activities; and the UNDP Inter-agency Consultative Meeting. Special attention was given to the activities of the ACC Consultative Committee on Substantive Questions (Operational Activities) (CCSQ (OPS)) because of the major involvement of UNIDO in the Task Force on Support Costs, and to consultations with other executing agencies on the future role of UNDP.

31. The Office continued to provide assistance to Headquarters in its consultations with UNDP in the development, approval and implementation of technical co-operation projects, recruitment and briefing of experts, placement of fellowship holders, procurement of equipment and organization of study tours.

32. In pursuance of the UNIDO approach to strengthen its relationship with the private sector, the office continued to establish and maintain contacts with

representatives of manufacturing companies in the United States of America and Canada. In October, the Office participated in a meeting convened at Toronto by the Government of Canada with the aim of enriching the dialogue on procurement and contract services between the organizations of the United Nations system and Canadian companies.

33. The Office assisted the International Industrial Development Foundation (IIDF) ^{2/} in convening two organizational meetings (New York, January; Ann Arbor, Michigan, April) with the purpose of consolidating its structure, enlarging the membership of its Board of Directors and adopting a programme of work. The Office also helped the Foundation in organizing its annual meeting, which was held at Atlanta, Georgia, in October, to review the progress of the activities of IIDF.

34. Among its activities for the promotion of a better understanding of the role of UNIDO as a specialized agency by the international academic community, a two-month training programme was organized in collaboration with the United Nations Department of Public Information for four graduate students from North American universities. The Office continued to maintain the extensive collection of documentation and information on UNIDO used by Permanent Missions to the United Nations in New York, industries, research organizations, government agencies, technical experts, academic institutions and libraries. The Office processed over 2,500 inquiries during the period under review.

GENEVA LIAISON

35. The biennium 1988-1989 witnessed an extraordinary increase in the number of intergovernmental and non-governmental meetings in Geneva. The constraint of limited staff at the Geneva Liaison Office coupled with increased workload permitted the coverage of only the most important meetings of interest to UNIDO.

36. The Geneva Liaison Office was actively involved in nearly 40 meetings of diverse nature, ranging from attendance at governing bodies and policy-making organs of other organizations of the United Nations system, to informal meetings of co-ordination committees and inter-agency

working groups. Some of those meetings required close monitoring and detailed reporting over an extended period of time, as in the case of the Economic and Social Council, at which several important issues of direct relevance to UNIDO were examined. The contribution of the Office to the work of CCSQ (OPS) also deserves mention, given the importance of that Committee in system-wide policy-level negotiations and decisions.

37. Concurrently, close and regular contacts were maintained and expanded with a large number of Permanent Missions at Geneva. Four additional representatives of Member States were added to the list of Permanent Missions at Geneva accredited to UNIDO, bringing the total of missions serviced by the Liaison Office to 21. Frequent requests for information and documentation emanating from these Permanent Missions were processed. The main questions addressed during those contacts concerned the System of Consultations and sessions of the UNIDO policy-making organs as well as advice and support on the occasion of presentation of credentials. Substantive and logistical assistance was also given to a total of 52 persons comprising UNIDO Headquarters staff as well as experts and consultants on mission to Geneva.

38. Working-level discussions took place with United Nations specialized agencies, organizations and bodies, such as ILO, ITC, the Economic Commission for Europe, the United Nations Conference on Trade and Development and the Joint Inspection Unit. The Office provided information to UNIDO Headquarters on questions of common concern to the organizations of the United Nations system and helped in the identification and recruitment of consultants, while discussions with officials from other organizations and representatives from some developing countries led to the formulation of concrete project proposals by UNIDO technical staff.

39. The Office continued to deal with an increasing number of requests for information on UNIDO policies, programmes and activities originating from a wide and diversified range of United Nations and non-governmental organizations, governmental institutions, enterprises, universities, as well as individuals. On the occasion of the United Nations Open House Day (22 October), the Liaison Office set up a stand where UNIDO publications and other printed material were displayed and the staff on duty provided information to visitors.

^{2/} *Ibid.*, chap. I, para. 11 and chap. VI, para. 27.

CHAPTER VII. GENERAL ADMINISTRATION

STAFFING

1. During the biennium 1988-1989, steady progress was made towards achieving targets set in the following areas: an increase in the recruitment of women, shortening the average recruitment time required for Headquarters' staff, and better utilization of incumbent staff through analysis of present and future needs of the Organization and through the introduction of a new performance appraisal system. The constraint of diminished staff resources in Personnel Services, coupled with an increased workload, hindered the progress made in achieving the desired targets.

2. On 31 December 1989 the number of staff being administered at UNIDO Headquarters numbered 1,358 (1988: 1,257). The 1989 figure includes for the first time staff employed for limited periods under the new short-term advisory services (STAS) programme (most such staff were assigned to the Industrial Development Decade for Africa programme) and an experimental programme that provided for the recruitment of staff required on an urgent basis to deal with the considerable increase in technical co-operation activities. With effect from 1 September 1989, the administration of internationally and locally recruited personnel attached to UNIDO technical co-operation projects became the responsibility of the Project Personnel Recruitment and Administration Service (see paras. 20-28 below).

3. In accordance with Industrial Development Board decision IDB.5/Dec.21, responsibility for the recruitment and administration of Senior Industrial Development Field Advisers (SIDFAs) (also referred to as UNIDO Country Directors) was transferred to the Personnel Services Division. As of 31 December 1989 there were 14 staff members assigned as SIDFAs. Under the "Memorandum of Understanding" concluded between UNIDO and the United Nations Development Programme (UNDP) in April 1989, all SIDFAs holding UNDP appointments will receive UNIDO contracts as of 1 January 1990; the preparatory work for the conversion of the contracts was completed during the last quarter of 1989. The Division also continued to administer regional advisers, field

officers and outposted recruitment officers, totalling 6 at 31 December 1989.

4. Also in line with Board decision IDB.5/Dec.21, which approved the recommendations of the Director-General on the management review of the organizational and staff structure of UNIDO (IDB.5/9/Add.1 and Corr.1 and IDB.5/33), the restructuring and redeployment of resources was maintained on a continuous basis, resulting in concomitant personnel-related work.

5. Through consultations in an informal working group on the staff regulations of UNIDO, comprising members of Permanent Missions to UNIDO in Vienna, draft texts for staff regulations 3.4 and 13.4 pertaining to the employment of staff were finalized and subsequently approved by the General Conference in its decision GC.3/Dec.27.

6. Improved personnel administration procedures included a new performance appraisal system that was introduced with effect from 1 April 1989. Briefings for all staff members were held to explain the system. The computerization of staff members' personnel records was completed before the scheduled date of December 1989. A comprehensive personnel manual was in course of preparation to assist in the implementation of the new staff regulations and staff rules of UNIDO. A simplified system was developed for issuing information and instruction circulars on administrative matters; such circulars are also now prepared for predetermined target groups.

7. UNIDO participated in a working group of the United Nations common system set up to review the new conditions of service and allowances for Professional staff and report on its findings to the General Assembly through the International Civil Service Commission (ICSC). A housing survey for Professional staff was conducted to obtain data required for the establishment of a post adjustment multiplier for Vienna.

8. A significant increase in recruitment activities took place as compared with the preceding year. As of 31 December 1989 there were 50 vacancies in the Professional category (1988: 72) and the number of vacancy announcements issued during 1989

increased by 63.3 per cent as compared with 1988. A total number of 6,093 (1988: 3,715) applications were received.

9. During the year a steady increase in technical assistance delivery resulted in a need for more human resources and, therefore, continuous and intensive efforts were made to expedite the recruitment process. Within the Professional category, 57 staff members (1988: 35) had been recruited, 46 men and 11 women (1988: 27 men and 6 women); figures for 1989 exclude 30 short-term advisory services (STAS) appointments (27 men and 3 women) and 7 experimental programme appointments (7 men). The number of separations was 44 (1988: 42), 36 men and 8 women (1988: 36 men and 6 women), of whom 8 men and 3 women (1988: 7 men and 3 women) were language staff; figures for 1989 exclude 29 STAS separations (26 men and 3 women) and 2 experimental programme separations (2 men). In the General Service category 106 staff members (1988: 20) were recruited, of whom 17 (1988: 15) were language staff. In the Manual Worker category 12 (1988: 4) appointments were made. The number of separations in the latter two categories amounted to 36 (1988: 46).

10. Short-term contracts issued for conference service staff numbered 686 (1988: 639) and 452 (1988: 155) for Secretariat staff. In addition, 657 (1988: 250) contracts were issued for consultants and 141 (1988: 134) for individual contractors.

11. Further efforts to update and improve the UNIDO roster included advertising in international newspapers with the aim of attracting applications from qualified candidates, particularly from women and under-represented, especially developing countries. As of 31 December 1989, of the 2,939 roster candidates for Headquarters' job opportunities, 1,347 were candidates from developing countries.

12. As a result of the ongoing efforts ^{1/} to increase the number of women in the UNIDO Secretariat at the Professional level pursuant to Board decisions IDB.4/Dec.32 and IDB.5/Dec.36, the number of female candidates on the UNIDO roster has increased. Some 50 per cent of the women interviewed during the 1989 recruitment mission to countries in the Latin American and North American regions were placed on the roster. As of 31 December 1989, 631 of the roster candidates for Headquarters' job opportunities were women, i.e. 21.5 per cent (1988: 570,

17.5 per cent). A total of 1,227 applications were submitted by women (1988: 479), an increase of 156.2 per cent. The total number of Professional women in the UNIDO Secretariat was 81 (1988: 78), an increase of 3.9 per cent, of whom 59 (1988: 55) were subject to geographical distribution, an increase of 7.3 per cent. The number of women Professionals at P-5 and above was 10 (1988: 5), an increase of 100 per cent.

13. Language training was provided in the six official languages of the United Nations and in German to staff of the Vienna-based organizations and the missions accredited to them. For the spring 1989 semester 806 persons were enrolled in 69 classes and for the autumn semester 832 persons were enrolled in 72 classes. In addition, post-proficiency classes were held in English, French and Spanish, two workshops on French grammar, two on office communication skills in French and one Russian refresher course. The Vienna-based organizations shared the cost: the UNIDO share was some 33 per cent for the spring semester and 39 per cent for the autumn semester. Language proficiency examinations were administered for 256 candidates. During the year 48 university graduates were accepted for the UNIDO Ad Hoc Internship Programme, which gave them the opportunity of obtaining practical experience or doing research on items of direct relevance to the work of the Organization.

14. Advice, information and administrative services were provided on all matters concerned with the pension, health and life insurance schemes, compensation claims and staff welfare. Further efforts were made to automate several work processes in order to cope with an increase of approximately 10 per cent in the number of participants in the schemes and to monitor all relevant data. Background material was prepared for an international bidding process for a new group medical insurance policy that will take place in 1990 and is expected to come into effect in 1991.

15. Table 1 below gives the composition of the staff of the UNIDO Secretariat as at 31 December 1989, according to category and sex, and with comparable figures for 1988. In addition, tables 2 and 3 below provide details of staff representation by gender and geographical distribution for the years 1987 to 1989.

HUMAN RESOURCE PLANNING

16. With the establishment of the Human Resource Planning Unit in 1988 a more systematic approach for staff development was started in the Organization. That

^{1/} IDB.5/10, chap. VII, para. 12.

Table 1
Composition of the UNIDO Secretariat a/

Category	As at 31 December 1988		As at 31 December 1989	
	Male	Female	Male	Female
P-5 and above	124)	5)	131)	10)
P-1 to P-4	221)345	73)78	230)361	71)81
General Service	168	549	183	609
Manual Workers	106	4	114	3
Language teachers	2	5	2	5
Subtotal	621	636	660	698
TOTAL	1,257		1,358	

a/ Figures include 10 interregional and special technical advisers attached to UNIDO Headquarters but not short-term staff (with the exception of staff employed under the STAS and experimental programmes mentioned in para. 2 above) or UNIDO SIDFAs (with the exception of 7 staff members temporarily serving in the latter capacity).

Table 2 (a)
Professional staff in the UNIDO Secretariat, December 1987-1989

Grade	MALE			FEMALE			TOTAL		
	1987	1988	1989	1987	1988	1989	1987	1988	1989
DDG	5	5	5				5	5	5
D-2	6	4	3				6	4	3
D-1	23	30	29	2	2	2	25	32	31
P-5	89	85	94	1	3	8	90	88	102
P-4	126	127	127	26	24	24	152	151	151
P-3	88	76	80	35	35	34	123	111	114
P-2/1	17	18	23	12	14	13	29	32	36
TOTAL	354	345	361	76	78	81	430	423	442
	82.3%	81.6%	81.7%	17.7%	18.4%	18.3%	100%	100%	100%

Table 2 (b)
Percentage of Professional staff in the UNIDO Secretariat, December 1987-1989
(within each grade)

Grade	MALE			FEMALE		
	1987 %	1988 %	1989 %	1987 %	1988 %	1989 %
DDG	100	100	100			
D-2	100	100	100			
D-1	92	94	94	8	6	6
P-5	99	97	92	1	3	8
P-4	83	84	84	17	16	16
P-3	72	68	70	28	32	30
P-2/1	59	56	64	41	44	36

Table 3 (a)

Professional staff subject to geographical distribution
in the UNIDO Secretariat, December 1987-1989

Grade	MALE			FEMALE			TOTAL		
	1987	1988	1989	1987	1988	1989	1987	1988	1989
DDG	5	5	5				5	5	5
D-2	6	4	3				6	4	3
D-1	19	28	26	2	2	2	21	30	28
P-5	71	72	77		2	6	71	74	83
P-4	103	100	100	20	18	19	123	118	119
P-3	66	57	52	28	25	24	94	82	76
P-2/1	12	9	10	8	8	8	20	17	18
TOTAL	282	275	273	58	55	59	340	330	332
	82.9%	83.3%	82.2%	17.1%	16.7%	17.8%	100%	100%	100%

Table 3 (b)

Percentage of Professional staff subject to geographical distribution
in the UNIDO Secretariat, December 1987-1989
(within each grade)

Grade	MALE			FEMALE		
	1987 %	1988 %	1989 %	1987 %	1988 %	1989 %
DDG	100	100	100			
D-2	100	100	100			
D-1	90	93	93	10	7	7
P-5	100	97	93	0	3	7
P-4	84	85	84	16	15	16
P-3	70	70	68	30	30	32
P-2/1	60	53	56	40	47	44

approach was expeditious in supporting the organizational changes taking place in UNIDO, especially for training in the areas of upgrading technical skills and management development.

17. In spite of budget limitations (the training budget in the 1988-1989 biennium represented 0.2 per cent of staff costs compared to 2 to 5 per cent invested in training by other organizations and industries, including some United Nations agencies) and training staff limitations, important staff development activities took place. Emphasis was placed in 1989 on computer skills training and, for that reason, two computer training rooms were established, each with eight personal computers and accompanying desktop printers. This infrastructure enabled the delivery in 1989 of 63 courses in various activities related to office automation for some 500 Professional and General

Service staff. Importance was also attached to improving management practices in the Organization. A total of 109 middle managers were trained in 10 workshops on presentation skills development, interpersonal/intercultural skills development and negotiation skills development. These efforts resulted in an increase of 370 per cent of staff training in 1989 as compared to 1987. In addition, a "Director-General's Forum" was held for senior managers to discuss strategic management for the 1990s and biennial programme planning. In the area of general knowledge upgrading, three short seminars were held on the science of communication, strategic planning and the art of negotiation. Training also included briefing staff on the new performance appraisal system (see para. 6 above).

18. With regard to external training, concentration was placed on upgrading

technical skills. In 1989, nearly 50 staff members participated in individual programmes outside UNIDO. This type of training showed an increase of 1,000 per cent as compared with 1987, and of 400 per cent as compared with 1988.

19. The availability of a full-time classification officer ensured a more systematic job evaluation process. Determination of post level in the Professional and General Service categories, which included job analysis and desk audits, amounted to 300 actions in 1989.

PROJECT PERSONNEL RECRUITMENT AND ADMINISTRATION

20. As a result of the findings of the management review of the organizational and staff structure of UNIDO (IDB.5/9) and in line with the recommendations of the Director-General (IDB.5/9/Add.1 and Corr.1) and Board decision IDB.5/Dec.21, the Technical Co-operation Personnel Administration Unit in the Department of Administration was merged with the Project Personnel Recruitment Branch (PPRB) in the Department of Industrial Operations to form the Project Personnel Recruitment and Administration Service (PRAS) in the Department of Industrial Operations. The merger, consolidating recruitment and administration functions, became effective on 1 September 1989. It was accompanied by an internal reorganization within the Service designed to avoid duplication of work and to rationalize its operation in response to the growing quantitative and qualitative needs in the provision of experts.

21. In the course of 1989, 2,131 experts were appointed (1988: 1,910)^{2/} and 1,061 experts' appointments were extended (1988: 943). In addition, recruitment was processed for 125 locally recruited General Service support staff members for UNIDO projects. Out of the total number of experts appointed 397 (18.6 per cent) were employed under the 200 Series of the UNIDO staff rules (including 34 associate experts); 1,446 (67.9 per cent) as consultants (experts on mission) and 288 (13.5 per cent) received service agreements as national professional project personnel. The share of female professional project personnel was 111 or 5.2 per cent of the appointments (1988: 114 or 6 per cent).

^{2/} In paras. 21 and 22, figures for 1988 refer to work done by the Project Personnel Recruitment Branch.

22. Experts' services (appointments and extensions) totalled 9,470.4 work-months (1988: 9,221.6 work-months), which represents in financial terms \$54.35 million or 40.6 per cent of the total implementation of UNIDO technical co-operation (1988: \$49.2 million or 41 per cent). This constitutes a growth rate of 2.7 per cent in work-months and 10.5 per cent in financial terms and confirms the trend observed in 1988 that the financial expenditure for experts grows faster than the number of work-months actually rendered. To a great extent this is the result of the continuing prevalence of short-term appointments. Despite the fact that the average duration of appointments increased slightly from 2.63 months in 1988 to 2.74 months in 1989 for all contracts, costs per work-month for obligations such as fees and travel expenditures continued to be high.

23. The planned quantifiable output as reflected in the programme and budgets for the biennium 1988-1989 (GC.2/10) foresaw the appointment of 3,500 to 4,000 new experts and consultants over the two-year period, including national experts, and some 2,500 to 3,000 extensions of appointments, for a total implementation of 17,000 to 19,000 work-months. As indicated above (paras. 21-22) and in the annual report for 1988, ^{3/} these biennial targets were achieved. The actual number of appointments of international and national experts reached a total of 4,041 and the total number of extensions of appointments was 2,004. In terms of work-months the total implementation was 18,692. These results were achieved despite the fact that, following decisions made to ensure the balancing of the operational budget, the 1989 staff allocation for expert recruitment and administration activities was decreased by 24 General Service and 12 Professional work-months.

24. The 288 national experts recruited by UNIDO in 1989 (1988: 231) represented 65 (1988: 43) nationalities. With a view to improving the quality of services rendered by national experts, it would be advisable to include resources in future project budgets for appropriate briefing at UNIDO Headquarters of senior national experts, national project directors or coordinators.

25. The UNIDO roster of experts continues to play an important role as a source of recruitment of experts. The limited consultant funds available were used to

^{3/} IDB.5/10, chap. VII, paras. 16-17.

undertake a review of the appropriateness of the composition and quality of expertise available in the roster and to further update the roster in line with the needs for expertise; for example, in relation to advanced technologies, economics and management-related areas, for which there is a growing demand. In an effort to keep it at a manageable size, 979 obsolete candidates were removed from the roster.

26. As in previous years, UNIDO benefited from the work of the two recruitment officers outposted to the United Nations Technical Assistance Recruitment and Fellowships Office at Geneva. ^{4/} That office maintains close links with national recruitment services and other sources of recruitment in Europe and some North African countries and thus contributes to the improvement of the roster of experts. Similar benefits are derived from the activities of the UNIDO regional recruitment officer located in the UNDP Office at Cairo, Egypt, whose financing is also shared by the United Nations Department for Technical Co-operation for Development and UNDP. In addition to facilitating the recruitment of experts from Egypt and for projects in that country, the regional recruitment officer is assisting African countries in establishing focal points for the identification of local expertise for international and national expert assignments.

27. As part of its functions under the new structure, PRAS is responsible for providing administrative services to the international and national professional project personnel, and to the locally-recruited project support staff (e.g. secretaries, drivers). In 1989, 2,449 international experts (1988: 2,211) together with 369 national experts (1988: 330) and 343 local support staff members (1988: 320) ^{5/} were administered. These services include ensuring the provision of entitlements and benefits under the UNIDO staff regulations and staff rules (200 Series), the administration of consultants in accordance with their contractual conditions and the personnel administration of local support staff. Through some field missions undertaken within the

^{4/} IDB.5/10, chap. VII, para. 21.

^{5/} A discrepancy in reporting arises between the number of personnel administered as compared with the number of personnel appointed when employment contracts fall into more than one reporting period, e.g. contracts beginning in December 1988 and ending in March 1989 are counted as administrative cases in both years.

limited resources available, monitoring continued of the working and living conditions of project personnel and recommendations were made to the Administrative Committee on Co-ordination (ACC) and ICSC on matters such as improvements of entitlements, daily subsistence rates and local salary adjustments.

28. UNIDO recruited in 1989 international and national project personnel from 101 countries (see table 1 of appendix D). Table 2 of the same appendix gives the number of experts appointed since 1986, by country of origin. Table 4 below indicates the distribution of recruitment, government submission, selection and roster candidates by the three main regional groups.

GENERAL SERVICES

29. The sections and units of the General Services Division (see appendix A) continued to contribute substantially to the UNIDO technical co-operation activities and provide operation, maintenance and repair services at the Vienna International Centre (VIC) complex. During the biennium 1988-1989, the objectives set in the programme budgets were met; furthermore, the figures shown for the purchase and contracts activities (paras. 30-31 below) are the highest ever in the history of UNIDO. However, it should be noted that certain achievements would not have been possible were it not for the well-timed contribution of short-term temporary assistance staff.

30. The total delivery of project equipment and supplies for UNIDO technical co-operation projects was nearly \$40.1 million (1988: \$36.2 million). That amount represented 3,315 individual orders (1988: 2,350), of which 741 (22 per cent) were placed with manufacturers and vendors from developing countries to a value of \$6.7 million (16.7 per cent), and 265 (8 per cent) were placed with manufacturers and vendors from the so-called major under-utilized donor countries to a value of \$2.3 million (5.7 per cent). Purchase staff were trained in the use of computers and action was taken to make the vendors' roster more extensive and user-friendly. A total of 1,594 orders (1988: 907), amounting to more than \$10 million (1988: 2.9 million) were placed for equipment, materials, spare parts and supplies for the operation, maintenance and repair of the VIC complex, as well as for the acquisition of hardware, peripherals and software for the computerization of UNIDO.

