

NISSAT

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Time to Brace Up

Professional bodies help bring together workers in a discipline to participate in activities like seminars, training courses, publication of newsletters and scholarly journals, etc. and thereby further the cause of the discipline. Flexibility of operations, freedom of expression and distance from institutional routine provide an ideal environment where professionals can flourish individually and as a community.

In the field of information, activities of professional bodies did not go much beyond organization of annual conferences. Now with support offered by different sources, larger ones like the ILA, IASLIC, SIS and AGLIS, and city-based associations like the DLA and LUSLIC organize training courses, prepare directories and so on.

However, these societies have not yet nucleated any activity that gives them a regular flow of income; they subsist on membership fees and proceeds from the sale of publications. Though they could mobilize funds through activity specific grant-in-aid, the resources may prove far too low even to set up a regular office.

Even now, except for a few like the IASLIC, ILA, and DLA none have regular contact addresses. They change with the location of office bearers after every election. Lack of financial strength constrains holding of meetings of the executive committees — no wonder that the activities are not adequately planned in advance. The intensity of activities depends largely upon the dynamism of office bearers especially the President and the General Secretary. The members are either not interested, or the office bearers do not solicit their participation. With such loose management framework, a body can function only if there is some institutional back up — the spurt in AGLIS activities in the recent past is a case in point. It is indeed disappointing also to find that members are more active than necessary in the election of office bearers; their interests soon slacken when they are called upon to do constructive developmental work.

Proliferation of professional bodies, almost each one with its own newsletter and annual conference is another problem. Government programmes like the NISSAT have limited funds, and spreading of this fund too thinly, may not yield any tangible results. It was hoped that under the JOCLAI banner some coordination would be effected, but it did not happen.

Against this background, should one expect that the professional bodies in the domain of information science in India can put up a good show in ventures like the SICML or IFLA General Conference? Can they organize manpower development programmes on a large scale or develop Indian databases for international consumption? The Government can promote and at best provide support, but it cannot and should not meddle with the very elements and the basic thread that ties up the elements to give a thrust to a cause.

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Revised Pay Structure for Library Staff Announced

The Ministry of Finance, Department of Expenditure (Implementation Cell) Government of India recently issued an Office Memorandum (OM). The OM embodies Government's decision on the recommendations made by a Review Committee set up by the Department of Culture in September 1987. The Committee undertook a review of the pay scales, qualifications and recruitment levels of responsibility of library staff under purview of the Central Government.

In view of the importance of the subject and direct involvement in it of most of our readers, we reproduce below the OM in its entirety for reference and record.

F. No. 19(1)/IC/86
Government of India
Ministry of Finance
Department of Expenditure
(Implementation Cell)

New Delhi, the 24 July 1990

OFFICE MEMORANDUM

Subject: Report of the Review Committee on Library Staff under purview of Central Government.

The undersigned is directed to refer to the recommendations of Fourth Central Pay Commission contained in para 11.63 of the Report wherein it was suggested that a Committee may be constituted to undertake review of the pay scales, qualifications and recruitment levels of responsibility of the Library Staff. In pursuance of the above suggestion, a Review Committee was set up by the Department of Culture in September 1987.

2.1 After careful consideration of the recommendations made by this Committee and also keeping in view the overall policy, the Government have decided to introduce the pay structure for Library Staff as given in Table 1.