31. In the implementation of UNIDO technical co-operation programmes, the

Table 4

Distribution of experts by regional groups of countries
(1 January - 31 December 1989)

	Number of experts					Percentage of appointments
	UNIDO roster <u>a/</u>	Percent- age of roster <u>a/</u>	Submitted to Government	Selected by Government <u>b/</u>	Appointed <u>c/</u>	
Developing countries <u>d/</u>	4,063	32	469	816	678	32
List B countries <u>e/</u>	6,629	51.5	946	1,494	1,073	50
List D countries <u>f/</u>	2,120	16.5	285	413	380	18
	<u>12,812</u>	<u>100</u>	<u>1,700</u>	<u>2,723</u>	<u>2,131</u>	<u>100</u>

a/ As of 31 December 1989, excluding roster candidates for Secretariat posts only (2,939).

b/ Including government nominees.

c/ Including appointment of 288 national professional experts.

d/ States in lists A and C of Annex I to the UNIDO Constitution plus Albania, Cyprus, Greece, Malta, Portugal, Romania and Turkey.

e/ States in list B of Annex I to the UNIDO Constitution, excluding Cyprus, Greece, Malta, Portugal and Turkey.

f/ States in list D of Annex I to the UNIDO Constitution, excluding Albania and Romania.

services of consulting engineering organizations and institutions were provided under corporate contracts. A total of 185 (1988: 136) new contracts were awarded for a total value of some \$19.2 million (1988: 12.4 million). Of those contracts, 69 (37.3 per cent), amounting to some \$3.6 million (18.7 per cent) were awarded to enterprises from developing countries, while 9 (4.8 per cent) amounting to some \$1.56 million (8.1 per cent), were signed with companies in under-utilized major donor countries. In addition, 288 contracts - valued in excess of \$12.4 million - were concluded in connection with the operation, maintenance and repair of the VIC complex, for various United Nations offices in Vienna and the computerization of UNIDO.

32. Buildings management activities included the modification and refurbishment of: the Commissary facilities, the United Nations Information Services offices, the United Nations Security and Safety Service firing range, a store room for the Department of Safeguards of the International Atomic Energy Agency (IAEA) and the VIC cafeteria. Further work

included: preparation of a feasibility study and costing of a new VIC telephone system; continued planning and implementation of a horizontal and vertical data network for UNIDO and IAEA; modification and installation of new surveillance systems at Checkpoint 1 and in the security control centre; planning and installation of a central audio recording room for UNIDO and United Nations meetings; planning, design and construction of a UNIDO mainframe computer room (550 m²) and associated support services; reinforcement of the electrical supply system for the Commissary; 50 kilometers of cabling for data network power supply; and modification and extension of the fire trap ventilation system with a view to saving energy.

33. Substantial progress continued to be made in the computerization of the records for inventory control and property management, which now include data on more than 630 technical co-operation projects, details of 685 vehicles, and all components, spare and replacement parts for UNIDO buildings management, accounting for a total of 23,000 items. Transfer-of-

title documents were finalized for equipment provided to 137 discrete projects, with a value in excess of \$13.4 million. A total of 115 cases were submitted to the UNIDO Property Survey Board; all but four cases were decided upon in the course of the year.

34. Short-term staff enabled the provision of full registry services to UNIDO and the Centre for Social Development and Humanitarian Affairs of the United Nations Office at Vienna (UNOV). New guidelines were drawn up for retention and disposition schedules and, as a result, a large amount of obsolete or inactive files were disposed of. UNIDO accessions amounted to 404.5 linear meters (1988: 593.5) whilst 375 linear meters (1988: 44) were disposed of. Accessions for UNOV totalled 29.5 linear meters (1988: 63) and disposals represented 26.5 linear meters (1988: 27.5).

35. Approximately 14,000 travel authorizations were processed for official missions, home leave and education grant travel of UNIDO and UNOV staff members, experts, conference participants, consultants and fellows (total cost of the tickets issued was in excess of \$13.8 million). Some 2,200 shipments of personal effects were also arranged for Headquarters staff and experts as well as shipments of documents and equipment related to the operations of the Organization. In connection with the latter, 85 insurance claims were filed, of which 72 were settled. Some 2,800 visas were obtained and some 2,000 letters of assistance issued for staff members and experts of UNIDO and UNOV.

CONFERENCE SERVICES

36. Conference services continued to be rendered on a joint basis under the same administrative and financial arrangements in force since 1986.^{6/} The UNIDO Languages and Documentation Division provided a full range of translation and publishing services to both UNIDO and the United Nations entities in Vienna, while the joint United Nations and UNIDO Meetings Planning and Interpretation Service operated by the United Nations continued to service all United Nations meetings in Vienna as well as all UNIDO meetings held in Vienna and elsewhere.

37. The services rendered in the 1988-1989 biennium met all requirements provided for in the programmes or arising on an ad hoc basis. Quality of the

services and productivity of the staff conformed to the standards observed in the United Nations system.

38. In 1987, the Secretary-General of the United Nations reported to the Fifth Committee of the General Assembly during its forty-second session (A/C.5/42/22) on unified conference services for the United Nations organizations at the VIC. In that report the Secretary-General concurred with the recommendation of the Advisory Committee for Conference Services at the VIC that the existing joint services should be continued, with the understanding that the matter would be kept under review. Subsequently, in its first report on the proposed United Nations programme budget for the biennium 1990-1991,^{7/} the Advisory Committee on Administrative and Budgetary Questions (ACABQ) requested the Secretary-General to prepare a comprehensive report on conference services at Vienna, including, in particular, information on the actions taken to address the chronic post vacancy situation at that location and also to address the larger question of the establishment of unified conference services at Vienna, taking into account views previously expressed by the General Assembly, the Joint Inspection Unit (JIU) and the Committee on the subject. The report of the Secretary-General was presented to the General Assembly at its forty-fourth session in document A/C.5/44/24.

39. The Secretary-General, in his report to the Fifth Committee, called for an in-depth review during the 1990-1991 biennium of the operation of common services at Vienna, including conference services. Consultations among the parties concerned would naturally take place in this context, with a view to making necessary improvements. The General Assembly would be kept informed of the progress of these discussions, which, it was hoped, would produce an agreement that could be reflected in the proposed programme budgets of both UNIDO and the United Nations for the biennium 1992-1993.

40. As regards staffing of the joint conference services recruitment was under way for the filling of the six vacant posts financed by UNIDO for translation services; all of the 20 translator posts financed by the United Nations were filled. Of the 20 permanent posts approved for the purpose of forming a nucleus of regular interpretation services to service meetings at the VIC, 15 had been filled by the end

^{6/} IDB.3/10, chap. VII, paras. 30-31.

^{7/} Official Records of the General Assembly, Forty-fourth Session, Supplement No. 7 (A/44/6/Rev.1, vol.II).

of 1989 and the balance was expected to be filled during the first quarter of 1990.

41. Information on translation and interpretation services provided, and on the number of meetings serviced for UNIDO and the United Nations, is given in tables 5, 6 and 7 below.

42. The small (16,000 terms) terminology data base in the Reference and Terminology Unit was transformed into a new system in which diacritical marks are correctly inserted in French and Spanish language terms and in which Cyrillic characters are available for Russian language use.

43. Editorial, typesetting, reproduction, distribution and other related services continued to be provided by the Editorial

Control and Publications Section. Table 8 below shows the distribution of workload between UNIDO and UNOV during 1989. The increase in the inflow of work from UNOV is accounted for mainly by parliamentary documentation for United Nations meetings and conferences taking place in Vienna.

44. The new photocopying system introduced throughout UNIDC and UNOV in 1988 to reduce costs ^{8/} has more than justified its installation. Photocopying costs during the first 12 months of operating the new system were some AS 2.5 million lower than in the preceding 12 months. Other economy measures in this area are under study.

^{8/} IDB.5/10, chap. VII, para. 35.

Table 5

Translation services provided by the UNIDO Languages and Documentation Division during 1988 and 1989
(in thousands of words translated)

Organization served	1988	1989
UNIDO	6,481 ^{a/}	8,390 ^{b/}
United Nations	14,877 ^{c/}	12,054

^{a/} Includes 3,191,000 words for the policy-making organs of UNIDO.

^{b/} Includes 3,899,400 words for the policy-making organs of UNIDO.

^{c/} Includes 1,659,000 words for the United Nations Conference for the Adoption of a Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.

Table 6

Interpretation services provided by the Meetings Planning and Interpretation Service (UNOV) in 1987 and 1988
(in interpreter-days)

Organization served	1988	1989
UNIDO	586 ^{a/}	1,481 ^{c/}
United Nations	3,695 ^{b/}	2,050

^{a/} Includes 204 interpreter-days for the fourth session of the Programme and Budget Committee and 251 for the fourth session of the Industrial Development Board.

^{b/} Includes 1,160 interpreter-days for the United Nations Conference for the Adoption of a Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.

^{c/} Includes 181 interpreter-days for the fifth session of the Programme and Budget Committee, 303 interpreter-days for the fifth session and the third special session of the Industrial Development Board, and 324 interpreter-days for the third session of the General Conference.

Table 7

Conferences and meetings with and without interpretation serviced
by Meetings Planning and Interpretation Service in 1989

Conferences/ meetings held	Number of half-day meetings					
	UNIDO			United Nations		
	With interpre- tation	Without interpre- tation	Total	With interpre- tation	Without interpre- tation	Total
In Vienna	118	648	766	287	404	691
Elsewhere	<u>176</u>	<u>230</u>	<u>406</u>	-	-	-
TOTAL	294	878	1,172 <u>a/</u>	287	404	691 <u>b/</u>

a/ UNIDO meetings include 43 meetings with interpretation, 51 meetings without interpretation held in connection with the fifth session of the Programme and Budget Committee, the fifth session of the Industrial Development Board, the third session of the General Conference, and the third special session of the Industrial Development Board.

b/ United Nations meetings include 34 meetings with interpretation, 37 meetings without interpretation held in connection with the third United Nations European Regional NGO Symposium on the Question of Palestine, the sixth United Nations International NGO Meeting on the Question of Palestine, the ninth session of the Advisory Committee on Science and Technology for Development and the Second Interregional Meeting of Heads of National Drug Law Enforcement Agencies.

Table 8
Editorial Control and Publications Section: distribution of
work-load in 1989
(Figures for 1988 in parentheses)

UNIDO		United Nations	
Editing			
<u>Thousands of words</u>	<u>Per cent of total</u>	<u>Thousands of words</u>	<u>Per cent of total</u>
1,835 (2,328)	43 (52)	2,390 (2,151)	57 (48)
Editorial assistance at meetings			
<u>Days</u>	<u>Per cent of total</u>	<u>Days</u>	<u>Per cent of total</u>
10 (6)	13 (10)	66 (53)	87 (90)
Preparation of camera-ready pages			
<u>Pages</u>	<u>Per cent of total</u>	<u>Pages</u>	<u>Per cent of total</u>
3,014 (2,127)	38 (30)	5,022 (4,980)	62 (70)
Documents and publications distributed; reproduction and distribution services provided at meetings			
<u>Documents and publications distributed</u>	<u>Per cent of total</u>	<u>Documents and publications distributed</u>	<u>Per cent of total</u>
3.8 million (2.9 million)	58 (47)	2.7 million (3.3 million)	42 (53)
<u>Meetings serviced (days)</u>	<u>Per cent of total</u>	<u>Meetings serviced (days)</u>	<u>Per cent of total</u>
53 (20)	38 (13)	88 (137)	62 (87)

CHAPTER VIII. SOURCES OF FUNDS

A. FINANCING OF TECHNICAL CO-OPERATION ACTIVITIES

1. Technical co-operation for the benefit of the developing countries continued to be the main activity of UNIDO with the value of net approvals of projects rising from \$161.4 million in 1988 to \$171.5 million in 1989.

2. The sources of finance for UNIDO technical co-operation activities were again the indicative planning figures (IPFs) of the United Nations Development Programme (UNDP), the Special Industrial Services (SIS) programme of UNDP, the Industrial Development Fund (IDF), the UNIDO regular programme of technical co-operation (RP) ^{1/} and the Industrial Development Decade for Africa (IDDA) ^{2/} both within the regular budget of UNIDO, trust funds (TF) and self-financing arrangements with developing countries as well as a number of United Nations funds.

UNDP INDICATIVE PLANNING FIGURE AND COST SHARING

3. The largest source for financing the technical co-operation activities of UNIDO continued to be the UNDP/IPFs. The pledges for 1989 voluntary contributions to UNDP amounted to \$1,016.7 million. The programming level (authorized budget level) was set at \$1,082.2 million with an expenditure target of \$760.0 million for 1989.

4. By the end of 1989, 145 country programmes had been approved by the Governing Council of UNDP for the fourth UNDP programming cycle (1987-1991). Within these country programmes, UNIDO was designated executing agency for 593 projects (168 ongoing and 425 new), amounting to approximately 12.1 per cent of the total programmed resources, although the allocations for the industry sector had originally been estimated at 11.1 per cent (see appendix E).

^{1/} Reflected in figures of chap. II and tables of appendix G as "XP".

^{2/} Reflected in figures of chap. II and tables of appendix G as "XA".

SPECIAL INDUSTRIAL SERVICES PROGRAMME

5. The Governing Council of UNDP allocated \$15 million to UNIDO for the fourth programming cycle (1987-1991) of the SIS programme, to be distributed in equal annual instalments of \$3 million throughout the cycle.

6. In approving SIS projects, UNIDO continued to apply highly selective criteria in line with the new guidelines for the SIS programme issued in 1988 ^{3/} and with the full involvement of UNDP resident representatives. The new guidelines also provide for a terminal assessment report to be prepared by the UNDP field office presenting the views of the recipient Government concerning quality and timeliness of the project inputs and reflecting UNIDO's substantive comments. The number of requests for SIS projects continued to grow in 1989 as a result of widely spread information about the type of services provided under this programme and its potential to respond to urgent needs in a rapid and non-bureaucratic manner. During 1989, 84 new projects were approved amounting to \$4.9 million. The value of approvals of SIS-financed projects in 1989 by geographical area is shown below.

7. Total net approvals (i.e. approvals of new projects as well as revision, extension or cancellation of ongoing projects) for the period 1987-1988 amounted to \$5.2 million and for 1989 to \$5.1 million. The programmable balance for the rest of the present SIS cycle (1990-1991) is \$4.7 million.

TECHNICAL CO-OPERATION - REGULAR BUDGET ALLOCATIONS

Regular programme of technical co-operation

8. For the total UNIDO regular programme of technical co-operation the General Conference approved initially a sum of \$6,993,800 for the biennium 1988-1989 at an

^{3/} UNDP/PROG/H of 7 June 1988; see also IDB.5/10, chap. VIII, para. 7.

Geographical area	Value of approvals (in thousands of \$)	Percentage of total value
Africa ^{a/}	2,511	50.8
Americas	881	17.9
Arab States ^{a/}	479	9.7
(African Arab States) ^{b/}	(348)	(7.0)
Asia and the Pacific	810	16.4
Europe	601	12.2
	4,934	100

^{a/} Includes African Arab States.

^{b/} Deducted since included under both "Africa" and "Arab States".

exchange rate of US\$1 = AS 17.70; in 1989 this sum was adjusted in accordance with Annex II. B of the Constitution to \$8,850,100 at an exchange rate of US\$1 = AS 12.70. The distribution of the regular programme allocation and the corresponding delivery during the biennium are shown in appendix C.

9. The regular programme continued to provide an additional source of funding for industrial human resource development through individual fellowships, group training and the establishment and strengthening of training facilities in developing countries. During the year under review, further emphasis was put on special needs of the least developed countries, on co-operation among developing countries and on consultations with Governments. In programming the available resources under the regular programme, every effort was made to achieve an equitable geographical distribution, especially taking into consideration the needs of African and least developed countries.

Allocations for the Industrial Development Decade for Africa

10. Under the regular programme of technical co-operation for 1988-1989, the General Conference approved a separate allocation of \$4,054,500 for IDDA to cover the following activities: establishment of pilot and demonstration plants; development of human resources and technological capabilities; and the development of industrial institutional infrastructure. (For the distribution of the allocations see appendix C.) The funds

available have been fully programmed. In addition, \$4,750,000 (adjusted for inflation) was allocated under the 1988-1989 regular budget to cover the following supplementary activities in support of the Decade: short-term advisory services (STAS); studies and research; meetings; and promotional activities. These funds were also fully programmed.

OPERATIONAL BUDGET

11. As stipulated in Financial Regulation 3.4 (b), the operational budget shall show the expected income and expenditures in respect of voluntary contributions to the IDB, such trust funds, reserve and special accounts as have been established by the Director-General and support costs of technical assistance activities. Information on the activities financed from these sources of income is provided under the respective headings of the present chapter in compliance with Board decision IDB.4/Dec.26.

12. The operational budget for the biennium 1988-1989 was approved by the General Conference at its second session with estimated expenditure totalling \$34.2 million (at the exchange rate of US\$1 = AS 12.50) to be financed from voluntary contributions and other income provided for in the Financial Regulations.

13. Efforts continued, wherever possible, to reduce costs in the operational budget. There were 299 staff (72 Professionals and 227 General Service) on board in the operational budget in December 1989, compared with 300.5 in December 1988 (68 Professionals and 232.5 General

Service). Expenditure recorded in 1989 increased slightly to \$15.4 million (1988: \$14.8 million), but that increase was fully met by income from technical co-operation delivery. (Total expenditure for the biennium resulted in \$30.2 million.)

14. As requested by the Programme and Budget Committee in its conclusion 1988/7 and decided by the Board (IDB.3/Dec.20), a report on the programmes and budgets of UNIDO, focusing on the required scope and content of the operational budget and its relationship to the regular budget, was prepared by an independent team of experts.^{4/} The Committee at its fifth session considered that report and comments thereon by the Director-General and adopted conclusion 1989/4. Among other things, it recommended the introduction of rules for the use of operational budget resources. It also requested the Director-General, pending conclusion of the debate on successor arrangements for the UNDP formula for reimbursement of support costs (see paras. 29-33 below), to fix under the operational budget the mandatory reserve at 15 per cent of the estimated budget expenditure for the biennium 1990-1991 and that any gains within the approved operational budget be used to bring the reserve to its statutory level.

INDUSTRIAL DEVELOPMENT FUND

15. Announced pledges to IDF in 1989 increased to \$39.3 million (1988: \$25.9 million). The breakdown by segments of the Fund shows that increased pledges were provided to the convertible special-purpose segment of the Fund (\$34.2 million), while resources to the two non-convertible segments remained static (\$3.6 million) and very limited funds were pledged to the general-purpose convertible segment (\$1.5 million). The forecast of \$35 million made in 1988 has therefore been exceeded; this situation is due to a large extent to the generous pledge of nearly \$18 million provided by the Government of Italy, which represents almost 50 per cent of the total IDF resources for 1989.

16. Appendix H provides information on firm pledges and receipts, the status of resources and cumulative project approvals as at 31 December 1989. The net value of projects approved rose to \$31.7 million (1988: \$26.4 million), distributed as follows: general-purpose convertible \$1.7 million (5.4 per cent); special-

purpose convertible \$27.7 million (87.4 per cent); special-purpose and general-purpose non-convertible \$2.3 million (7.2 per cent). For new projects approved during the year, a breakdown for each segment by region and programme component is given in appendix H, table 4.

17. Programming flexibility was again restricted because of the limited resources available under the general convertible pool, the only freely programmable segment of the Fund. A reasonable geographical distribution of the resources available in 1989 was nevertheless assured through special attention to global, regional and interregional projects, most of which covered training and promotional activities (see appendix H).

18. The general-purpose segment of the Fund was utilized mainly for preparatory assistance projects aimed at attracting large-scale contributions from special-purpose donors or other sources of financing. In line with the mandate of the Fund, priority was also accorded to projects of an innovative nature or supporting the introduction or adaptation of a specific technology. As part of the integrated programme in the leather and leather products sector for the benefit of 15 African countries,^{5/} the regional hides and skins, leather and leather products improvement scheme for East Africa was launched successfully in 1989 (see chapter II, AGRO, para. 7). Following this example, and in response to resolutions and decisions by the General Conference and the Industrial Development Board on the development of special programmes for the Arab countries, Asia and the Pacific, and Latin America and the Caribbean, a number of priority activities for assistance to those regions were promoted. Examples of such technical co-operation activities are the regional programme for the development of subcontracting in Latin America and the programme for rehabilitating agro-food enterprises in Tunisia which is envisaged to expand to the Maghreb subregion.

19. Approximately 22 per cent of the general-convertible pool was used as seed money for programming non-convertible contributions. Virtually the whole non-convertible segment of the Fund was programmed for training activities that took place in the respective donor countries with the participation of a wide spectrum of developing countries.

20. More than 50 per cent of the special-purpose convertible funds were approved

^{4/} PBC.5/16 and Corr.2.

^{5/} IDB.5/10, chap. VIII, para. 18.

for projects of assistance to Africa. This high figure is due mainly to the approval of the programme of assistance to the leather and leather products sector mentioned above, which alone amounts to \$12.2 million. The financing of this programme proves that special-purpose donors award priority to projects which are expected to have a greater impact than traditional technical assistance.

21. The breakdown by region shows that high priority was also awarded by special-purpose donors to projects of assistance to Africa and to global and interregional projects having an impact on a large number of countries. The breakdown by programme component indicates that highest consideration was awarded to the following priority areas: development and transfer of industrial technology and industrial information, promotional activities and training.

TRUST FUNDS AND SELF-FINANCING ARRANGEMENTS

22. In 1989, the self-financed and third-party-financed trust fund schemes, which started off in 1987 and gathered momentum in 1988, ^{6/} began to take up a significant share in the total technical co-operation activities of UNIDO: the net value of project approvals under these schemes rose steadily from \$3.7 million (3 per cent of UNIDO total approvals) in 1987 to \$11.8 million (7 per cent) in 1988 and \$41.4 million (24 per cent) in 1989, while expenditure on technical co-operation activities increased from \$6.1 million (6 per cent of UNIDO total expenditure) in 1987 to \$14.2 million (12 per cent) in 1988 and \$16.5 million (12 per cent) in 1989. The programme forecasts for the special trust fund technical co-operation activities for the biennium 1988-1989 have thus been fully met and there are strong indications for rapid future growth of this programme.

23. Attracted by the flexibility and the emphasis on direct and speedy negotiations that characterize the trust fund schemes, a growing number of companies - in both the public and private sectors - as well as development finance institutions and donor agencies are utilizing UNIDO services under these schemes for the development and implementation of projects that often go beyond the boundaries of traditional technical co-operation. The

aim of these arrangements is to provide technical assistance in various forms of industrial partnership whose risks and uncertainties are reduced by the intermediary role of UNIDO. Assistance provided should result in a better performing and viable plant - in the case of an existing plant - or in a technically and commercially sound development plan - in the case of an expansion programme or a new facility. Examples of such projects which were initiated or implemented during 1989 are given below.