Table 1 Pay Structure for Library Staff

Sl. No.	Designation	Existing pay scale (Rs.)	Revised pay scale (Rs.)	Remarks
(1)	(2)	(3)	(4)	(5)
1.	Junior Library Attendant	750-940	750-940	Direct entry Middle pass
2.	Library Attendant	775-1025	775-1025	Promotional Grade
3.	Senior Library Attendant	800-1150	800-1150	Promotional Grade
4.	Library Clerk	825-1200 950-1400 950-1500 975-1540 975-1660	950-1500	Direct entry Matriculation
5.	Library Information Assistant	1200-1800 1200-2040 1320-2040 1350-2200 1400-2300 1400-2600	1400-2600	Direct entry Graduate with Bachelor in Lib. Science/ Promotional Grade for Lib. Clerks

Sl. No.	Designation	Existing pay scale (Rs.)	Revised pay scale (Rs.)	Remarks
(1)	(2)	(3)	(4)	(5)
6.	Senior Library & Information Asstt.	1640-2900 1600-2660	1640-2900	Direct entry Post Graduate with Bachelor in Lib. Science/ Promotional Gr. for Lib. Information Asstt.
7.	Assistant Library & Information Officer	2000-3200 2000-3500 2200-4000	2000-3500	Promotion/ Direct Recruitment
8.	Library & Information Officer	3000-4500	3000-4500	-do-
9.	Senior Library & Information Officer	3700-5000	3700-5000	-do-
10.	Principal Library & Information Officer/Director	4500-5700	4500-5700	-do-
11.			5900-6700	-do-
12.			7300-7600	-do-

2.2 The recruitment qualifications both for the direct recruits and promotees for each grade of the Library Staff are indicated in Annexure I. All the Ministries and Departments are advised to modify the rules of recruitment for various posts obtaining in the Library under their control on these lines. It is not necessary that each Library will have all the grades, a Library may have one or more of these grades.

3. Placement of Existing Library Staff In the Revised Grades

3.1 The employees in the scales of pay indicated in column 3 of table under para 2.1 may be placed in the revised scales shown there against in column 4 provided the incumbent fulfils the recruitment qualifications as indicated in Annexure I to this O.M. In case existing incumbent does not fulfil the qualification as laid down in Annexure I, he will continue in the existing scale of pay on personal basis. However, as and when the post falls vacant, it will be filled up in the appropriate scale in accordance with the rules of recruitment.

3.2 The existing incumbents will also have an option to opt for the revised grade structure or continue in the existing scales of pay. Where an

option is for the existing scale of pay, it will be on personal basis and in the event of vacancy the post will be filled up in the appropriate scales in accordance with the rules of recruitment. The employees in whose case the scales of pay have been revised may be desired to exercise an option to continue in the existing scale of pay or come over to the revised scale of pay within a period of three months from the date of issue of this order.

3.3 In the case of grades where the scales of pay have been revised and the existing incumbents are placed in revised scale, the pay in the revised scales may be fixed in terms of the provisions of Fundamental Rules 23 read with rule 22 (a) (ii).

4. Categorisation of the Libraries

4.1 After placement of the existing incumbent in the grade structure indicated in para 2 above, each administrative Ministry may initiate action to categorise the Libraries under their control in consultation with F.A. concerned based on the parameters indicated in Annexure II to this O.M. Based on the categorisation of the Libraries so determined, the designation and scale of pay of the Librarian.

Incharge of each category of Library may be adopted on the lines indicated below:

Category	Post with Designation	Pay Scale (Rs.)
I	Library & Information Assistant	1400-2600
II	Asstt. Library & Information Officer	2000-3500
III	Library & Information Officer	3000-4500
IV	Director (Library & Information)	4500-5700
V	Director	5900-6700

4.2. In case the existing incumbent (viz. Librarian Incharge) is in a lower scale of pay than the scale determined based on the categorisation, he may be considered for appointment in the higher scale provided he fulfils the recruitment qualifications laid down for that post in Annexure I to this O.M. subject to the provisions of para 4.3.

4.3 Where based on categorisation the post of the head of a Library gets upgraded by more than one grade, the post will be upgraded only by one step initially. Its upgradation to the appropriate higher grade may be reviewed after three years in consultation with Ministry of Finance.

5. The scale of pay for the post of Language Librarian irrespective of language, may be Rs. 2000-3500. The recruitment qualifications may be post-graduation, Bachelor of Library Science with three years experience as laid down for direct recruits in Annexure I for posts in this scale. The present incumbents who do not fulfil these qualifications may continue in the existing scales of pay. As and when the existing incumbents vacate their posts, these may be filled up in appropriate scales in accordance with recruitment rules.