24. Work was carried out for developing a project that led to an agreement between a public sector company in Egypt and a private company in India on a joint venture for setting up a phosphoric acid plant in Egypt. The plant would utilize Egyptian phosphate rock and export the entire phosphoric acid produced to India. The project has an estimated investment value of \$95 million. In Saudi Arabia, expert assistance that was given to a private company under the self-financed trust fund scheme should lead to a multi-million dollar investment in glass manufacture. In Cameroon, similar assistance in project planning - including techno-economic analysis and a market study - was provided to a private industrial group for the establishment of a pharmaceutical dosage-form manufacturing plant. As a result, a letter of intent for technical partnership was concluded between the Cameroonian industrial group and a Swedish company, which is equipped with a new concept and know-how for high quality pharmaceutical production in the developing countries. Further, financing for the project has been secured through UNIDO's intervention, whereby a substantial proportion of the capital cost of the project would be provided as equity and loans by Swedfund and the International Finance Corporation.

25. Also under the self-financed trust fund scheme, UNIDO continued to assist the cement industry in several developing countries; four cement plants in the Libyan Arab Jamahiriya, two in Egypt, two in Nigeria and one in Yemen were provided with expert teams for process optimization, plant performance improvement and training of local personnel in operational and maintenance methods and procedures. As a result, production increased more than twofold in two of the plants (Egypt and Nigeria), while the plant in Yemen made a saving of \$2.4 million in spare parts purchases costing over \$13 million. In addition, a four-week training programme in cement technology was organized in co-operation with the Turkish Cement Manufacturers' Association.

^{6/} IDB.4/10, chap. VIII, paras. 22-26; IDB.5/10, chap. VIII, paras. 19-21.

26. A major achievement, also under the self-financed trust fund scheme, was the agreement to provide technical support to the new Iraqi \$2.5 billion petrochemical complex near Baghdad. UNIDO will provide specialists in project implementation, start-up planning, co-ordination of facilities on-site and off-site, and other project requirements. An agreement was also signed for the provision of senior advisers to support the operation of the Misurata Iron and Steel Complex in the Libyan Arab Jamahiriya, while negotiations reached an advanced stage for the provision of technical assistance to a private steel rolling mill in Peru. Further, advisory services were provided on the introduction of a CAD/CAM system for a shoe factory in Hungary, and on the technical and financial assessment of privatizing a tyre factory in Turkey.

27. The third-party-financed trust fund scheme continued to receive increasing support from donor agencies. Encouraging results emerged from agro-industry projects in Africa financed by the Government of Japan. Using its own methodology for assessing and programming integrated production and consumption systems (MEPS), 7/ UNIDO carried out an in-depth analysis for development of the fisheries industry in Senegal. The study identified policy measures, investment requirements and the technical co-operation activities required. Progress was made in a trust fund project, financed by the Danish International Development Agency, on assessing the potentials for rehabilitating individual plants in various sectors in Cameroon, Nicaragua, and the United Republic of Tanzania. 8/ Work on project identification and formulation for specific aspects of industrial development in Hungary and Poland started in 1989 utilizing substantial contributions from the Government of Japan.

28. There was a growing demand from development finance institutions for UNIDO services to strengthen their industrial activities under trust fund arrangements. In Nigeria, investment opportunity studies were carried out in a number of industrial sectors at the request of the Nigerian Industrial Development Bank that financed the project with funds provided by the World Bank. In Egypt, assistance was initiated at the request of the Misr Iran Bank of Egypt for the rehabilitation of a furniture factory. In Malaysia, the Bank Industri Malaysia Berhad started negotiations to set up a revolving trust fund

with UNIDO to avail itself of UNIDO services in supporting projects being planned by local entrepreneurs. The Islamic Development Bank requested UNIDO to help turn around several industrial enterprises in developing countries in which the Bank had taken equity.

PROGRAMME SUPPORT COSTS

29. The study of the required scope and content of the operational budget and its relationship to the regular budget, prepared by an independent team of experts (see para. 14 above), indicated that on the basis of information available there was uncertainty inside the Organization and among members of the Industrial Development Board as to the financial and programme consequences of a growing volume of technical co-operation projects to be delivered by UNIDO. The report identified the interdependence between the operational budget and the regular budget and showed that in the current zero real-growth situation of the regular budget, a massive increase in the volume of projects would inevitably put additional strains on the regular budget. The report warned that this could reach a point where not enough resources would be left for the other constitutional functions of UNIDO, such as providing technical information, research and publications activities, or the development of new concepts.

30. In analysing the reasons for the growing financial burden on the regular budget of technical co-operation and support costs, the report pointed out that, in contrast to the regular budget, satisfactory arrangements have still not been made to protect the operational budget fully from the strong impact of adverse currency fluctuations. Short-term and long-term solutions were proposed for these problems, including a formula for programme support costs based in principle on the post adjustment system of the United Nations, and improved monitoring of support costs through intensified cost identification.

31. In its conclusion 1989/4 the Programme and Budget Committee welcomed the report and endorsed the Director-General's intention to implement the bulk of the recommendations made.

32. In a parallel effort, and at the invitation of the General Assembly of the United Nations, 9/ the Governing Council of UNDP decided in 1988 to undertake a

7/ IDB.3/10, chap. II, para. 10; IDB.4/10, chap. II, para. 10.

8/ IDB.5/10, chap. VIII, para. 21.

9/ United Nations General Assembly resolution 42/196, para. 34.

review of the support cost issue in order to prepare its forthcoming decision on successor arrangements for the current project support costs system that will expire in 1991. In line with Governing Council decisions 1988/50 and 1989/10, a small expert group was established by UNDP to make proposals on:

(a) The best way for UNDP to provide technical assistance to the developing countries, taking into account the capacity of the United Nations system to provide the required services;

(b) Appropriate compensation arrangements to United Nations agencies, Governments and other providers of services for UNDP-funded projects;

(c) The manner in which UNDP, the executing agencies and Governments would participate in the exercise; and

(d) Alternative arrangements between UNDP, executing agencies and Governments for the execution of UNDP-financed projects and programmes.

The Expert Group on Successor Arrangements for Agency Support Costs presented its report in December 1989 in document DP/1990/9.

33. The secretariats of the United Nations agencies, realizing that the work of the UNDP Expert Group would be of crucial importance to their financial viability, established, through a decision of the Consultative Committee on Substantive Questions (Operational Activities) (CCSQ (OPS)) in 1988, ^{10/} a special task force on support costs under the chairmanship of UNIDO. During 1989, the Task Force not only discussed with UNDP the terms of reference of the Expert Group but has, ever since the creation of the Group, been closely following its work and has held joint sessions with it. The recommendations of the Expert Group were to be submitted to the Governing Council of UNDP at its February 1990 session. At that session the Governing Council would have to decide on the proposal of the Administrator of UNDP to establish an intergovernmental working group to deal with the issue until June 1990 when UNDP might take a decision on arrangements for agency support costs. As regards the involvement of the executing agencies in the deliberations, the Administrative Committee on Co-ordination of the United Nations, at its autumn session of 1989, endorsed the following statement:

^{10/} ACC/1988/14.

"The Administrative Committee on Co-ordination, recognizing that the report of the UNDP Expert Group on Successor Arrangements for Agency Support Costs will not be available before December 1989, and taking account of the fact that some of the governing bodies of the executing agencies of UNDP will only meet late in 1991, wishes to bring the issue of the timetable to the attention of the UNDP Governing Council, with a view to allowing governing bodies of the executing agencies to deal with any possible budgetary and organizational implications of the proposals advanced by the Expert Group. If necessary, such a timetable might envisage the possibility of extending the present support cost system by one year, i.e. until the end of 1992". ^{11/}

34. Technical co-operation delivery in 1989 reached \$133.8 million as compared to \$119.8 million in 1988; thus, the level of technical co-operation delivery increased by 11.7 per cent over the 1988 level. Support costs in 1989, adjusted to a constant exchange rate of US\$1 = AS 15.30, amounted to \$39.1 million as compared to \$33.3 million in 1988; thus, support costs as a percentage of delivery increased by 1.4 per cent over the 1988 level (see table on programme support costs, 1986 to 1989, below). Taking the biennium 1988-1989 as a whole compared with the 1986-1987 biennium, support costs adjusted for exchange rate fluctuations have fallen from 33.8 per cent to 28.5 per cent.

35. A statement of income and expenditures for programme support costs for 1988-1989 will be provided in the financial performance report for the biennium 1988-1989.

B. REGULAR BUDGET

36. Activities other than technical co-operation projects were financed from appropriations from the regular budget of UNIDO. For the biennium 1988-1989 the General Conference approved appropriations of \$32,895,100 plus AS 1,480,937,770 (total equivalent of \$154,283,442 at US\$1 = AS 12.20). During 1989, the actual exchange rate varied from US\$1 = AS 12.50 to US\$1 = AS 14.10. The average exchange rate for the year was US\$1 = AS 13.18. Since the General Conference decided to adopt for the fiscal period 1988-1989 a system of assessment of contributions to

^{11/} ACC/1989/17, para. 23; DP/1990/10.

the regular budget under which each assessment of a Member State is established in United States dollars and in Austrian schillings (decision GC.2/Dec.21), the impact of exchange rate fluctuations continued to be minimal during 1989. UNIDO, however, continued to experience serious cash-flow problems during 1989 as a result of delayed receipt from and withholding of contributions by Member States. As at 31 December 1989, unpaid contributions represented 43 per cent of the 1989 assessments, a deterioration compared with 1988 (32 per cent of the 1988 assessments).

37. Concerning the question of the United Nations loan, ^{12/} the Industrial Development Board agreed that repayment of the loan would be made by minimum annual instalments of \$1 million, beginning 31 July 1990 in conformity with the modality negotiated by the Director-General (decision IDB.5/Dec.22). Additional payments would become due whenever the level of unpaid regular budget assessed contributions to UNIDO

^{12/} IDB.5/10, chap. VIII, para. 30.

fell below an amount equal to the sum of the UNIDO Working Capital Fund and the unpaid balance of the United Nations loan to UNIDO. Furthermore, the Board requested the Director-General to retain the unutilized balance of the 1988-1989 appropriations for use as a first charge on payment of the United Nations loan in 1990 and the unutilized balance in the 1988-1989 outstanding obligations remaining at 31 December 1989 for payment of the United Nations loan in 1991.

38. In November 1989 the General Conference approved, *inter alia*, the programme and budgets 1990-1991 as contained in document GC.3/10 (decision GC.3/Dec.23). At the same time, the Conference decided to continue for the fiscal period 1990-1991 the system of split-currency assessment of contributions to the regular budget (decision GC.3/Dec.19). In accordance with that decision and with computations based on an exchange rate of US\$1 = AS 12.90, the Conference approved the appropriations for the biennium 1990-1991 of \$23,506,800 plus the equivalent in US dollars of AS 1,718,425,770, amounting to a total equivalent of \$156,718,100.

Programme support costs, 1986 to 1989
(in thousands of US dollars)

A. At actual dollar expenditure per year

	1986	1987	1988	1989
Technical assistance delivery	99,600	97,700	119,800	133,800
Support costs <u>a/</u>				
Indirect	6,191	9,234	6,392	13,626
Direct	25,128	31,365	33,045	30,105
TOTAL	31,319	40,599	39,437	43,731
Exchange rate in AS	15.30	12.70	12.20	13.20

B. At a constant exchange rate of US\$1 = AS 15.30

	1986	1987	1988	1989
Total support costs				
Dollar-based	7,203	9,338	9,071	10,058
Schilling-based	<u>24,116</u>	<u>25,949</u>	<u>24,214</u>	<u>29,051</u>
TOTAL	31,319	35,287	33,285	39,109

	1986-1987	1988-1989
Total support costs	66,606	72,394
Technical assistance delivery	197,300	253,600
Support costs as a percentage of technical assistance <u>b/</u>	33.8	28.5

Note: As indicated in the report of the Director-General for 1988, the 1986-1987 biennium, the first biennium of UNIDO as a specialized agency, has been taken as a base. The present report does not take into consideration any changes which might result from a revised methodology for cost identification to be presented by the Director-General to the Programme and Budget Committee in accordance with its conclusion 1989/4.

a/ For 1989, the ACC definitions have been used, whereby for "indirect costs" read "non-technical support" and for "direct costs" read "technical support". The constituent items are not identical, therefore there is a different ratio between the two for 1989.

b/ As the percentage is calculated on the basis of a constant exchange rate, which varies according to the base year (in this case 1986), the support cost as a percentage of technical assistance has changed.

STATISTICAL ANNEX

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TABLE 1. EXPENDITURES, 1972 to 1989
(In millions of US dollars)

	1972-1976	1977-1981	1982-1986	1987	1988	1989
Technical co-operation programmes	141.8	334.4	451.2	97.7	119.8	133.8
United Nations regular programme / UNIDO regular budget	8.7	15.2	23.6	2.1	2.5	6.3 a)
UNDP/IPF and cash counterpart	98.7	229.9	291.3	66.5	74.0	76.8
UNDP/SIS	14.3	17.2	14.4	2.8	3.0	3.0
UNDP/Special programme resources and special measures	3.1	5.3	3.1	0.3	-	0.2
UNDP-administred trust funds	-	3.4	12.9	1.1	1.0	2.3
Other trust funds	6.2	17.9	34.7	6.1	14.2	16.5
UNIDF/IDF	10.8	41.9	63.4	16.6	19.8	23.0
United Nations Fund for Drug Abuse Control (UNFDAC)	-	-	2.2	0.6	2.8	1.2
Non-UNIDO funds	-	3.6	5.6	1.6	2.5	4.5
Headquarters	100.5	202.4	258.2	76.1	71.7	97.7
Regular budget	85.2	160.7	199.8	60.7	56.9	82.1
Overheads	15.3	41.7	58.4	15.4	14.8	15.6
Total expenditure	242.3	536.8	709.4	173.8	191.5	231.5
Technical co-operation programmes as percentage of total expenditure	58.5%	62.3%	63.6%	56.2%	62.6%	57.8%

a) Includes regular programme and Industrial Development Decade for Africa (IDDA) (see appendix C)

TABLE 2. TECHNICAL CO-OPERATION PROGRAMMES: PROJECT BUDGET APPROVALS AND EXPENDITURES, 1972 TO 1989
(In millions of US dollars)

	1972-76	1977-81	1982-86	1987(a)	1988	1989
A. All sources of funds						
1. Residual value of projects brought forward	37.4	72.8	136.4	155.9	175.4	217.0
2. Value of project budgets approved in the year (net)	177.2	398.0	470.6	117.2	161.4	169.5
3. Total of approved projects under implementation	214.6	470.8	607.0	273.1	336.8	386.5
4. Expenditures in the year	141.8	334.4	451.1	97.7	119.8	133.8
5. Residual value of projects carried forward	72.8	136.4	155.9	175.4	217.0	252.7
B. United Nations regular programme (b) / UNIDO regular budget						
1. Residual value of projects brought forward	-	-	-	1.2	-	4.6
2. Value of project budgets approved in the year (net)	8.7	15.2	24.8	0.9	7.1	1.7
3. Total of approved projects under implementation	8.7	15.2	24.8	2.1	7.1	6.3
4. Expenditures in the year	8.7	15.2	23.6	2.1	2.5	6.3
5. Residual value of projects carried forward	-	-	1.2	-	4.6	-
C. UNDP/IPF and cash counterpart						
1. Residual value of projects brought forward	29.7	59.8	105.8	99.3	116.0	151.5
2. Value of project budgets approved in the year (net)	128.8	275.9	284.8	83.2	109.5	78.6
3. Total of approved projects under implementation	158.5	335.7	390.6	182.5	225.5	230.1
4. Expenditures in the year	98.7	229.9	291.3	66.5	74.0	76.8
5. Residual value of projects carried forward	59.8	105.8	99.3	116.0	151.5	153.3

D. UNDP/SIS (c)						
1. Residual value of projects brought forward	5.3	5.8	2.8	3.1	2.1	2.5
2. Value of project budgets approved in the year (net)	14.8	14.2	14.7	1.8	3.4	5.2
3. Total of approved projects under implementation	20.1	20.0	17.5	4.9	5.5	7.7
4. Expenditures in the year	14.3	17.2	14.4	2.8	3.0	3.0
5. Residual value of projects carried forward	5.8	2.8	3.1	2.1	2.5	4.7

E. UNDP/Special programme resources and special measures						
1. Residual value of projects brought forward	-	1.7	0.9	0.3	-	-
2. Value of project budgets approved in the year (net)	4.8	4.5	2.5	-	-	0.7
3. Total of approved projects under implementation	4.8	6.2	3.4	0.3	-	0.7
4. Expenditures in the year	3.1	5.3	3.1	0.3	-	0.2
5. Residual value of projects carried forward	1.7	0.9	0.3	-	-	0.5

F. UNDP-administered trust funds (d)						
1. Residual value of projects brought forward	-	-	4.7	1.5	0.1	0.1
2. Value of project budgets approved in the year (net)	-	8.1	9.7	(0.1)	1.0	3.0
3. Total of approved projects under implementation	-	8.1	14.4	1.4	1.1	3.1
4. Expenditures in the year	-	3.4	12.9	1.3	1.0	2.3
5. Residual value of projects carried forward	-	4.7	1.5	0.1	0.1	0.8

	1972-76	1977-81	1982-86	1987(a)	1988	1989
G. Other trust funds (e)						
1. Residual value of projects brought forward	0.4	1.3	5.7	28.7	26.4	24.0
2. Value of project budgets approved in the year (net)	7.1	22.3	57.7	3.7	11.8	41.4
3. Total of approved projects under implementation	7.5	23.6	63.4	32.4	38.2	65.4
4. Expenditures in the year	6.2	17.9	34.7	6.0	14.2	16.5
5. Residual value of projects carried forward	1.3	5.7	28.7	26.4	24.0	48.9
H. UNDP (f) / ID						
1. Residual value of projects brought forward	2.0	4.2	14.6	17.6	22.3	28.9
2. Value of project budgets approved in the year (net)	13.0	52.3	66.4	21.3	26.4	31.7
3. Total of approved projects under implementation	15.0	56.5	81.0	38.9	48.7	60.6
4. Expenditures in the year	10.8	41.9	63.4	16.6	19.8	23.0
5. Residual value of projects carried forward	4.2	14.6	17.6	22.3	28.9	37.6
I. UNFPA						
1. Residual value of projects brought forward	-	-	-	0.3	0.1	0.9
2. Value of project budgets approved in the year (net)	-	-	2.5	0.4	3.6	1.6
3. Total of approved projects under implementation	-	-	2.5	0.7	3.7	2.5
4. Expenditures in the year	-	-	2.2	0.6	2.8	1.2
5. Residual value of projects carried forward	-	-	0.3	0.1	0.9	1.3

	1972-76	1977-81	1982-86	1987(a)	1988	1989
J. Non-UNIDO funds (g)						
1. Residual value of projects brought forward	-	-	1.9	4.0	8.4	4.5
2. Value of project budgets approved in the year (net)	-	5.5	7.6	6.0	(1.4)	5.6
3. Total of approved projects under implementation	-	5.5	9.5	10.0	7.0	10.1
4. Expenditures in the year	-	3.6	5.5	1.6	2.5	4.5
5. Residual value of projects carried forward	-	1.9	4.0	8.4	4.5	5.6

- (a) Some of the 1987 figures differ slightly from those reflected in document IDB.4/10 owing to minor accounting adjustments.
- (b) Excludes the value of projects approved but not implemented within the year (prior to 1978) or within the biennium (after 1977), as appropriate.
- (c) Includes SIS trust funds prior to 1973.
- (d) Includes United Nations Trust Fund for Sudano-Sahelian Activities; United Nations Financing System for Science and Technology for Development; UNDP trust fund for projects financed by the United Nations Development Fund for Women; United Nations Capital Development Fund; third-party trust funds.
- (e) Includes special-purpose trust funds financed by recipient or third parties; government cash counterpart contribution paid to UNIDO; United Nations Population Fund; projects financed from World Bank loans.
- (f) Includes UNIDO General Trust Fund.
- (g) Includes projects executed by other agencies for which UNIDO is the associated or co-operating agency.

TABLE 3A. TECHNICAL CO-OPERATION ACTIVITIES: PROJECTS APPROVED IN 1988 AND 1989, BY SOURCE OF FUNDS

Source of funds	New projects approved			Existing projects revised			Total net value of approvals/ revisions (\$000)
	Number of projects	Net value of approvals (\$000)	Average value of approvals (\$000)	Number of Projects	Net value of revisions (\$000)	Average value of revisions (\$000)	
	----- 1988 -----						
UNIDO regular budget	123	7,110	58	-	-	-	7,110
UNDP/IPF and cash counterpart	162	67,451	416	689	42,067	61	109,518
UNDP/SIS	95	3,664	39	131	(282)	(2)	3,382
UNDP/Special programme resources and special measures	-	-	-	6	6	1	6
UNDP-administered trust funds	12	987	82	15	38	3	1,025
Other trust funds	57	9,255	162	90	2,578	29	11,833
IDF	194	24,714	127	343	1,673	5	26,387
UNFDAC	12	3,454	288	1	131	131	3,585
Non-UNIDO funds	21	1,780	85	34	(3,193)	(94)	(1,413)
TOTAL	676	118,415	175	1,309	43,018	33	161,433
	----- 1989 -----						
UNIDO regular budget	105	3,644	35	76	90	1	3,734 a)
UNDP/IPF and cash counterpart	123	47,322	385	720	31,248	43	78,570
UNDP/SIS	84	4,934	59	123	215	2	5,149
UNDP/Special programme resources and special measures	3	691	230	4	5	1	696
UNDP-administered trust funds	19	2,931	154	25	116	5	3,047
Other trust funds	64	45,033	704	110	(3,634)	(33)	41,399
IDF	179	31,957	179	345	(224)	(1)	31,733
UNFDAC	13	1,754	135	7	(142)	(20)	1,612
Non-UNIDO funds	18	5,548	308	44	44	1	5,592
TOTAL	608	143,814	237	1,454	27,718	19	171,532

a) From the UNIDO regular budget, \$ 2.0 million lapsed at the end of the biennium 1988-1989 and are subject to re-approval in 1990-1991.

TABLE 3B. TECHNICAL CO-OPERATION ACTIVITIES: COMPARISON OF THE VALUE OF PROJECTS AS AT 31 DECEMBER 1988 AND 31 DECEMBER 1989, BY SOURCE OF FUNDS

	Number of projects		Total value of projects (\$000)		Average value of projects (\$000)	
	1988	1989	1988	1989	1988	1989
UNIDO regular budget	127	231	7,195	10,929 a)	57	47
UNDP/IPF and cash counterpart	926	922	556,689	578,424	601	627
UNDP/SIS	266	271	10,439	12,789	39	47
UNDP/Special programme resources and special measures	9	8	2,767	2,379	307	297
UNDP-administered trust funds	40	52	14,817	15,115	370	291
Other trust funds	191	228	60,854	92,224	319	404
IDF	713	677	88,943	107,048	125	158
UNEP/DAC	15	28	5,501	7,113	367	254
Non-UNIDO funds	80	84	14,282	18,086	179	215
	-----	-----	-----	-----	-----	-----
TOTAL	2,367	2,501	761,487	844,107	322	338

a) From the UNIDO regular budget, \$ 2.0 million lapsed at the end of the biennium 1988-1989 and are subject to re-approval in 1990-1991.

The following is a breakdown
by status of projects:

	Number of projects		Total value of projects (\$000)	
	1988	1989	1988	1989
New and ongoing	1,531	1,628	562,350	633,887
Operationally completed	254	181	76,178	47,008
Financially completed	582	692	122,959	163,212
	-----	-----	-----	-----
TOTAL	2,367	2,501	761,487	844,107

TABLE 4. EXPENDITURE ON TECHNICAL CO-OPERATION ACTIVITIES IN 1988 AND 1989,
BY SOURCE OF FUNDS AND PROJECT COMPONENT

Source of funds	Project personnel		Subcontracts	Fellowships and training	Equipment	Miscellaneous expenses	Total
	Number of experts' work-months	\$000					
----- 1988 -----							
UNIDO regular budget	42.6	560	239	610	971	133	2,513
UNDP/IPF and cash counterpart	4,982.0	26,160	7,483	10,034	28,156	2,128	73,961
UNDP/SIS	219.6	2,073	337	209	233	124	2,976
UNDP/Special programme resources and special measures	3.6	19	-	-	-	7	26
UNDP-administered trust funds	8.0	133	21	729	97	24	1,004
Other trust funds	2,947.2	11,956	244	353	1,647	(13)	14,187
IDF	882.5	7,124	4,943	5,033	1,885	864	19,849
UNFDAC	31.6	160	54	120	2,424	40	2,798
Non-UNIDO funds	104.5	1,041	124	824	429	48	2,466
TOTAL	9,221.6	49,226	13,445	17,912	35,842	3,355	119,780
----- 1989 -----							
UNIDO regular budget	220.2	2,685	728	1,776	914	220	6,323
UNDP/IPF and cash counterpart	4,057.3	25,930	12,897	10,718	25,391	1,817	76,753
UNDP/SIS	211.4	2,098	310	221	252	80	2,961
UNDP/Special programme resources and special measures	12.0	107	-	-	45	3	155
UNDP-administered trust funds	34.7	218	958	963	174	30	2,343
Other trust funds	3,862.2	13,706	319	449	1,968	67	16,509
IDF	941.3	8,256	2,834	5,271	5,552	1,072	22,985
UNFDAC	0.4	50	6	23	1,109	8	1,196
Non-UNIDO funds	130.9	1,295	395	808	2,028	31	4,557
TOTAL	9,470.4 a)	54,345	18,447	20,229	37,433	3,328	133,782

a) Categories are as follows:

	Work-months
International experts and consultants	7,624.5
Operational assistance experts	11.1
National experts	1,834.8
TOTAL	9,470.4

TABLE 5. EXPENDITURE ON TECHNICAL CO-OPERATION ACTIVITIES IN 1989, BY SOURCE OF FUNDS AND DEPARTMENT/PROGRAMME COMPONENT

(In thousands of US dollars)

Department/Programme component	Regular budget	UNDP/IPF and cash counterpart	UNDP/SIS	UNDP/Special programme resources and special measures	UNDP-administered trust funds	Other trust funds	IDF	UNFPA	Non-UNIDO funds	Total
Executive Direction and Management	-	121	-	-	-	29	44	-	-	194
Programme and Project Development	397	74	50	-	-	2,215	711	-	-	3,447
Industrial Promotion, Consultations and Technology										
Industrial Investment	31	922	86	-	-	414	4,063	-	-	5,516
System of Consultations	59	-	-	-	-	26	477	-	-	562
Industrial Technology Promotion	695	134	22	-	-	43	8	-	-	902
Industrial Technology Development	48	59	-	-	-	4,015	1,350	-	-	5,472
Subtotal	833	1,115	108	-	-	4,498	5,898	-	-	12,452
Industrial Operations										
Agro-based Industries	161	8,489	348	-	5	254	5,067	17	273	14,614
Chemical Industries	919	16,684	770	-	-	6,895	3,961	-	903	30,132
Metallurgical Industries	342	7,411	310	-	198	86	646	-	133	9,126
Engineering Industries	505	13,564	628	-	1,364	475	461	-	219	17,216
Industrial Planning	66	6,423	199	126	16	628	506	-	184	8,148
Institutional Infrastructure	282	11,919	186	-	-	668	1,390	-	503	14,948
Industrial Management and Rehabilitation	217	5,834	290	29	-	438	153	-	580	7,541
Feasibility Studies	883	4,413	61	-	-	333	955	-	333	6,978
Industrial Human Resource Development	1,702	706	11	-	760	11	3,158	-	24	6,372
Subtotal	5,077	75,443	2,803	155	2,343	9,788	16,297	17	3,152	115,075
External Relations, Public Information, Language and Documentation Services	4	-	-	-	-	-	32	-	-	36
Other	12	-	-	-	-	(21)	3	1,179	1,405	2,578
TOTAL	6,323	76,753	2,961	155	2,343	16,509	22,985	1,196	4,557	133,782

TABLE 6. EXPENDITURE ON TECHNICAL CO-OPERATION ACTIVITIES IN 1989, BY DEPARTMENT/PROGRAMME COMPONENT AND GEOGRAPHICAL AREA

(In thousands of US dollars)

Department/Programme component	Africa a)	Latin America and the Caribbean	Arab States b)	Asia and the Pacific	Europe	Global and Interregional	Total
Executive Direction and Management	151	-	-	-	-	43	194
Programme and Project Development	637	95	159	(6)	1,057	17	1,488
Industrial Promotion, Consultations and Technology							
Industrial Investment	118	797	53	-	437	8	4,103
System of Consultations	2	26	14	-	-	1	519
Industrial Technology Promotion	730	(1)	79	(79)	116	14	43
Industrial Technology Development	28	22	-	(1)	16	-	5,407
Subtotal	878	844	146	(80)	569	23	10,072
Industrial Operations							
Agro-based Industries	6,883	1,465	1,390	(1,319)	5,739	219	237
Chemical Industries	12,209	1,882	7,818	(7,510)	13,045	1,223	1,465
Metallurgical Industries	2,112	591	862	(751)	5,447	192	673
Engineering Industries	5,979	1,570	2,287	(1,580)	7,292	1,466	202
Industrial Planning	4,639	1,544	523	(137)	1,231	26	322
Institutional Infrastructure	6,070	2,372	2,399	(574)	3,358	238	1,085
Industrial Management and Rehabilitation	2,536	1,485	983	(726)	2,840	359	64
Feasibility Studies	3,609	88	2,042	(605)	1,364	1	480
Industrial Human Resource Development	2,713	139	36	(13)	202	295	3,000
Subtotal	46,750	11,136	18,340	(13,216)	40,518	4,019	7,528
External Relations, Public Information, Language and Documentation Services	25	-	-	-	4	-	7
Other	684	-	634	(423)	1,457	232	(6)
TOTAL	49,125	12,075	19,279	(13,725)	43,605	4,291	19,132
							133,782

- a) Includes figures related to country projects in African Arab States.
 b) Figures in parentheses relate to country projects in African Arab States only and are deducted from the column "Total" since they are already included under "Africa".

TABLE 7. EXPENDITURE ON TECHNICAL CO-OPERATION ACTIVITIES, BY GEOGRAPHICAL AREA, 1982 TO 1989

(In thousands of US dollars)

Area		1982	1983	1984	1985	1986	1987	1988	1989
Africa									
Country projects	a)	29,137	25,683	25,100	31,431	31,674	29,102	34,042	40,802
Regional projects		1,828	1,773	4,713	5,791	4,069	3,468	4,389	8,323
	Subtotal	30,965	27,456	30,013	37,222	35,743	32,570	38,431	49,125
Latin America and the Caribbean									
Country projects		9,601	9,168	7,987	11,082	9,402	8,463	9,653	11,029
Regional projects		1,141	877	1,013	936	1,148	839	1,137	1,046
	Subtotal	10,742	10,045	9,000	12,018	10,550	9,302	10,790	12,075
Arab States									
Country projects		10,726	11,274	11,807	11,448	11,153	11,934	17,714	19,107
Regional projects		997	593	1,104	532	731	616	299	172
Country projects (African Arab States)	b)	(6581)	(7030)	(8,806)	(9,123)	(8,505)	(9,560)	(12,753)	(13,725)
	Subtotal	5,142	4,837	4,105	2,857	3,379	2,990	5,260	5,554
Asia and the Pacific									
Country projects		32,658	23,599	29,795	29,313	35,419	36,620	41,974	41,506
Regional projects		1,034	1,062	1,437	1,088	1,654	1,311	1,953	2,099
	Subtotal	33,692	24,661	31,232	30,401	37,073	37,931	43,927	43,605
Europe									
Country projects		3,241	2,513	3,609	3,047	3,022	2,307	2,845	3,776
Regional projects		410	248	49	39	208	318	432	515
	Subtotal	3,651	2,761	3,658	3,086	3,230	2,625	4,277	4,291
Global and interregional projects		7,687	8,259	9,183	8,884	9,625	12,308	17,095	19,132
	TOTAL	91,879	78,019	87,191	94,468	99,600	97,726	119,780	133,782

a) Includes African Arab States.

b) Figures deducted since already included under "Africa".

TABLE 8. TECHNICAL CO-OPERATION ACTIVITIES: PROJECT EXPENDITURE IN 1989
(In thousands of US dollars)

	Africa a)	Latin America and the Caribbean	Arab States b)	Asia and the Pacific	Europe	Global and Interregional	Total
----- A. By source of funds and geographical area -----							
UNIDO regular budget	4,627	135	476 (319)	672	71	661	6,323
UNDP/IPF and cash counterpart	26,337	8,500	10,553 (6,180)	34,134	3,409	-	76,753
UNDP/SIS	864	880	262 (114)	573	496	-	2,961
UNDP/Special programme resources and special measures	-	-	29 -	126	-	-	155
UNDP-administred trust funds	27	-	-	1,301	-	1,015	2,343
Other trust funds	8,861	599	6,198 (6,107)	1,268	70	5,620	16,509
IDF	7,041	1,323	957 (516)	2,331	13	11,836	22,985
UNEDMC	684	17	634 (424)	53	232	-	1,196
Non-UNIDO funds	684	621	170 (65)	3,147	-	-	4,557
TOTAL	49,125	12,075	19,279 (13,725)	43,605	4,291	19,132	133,782
----- B. By project component and geographical area -----							
Project personnel	22,695	6,859	11,204 (7,809)	11,186	794	9,416	54,345
Subcontracts	7,114	811	1,864 (1,697)	8,573	177	1,605	18,447
Fellowships and training	4,849	1,084	1,092 (659)	8,019	1,030	4,814	20,229
Equipment	13,095	2,930	4,794 (3,307)	15,294	2,221	2,406	37,433
Miscellaneous	1,372	391	325 (253)	533	69	891	3,328
TOTAL	49,125	12,075	19,279 (13,725)	43,605	4,291	19,132	133,782

a) Includes figures related to country projects in African Arab States.

b) Figures in parentheses relate to country projects in African Arab States only and are deducted from the column "Total" since they are already included under "Africa".

TABLE 9. EXPENDITURE OF REGULAR BUDGET AND OPERATIONAL BUDGET IN 1989,
BY DEPARTMENT/PROGRAMME COMPONENT AND OBJECT OF EXPENDITURE a/
(In thousands of US dollars)

Department/programme component	Staff costs	Consul- tants	Expert group meetings	Other	Total
Policy-making Organs	210	-	-	923	1,133
Executive Direction and Management	2,338	297	274	565	3,474
Programme and Project Development					
Special Measures and Activities	1,369	275	-	619	2,263
Area Programmes	5,739	685	212	550	7,186
Industrial Policy and Perspectives	3,638	1,091	37	355	5,121
Industrial Co-operation and Funds Mobilization	1,748	111	-	59	1,918
ICFM/Industrial Co-operation	1,082	155	32	160	1,429
Office of the Deputy Director-General	510	27	-	63	600
Subtotal	14,086	2,344	281	1,806	18,517
Industrial Promotion, Consultations and Technology					
Industrial Investment	1,579	438	65	99	2,181
System of Consultations	1,830	296	214	254	2,594
Industrial Technology Promotion	1,903	632	245	137	2,917
Industrial Technology Development	1,367	362	138	284	2,151
Office of the Deputy Director-General	928	113	-	125	1,166
Subtotal	7,607	1,841	662	899	11,009
Industrial Operations					
Industrial Operations Technology	5,728	177	60	305	6,270
Industrial Institutions and Services	3,134	322	171	111	3,738
Industrial Operations Support	7,310	166	89	239	7,804
Interregional Advisers	624	-	-	118	742
Office of the Deputy Director-General	2,322	245	18	164	2,749
Subtotal	19,118	910	338	937	21,303
External Relations, Public Information, Language and Documentation Services					
External Relations	1,553	-	-	208	1,761
Public Relations and Information	596	-	-	270	866
Languages and Documentation	6,893	-	-	99	6,992
Office of the Deputy Director-General	597	-	-	31	628
Subtotal	9,639	-	-	608	10,247
Administration					
Personnel Services	2,059	8	-	541	2,608
Financial Services	3,784	18	-	43	3,845
General Services	8,530	-	-	21,194	29,724
Electronic Data Processing and Office Automation	1,352	239	-	1,105	2,696
Office of the Deputy Director-General	1,391	14	-	2,604	4,009
Subtotal	17,116	279	-	25,487	42,882
Total expenditures	70,114	5,671	1,555	31,225	108,565
Other income					10,811
GRAND TOTAL					97,754

a/ Expenditures for technical co-operation (IDDA and the regular programme) excluded.

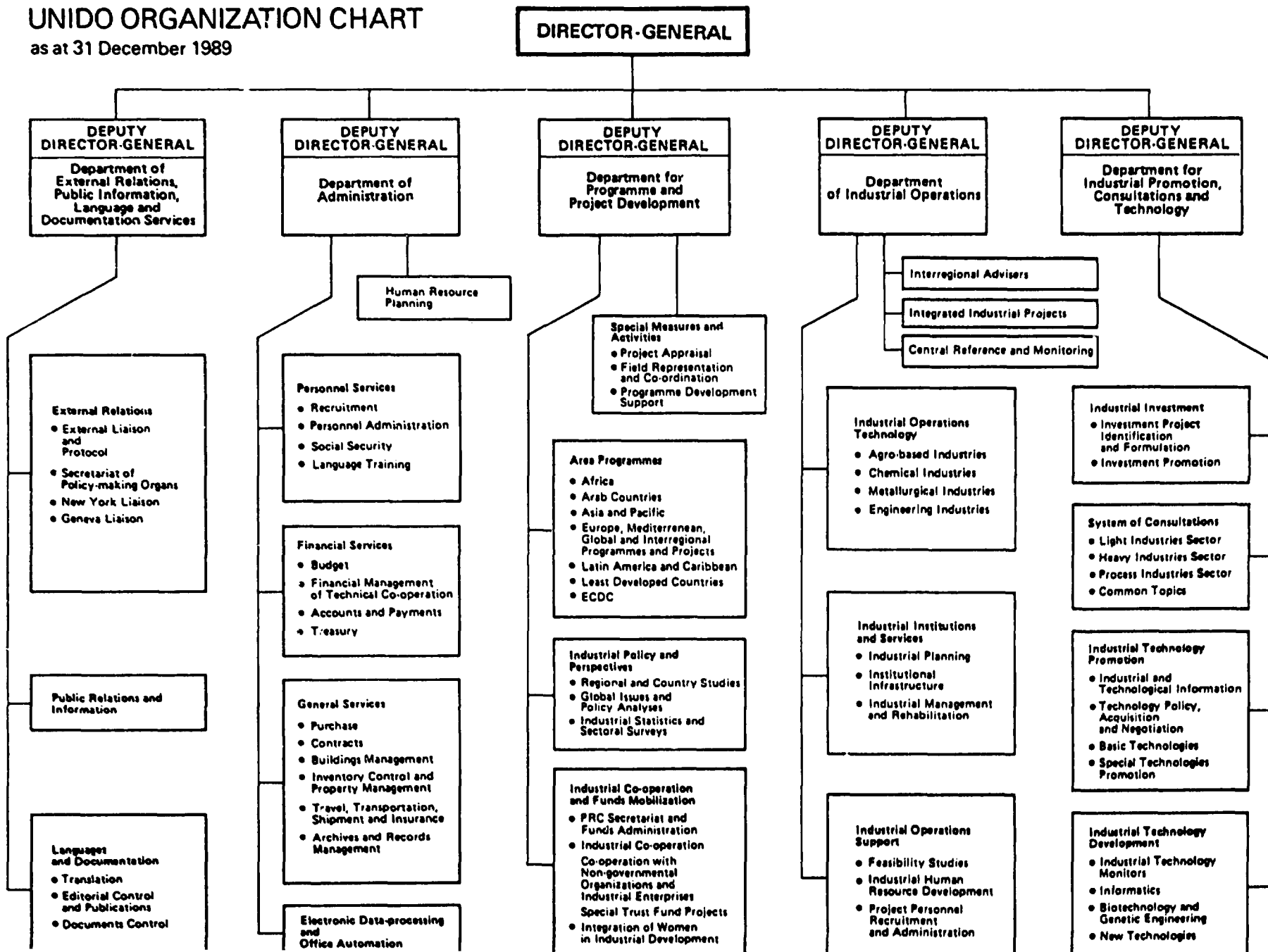
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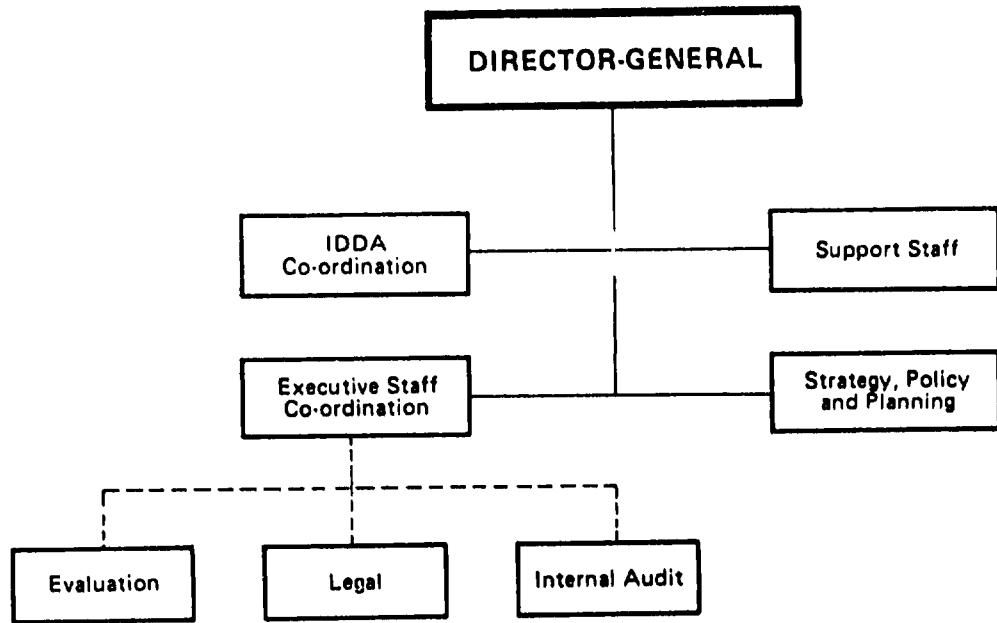
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UNIDO ORGANIZATION CHART

as at 31 December 1989





APPENDIX B

EXPERT GROUP MEETINGS, SYMPOSIA, SEMINARS, WORKSHOPS, COURSES AND
OTHER MEETINGS OF A NON-TRAINING CHARACTER HELD DURING 1989

Date		Place
OFFICE OF THE DIRECTOR-GENERAL		
24-26 April	Special Advisory Group to the Director-General, third session	Vienna Austria
22-26 May	Meeting of the Intergovernmental Committee of Experts of the Whole on Industrialization in Africa	Harare Zimbabwe
29-31 May	Ninth meeting of the Conference of African Ministers of Industry	Harare Zimbabwe
25-29 September	Meeting of high-level experts on the formulation, planning, negotiation, implementation and monitor- ing of multinational industrial projects in Africa	Vienna Austria
30 October - 3 November	Follow-up subregional meeting on the promotion of intra-African industrial co-operation within the framework of the Industrial Development Decade for Africa	Dakar Senegal
28 November - 2 December	Follow-up subregional meeting on the promotion of intra-African industrial co-operation within the framework of the Industrial Development Decade for Africa	Bamenda Cameroon
DEPARTMENT OF EXTERNAL RELATIONS, PUBLIC INFORMATION, LANGUAGE AND DOCUMENTATION SERVICES		
10-14 April	Programme and Budget Committee, fifth session	Vienna Austria
27 June - 6 July	Industrial Development Board, fifth session	Vienna Austria
3-4 October	European regional meeting of representatives of National Committees for UNIDO	Warsaw Poland
20-24 November	General Conference, third session	Vienna Austria
24 November	Industrial Development Board, third special session	Vienna Austria
DEPARTMENT FOR PROGRAMME AND PROJECT DEVELOPMENT		
<u>Area Programmes Division</u>		
3-7 April	First meeting of the Action Committee on Raw Materials of the Group of 77	Abuja Nigeria
8-12 May	Working meeting on co-operation on production and application of machine tools among selected developing countries	Shanghai China

Date		Place
12-16 June	Workshop on industrial co-operation among selected Asian developing countries	Seoul Republic of Korea
3-4 July	Evaluation meeting on the establishment of the African iron and steel association	Vienna Austria
16-20 October	Meeting on co-operation between Middle Eastern and North African countries on research and development in the petrochemical industries	Aliaga-Izmir Turkey
6-10 November	Working meeting on co-operation in the field of agro-industries between Brazil and African countries	Sao Paulo Brazil
12-16 November	African expert group meeting for establishing the African iron and steel association	Algiers Algeria
16-24 November	Workshop on the industrialization of least developed countries	Vienna Austria
11-15 December	Solidarity ministerial meeting for co-operation in the industrial development of the Republic of Guinea	Conakry Guinea
<u>Industrial Policy and Perspectives Division</u>		
1-3 March	Regional forecasting workshop	Beijing China
8-10 March	Round-table meeting on industrial rehabilitation	Lusaka Zambia
4-7 April	Expert group meeting on prospects for industrialization policies in developing countries taking into account the impact of developments in the field of new and high technologies	Vienna Austria
11-12 May	Seminar on future industrial strategies and policies for Ecuador	Quito Ecuador
4-9 September	Ninth international conference on input-output techniques	Keszthely Hungary
12 September	Informal meeting on industrial rehabilitation in Africa	Vienna Austria
26 September	Seminar on Thai textile industry: for growth and development	Bangkok Thailand
11-13 October	Seminar on prospects for the Palestinian industrial sector	Vienna Austria
<u>Industrial Co-operation and Funds Mobilization Division</u>		
10-14 April	Seminar on co-operation opportunities among industrial co-operatives from Latin American countries	San José Costa Rica
23-29 April	Joint UNIDO/Swissrail workshop on railway transport development <u>a/</u>	Zurich Switzerland

a/ Organized jointly with Industrial Operations Technology Division.