6. All Ministries/Departments are requested to initiate action on priority basis and results of review reported to Implementation Cell, Department of Expenditure.

7. In their application to the employees of the Indian Audit & Accounts Department these orders issue in consultation with Comptroller and Auditor General of India.

Sd/
(V.B. SAXENA)
DIRECTOR

To

1. All Ministries/Departments of the Government of India etc. (as per standard list).

2. Copy to Ministry of Personnel, Public Grievances & Pensions (Department of Personnel & Training) with the request that they may frame model recruitment rules which can be adopted by Ministries/Departments as mentioned in para 2.2 above taking into account the qualifications prescribed for various library posts.

Annexure I

Sl. No.	Designation	Pay Scale (Rs.)	Qualification & Experience	
			Direct	Promotion
1.	Junior Library Attendant	750-940	Middle pass	—
2.	Library Attendant	775-1025		Promotional Grade for Jr. Library Attendant

Annexure I (Contd.)

Sl. No.	Designation	Pay Scale (Rs.)	Qualification & Experience	
			Direct	Promotion
3.	Senior Library Attendant	800-1150	—	Promotional Grade for Library Attendant
4.	Library Clerk	950-1500	Matriculation	—
5.	Library & Information Assistant	1400-2600	B.A./B.Sc./ B.Com. + B. Library Science	Promotional Grade for Library Clerks
6.	Senior Library & Information Asstt.	1640-2900	M.A./M.Sc./ M.Com. + B. Library Science	Promotional Grade for Library & Information Assistant
7.	Asstt. Library & Information Officer	2000-3500	M.A./M.Sc./ M.Com. + B. Lib. Science with 3 years experience	3/8 years experience at Rs. 1640- 2900/Rs. 1400- 2600 pay scales. Masters degree essential for language/subject specialised posts.
8.	Library & Information Officer	3000-4500	M.A./M.Sc./ M.Com. + B. Lib. Science with 7 years experience	Qualifications same; 5/8 years experience at Rs. 2200-4000/ Rs. 2000-3500 pay scales.
9.	Senior Library & Information Officer	3700-5000	M. A./M.Sc./ M.Com. + B. Lib. Science with 10 years experience	Qualifications same; 5 years experience at Rs. 3000-4500 pay scale.
10.	Principal Library & Information Officer/Director	4500-5700	M.A./M.Sc./ M.Com. + M. Lib. Science with 12 years experience	Qualifications same; 5/10 years experience at Rs. 3700-5000/ Rs. 3000-4500 pay scales.
11.		5900-6700	M.A./M.Sc./ M.Com. + M. Lib. Science with 15 years experience	Qualifications same; 5 years experience at Rs. 4500-5700 pay scale.
12.		7300-7600	Eminent Librarian/ Scholar Ph.D/M. Lib. Science & Research Work, Publications, 20 years experience	

Annexure II

Formula for Categorisation of the Libraries

For the purpose of categorisation of libraries, the primary variables such as collection, services, budget, publications, computer application, etc. have been taken into account. Each variable has been quantified and weighted as under:

I Collection

	Quantity	Point	Max. Points
1. Total collection of books	1-10000	1	10
2. Annual intake of books	1-150	1	10
3. Titles of serials received annually (including newspapers and magazines)	1-50	1	10
4. Non-book material (Manuscripts, Films, Photographs, Maps, Slides, audio records and tapes, video tapes/ Cassettes, Computer produced tapes, CD-ROM, microfilm/fiche, paintings, drawings, etc.)	1-10000	1	10

(Note: If there are number of copies of the same books, title etc., it can be taken into account maximum upto 5 as quantity.)