Date		Place
7-8 June	National symposium on human resources for Zimbabwe's industrial development - the role of women	Kadoma Zimbabwe
4-8 September	Workshop on enterprise-to-enterprise co-operation in the food-processing sector, with particular reference to grains, meat-, fruit- and vegetable-processing	Novi Sad Yugoslavia
7-8 December	<u>Ad hoc</u> expert group meeting on the construction industry	Vienna Austria
18-20 December	<u>Ad hoc</u> expert group meeting on co-operation between industrial enterprises from developed and developing countries	Vienna Austria
DEPARTMENT OF INDUSTRIAL OPERATIONS		
<u>Office of the Deputy Director-General</u>		
3-5 July	Expert group meeting to review UNIDO's proposed environment programme	Vienna Austria
<u>Industrial Operations Technology Division</u>		
9-13 January	Meeting of the expert group on the design, development and manufacture of simple food processing and preserving equipment	Lusaka Zambia
12-14 June	Seminar for upgrading the shoe industry in Egypt	Cairo Egypt
12-15 June	Third permanent working group meeting on computerized maintenance management systems in the iron and steel industry	Kladno Czechoslovakia
11-16 September	Workshop on latest developments in the field of welding and electrosmelting technology	Kiev Union of Soviet Socialist Republics
3-5 October	National seminar on industrial maintenance, production engineering, the manufacture of spare parts and training	Asuncion Paraguay
17-21 October	Second world congress on non-metallic minerals	Beijing China
25-27 October	Workshop on the establishment of a metallurgical technology centre for countries of the Preferential Trade Area for Eastern and Southern African States	Lusaka Zambia
20-24 November	Workshop of the heads of metal industry development and service institutions	Manila Philippines
4-6 December	Workshop on liquid natural rubber	Abidjan Côte d'Ivoire
<u>Industrial Institutions and Services Division</u>		
18-23 January	Seminar on promotion and development of export processing zones <u>b/</u>	Xiamen China

b/ Organized jointly with Industrial Co-operation and Funds Mobilization Division.

Date		Place
13-17 February	National seminar on industrial strategy in the People's Republic of the Congo	Brazzaville Congo
4-8 September	National workshop on industrial strategies and policies for Nigeria	Abuja Nigeria
23-27 October	High-level expert group meeting on computer-aided tools of environmental impact assessment for industrial planning	Kiev Union of Soviet Socialist Republics
27 November - 2 December	Interregional workshop on computer-aided tools for industrial planning	Havana Cuba
27-28 November	Regional programme on industrial automation of the capital goods industry in Latin America	Vienna Austria
11-15 December	Regional workshop on strategic management of the adjustment process in the industrial sector in Africa	Vienna Austria
<u>Industrial Operations Support Division</u>		
1-9 June	Regional workshop on preparation and evaluation of pre-investment studies	Douala Cameroon
15-24 November	Regional workshop on preparation and evaluation of pre-investment studies	Nairobi Kenya
29 November - 1 December	Meeting of host training institutions and placement agencies	Vienna Austria
11-15 December	Co-ordination meeting of COMFAR trainers	Vienna Austria
DEPARTMENT FOR INDUSTRIAL PROMOTION, CONSULTATIONS AND TECHNOLOGY		
<u>Industrial Investment Division</u>		
25 January	Country presentation meeting - Brazil	Paris France
1 February	Country presentation meeting - Indonesia	Paris France
7-8 February	Country presentation meeting - Ecuador, Mauritius	Marseille France
8-10 February	Country presentation meeting - Nepal	Milan Italy
15 February	Country presentation meeting - Nepal	Munich Federal Republic of Germany
15 February	Country presentation meeting - Nepal	Stuttgart Federal Republic of Germany
15 February	Country presentation meeting - Nepal	Heilbronn Federal Republic of Germany

Date		Place
15 February	Country presentation meeting - Nepal	Cologne Federal Republic of Germany
15 February	Country presentation meeting - Brazil, Philippines	Paris France
24 February	Country presentation meeting - Nepal	Rudersberg Federal Republic of Germany
24 February	Country presentation meeting - Nepal	Remscheid Federal Republic of Germany
27 February - 3 March	Country presentation meeting - Nepal	Washington, D.C. United States of America
6 March	Country presentation meeting - Guatemala	Seoul Republic of Korea
15-17 March	Country presentation meeting - Bangladesh	Tokyo Japan
20 March	Country presentation meeting - Brazil	Paris France
5-12 April	Investment project promotion meeting for China at the Hanover Fair	Hanover Federal Republic of Germany
10 April	Country presentation meeting - Sri Lanka	Seoul Republic of Korea
16 April	Country presentation meeting - Uganda	Cologne/Braunschweig Federal Republic of Germany
20 April	Country presentation meeting - Ecuador, Uruguay	Milan Italy
21 April	Country presentation meeting - Uganda	Oberboihingen/Munich Federal Republic of Germany
25 April	Country presentation meeting - Fiji	Seoul Republic of Korea
11 May	Country presentation meeting - Brazil	Doubs France
15-19 May	Country presentation meeting and investment promo- tion forum (for English-speaking African countries)	Freetown Sierra Leone
16 May	Country presentation meeting - Indonesia	Seoul Republic of Korea
30 May	Country presentation meeting - Brazil, China, Ecuador, Madagascar, Mauritius, Philippines	Paris France
30 May	Country presentation meeting - Malaysia	Seoul Republic of Korea

Date		Place
12-16 June	Country presentation meeting - Bangladesh, China, India, Indonesia, Pakistan, Philippines, Sri Lanka	Seoul Republic of Korea
27 June	Country presentation meeting - Poland	Seoul Republic of Korea
31 July	Country presentation meeting - Malaysia	Seoul Republic of Korea
3 August	Country presentation meeting - Mexico	Pesano Italy
7 August	Country presentation meeting - Indonesia, Philippines	Marseille France
14-15 September	Country presentation meeting - China	Cologne/Hamburg Federal Republic of Germany
19-20 October	Country presentation meeting - Madagascar	Caen France
30-31 October	Experts meeting on project selection, promotion and follow-up for PTA	Vienna Austria
2-3 November	Country presentation meeting - Zambia	Bonn/Cologne Federal Republic of Germany
6-8 November	Country presentation meeting - Zambia	Milan Italy
28-30 November	Country presentation meeting - Democratic People's Republic of Korea	Cologne/Hamburg Federal Republic of Germany
5-6 December	Country presentation meeting - Democratic People's Republic of Korea	Milan Italy
<u>System of Consultations Division</u>		
14-16 March	Global preparatory meeting on small- and medium-scale enterprises including co-operatives	Tallinn Union of Soviet Socialist Republics
27-30 March	Regional expert group meeting on the development of the non-ferrous metals industry in Latin America and possibilities for complementarity	Córdoba Argentina
28-30 March	Expert group meeting for Africa in preparation of the Consultation on the food-processing industry with emphasis on fruit and vegetable processing	Tunis Tunisia
19-21 April	Expert group meeting on the pesticides industry	Balatonalmádi Hungary
2-5 May	Global preparatory meeting in preparation of the Consultation on the food-processing industry with emphasis on fruit and vegetable processing	Vienna Austria

Date		Place
29 May - 1 June	Global preparatory meeting for the third Consultation on the capital goods industry with emphasis on rural transport equipment	Vienna Austria
18-22 September	Consultation on the food-processing industry with emphasis on fruit and vegetable processing	Tbilisi Union of Soviet Socialist Republics
26-29 September	Technical preparatory meeting for the regional Consultation on the petrochemical industry	Vienna Austria
9-13 October	First Consultation on small- and medium-scale enterprises including co-operatives	Bari Italy
23-25 October	Expert group meeting on industrial rehabilitation and restructuring with special focus on the food-processing subsector in Africa	Vienna Austria
6-10 November	First Consultation on the electronics industry	Valletta Malta
20-23 November	Interregional expert group meeting on the building materials industry for Africa and Asia	Nairobi Kenya
27-30 November	Asian-Arab preparatory meeting for the regional Consultation on the petrochemical industry	Karachi Pakistan
4-6 December	Regional meeting for Latin America in preparation for the second Consultation on the wood and wood products industry	Guaruja Brazil
4-7 December	Expert group meeting on the wood and wood products industry	Vienna Austria
4-8 December	Third Consultation on the capital goods industry with emphasis on rural transport equipment	Vienna Austria
<u>Industrial Technology Promotion Division</u>		
31 January - 3 February	Seminar and advisory services on acquisition and negotiation of technology	Antananarivo Madagascar
22-24 February	Workshop on technology policy with special emphasis on technology agreements	Accra Ghana
13-17 March	Workshop on technology transfer, acquisition and integration of technology policies with industrial policies	Arusha United Republic of Tanzania
13-17 March	Third meeting of the advisory group of the Industrial and Technological Information Bank (INTIB)	Vienna Austria
18-20 April	INTIB regional seminar	Melnik Czechoslovakia
23-26 May	Fourth meeting of ASEAN network co-ordinators of ASTIS project	Jakarta Indonesia

Date		Place
17-18 July	TIES (Technological Information Exchange System)/ LES (Licensing Executive Society) meeting	Lima Peru
19-21 July	Heads of the technology transfer registries, twelfth meeting	Lima Peru
24-28 July	UNIDO/ARCT (African Regional Centre for Technology)/ FIIRO (Federal Institute of Industrial Research, Oshodi) workshop on industrial and technological information services	Lagos Nigeria
2-6 October	UNIDO/ARCT regional meeting on INTIB African subnetwork	Dakar Senegal
24-25 October	Seminar on science and technology policy as related to industrialization in Tunisia: situation and strategies	Tunis Tunisia
6-10 November	Forum on appropriate industrial technology for Africa	Dakar Senegal
29 November - 3 December	National workshop on technology policy with a focus on acquisition and negotiation	Addis Ababa Ethiopia
5-7 December	<u>Ad hoc expert group meeting on the new dimension of TIES</u>	Vienna Austria
7 December	Round-table discussion on environment: priority agenda for policy makers	Vienna Austria
11-13 December	Third African TIES meeting	Accra Ghana
13-15 December	Workshop on technology transfer negotiations	Accra Ghana
<u>Industrial Technology Development Division</u>		
18-21 April	Meeting of experts on the establishment of a Mediterranean regional centre for research and development in marine industrial technology	Vienna Austria
8-12 May	Technical preparatory meeting on telecommunications industries in Africa	Sao Paulo Brazil
6-8 July	Fourth meeting of the technical advisory group of the Asia/Pacific regional network for small hydropower	Colombo Sri Lanka
30 October - 6 November	Seminar on socio-economic impacts of small hydropower	Hangzhou China
11-13 December	Second meeting of the consultative group on informatics technology for development	Buenos Aires Argentina
11-15 December	Conference on national and international co- operation for telecommunications industry in Africa	Arusha United Republic of Tanzania
11-15 December	Meeting of the consultative group on solar energy research and application (COSERA)	Beijing China

APPENDIX C

TECHNICAL CO-OPERATION - REGULAR BUDGET ALLOCATIONS
AND DELIVERIES FOR THE BIENNIUM 1988-1989

(In thousands of US dollars)

Component	Allocation for the biennium 1988-1989 <u>s/</u>	Deliveries		
		1988	1989	1988- 1989
A. REGULAR PROGRAMME OF TECHNICAL CO-OPERATION (RP)				
Training of developing countries' personnel in various industrial fields				
Individual fellowships	614.0	41.7	83.3	125.0
Group training programmes	877.0	413.2	1,510.4	1,923.6
Establishment and strengthening of training facilities in developing countries	702.0	270.2	514.0	784.2
Special activities for the least developed among the developing countries	1,813.0	353.7	1,065.1	1,418.8
Co-operation among developing countries	625.0	213.8	227.4	441.2
Consultation with Governments	<u>164.6</u>	<u>33.2</u>	<u>44.1</u>	<u>77.3</u>
TOTAL - RP	4,795.6	1,325.8	3,444.3	4,770.1
B. INDUSTRIAL DEVELOPMENT DECADE FOR AFRICA (IDDA)				
Establishment of pilot and demonstration plants	2,106.0	1,036.1	1,053.4	2,089.5
Human resources development and related activities	1,579.5	149.2	1,147.2	1,296.4
Industrial institutional infrastructure	<u>369.0</u>	<u>1.9</u>	<u>678.2</u>	<u>680.1</u>
TOTAL - IDDA	4,054.5	1,187.2	2,878.8	4,066.0

s/ Adjusted in accordance with Annex II.B of the Constitution of UNIDO and reflected in conference room paper GC.3/CRP.6.

APPENDIX D

GEOGRAPHICAL DISTRIBUTION OF EXPERTS

(Listed in descending order)

Table 1

Appointments of experts, as of 1 January - 31 December 1989

Country/area/territory	Number of appointments	Country/area/territory	Number of appointments
Poland	225	Senegal	7
United Kingdom	209	Turkey	7
France	183	Zambia	7
United States of America	137	Botswana	6
Germany, Federal Republic of	117	Bulgaria	6
Italy	112	China	6
India	104	Iraq	6
Hungary	64	New Zealand	6
Austria	49	Pakistan	6
Peru	46	Paraguay	6
Yugoslavia	45	El Salvador	5
Belgium	40	Iran (Islamic Republic of)	5
Czechoslovakia	40	Madagascar	5
Egypt	34	Morocco	5
Brazil	32	Algeria	4
Denmark	28	Costa Rica	4
Netherlands	28	Ethiopia	4
Canada	27	Guinea	4
Colombia	26	Malawi	4
Argentina	25	Nicaragua	4
Nigeria	24	Romania	4
Spain	24	Rwanda	4
Union of Soviet Socialist Republics	24	Jordan	3
Sweden	22	Honduras	3
Philippines	21	Trinidad and Tobago	3
German Democratic Republic	20	United Republic of Tanzania	3
Japan	19	Ghana	2
Australia	18	Israel	2
Ireland	18	Mauritius	2
Chile	16	Saudi Arabia	2
Côte d'Ivoire	15	Sudan	2
Finland	14	Togo	2
Sri Lanka	13	Uruguay	2
Mexico	12	Angola	1
Norway	12	Barbados	1
Ecuador	11	Burkina Faso	1
Cameroon	10	Burundi	1
Somalia	10	Djibouti	1
Tunisia	10	Fiji	1
Nepal	9	Greece	1
Venezuela	9	Guatemala	1
Zimbabwe	9	Libyan Arab Jamahiriya	1
Bolivia	8	Mali	1
Portugal	3	Malaysia	1
Sierra Leone	8	Mauritania	1
Switzerland	8	Mozambique	1
Thailand	8	Niger	1
Bangladesh	7	Panama	1
Indonesia	7	Papua New Guinea	1
Republic of Korea	7	Stateless	1
		Swaziland	1
		TOTAL (101 countries)	2,131

Table 2

Cumulative list of appointments of experts, 1986-1989

Country/area/territory	Number of appointments	Country/area/territory	Number of appointments
Poland	933	Iran (Islamic Republic of)	15
United Kingdom	792	Iraq	14
France	612	Jamaica	14
United States of America	609	Senegal	14
Germany, Federal		Uganda	13
Republic of	384	Uruguay	13
India	332	Zambia	13
Italy	290	Madagascar	12
Hungary	254	Nicaragua	12
Austria	213	Jordan	11
Belgium	178	Costa Rica	10
Peru	149	Botswana	9
Czechoslovakia	145	Ethiopia	9
Netherlands	138	Lebanon	9
Brazil	128	Paraguay	9
Yugoslavia	128	El Salvador	8
Mexico	126	Guinea	8
Canada	106	Malaysia	8
Sweden	103	Cuba	7
Philippines	102	Ghana	7
Spain	102	Guatemala	6
Union of Soviet Socialist Republics	100	Honduras	6
Denmark	93	Benin	5
Egypt	93	Burkina Faso	5
Japan	87	Greece	5
Argentina	84	Kenya	5
Colombia	78	Malawi	5
Chile	77	Mauritius	5
Australia	72	Rwanda	5
Ireland	72	Trinidad and Tobago	5
Venezuela	65	United Republic of Tanzania	5
Portugal	60	Niger	4
Finland	55	Palestine	4
Norway	54	Panama	4
Cameroon	52	Stateless	4
German Democratic Republic	50	Syrian Arab Republic	4
Sri Lanka	44	Democratic People's Republic of Korea	3
Bulgaria	43	Fiji	3
Republic of Korea	43	Guyana	3
Switzerland	41	Libyan Arab Jamahiriya	3
Côte d'Ivoire	39	Chad	2
Ecuador	33	Congo	2
Algeria	32	Dominican Republic	2
Bolivia	27	Liberia	2
New Zealand	26	Mali	2
Nigeria	26	Mozambique	2
Indonesia	23	Papua New Guinea	2
Morocco	23	Saudi Arabia	2
Zaire	22	Singapore	2
Nepal	21	Angola	1
Togo	21	Antigua and Barbuda	1
Turkey	21	Barbados	1
Pakistan	20	Burundi	1
Somalia	20	Cape Verde	1
Romania	19	Cyprus	1
Tunisia	19	Democratic Kampuchea	1
Israel	18	Djibouti	1
Sierra Leone	18	Gabon	1
Sudan	18	Mauritania	1
Thailand	18	Montserrat	1
Bangladesh	17	Swaziland	1
China	17	Viet Nam	1
Zimbabwe	16	Yemen	1
		TOTAL (125 countries)	7,937 ^{a/}

^{a/} Total of appointments includes repeated separate appointments and reassignments of the same expert to other projects.

APPENDIX E

UNIDO INVOLVEMENT IN UNDP COUNTRY PROGRAMMES

Table 1

UNIDO share of UNDP country programmes approved by the Governing Council of UNDP, June 1985 to June 1989
(By geographical area)

Geographical area	Number of countries for which programmes have been approved	Total IPP allocations ----- (in millions of US\$)	Total amount programmed (in millions of US\$)	Allocations for UNIDO projects -----	UNIDO share of amount programmed (percentage)	Number of projects	
						Ongoing	New
Africa	51	1,335.79	1,772.27	120.02	6.77	51	111
Latin America and the Caribbean	42	275.34	504.97	49.42	9.79	27	82
Arab States ^{a/} (African Arab States) ^{b/}	19 (8)	248.91 (170.64)	416.69 (258.31)	37.05 (19.22)	8.89 (7.44)	14 (6)	53 (28)
Asia and the Pacific	31	1,094.64	1,002.44	222.06	22.15	72	162
Europe	10	47.04	42.15	13.13	31.15	10	45
TOTAL	145	2,831.08	3,480.21	422.46	12.14	168	425

^{a/} Includes African Arab States.

^{b/} Figures deducted since already included under both "Africa" and "Arab States".

Table 2

UNIDO share of UNDP country programmes approved by the Governing Council of UNDP, June 1985 to June 1989
(By substantive branches of UNIDO)

UNIDO substantive branches	Number of projects		Value of UNDP input (\$000)	Percentage of total value	Distribution of projects by size		
	Ongoing	New			Under \$150,000	\$150,000 to \$1,000,000	Over \$1,000,000
Agro-based Industries	15	77	70,570	16.70	17	58	17
Chemical Industries	46	89	93,949	22.24	30	89	16
Metallurgical Industries	10	19	32,275	7.64	9	15	5
Engineering Industries	32	69	83,884	19.86	24	59	18
Industrial Planning	10	24	26,778	6.34	7	18	9
Institutional Infrastructure	30	72	62,803	14.87	19	68	15
Industrial Management and Rehabilitation	6	17	12,909	3.06	7	11	5
Feasibility Studies	15	24	21,374	5.06	7	27	5
Industrial Human Resource Development	2	17	10,648	2.52	3	14	2
Industrial Investment	1	11	4,340	1.03	3	9	0
Industrial Technology Promotion	0	3	1,070	0.25	0	3	0
Industrial Technology Development	1	0	61	0.01	1	0	0
Others	0	3	1,800	0.43	0	3	0
TOTAL	168	425	422,461	100.00	127	374	92

Table 3

Comparison of country programmes approved during June 1985 - June 1989 for the fourth cycle with programmes of the same countries in the third cycle (1982-1986) a/
(By geographical area)

	Third cycle (1982-1986)				Fourth cycle (June 1985 - June 1989)			
	IPF ----- (in millions of US\$)	Amount programmed	UNIDO projects		IPF ----- (in millions of US\$)	Amount programmed	UNIDO projects	
Total value			Percentage share of amount programmed	Total value			Percentage share of amount programmed	
Africa (50) b/	932.90	1,213.66	154.23	12.71	1,323.82	1,755.40	120.02	6.84
Latin America and the Caribbean (38) c/	214.31	346.89	53.55	15.44	271.34	560.80	49.01	9.79
Arab States (18) d/	192.22	421.17	46.93	11.14	248.20	407.49	36.53	8.96
(African Arab States) (8) e/	(129.11)	(203.42)	(36.02)	(17.71)	(170.64)	(258.31)	(19.22)	(7.44)
Asia and the Pacific (30) f/	785.41	1,109.39	195.45	17.62	1,028.95	915.02	208.97	22.84
Europe (10) g/	39.72	66.42	16.11	24.25	47.04	42.15	13.13	31.15
TOTAL (138)	2,035.45	2,954.11	430.25	14.56	2,748.71	3,362.55	408.44	12.15

a/ Excluded from the comparison are the following:

Africa: National liberation movements (first country programme in the fourth cycle).

Latin America and the Caribbean: Anguilla, Aruba, St. Helena (first country programme in the fourth cycle); Suriname (no country programme in the third cycle).

Arab States: Qatar (no country programme in the third cycle).

Asia and the Pacific: Indonesia because of the time-frame of the second (1979-1983) and third (1985-1989) country programmes which overlap the second, third and fourth programming cycles, it is difficult to make a comparison. The UNIDO share for Indonesia was 15.31 per cent in the second country programme and 14.97 per cent in the third country programme.

b/ The 50 countries in Africa comprise: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zaire, Zambia and Zimbabwe.

c/ The 38 countries and territories in Latin America and the Caribbean comprise: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, British Virgin Islands, Eastern Caribbean States, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Paraguay, Peru, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands, Uruguay and Venezuela.

d/ The 18 Arab States comprise: Algeria, Bahrain, Democratic Yemen, Djibouti, Egypt, Iraq, Jordan, Kuwait, Libyan Arab Jamahiriya, Morocco, Oman, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen.

e/ The 8 African Arab States comprise: Algeria, Djibouti, Egypt, Libyan Arab Jamahiriya, Morocco, Somalia, Sudan and Tunisia (relevant figures are deducted since they are already included under both "Africa" and "Arab States").

f/ The 30 countries and territories in Asia and the Pacific comprise: Bangladesh, Bhutan, China, Cook Islands, Democratic People's Republic of Korea, Fiji, India, Iran, Islamic Republic of, Kiribati, Lao People's Democratic Republic, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Niue, Pakistan, Papua New Guinea, Philippines, Republic of Korea, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand, Tokelau, Tonga, Tuvalu, Vanuatu and Viet Nam.

g/ The 10 countries in Europe comprise: Albania, Bulgaria, Cyprus, Hungary, Malta, Poland, Portugal, Romania, Turkey and Yugoslavia.

APPENDIX F

MAJOR STUDIES, REPORTS AND SERIES PUBLICATIONS
ISSUED BY UNIDO IN 1989 a/

SYMBOL	TITLE	LANGUAGE
ID/SER.M/25*	Industry and development No. 25	E
ID/SER.M/26*	Industry and development No. 26	E
ID/SER.M/27*	Industry and development No. 27	E
ID/108/Rev.2*	Furniture and joinery industries for developing countries	F
ID/351*	Conceptual design study on aluminium wire drawing and stranded cable production	E
ID/352/Rev.1(SPEC.)*	Manual for Arabic translators with emphasis on the usage in the United Nations system, Volume I	A/E
ID/352/Rev.1/Add.1 (SPEC.)*	Manual for Arabic translators with emphasis on the usage in the United Nations system, Volume II	A/E
ID/360*	Industry and development: Global report 1988/89	F
ID/362 (ID/WG.476/8)	First Interregional Consultation on the Food-processing Industry with Emphasis on Sugar-cane Processing, Havana, Cuba, 26-30 September 1988. Report	A C E F R S
ID/364*	Industry and development: Global report 1989/90	E F
ID/365 (ID/WG.475/11)	Regional Consultation on the Phosphatic Fertilizers and Pesticides Industries in Africa, Yamoussoukro, Côte d'Ivoire, 12-16 December 1988. Report	A C E F R S

a/ Sales publications are indicated by an asterisk in the "Symbol" column.

UNIDO TECHNICAL ASSISTANCE TO THE LEAST DEVELOPED COUNTRIES, 1 JANUARY TO 31 DECEMBER 1989

Table 1
Delivery, by country and source of funds a/

(In US dollars)

Region/country	Regular budget XP/XA	UNDP/IPF	SIS	UNDP/special measures	IDF b/	Other sources c/	Total
Africa							
Benin	2,698	10,305	-	-	-	-	21,003
Botswana	-	197,026	-	-	257,449	(1,641)	452,834
Burkina Faso	276,656	305,645	25,244	-	4,324	-	691,869
Burundi	5,004	73,894	(803)	-	-	-	70,895
Cape Verde	16,814	200,455	63,504	-	(275)	-	280,578
Central African Republic	-	-	-	-	-	-	-
Chad	26,619	576,864	-	-	-	-	603,483
Comoros	-	-	-	-	-	-	-
Equatorial Guinea	-	-	-	-	-	-	-
Ethiopia	49,018	2,817,642	26,468	-	1,808,014	-	4,701,142
Gambia	18,188	19,842	-	-	-	-	38,030
Guinea	144,164	613,706	414	-	-	85,308	843,592
Guinea-Bissau	77,402	81,746	926	-	-	-	160,074
Lesotho	-	198,040	-	-	-	88,458	286,498
Malawi	-	1,107,875	30,196	-	493	54,758	1,193,322
Mali	83,225	238,597	11,630	-	51,421	67	384,940
Mauritania	-	149,390	-	-	-	-	149,390
Mozambique	-	344,608	132,739	-	425,662	34	903,043
Niger	43,861	629,301	32,725	-	-	-	705,887
Rwanda	104,298	336,103	(248)	-	(1,490)	23,547	462,210
Sao Tome and Principe	30,169	57,364	27,184	-	-	-	114,717
Sierra Leone	18,737	358,724	(168)	-	(1,508)	67,060	442,765
Togo	165,219	192,451	40,672	-	-	34	398,376
Uganda	31,134	175,667	19,817	-	-	714,446	941,064
United Republic of Tanzania	27,214	249,492	14,527	-	164,594	33,226	489,054
Subtotal	1,121,300	9,022,818	424,827	-	2,708,604	1,065,297	14,342,846
Americas							
Haiti	-	45,742	-	-	-	-	45,742

Table 1 (continued)

Region/country	Regular budget XP/XA	UNDP/IPF	SIS	UNDP/special measures	IDF b/	Other sources c/	Total
Arab States							
Democratic Yemen	33,041	192,119	22,918	29,175	(2,349)	-	274,904
Djibouti	2,350	67,199	-	-	-	-	69,549
Somalia	21,835	645,321	(2,987)	-	50,833	-	715,002
Sudan	211,422	111,086	-	-	95,348	353,756	771,612
Yemen Arab Republic	-	756,343	17,727	-	-	70,214	844,284
Subtotal	268,648	1,772,068	37,658	29,175	143,832	423,970	2,675,351
Asia and the Pacific							
Afghanistan	-	-	-	-	-	-	-
Bangladesh	-	1,031,796	-	54,885	-	1,325,121	2,411,802
Bhutan	-	45,119	11,625	70,862	20,922	-	148,528
Kiribati	-	33,626	29,206	-	-	-	62,832
Lao People's Democratic Republic	-	49,577	-	-	-	-	49,577
Maldives	(162)	-	-	-	-	-	(162)
Myanmar	-	527,837	-	-	-	38,447	566,284
Nepal	12,844	1,566,341	27,290	-	8,762	29,819	1,645,056
Samoa	5,200	-	12,308	-	-	-	17,508
Tuvalu	-	-	-	-	-	-	-
Vanuatu	-	72,238	(16,022)	-	-	-	56,216
Subtotal	17,882	3,326,534	64,407	125,747	29,684	1,393,307	4,957,641
Regional, interregional and global projects especially designed for LDCs	264,134	-	-	-	55,847	-	319,981
TOTAL	1,671,964	14,167,162	526,892	154,922	2,937,967	2,882,654	22,341,561

a/ The table does not include regional, interregional and global projects or individual fellowships and group training programmes in which LDCs have been involved together with other developing countries; such activities are usually financed from non-least developed countries funds.

b/ Excluding 13 per cent overhead costs.

c/ Other sources include self-financed and other trust funds, United Nations Capital Development Fund, United Nations Development Fund for Women, United Nations Financing System for Science and Technology for Development, United Nations Fund for Drug Abuse Control and World Bank/International Development Association.

Table 2

New project approvals, by country and source of funds a/
(In US dollars)

Region/country	Regular budget XP/XA	UNDP/IPF	SIS	UNDP/special measures	IDF b/	Other sources c/	Total
Africa							
Benin	2,698	-	-	-	-	-	2,698
Botswana	-	60,000	-	-	-	-	60,000
Burkina Faso	79,400	16,800	-	-	-	-	96,200
Burundi	5,668	52,500	-	-	-	-	58,168
Cape Verde	10,500	-	-	-	145,000	-	155,500
Central African Republic	-	-	-	-	-	-	-
Chad	27,000	-	-	-	-	-	27,000
Comoros	-	-	-	-	-	21,500	21,500
Equatorial Guinea	-	-	-	-	-	-	-
Ethiopia	49,019	1,276,096	166,000	-	928,480	-	2,419,595
Gambia	21,300	-	-	-	-	-	21,300
Guinea	190,980	811,800	110,000	-	-	100,000	1,212,780
Guinea-Bissau	3,645	378,738	-	-	-	-	382,383
Lesotho	-	-	-	-	-	44,813	44,813
Malawi	26,500	477,900	74,000	-	476,000	150,544	1,204,944
Mali	164,000	-	-	-	-	-	164,000
Mauritania	-	-	-	-	-	-	-
Mozambique	-	696,205	40,500	-	-	-	736,705
Niger	26,950	-	-	-	47,680	-	74,630
Rwanda	-	-	-	-	-	82,606	82,606
Sao Tome and Principe	122,500	-	-	-	-	-	122,500
Sierra Leone	-	-	37,000	-	-	-	37,000
Togo	70,800	-	-	-	-	-	70,800
Uganda	5,980	-	239,300	-	-	425,510	670,790
United Republic of Tanzania	<u>43,180</u>	<u>690,810</u>	<u>87,600</u>	-	<u>605,400</u>	<u>71,250</u>	<u>1,498,240</u>
Subtotal	850,120	4,460,849	754,400	-	2,202,560	896,223	9,164,152
Americas							
Haiti	-	84,000	-	-	-	-	84,000

Table 2 (continued)

Region/country	Regular budget XP/XA	UNDP/IPF	SIS	UNDP/special measures	IDF b/	Other sources c/	Total
Arab States							
Democratic Yemen	46,500	-	-	346,450	-	-	392,950
Djibouti	66,045	-	-	-	-	-	66,045
Somalia	-	-	-	-	249,325	-	249,325
Sudan	198,985	-	-	-	680,600	259,365	1,138,950
Yemen Arab Republic	-	-	17,500	-	-	-	17,500
Subtotal	311,530	-	17,500	346,450	929,925	259,365	1,864,770
Asia and the Pacific							
Afghanistan	-	-	-	-	-	-	-
Bangladesh	-	1,336,669	-	75,000	-	1,399,368	2,811,037
Bhutan	-	-	-	284,100	-	-	284,100
Kiribati	-	-	61,000	-	-	-	61,000
Lao People's Democratic Republic	-	57,700	-	-	-	-	57,700
Maldives	-	-	-	-	-	-	-
Myanmar	-	-	-	-	-	86,000	86,000
Nepal	-	260,360	29,000	-	9,600	26,719	325,679
Samoa	70,500	-	-	-	-	-	70,500
Tuvalu	-	-	-	-	-	-	-
Vanuatu	-	-	-	-	-	-	-
Subtotal	70,500	1,654,729	90,000	359,100	9,600	1,512,087	3,696,016
Regional, interregional and global projects especially designed for LDCs	182,840	-	-	-	62,628	-	245,468
TOTAL	1,414,990	6,199,578	861,900	705,550	3,204,713	2,667,675	15,054,406

a/ The table does not include regional, interregional and global projects or individual fellowships and group training programmes in which LDCs have been involved together with other developing countries; such activities are usually financed from non-least developed countries funds.

b/ Excluding 13 per cent overhead costs.

c/ Other sources include trust funds, United Nations Fund for Drug Abuse Control and World Bank/International Development Association.

Table 3
Total project approvals (new projects, plus additional allocations
to ongoing projects, minus cancellations), by country and source of funds, a/
1 January - 31 December 1989
(In US dollars)

Region/country	Regular budget XP/XA	UNDP/IPF	SIS	UNDP/special measures	IDF b/	Other sources c/	Total
Africa							
Benin	2,698	(109,729)	-	-	(1,184)	-	(108,215)
Botswana	-	81,337	445	-	-	(6,953)	74,829
Burkina Faso	228,201	119,531	848	-	(48,895)	-	299,685
Burundi	5,668	22,284	-	-	-	-	27,952
Cape Verde	10,500	126,478	25,200	-	144,389	-	306,567
Central African Republic	-	-	(1,234)	-	-	-	(1,234)
Chad	27,000	496,500	-	-	-	-	523,500
Comoros	-	-	-	-	-	21,500	21,500
Equatorial Guinea	-	-	-	-	-	-	-
Ethiopia	49,019	2,630,343	169,831	-	1,096,429	-	3,945,622
Gambia	21,300	24,532	-	-	-	-	45,832
Guinea	190,980	1,051,665	110,000	-	-	100,000	1,452,645
Guinea-Bissau	3,645	378,738	(6,221)	-	-	-	376,162
Lesotho	-	68,119	-	-	-	96,689	164,808
Malawi	26,500	949,464	74,000	-	433,606	150,544	1,634,114
Mali	164,000	331,722	8,314	-	(1,701)	(6,649)	495,686
Mauritania	-	84,429	-	-	-	-	84,429
Mozambique	-	749,267	30,322	-	319	(12,832)	767,076
Niger	42,950	(511,861)	9,154	-	47,680	-	(412,077)
Rwanda	5,564	711,557	-	-	(31,595)	82,606	768,132
Sao Tome and Principe	125,285	16,410	-	-	-	-	141,695
Sierra Leone	-	319,114	37,000	-	-	74,304	430,418
Togo	79,924	629,819	19,700	6,617	-	60,067	796,127
Uganda	14,226	(10,256)	239,300	-	-	425,510	668,780
United Republic of Tanzania	43,600	667,896	83,554	(14,759)	605,400	71,250	1,456,941
Subtotal	1,041,060	8,827,359	800,213	(8,142)	2,244,448	1,056,036	13,960,974
Americas							
Haiti	-	95,977	(5,442)	-	-	-	90,535

Table 3 (continued)

Region/country	Regular budget XP/XA	UNDP/IPF	SIS	UNDP/special measures	IDF b/	Other sources g/	Total
Arab States							
Democratic Yemen	50,129	113,578	4,979	346,450	(35,014)	185,030	665,152
Djibouti	66,045	-	-	-	-	-	66,045
Somalia	6,522	(74,883)	-	-	238,233	-	169,872
Sudan	180,406	(8,001)	-	-	680,600	244,246	1,097,251
Yemen Arab Republic	-	<u>314,144</u>	<u>17,500</u>	-	-	-	<u>331,644</u>
Subtotal	303,102	344,838	22,479	346,450	883,819	429,276	2,329,964
Asia and the Pacific							
Afghanistan	-	-	-	-	-	-	-
Bangladesh	-	1,169,137	-	75,000	-	1,382,375	2,626,512
Bhutan	-	1,867	-	297,536	-	-	299,403
Kiribati	-	29,940	61,000	-	-	-	90,940
Lao People's Democratic Republic	-	55,356	-	-	-	-	55,356
Maldives	6,674	(14,042)	-	-	-	-	(7,368)
Myanmar	-	235,960	-	-	-	86,000	321,960
Nepal	-	985,749	29,000	-	9,600	26,719	1,051,068
Samoa	70,500	-	-	-	-	-	70,500
Tuvalu	-	-	-	-	-	-	-
Vanuatu	-	<u>50,076</u>	<u>1,569</u>	-	-	-	<u>51,645</u>
Subtotal	77,174	2,514,043	91,569	372,536	9,600	1,495,094	4,560,016
Regional, interregional and global projects especially designed for LDCs	<u>182,840</u>	-	-	-	<u>(8,436)</u>	-	<u>174,404</u>
TOTAL	1,604,176	11,782,217	908,819	710,844	3,129,431	2,980,406	21,115,893

a/ The table does not include regional, interregional and global projects or individual fellowships and group training programmes in which LDCs have been involved together with other developing countries; such activities are usually financed from non-least developed countries funds.

b/ Excluding 13 per cent overhead costs.

c/ Other sources include trust funds, United Nations Fund for Drug Abuse Control and World Bank/International Development Association.

INDUSTRIAL DEVELOPMENT FUND

Table 1

UNIDF/IDF statement of pledges and receipts, as at 31 December 1989

(In US dollars)

Country / organization	Unpaid balances/ advances b. donors brought forward from UNIDF 1.1.86	Adjust- ments to prior pledges	IDF firm pledges for				Collections in		Exchange adjust- ments	Unpaid balance	Advances by donors
			1986- 1987	1988	1989	1990 and future years	1986- 1988	1989			
General-purpose convertible											
Afghanistan	1,500	-	1,500	1,500	-	-	4,500	-	-	-	
Algeria	-	-	-	25,000	-	-	-	25,000	-	-	
Angola	10,000	-	20,000	-	-	-	30,000	-	-	-	
Argentina	-	150,000	-	-	-	-	149,990	-	10	-	
Austria	-	-	127,566	81,967	76,336	155,039	228,726	72,464	-19,012	158,730	
Bahrain	5,000	-	-	-	-	-	5,000	-	-	-	
Bangladesh	-	-	4,840	4,887	741	2,420	8,001	2,467	-	2,420	
Barbados	-	-	20,000	-	-	-	20,000	-	-	-	
Bhutan	1,320	-	1,450	-	-	-	2,770	-	-	-	
Bolivia	2,000	-	15,313	1,000	1,000	-	14,313	-	-	5,000	
Brazil	15,000	-	15,000	-	-	-	30,000	-	-	-	
Burkina Faso	-	-	-	6,601	-	-	-	6,601	-	-	
Cameroon	-	-	2,985	-	-	-	-	-	-283	3,268	
Chile	-	-	20,000	-	-	-	20,000	-	-	-	
Colombia	1,425	40	11,400	5,700	5,837	-	18,921	5,481	-	-	
Congo	11,426	-	-	-	-	-	3,401	-	76	7,949	
Costa Rica	8,080	-	10,000	10,000	-	-	26,832	-	-	1,248	
Cyprus	-	-	4,187	-	-	-	4,495	-	-308	-	
Democratic Yemen	-	-	4,400	-	-	-	-	-	-	4,400	
Dominica	-	-	1,852	-	-	-	1,840	-	12	-	
Ecuador	5,440	-	49,735	-	6,500	-	43,372	6,463	-	11,840	
Egypt	-	-	2,000	-	-	-	2,000	-	-	-	
Ethiopia	-	-	1,111	-	-	-	1,111	-	-	-	
Fiji	-	-	1,009	-	-	-	-	-	276	733	
German Democratic Republic	-	-	18,736	-	-	-	18,736	-	-	-	
Ghana	-	-	-	5,000	-	-	-	-	-	5,000	
Greece	36,000	-	-	-	-	-	36,000	-	-	-	
Guatemala	-	-	25,000	12,421	-	-	5,000	-	3,115	29,306	
Guinea	-	-108,600	-	-	-	-	-108,600	-	-	-	
Guyana	723	-	1,896	331	1,063	-	2,227	1,137	649	-	
Haiti	-	-	-	5,000	-	-	5,000	-	-	-	

Table 1 (continued)

Country / organization	Unpaid balances/ advances by donors brought forward from UNIDF 1.1.86	Adjust- ments to prior pledges	IDF firm pledges for			Collections in		Exchange adjust- ments	Unpaid balance	Advances by donors
			1986- 1987	1988	1989	1990 and future years	1986- 1988			
General-purpose convertible (continued)										
Honduras	-	509	1,000	7,000	7,000	-	8,509	-	7,000	-
Hungary	-	-	-	5,976	18,519	-	5,976	16,084	2,435	-
India	500,000	-	500,000	250,000	250,000	250,000	1,000,000	250,000	-	500,000
Indonesia	-	-	50,000	-	-	-	50,000	-	-	-
Iraq	161,291	-	-	-	-	-	-	-	-	161,291
Jamaica	4,000	-	4,000	4,000	-	-	8,000	4,000	-	-
Kenya	10,000	-	14,110	13,529	-	1,674	-	-	6,244	33,069
Kuwait	-	-	150,000	-	-	-	-	-	-	150,000
Lao People's Democratic Republic	1,500	-	1,500	-	-	-	1,500	-	-	1,500
Lesotho	-	1,308	2,955	1,075	1,132	-	4,104	2,207	159	-
Luxembourg	-	-	16,916	10,568	10,256	10,127	29,614	10,390	-2,804	10,667
Madagascar	-	-	3,052	813	-	-	2,879	-	986	-
Malawi	-	-	5,372	1,794	-	-	5,097	-	525	1,544
Malaysia	450	-	40,000	20,000	20,000	20,000	60,450	20,000	-	20,000
Mali	2,611	-	-	-	-	-	-	-	-657	3,268
Malta	-	-	-	-	-	400	-	-	-	400
Mauritius	-	-	1,458	1,000	1,000	1,000	1,786	-	14	2,658
Mexico	-	4,503	15,000	-	-	-	19,503	-	-	-
Mongolia	-	-	4,564	2,588	2,450	2,450	7,246	2,450	-94	2,450
Morocco	5,037	5,010	5,000	-	-	-	13,420	-	1,627	-
Mozambique	4,925	-	5,063	-	-	-	5,563	-	4,425	-
Myanmar	-	-	2,000	1,000	-	-	2,000	1,000	-	-
Nepal	-	-	1,400	-	700	-	1,400	700	-	-
Nigeria	50,000	-	-	-	-	-	-	-	-	50,000
Oman	12,000	-	12,000	-	-	-	12,000	-	-	12,000
Pakistan	-	-	48,933	-	-	-	-	48,933	-	-
Panama	-	-	4,000	-	2,000	-	2,000	-	-	4,000
Papua New Guinea	-	-	12,871	-	-	-	14,773	-	-1,902	-
Paraguay	30,000	-	-	-	-	-	24,000	-	-	6,000
Pert	25,000	-	-	-	-	-	5,000	-	-	20,000
Philippines	6,006	-	10,000	5,000	5,000	-	7,608	-	-	18,398
Portugal	-	-	30,000	-	-	-	30,000	-	-	-
Republic of Korea	-	-	56,000	30,000	35,000	35,000	86,000	35,000	-	35,000
Rwanda	-	-	8,000	4,000	-	-	12,000	-	-	-
Saint Vincent and the Grenadines	-	-	-	-	1,500	-	-	1,500	-	-
Saudi Arabia	-	-	2,000,000	-	1,000,000	-	2,000,000	-	-	1,000,000
Senegal	29,113	-	4,000	-	-	-	20,900	-	-	12,213
Sierra Leone	94	3,184	5,517	374	-	-	9,167	-	2	-
Somalia	2,467	-	-	-	-	-	-	-	67	2,400

Table 1 (continued)

Country / organization	Unpaid balances/ advances by donors brought forward from UNIDF 1.1.86	Adjust- ments to prior pledges	IDF firm pledges for				Collections in		Exchange adjust- ments	Unpaid balance	Advances by donors
			1986- 1987	1988	1989	1990 and future years	1986- 1988	1989			
General-purpose convertible (continued)											
Sri Lanka	-	-	6,000	3,333	3,333	3,333	9,297	3,333	36	3,333	-
Sudan	102,712	-	-	-	-	-	-	-	-	102,712	-
Suriname	2,000	-	-	-	-	-	-	-	-	2,000	-
Swaziland	1,532	1,802	3,571	1,970	1,606	1,444	7,818	1,569	-492	3,030	-
Syrian Arab Republic	-	5,372	4,298	1,871	1,871	-	11,541	1,871	-	-	-
Thailand	-	-	40,548	20,784	20,599	-	61,871	20,599	-539	-	-
Togo	3,917	-	2,999	1,656	1,666	-	5,838	3,317	-551	1,634	-
Trinidad and Tobago	-	8,375	26,800	-	23,529	-	36,850	23,529	-1,675	-	-
Tunisia	-	-	46,325	23,602	22,102	-	67,812	21,530	2,687	-	-
Uganda	1,000	1,000	6,000	3,000	-	-	2,000	-	-	9,000	-
United Republic of Tanzania	-	-	1,361	833	714	414	2,046	468	927	381	-
Venezuela	-	-	11,467	-	-	-	11,467	-	-	-	-
Viet Nam	1,000	-	-	-	-	-	1,000	-	-	-	-
Yemen	-	-	-	-	2,000	2,000	-	-	-	4,000	-
Zaire	3,000	-	3,000	100,000	10,000	-	-	-	-	116,000	-
Zambia	517	-	7,049	4,707	5,089	2,985	11,756	305	3,622	4,664	-
Zimbabwe	-	8,075	17,054	12,121	-	-	24,440	10,309	2,501	-	-
Organizations											
King Abdulaziz City for Science and Technology, Saudi Arabia	-	-	-	32,760	-	-	-	29,868	-	2,892	-
S.G. des Eaux Minerales de Vittel, France	-	-	-	3,108	-	-	3,108	-	-	-	-
Computech Engineering Services Inc., USA	-	-	30,000	-	-	-	30,000	-	-	-	-
Co-operative Council for the Arab States of the Gulf	-	-	-	11,587	-	-	-	-	-	11,587	-
Total	1,058,086	80,578	3,581,663	739,456	1,538,543	488,286	4,310,974	628,575	2,078	2,544,985	-

Table 1 (continued)

Country / organization	Unpaid balances/ advances by donors brought forward from UNIDF 1.1.86	Adjust- ments to prior pledges	IDF firm pledges for			Collections in		Exchange adjust- ments	Unpaid balance	Advances by donors
			1986- 1987	1988	1989	1990 and future years	1986- 1988			
Special-purpose convertible										
Argentina	-	-	-	-	-	-	60,000	-	-	-60,000
Australia	-68,815	-	161,598	12,097	-1,598	-	166,523	5,492	-	-68,733
Austria	-121,788	-	1,554,947	934,839	1,206,356	345,892	2,892,175	766,021	262,050	-
Belgium	-480,520	-	845,237	874,960	781,718	206,225	1,336,328	650,436	240,856	-
Brazil	-	-	-	-	-	-	30,000	-	-	-30,000
Bulgaria	-	-	-	5,650	-2,317	-	5,000	-	-	-1,667
China	-289,639	-	344,381	203,434	513,909	-	570,000	690,000	-	-487,915
Côte d'Ivoire	108,765	-	-	-	-	-	-	-	108,765	-
Democratic Yemen	-2,474	-	2,418	-1,169	-	-	-	-	-	-1,225
Democratic People's Republic of Korea	-	-	-	-	-	-	66,338	64,682	-	-131,020
Denmark	-	-	4,719	22,508	769,864	269,675	414,317	385,620	266,829	-
Egypt	-190,893	-	243,606	48,683	6,774	-	-	-	108,170	-
Finland	-259,801	-	240,046	-729	554,830	631,670	1,375,836	2,140,818	-	-2,350,638
France	-817,302	-	2,631,501	2,457,044	3,677,805	1,711,069	6,999,251	3,988,914	-	-1,328,048
German Democratic Republic	-95,802	-	28,355	60,915	92,593	28,355	292,068	75,424	-	-253,076
Germany, Federal Republic of	-1,429,443	-	6,855,601	4,133,263	6,791,349	5,153,469	12,950,837	3,906,638	4,646,764	-
Hungary	5,597	-	-617	-	-	-	4,980	-	-	-
India	79,685	-	216,743	8,758	105,287	150,773	800,000	250,000	-	-488,754
Italy	-597,640	-	3,545,416	3,708,622	11,253,155	13,845,014	16,655,363	7,463,703	7,635,501	-
Japan	-662,483	-	2,309,129	1,173,438	1,464,147	679,308	3,369,000	1,000,227	594,312	-
Malta	31,628	-	-	-	-31,628	-	-	-	-	-
Netherlands	-292,528	-	303,032	346,194	829,446	597,196	1,185,031	717,217	-	-118,908
Norway	-282	-	-	-	-	-	-	-	-	-282
Poland	-	-	-	-	-	-	31,355	-	-	-31,355
Republic of Korea	-	-	100,763	174,269	250,845	780,467	343,660	182,219	780,465	-
Spain	-38,245	-	36,089	-	31,640	-	-	31,640	-	-2,156
Sweden	72,067	-	190,068	56,960	223,873	-	135,000	-	407,968	-
Switzerland	-1,608,536	-	2,280,871	792,921	2,147,962	1,920,793	2,300,302	1,749,558	1,484,151	-
United Kingdom	-150,310	-	1,269,052	1,318,023	1,464,305	167,448	2,425,188	1,094,599	548,731	-
Yugoslavia	-1,041	-	-	-	-	-	-	-	-	-1,041

Table 1 (continued)

Country / organization	Unpaid balances/ advances by donors brought forward from UNIDF 1.1.86	Adjust- ments to prior pledges	IDF firm pledges for				Collections ...		Exchange adjust- ments	Unpaid balance	Advances by donors
			1986- 1987	1988	1989	1990 and future years	1986- 1988	1989			
Special-purpose convertible (continued)											
Organizations											
Arab Industrial Development Organization	-19,877	-	-	-	-123	27,120	-20,000	-	-	27,120	-
African Institute for Higher Technology, Training and Research, Kenya	1,253	-	-5,564	-	-	-	-	-4,311	-	-	-
Banque ouest africaine de développement (BOAD), Togo	-	-	2,828	-	-28	-	2,800	-	-	-	-
Egyptian Iron and Steel Co.	-10,576	-	5,863	-	-	-	-	-	-	-	-4,713
Kuwait Institute for Scientific Research	-48,229	-	72,278	2,387	-	-	-	-	-	26,436	-
S.G. des Eaux Minerales de Vittel, France	-	-	21,811	35	8,044	-	25,554	8,160	-	-	-3,824
Nobel Chematur, Sweden	-	-	9,040	-	-	-	9,040	-	-	-	-
Apple Computer, USA	-	-	-	22,549	11,351	-	-	33,900	-	-	-
Cordecruz, Bolivia	-	-	-	-	-	-	-	22,017	-	-	-22,017
Saudi Consulting House, Saudi Arabia	-	-	-	-	12,000	-	-	12,000	-	-	-
Total	-6,887,229	-	23,269,211	16,355,651	32,161,559	26,514,474	54,394,591	25,266,329	-	17,138,118	-5,385,372
Non-convertible											
Bulgaria	-222,203	-	200,691	158,425	134,858	-	297,110	82,353	-	-	-107,692
China	-54,661	-	132,576	166,911	213,998	-	217,535	232,600	-	8,689	-
Cuoa	-219,864	-	30,365	180,604	116,559	-	79,869	28,611	-	-	-816
Czechoslovakia	-78	-	540,684	493,042	427,516	-	1,033,160	429,762	-	-	-1,758
Egypt	21,793	-	65,263	-15,369	-11,594	-	72,492	-	-	-	-12,399
German Democratic Republic	-282,596	-	763,231	520,132	551,748	180,523	1,823,542	541,195	-	-	-631,699
Hungary	-1,360	-	232,397	222,448	57,911	130,171	353,086	173,077	-	115,404	-
India	-399,558	-	140,734	-29,198	97,268	184,217	1,002,336	483,968	-	-	-1,492,841
Mongolia	-15,925	-	-	-	-	-	-	-	-	-	-15,925
Pakistan	-98,888	-	61,826	6,272	6,734	1,484	67,967	1,229	-	-	-91,768
Poland	-26,495	-	476,819	240,185	295,753	125,051	720,583	107,205	-	283,525	-

Table 1 (continued)

Country / organization	Unpaid balances/ advances by donors brought forward from UNIDF 1.1.86	Adjust- ments to prior pledges	IDF firm pledges for				Collections in		Exchange adjust- ments	Unpaid balance	Advances by donors
			1986- 1987	1988	1989	1990 and future years	1986- 1988	1989			
Non-convertible (continued)											
Romania	-2,471	-	66,218	-4,227	88,913	-	65,104	76,566	-	6,763	-
Turkey	-2,258	-	334,863	163,051	177,340	-	638,399	208,799	-	-	-174,202
USSR	-402,605	-	2,126,171	1,074,696	962,129	35,772	2,787,413	1,116,608	-	-	-107,858
Yugoslavia	-57,228	-	196,647	-25,272	251,917	-	356,703	148,934	-	-	-139,573
Organizations											
Egyptian Iron and Steel Company	-26,747	-	-5,195	-	-	-	-	-	-	-	-31,942
Total non-convertible	-1,791,144	-	5,363,290	3,151,700	3,371,050	657,218	9,515,299	3,630,907	-	414,381	-2,808,473
Grand total	-7,620,287	80,578	32,214,164	20,246,807	37,071,152	27,659,978	68,220,864	29,525,811	2,078	20,097,484	-8,193,845

Table 2

Status of resources of the Industrial Development Fund as at 31 December 1989

(In thousands of US dollars)

	Convertible		Non-convertible	Total
	General-purpose	Special-purpose		
Available for programming				
Balance from UNIDF	4,562	-	-	4,562
Pledges, 1986-1990	6,429	96,858	17,700	120,987
Revaluation of pledges	(2)	6,078	(1,640)	4,436
Interest income	3,751	-	-	3,751
Other income	54	-	-	54
TOTAL AVAILABLE	14,794	102,936	16,060	133,790
Approvals				
Projects				
Expenditure, 1986-1989	7,376	54,348	10,989	72,713
Commitments, 1990 and future	95	2,855	28	2,978
Not yet implemented	3,361	30,310	1,526	35,197
Subtotal	10,832	87,513	12,543	110,888
Support costs, 1986-1989				
General-purpose convertible	926	-	-	926
Special-purpose convertible	21	6,712	-	6,733
Non-convertible <u>a/</u>	1,363	60	-	1,428
Subtotal	2,315	6,772	0	9,087
Reserve for support costs, 1990 and future				
General-purpose convertible	449	-	-	449
Special-purpose convertible	-	4,006	-	4,006
Non-convertible <u>a/</u>	202	10	-	212
Subtotal	651	4,016	0	4,667
TOTAL APPROVALS	13,798	98,301	12,543	124,642
PROGRAMMABLE BALANCE	996	4,635	3,517	9,148
Cash position				
Balance from UNIDF	5,229	9,524	3,375	18,128
Contributions received	4,940	79,661	13,146	97,747
Interest and other income	3,806	7,482	(980)	10,308
Subtotal	13,975	96,667	15,541	126,183
Disbursements, 1986-1989 (including support costs)	10,195	55,982	11,119	77,296
CASH BALANCE	3,780	40,685	4,422	48,887
Unliquidated obligations, 1989 and prior				
Commitments, 1990 and future	671	7,774	1,453	9,898
Reserve for support costs, 1990 and future	95	2,855	28	2,978
Residual value of projects	651	4,016	-	4,667
Residual value of projects	3,361	30,310	1,526	35,197
TOTAL COMMITMENTS	4,778	44,955	3,007	52,740
UNCOMMITTED CASH BALANCE	(998) <u>b/</u>	(4,270)	1,415	(3,853)

a/ Support costs for projects financed from non-convertible currencies are normally charged to the general-purpose convertible segment. However, some donors have agreed that support costs on such projects financed by them should be charged to their convertible contributions.

b/ Against which has been established the operational reserve totalling \$0.550 million.

Table 3

Cumulative list of projects approved for financing under UNIDF/IDF, 1978-1989,
classified according to priority area, as at 31 December 1989

UNIDF/IDF priority area	Number of projects	Special-purpose convertible (excluding overheads) (in US dollars)	General-purpose convertible (excluding overheads) (in US dollars)	Special-purpose non-convertible (excluding overheads) (US dollar equivalent)	General-purpose non-convertible (excluding overheads)	Total (in US dollars)	Percentage
Special measures for the least developed, land-locked and island developing countries	134	8,559,806	3,169,516	1,601,959	292,409	13,623,690	7.0
Development and transfer of industrial technology and industrial information	412	36,199,973	7,718,019	1,165,746	1,169,903	46,253,641	23.7
Economic co-operation among developing countries	118	897,986	3,816,164	1,323,922	39,908	6,077,980	3.1
Training programmes and strengthening industrial training institutions in developing countries	758	21,959,406	5,085,659	14,787,770	5,200,960	47,033,795	24.1
Industrial institutional infrastructure	109	4,681,222	2,657,816	422,493	252,212	8,013,743	4.1
Industries processing local natural resources, including export-oriented industries	149	13,685,378	2,211,987	518,365	-	16,415,730	8.4
Industries satisfying basic needs and support to rural industries	89	5,730,820	1,815,751	132,125	280,638	7,959,334	4.1
Promotional activities	273	40,024,607	4,524,112	986,116	733,292	46,268,127	23.7
Other activities	53	769,599	2,396,952	15,000	271,902	3,453,453	1.8
TOTAL	2,095	132,508,797	33,395,976	20,953,496	8,241,224	195,099,493	100.0

Table 4

Breakdown of all new projects financed
under IDF in 1989 (UC, US, UT and UD)

(By region and programme component)

Region	US\$	Percentage
Africa (excluding Arab States)	14,481,955	45.3
Arab States	1,385,184	4.3
African	1,148,831	4.0
West Asian	158,635	0.1
Regional	77,718	0.2
Asia and the Pacific	1,308,520	4.1
Europe	132,836	0.4
Latin America and the Caribbean	887,922	2.8
Global and interregional	13,761,109	43.1
TOTAL	31,957,526	100.0
<u>Programme component/priority area</u>		
Special measures for the least developed, land-locked and island developing countries	245,662	0.8
Development and transfer of industrial technology and industrial information	13,646,225	42.7
Economic co-operation among developing countries	402,866	1.3
Training programmes and strengthening industrial training institutions in developing countries	4,877,615	15.2
Industrial institutional infrastructure	548,892	1.7
Industries processing local natural resources, including export-oriented industries	1,559,801	4.9
Industries satisfying basic needs and support to rural industries	210,382	0.7
Promotional activities	10,149,219	31.7
Others	316,864	1.0
TOTAL	31,957,526	100.0

Table 4 (a)
General-purpose convertible projects (UC)
 (By region and programme component)

Region	US\$	Percentage
Africa (excluding Arab States)	354,906	18.1
Arab States	157,639	8.0
African	3,906	0.2
West Asian	148,015	7.5
Regional	5,718	0.3
Asia and the Pacific	326,682	16.6
Europe	121,650	6.2
Latin America and the Caribbean	516,321	26.3
Global and interregional	<u>487,269</u>	<u>24.8</u>
TOTAL	1,964,447	100.0
 <u>Programme component/priority area</u>		
Special measures for the least developed, land-locked and island developing countries	185,554	9.4
Development and transfer of industrial technology and industrial information	671,909	34.3
Economic co-operation among developing countries	51,500	2.6
Training programmes and strengthening industrial training institutions in developing countries	138,504	7.1
Industrial institutional infrastructure	253,392	12.9
Industries processing local natural resources, including export-oriented industries	111,166	5.7
Industries satisfying basic needs and support to rural industries	42,500	2.1
Promotional activities	360,058	18.3
Others	<u>149,864</u>	<u>7.6</u>
TOTAL	1,964,447	100.0

Table 4 (b)

Special-purpose convertible projects (US)

(By region and programme component)

Region	US\$	Percentage
Africa (excluding Arab States)	14,101,049	52.6
Arab States	1,227,545	4.6
African	1,144,925	4.27
West Asian	10,620	0.03
Regional	72,000	0.26
Asia and the Pacific	803,738	3.0
Europe	-	-
Latin America and the Caribbean	371,601	1.4
Global and interregional	<u>10,294,420</u>	<u>38.4</u>
TOTAL	26,798,353	100.0
<u>Programme component/priority area</u>		
Special measures for the least developed, land-locked and island developing countries	24,680	0.1
Development and transfer of industrial technology and industrial information	12,685,658	47.3
Economic co-operation among developing countries	322,000	1.2
Training programmes and strengthening industrial training institutions in developing countries	2,279,382	8.6
Industrial institutional infrastructure	295,500	1.1
Industries processing local natural resources, including export-oriented industries	1,448,635	5.4
Industries satisfying basic needs and support to rural industries	167,882	0.6
Promotional activities	9,574,616	35.7
Others	-	-
TOTAL	<u>26,798,353</u>	<u>100.0</u>

Table 4 (c)

Special-purpose and general-purpose non-convertible projects (UD/UT)

(By region and programme component)

<u>Region</u>	<u>US\$</u>	<u>Percentage</u>
Africa (excluding Arab States)	26,000	0.8
Arab States	-	-
African	-	-
West Asian	-	-
Regional	-	-
Asia and the Pacific	178,100	5.6
Europe	11,186	0.4
Latin America and the Caribbean	-	-
Global and interregional	<u>2,979,440</u>	<u>93.2</u>
TOTAL	3,194,726	100.0
<u>Programme component/priority area</u>		
Special measures for the least developed, land-locked and island developing countries	35,428	1.1
Development and transfer of industrial technology and industrial information	288,658	9.0
Economic co-operation among developing countries	29,366	1.0
Training programmes and strengthening industrial training institutions in developing countries	2,459,729	77.0
Industrial institutional infrastructure	-	-
Industries processing local natural resources, including export-oriented industries	-	-
Industries satisfying basic needs and support to rural industries	-	-
Promotional activities	214,545	6.7
Others	<u>167,000</u>	<u>5.2</u>
TOTAL	3,194,726	100.0

TRAINING ACTIVITIES IN 1989

Table 1 a/
In-plant group training programmes in 1989

Field of study	Type of programme			Host country	Number of participants			
	National	Regional	Inter- regional		of which			
					All developing countries	LDCs	Female	African b/ participants
Maintenance - small/medium ships	-	x	-	Belgium/Morocco	16	4	-	16
Maintenance - railway	-	x	-	Belgium/Gabon	12	8	-	12
Agricultural machinery	-	-	x	China	13	7	-	7
Diesel engines	-	-	x	China	13	3	2	1
Maintenance in metallurgy and engineering	-	-	x	Czechoslovakia	15	3	-	7
Quality improvement	-	-	x	Japan	10	-	1	1
Repair of spare parts for agricultural machinery	-	-	x	Romania	10	-	-	4
Cement industry	-	-	x	Turkey	10	2	-	2
Beet and cane sugar industry	-	-	x	Turkey	9	1	-	-
Utilization of medicinal and aromatic plants in pharmaceutical industry	-	-	x	Turkey	10	5	3	5
Iron and steel industry	-	-	x	Turkey	11	4	-	6
Maintenance - rolling stock	-	x	-	United Kingdom/ Egypt	16	6	-	16
Maintenance - railway track	-	x	-	United Kingdom/ Kenya	15	6	-	15
Maintenance engineering - iron and steel	-	x	-	United Kingdom/ Zimbabwe	20	7	-	20
Metalworking industry	-	-	x	Union of Soviet Socialist Republics	14	1	-	1
Maintenance - machine tools	-	-	x	Union of Soviet Socialist Republics	16	3	-	5
Electric welding c/	-	-	x	Union of Soviet Socialist Republics	34	6	-	11

Table 1 a/ (continued)

Field of study	Type of programme			Host country	Number of participants			
	National	Regional	Inter-regional		All developing countries	of which		
						LDCs	Female	African b/ participants
Mineral fertilizer industry	-	-	x	Union of Soviet Socialist Republics	15	4	1	4
Grain milling and storage	-	-	x	Union of Soviet Socialist Republics	14	3	2	4
Iron and steel c/	-	-	x	Union of Soviet Socialist Republics	33	4	-	3
Industrial information	-	-	x	Union of Soviet Socialist Republics	12	-	9	-
Rice processing	-	-	x	Union of Soviet Socialist Republics	14	4	1	5
Management - agro-industrial enterprises	-	-	x	Yugoslavia	6	1	-	4
Entrepreneurship/ food processing	-	x	-	Zambia	20	2	20	20
Training of trainers (entrepreneurship/ food processing)	-	x	-	Zambia	24	13	15	24
Entrepreneurship/ food processing	x	-	-	Zimbabwe	21	-	20	20
TOTAL					403	97	74	213

a/ These figures do not include participants in training activities organized within the framework of UNIDO-executed field projects.

b/ Including participants from African Arab States.

c/ Two programmes carried out in 1989.

Table 2 a/
Other group training programmes in 1989

Field of study	Type of programme			Host country	Number of participants			
	National	Regional	Inter- regional		of which			
					All developing countries	LDCs	Female	African b/ participants
Man-made fibres	-	-	x	Austria	-	4	1	8
Financial/economic analysis and COMFAR application c/	-	-	x	Austria	7	4	1	6
Financial/economic analysis and COMFAR application c/ Computer-aided tools/spare parts production b/	-	-	x	Austria	6	1	1	3
Management - air and water	-	x	-	Belgium	23	6	2	15
Ship design	-	-	x	Belgium	13	2	4	4
Hydrodynamic investigation and design in shipbuilding and marine engineering	-	-	x	Bulgaria	6	-	-	1
Preparation and evaluation of investment projects	-	x	-	Bulgaria	8	-	-	-
Financial/economic analysis and COMFAR application	x	-	-	Burundi	21	21	4	21
Training of trainers - development finance institutes	x	-	-	Cameroon	22	-	1	22
Financial/economic analysis and COMFAR application c/ Non-metallic minerals for environmental protection	-	x	-	Cameroon	19	12	1	19
Recent trends in metal- forming technologies in metallurgical engineering	x	-	-	Côte d'Ivoire	6	-	2	6
Energy management in non-metallic industries	-	-	x	Czechoslovakia	26	2	4	6
Computer-managed maintenance systems on personal computers	-	-	x	Czechoslovakia	14	1	1	4
Industrial applications of personal computers	-	-	x	Czechoslovakia	17	2	1	6
	-	x	-	Czechoslovakia	13	-	2	-
	-	-	x	Czechoslovakia	18	1	-	11

Table 2 a/ (continued)

Field of study	Type of programme			Host country	Number of participants			
	National	Regional	Inter-regional		of which			
					All developing countries	LDCs	Female	African b/ participants
Computer-aided design/ computer-aided manufac- turing (CAD/CAM) in basic engineering industries	-	-	x	Czechoslovakia	18	1	1	7
Industrial applications of personal computers in the field of CAD/CAM for basic engineering industries with emphasis on maintenance and repair	-	-	x	Czechoslovakia	12	2	1	2
Environmental management	-	x	-	Finland/Union of Soviet Socialist Republics	26	8	4	-
Financial analysis and COMFAR	-	-	x	France	20	10	-	19
Maintenance of biomedical equipment	-	-	x	France	18	2	2	-
Petroleum refineries	-	x	-	France	20	-	2	-
Financial/economic analysis and COMFAR application	x	-	-	Gambia	15	15	3	15
Printing industry	-	-	x	German Democratic Republic	19	6	2	-
Industrial planning	-	-	x	German Democratic Republic	24	9	6	9
Pesticide formulation	-	-	x	German Democratic Republic	20	5	4	8
Project preparation and evaluation	x	-	-	Guinea	33	33	5	33
Advanced seminar for ex- participants of UNIDO programmes in industrial project preparation and evaluation	-	-	x	Federal Republic of Germany	21	5	6	10
Project preparation and evaluation for women	-	x	-	Honduras	19	-	19	-

Table 2 a/ (continued)

Field of study	Type of programme			Host country	Number of participants			
	National	Regional	Inter-regional		of which			
					All developing countries	LDCs	Female	African b/ participants
Financial/economic analysis and COMFAR application c/	x	-	-	Honduras	20	-	-	20
UNIDO/ARCEDEM workshop on core metallurgical industries for African developing countries	-	x	-	Hungary	24	7	-	24
Small/medium business management	-	-	x	Iran (Islamic Republic of)	20	9	2	16
Financial/economic analysis and COMFAR application c/	-	-	x	Italy	10	33	1	4
Training of trainers - development finance institutes	-	x	-	Italy	18	6	2	18
Industrial planning c/	-	x	-	Japan	14	-	5	-
Design, manufacture, repair and maintenance of solar water heaters	-	-	x	Jordan	21	6	-	14
Project preparation, evaluation and COMFAR	-	x	-	Kuwait	18	5	4	6
Project preparation, evaluation and financing	x	-	-	Lao People's Democratic Republic	32	32	8	-
Project preparation and evaluation	x	-	-	Malaysia	20	-	10	-
Project preparation and evaluation/COMFAR	x	-	-	Mauritius	22	-	4	22
Maintenance of industrial equipment	-	x	-	Morocco	21	9	1	15
Financial/economic analysis and COMFAR application	-	x	-	Philippines	15	-	8	-
Small-scale industry consultancy	-	x	-	Philippines	15	14	1	10
Power plant design	-	-	x	Philippines	13	11	1	9
Project preparation, evaluation and financing	-	-	x	Poland	25	6	6	7
Financial/economic analysis and COMFAR application	x	-	-	Seychelles	8	-	2	8

Table 2 a/ (continued)

Field of study	Type of programme			Host country	Number of participants			
	National	Regional	Inter-regional		All developing countries	of which		
						LDCs	Female	African b/ participants
Project execution	x	-	-	Seychelles	8	-	2	8
Financial economic analysis and COMFA R application	x	-	-	Tunisia	18	-	3	18
Cement technology	-	-	x	Turkey	3	-	-	8
Cement industry	-	-	x	Turkey	8	3	-	4
Management - small-scale foundry industry	-	-	x	Turkey	12	6	-	9
Management of human resources	-	-	x	Union of Soviet Socialist Republics	14	3	2	7
Management of maintenance systems	-	x	-	United Kingdom	12	4	-	12
Training of trainers - iron and steel industry	-	x	-	United Kingdom	8	4	-	8
Group training on alumina production	x	-	-	Viet Nam	18	-	-	-
Project preparation, evaluation and financing	x	-	-	Viet Nam	100	-	15	-
Financial/economic analysis and COMFA R application	-	x	-	Zambia	19	8	3	19
Financial/economic analysis and COMFA R application	-	x	-	Zambia	15	6	4	15
Financial/economic analysis and COMFA R application	x	-	-	Zimbabwe	13	-	2	13
TOTAL					1,048	324	166	529

a/ These figures do not include participants in training activities organized within the framework of UNIDO-executed field projects.

b/ Including participants from African Arab States.

c/ Training programmes financed by recipient institution, COMFA R funds or third party.

Table 3

Number of fellowships and study tours started in 1989,
by nationality/home area, country or territory

Nationality/home area, country or territory	Number of individuals placed									
	UNDP			Regular programme			Other programmes			Total
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
AFRICA a/										
Angola	2	2	4	-	-	-	-	-	-	4
Botswana	-	-	-	-	-	-	2	1	3	3
Burkina Faso	4	2	6	3	-	3	-	-	-	9
Burundi	1	-	1	-	-	-	-	-	-	1
Cameroon	-	-	-	6	2	8	-	-	-	8
Chad	7	-	7	-	-	-	-	-	-	7
Côte d'Ivoire	2	-	2	1	-	1	-	-	-	3
Ethiopia	35	5	40	-	-	-	15	-	15	55
Gabon	1	-	1	-	-	-	-	-	-	1
Ghana	4	-	4	-	-	-	-	-	-	4
Guinea	8	-	8	-	-	-	-	-	-	8
Kenya	-	-	-	-	-	-	1	-	1	1
Lesotho	-	1	1	-	-	-	-	-	-	1
Liberia	9	-	9	-	-	-	-	-	-	9
Madagascar	10	1	11	5	2	7	-	-	-	18
Malawi	18	2	20	-	-	-	-	-	-	20
Mali	2	-	2	-	-	-	-	-	-	2
Mauritius	1	-	1	-	-	-	-	-	-	1
Mozambique	-	-	-	-	-	-	2	-	2	2
Niger	5	1	6	-	-	-	-	-	-	6
Nigeria	19	1	20	-	-	-	-	-	-	20
Rwanda	6	-	6	-	-	-	-	-	-	6
Senegal	1	-	1	-	-	-	2	-	2	3
Seychelles	1	1	2	-	-	-	-	-	-	2
Sierra Leone	1	-	1	-	-	-	-	-	-	1
Swaziland	1	-	1	-	-	-	-	-	-	1
Togo	-	-	-	2	-	2	-	-	-	2
Uganda	-	-	-	1	-	1	4	2	6	7
United Republic of Tanzania	2	-	2	1	-	1	1	-	1	4
Zaire	3	-	3	-	-	-	-	-	-	3
Zambia	25	1	26	2	-	2	1	-	1	29
Zimbabwe	5	-	5	1	-	1	5	-	5	11
Total Africa	173	17	190	22	4	26	33	3	36	252

Table 3 (continued)

Nationality/home area, country or territory	Number of individuals placed									
	UNDP			Regular programme			Other programmes			Total
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
ARAB STATES										
Algeria	6	1	7	6	-	6	4	-	4	17
Democratic Yemen	1	-	1	2	-	2	-	-	-	3
Egypt	61	4	65	-	-	-	13	-	13	78
Iraq	13	-	13	1	-	1	1	-	1	15
Jordan	2	-	2	-	-	-	-	-	-	2
Libyan Arab Jamahiriya	-	-	-	-	-	-	5	-	5	5
Lebanon	1	-	1	-	-	-	-	-	-	1
Morocco	11	-	11	-	-	-	4	-	4	15
Oman	-	-	-	-	-	-	1	-	1	1
Saudi Arabia	2	-	2	-	-	-	-	-	-	2
Somalia	15	-	15	-	-	-	1	-	1	16
Sudan	-	-	-	1	2	3	6	-	6	9
Syrian Arab Republic	18	3	21	-	-	-	-	-	-	21
Tunisia	23	5	28	-	-	-	-	-	-	28
Yemen	8	-	8	-	-	-	-	-	-	8
Total Arab States	161	13	174	10	2	12	35	0	35	221
ASIA AND THE PACIFIC										
Bangladesh	22	-	22	-	-	-	-	-	-	22
Bhutan	-	-	-	-	-	-	1	-	1	1
Brunei	1	-	1	-	-	-	-	-	-	1
China	138	29	167	-	-	-	49	12	61	228
Cook Islands	1	-	1	-	-	-	-	-	-	1
Democratic People's Republic of Korea	13	4	17	-	-	-	-	-	-	17
India	143	7	150	2	-	2	6	-	6	158
Indonesia	9	3	12	-	-	-	-	-	-	12
Iran (Islamic Republic of)	13	1	14	4	-	4	-	-	-	18
Kiribati	1	-	1	-	-	-	-	-	-	1
Malaysia	2	2	4	-	-	-	2	-	2	6
Mongolia	11	6	17	1	-	1	-	-	-	18
Myanmar	3	-	3	-	-	-	5	-	5	8
Nepal	37	2	39	-	-	-	1	-	1	40
Pakistan	8	-	8	-	-	-	-	-	-	8
Papua New Guinea	1	-	1	-	-	-	-	-	-	1
Philippines	18	12	30	-	-	-	-	-	-	30
Republic of Korea	25	7	32	-	-	-	-	-	-	32
Samoa	1	-	1	-	-	-	-	-	-	1
Singapore	1	-	1	-	-	-	-	-	-	1
Solomon Islands	1	-	1	-	-	-	-	-	-	1
Sri Lanka	35	3	38	-	-	-	2	-	2	40
Thailand	6	4	10	-	-	-	-	-	-	10
Tonga	-	1	1	-	-	-	-	-	-	1
Viet Nam	123	22	145	-	-	-	-	-	-	145
Total Asia and the Pacific	613	103	716	7	0	7	66	12	78	801

Table 3 (continued)

Nationality/home area, country or territory	Number of individuals placed									
	UNDP			Regular programme			Other programmes			Total
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
EUROPE										
Albania	35	3	38	-	-	-	-	-	-	38
Bulgaria	108	19	127	-	-	-	4	-	4	131
Cyprus	19	-	19	1	-	1	-	-	-	20
Czechoslovakia	9	-	9	-	-	-	-	-	-	9
Hungary	55	9	64	-	-	-	2	-	2	66
Malta	16	4	20	-	-	-	-	-	-	20
Poland	56	18	74	-	-	-	-	-	-	74
Portugal	7	3	10	-	-	-	-	-	-	10
Romania	17	2	19	-	-	-	-	-	-	19
Turkey	13	5	18	4	-	4	-	1	1	23
Yugoslavia	41	8	49	4	-	4	-	-	-	53
Total Europe	376	71	447	9	0	9	6	1	7	463
LATIN AMERICA AND THE CARIBBEAN										
Argentina	4	1	5	-	-	-	9	1	10	15
Barbados	1	-	1	-	-	-	-	-	-	1
Bolivia	5	-	5	-	-	-	-	-	-	5
Brazil	3	3	6	-	-	-	11	-	11	17
Chile	2	1	3	-	-	-	-	-	-	3
Colombia	9	1	10	-	-	-	1	-	1	11
Costa Rica	-	-	-	-	-	-	4	1	5	5
Cuba	9	3	12	-	-	-	10	7	17	29
Dominican Republic	-	-	-	-	-	-	1	-	1	1
Ecuador	5	2	7	-	-	-	-	-	-	7
El Salvador	-	-	-	-	-	-	2	-	2	2
Guatemala	-	-	-	-	-	-	1	1	2	2
Guyana	9	3	12	-	-	-	2	2	4	16
Honduras	2	-	2	-	-	-	2	-	2	4
Mexico	16	-	16	-	-	-	-	-	-	16
Nicaragua	4	4	8	-	-	-	2	-	2	10
Panama	-	-	-	-	-	-	1	-	1	1
Paraguay	7	1	8	-	-	-	-	-	-	8
Peru	2	-	2	-	-	-	-	-	-	2
Trinidad	2	-	2	-	-	-	-	-	-	2
Venezuela	2	-	2	-	-	-	-	-	-	2
Total Latin America and the Caribbean	82	19	101	0	0	0	46	12	58	159
GRAND TOTAL	1,405	223	1,628	48	6	54	186	28	214	1,896 ^{b/}

^{a/} African Arab States (Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Somalia, Sudan, Tunisia) included under "Arab States".

^{b/} Including 257 females; 243 individuals from least developed countries; 473 individuals from African countries (including African Arab States).

Table 4

Fellowships and study tours started in 1989, by country,
geographical area or territory of study a/, b/

Country/geographical area/ territory of study	Number of individuals placed			Total
	UNDP	Regular programme	Other programmes	
Algeria	3	-	-	3
Argentina	4	-	1	5
Australia	29	-	6	35
Austria	135	3	14	152
Austria (UNIDO Headquarters)	127	3	10	140
Belgium	37	2	4	43
Brazil	30	-	7	37
Bulgaria	14	-	2	16
Burkina Faso	2	-	-	2
Cameroon	2	-	-	2
Canada	17	-	1	18
Chile	1	-	-	1
China	21	-	1	22
Colombia	1	-	1	2
Comoros	6	-	-	6
Costa Rica	2	-	9	11
Côte d'Ivoire	5	-	-	5
Cuba	6	2	7	15
Czechoslovakia	49	5	2	56
Denmark	39	-	5	44
Ecuador	4	-	-	4
Egypt	14	3	5	22
Ethiopia	1	-	-	1
Fiji	1	-	-	1
Finland	23	-	3	26
France	155	15	27	197
German Democratic Republic	19	-	-	19
Germany, Federal Republic of	297	3	36	336
Ghana	5	-	-	5
Greece	7	-	-	7
Guatemala	3	-	-	3
Guyana	5	-	-	5
Hong Kong	10	-	5	15
Hungary	53	8	-	61
India	106	4	6	116
Indonesia	5	-	-	5
Iraq	3	-	-	3
Ireland	7	2	-	9
Israel	1	-	-	1
Italy	160	1	28	189
Japan	64	-	8	72
Jordan	1	-	-	1
Kenya	31	3	-	34
Madagascar	-	2	-	2
Malawi	2	-	-	2
Malaysia	16	-	5	21
Mauritius	-	7	-	7
Mexico	11	2	7	20
Morocco	2	-	-	2
Netherlands	75	-	3	78
New Zealand	9	-	-	9

Table 4 (continued)

Country/geographical area/ territory of study	Number of individuals placed			Total
	UNDP	Regular programme	Other programmes	
Nigeria	9	3	-	12
Norway	3	-	-	3
Pakistan	4	-	-	4
Peru	1	-	-	1
Philippines	14	-	1	15
Poland	47	-	-	47
Portugal	7	-	-	7
Puerto Rico	1	-	-	1
Republic of Korea	22	1	-	23
Reunion	10	4	-	14
Romania	2	-	-	2
Samoa	2	-	-	2
Senegal	5	-	-	5
Singapore	10	-	5	15
Spain	34	-	3	37
Sri Lanka	7	-	-	7
Swaziland	1	-	-	1
Sweden	47	-	3	50
Switzerland	48	2	13	63
Thailand	48	-	5	53
Togo	5	-	-	5
Trinidad and Tobago	-	-	1	1
Tunisia	4	-	-	4
Turkey	4	-	-	4
Uganda	1	-	2	3
Union of Soviet Socialist Republics	27	4	-	31
United Kingdom	324	4	37	365
United Republic of Tanzania	4	-	-	4
United States of America	211	3	45	259
Vanuatu	2	-	-	2
Venezuela	1	-	-	1
Yugoslavia	20	-	-	20
Zambia	-	-	1	1
Zimbabwe	8	-	-	8
TOTAL	2,553	86	319	2,958

a/ Where a fellowship/study tour included more than one country/geographical area/territory, it is listed against each one concerned. Thus the totals in table 4 do not correspond to those in table 3.

b/ Of these placements 719 or 24.3 per cent were arranged in developing countries, thus contributing to technical co-operation among developing countries.

APPENDIX J

AGREEMENTS CONCLUDED BY UNIDO IN 1989

Agreements with StatesAlgeria

"Relevé de conclusions" of discussions with the Algerian Government during the Director-General's visit to Algeria from 1 to 5 April on co-operation between Algeria and UNIDO, signed on 5 April

Cameroon

Basic co-operation agreement between the United Nations Industrial Development Organization and the Government of the Republic of Cameroon, signed on 24 April

China

Agreement between the United Nations Industrial Development Organization and the Government of the People's Republic of China on the establishment of a UNIDO Centre for International Industrial Co-operation, signed on 21 November

Trust fund agreement between the United Nations Industrial Development Organization and the Government of the People's Republic of China regarding co-operation in the implementation of the project concerning the promotion of international industrial co-operation between Chinese and foreign enterprises, signed on 21 November

Ecuador

Basic co-operation agreement between the United Nations Industrial Development Organization and the Republic of Ecuador, signed on 10 May

Italy

Agreement between the Government of Italy and the United Nations Industrial Development Organization on basic terms and conditions governing UNIDO projects envisaged by the five-year work programme for the International Centre for Genetic Engineering and Biotechnology, signed on 14 August

Trust fund agreement between the United Nations Industrial Development Organization and the Government of Italy, signed on 14 August in connection with the above agreement on basic terms and conditions

Trust fund agreement between the United Nations Industrial Development Organization and the Research Area of Trieste, signed on 14 August in connection with the above agreement on basic terms and conditions

Agreement between the United Nations Industrial Development Organization and the Government of Italy regarding the arrangements for the United Nations Industrial Development Organization's First Consultation on Small- and Medium-scale Enterprises including Co-operatives, signed on 10 October

Agreement between the United Nations Industrial Development Organization and the Research Area of Trieste in connection with the agreement of 29 June 1988 between UNIDO and the Government of Italy on basic terms and conditions governing the UNIDO project concerning the preparatory phase for the establishment of an International Centre for Science and High Technology, signed on 8 November

Japan

Exchange of letters between the Permanent Representative of Japan to UNIDO and the Officer-in-Charge of UNIDO concerning the extension of the UNIDO Investment Promotion Service in Tokyo for three years with effect from 1 September 1989 as well as the continued applicability of the previous arrangements for the Service beyond their expiration on 30 June 1989, dated 29 August

Memorandum concerning the interregional project of the UNIDO Service in Japan for the promotion of industrial investment in developing countries, signed on 29 August

Lebanon

Basic co-operation agreement between the United Nations Industrial Development Organization and the Government of Lebanon, signed on 14 March

Malta

Agreement between the United Nations Industrial Development Organization and the Government of Malta regarding the arrangements for UNIDO's First Consultation on the Electronics Industry, signed on 11 and 25 September

Mauritania

Basic co-operation agreement between the United Nations Industrial Development Organization and the Government of the Islamic Republic of Mauritania, signed on 16 May

Papua New Guinea

Basic co-operation agreement between the United Nations Industrial Development Organization and the Government of Papua New Guinea, signed on 2 February and 14 April

Republic of Korea

Exchange of letters between the Director General, International Economic Affairs Bureau, Seoul, and the Director-General of UNIDO concerning the extension from 16 April to 15 July 1989 of the agreement concluded on 15 April 1987 between the Government of the Republic of Korea and UNIDO regarding the UNIDO Service in the Republic of Korea for promotion of industrial investment in developing countries, dated 11 and 14 April

Exchange of letters between the Permanent Representative of the Republic of Korea to UNIDO and the Director-General concerning the extension of the above agreement from 16 July to 15 October 1989, dated 14 July

Exchange of letters between the Permanent Representative of the Republic of Korea to UNIDO and the Director-General concerning the extension until 15 July 1992 of the above agreement of 1987 regarding the UNIDO Service in the Republic of Korea for promotion of industrial investment in developing countries, dated 16 October

Saint Lucia

Basic co-operation agreement between the Government of Saint Lucia and the United Nations Industrial Development Organization, signed on 6 September 1988 and 24 February 1989

Union of Soviet Socialist Republics

Agreement between the United Nations Industrial Development Organization and the Government of the Union of Soviet Socialist Republics regarding the arrangements for the UNIDO Consultation

on the Food-processing Industry with Emphasis on Fruit and Vegetable Processing held in the Georgian Soviet Socialist Republic, signed on 16 May

Agreement between the United Nations Industrial Development Organization and the Government of the Union of Soviet Socialist Republics on the establishment of a UNIDO Centre for International Industrial Co-operation in the Union of Soviet Socialist Republics, signed on 22 November

Agreement between the United Nations Industrial Development Organization and the Government of the Union of Soviet Socialist Republics on the trust fund for the UNIDO Centre for International Industrial Co-operation, signed on 22 November

Exchange of letters between the Permanent Representative of the Union of Soviet Socialist Republics to UNIDO and the Officer-in-Charge of UNIDO regarding the entry into force of the two above-mentioned agreements of 22 November 1989, dated 21 December

Agreements with the United Nations,
with specialized agencies and
other organizations within
the United Nations system

United Nations

Agreement between the United Nations and the United Nations Industrial Development Organization on arrangements for the sale of UNIDO publications, signed on 13 and 21 November

Specialized agencies

IFAD

Relationship agreement between the United Nations Industrial Development Organization and the International Fund for Agricultural Development, signed on 1 February and 5 June

UNESCO

Agreement for co-operation between the United Nations Educational, Scientific and Cultural Organization and the United Nations Industrial Development Organization, signed on 22 April and 5 June

WHO

Agreement between the World Health Organization and the United Nations Industrial Development Organization, signed on 19 April, and protocol regarding the entry into force, signed on 5 and 30 October

Subsidiary organs of the United NationsESCAP

Working arrangement between the Secretariat of the United Nations Industrial Development Organization and the Secretariat of the Economic and Social Commission for Asia and the Pacific, signed on 21 July and 3 August

UNDP

Memorandum of understanding concerning the integration of the United Nations Industrial Development Organization field service within the United Nations Development Programme field office, signed on 5 and 12 April

Agreements with other
intergovernmental
organizations

ARSO

Relationship Agreement between the United Nations Industrial Development Organization and the African Regional

Organization for Standardization, signed on 1 and 11 December

AUCBM

Relationship agreement between the United Nations Industrial Development Organization and the Arab Union for Cement and Building Materials, signed on 4 June and 4 August

CARIBANK

Relationship agreement between the United Nations Industrial Development Organization and the Caribbean Development Bank, signed on 24 October and 16 November

ILZSG

Relationship agreement between the United Nations Industrial Development Organization and the International Lead and Zinc Study Group, signed on 13 October

OAU

Agreement between the United Nations Industrial Development Organization and the Organization of African Unity, signed on 25 July

SELA

Second programme of co-operation between the Secretariat of UNIDO and the Permanent Secretariat of the Latin American Economic System, signed on 13 July