II Services

5. Lending (Daily)	1-50	1	
6. Inter-library-loan (Monthly)	1-50	1	
7. Photocopying (Monthly) (plain papers, bromide prints, slides, microfilm/fiche) only photocopies of documents, etc. supplied to users to be taken into account	100-10000	1	10
8. Reference queries	1-50	1	5
9. Users attended in the library (Daily)	1-50	1	5

	Quantity	Point	Max. Points
10. Indexing (Monthly) (indexing of periodical articles, proceedings, report as well as cumulative indexing projects)	100-300	1	
11. Abstracting (Monthly) (preparation of abstracts of periodical articles, proceedings, reports, as well as extracting abstracts from secondary sources, filing, circulation and master copy preparation)	50-150	1	
12. Newspaper Clipping including index (Daily)	10-50	1	
13. Selective Dissemination of Information (SDI)	1-15	2	

III Budget

14. Annual budget for resource material and equipment of library	1-50000	1	10
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IV Publications (with examples)

15. Weekly/Fortnightly	1	3	
16. Monthly/Quarterly	1	2	
17. Half-yearly/Yearly	1	1	

V Computer Application

18. Computerisation of library activities		10*	
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*(Ordering and acquisition-1, Current material cataloguing-1, retrospective cataloguing-1, Serials control-1, Library statistics and MDP-1, SDI-2, Circulation-1, indexing, abstracting-1, DTP-1).

Weightage and ranking have been given to 18 major quantifiable variables in relation to their importance in a library. These variables have further been categorised as active and passive ones. The active variables have been kept open for gaining unlimited points whereas the passive variables have been restricted to a maximum limit as in the case of collection and publications respectively.

the needs of their clientele accordingly. In such a situation, the same set of fixed variables would not have been helpful. Each variable has been given a broad range, e.g., 1-150, 1-50, 1-1000 etc., to bring maximum flexibility within the range of parameters.

5.7 Categorisation of a Library

The nature, function and the scope of the Government libraries vary from library to library. There are libraries which simply cater to the day-to-day general needs of their clientele whereas, other function as a research and information unit caters to

Government libraries have been grouped into six categories. Type I-V have been categorised on the basis of the variables, whereas category VI has been marked for the National Library, Calcutta.

Table 2 Examples : Categorising of Libraries

Sl. No.	Variables	Category I	Point	Category II	Point	Category III	Point	Category IV	Point	Category V	Point
1.	Collection	6845	1	200000	10	103006	10	321000	10	245000	10
2.	Annual intake of books	266	2	1252	8	2609	10	6392	10	8500	10
3.	Titles of Serials received annually	46	1	165	3	555	10	2032	10	2040	10
4.	Non book material	—		—		—		42825	4	150000	10
5.	Lending (D)	15	1	150	3	69	1	72	1	325	7
6.	Inter Library Loan (M)	—		15	1	—		15	1	95	2
7.	Photocopies (M)	—		—		4200	4	4200	4	30000	10
8.	Reference Queries (D)	50	1	55	1	71	1	80	2	115	2
9.	Users Attended (D)	—		50	1	53	1	45	1	150	3
10.	Indexing (M)	—		—		—		—		—	
11.	Abstracting (M)	—		—		—		—		—	
12.	News paper Clippings (D)	—		—		—		—		—	
13.	Selective Dissemination of Information	—		—		—		—		—	
14.	Budget	30000	1	130000	3	2767000	10	850000	10	9852000	10
15.	Publications W/F	—		—		1	3	—		1	3
16.	M/Q	—		—		1	2	7	14	4	8
17.	HY/Y	—		—		—		2	2	—	
18.	Computer Application	—		—		—		—		—	
Total Points			7		30		52		69		25

Category of a library will be decided on the basis of the points it obtains. The minimum qualifying points for a library are five. The range of points for categorisation is as follows:

Category I	5-20 points
Category II	21-40 points
Category III	41-60 points
Category IV	61-80 points
Category V	81 and above points
Category VI	National Library, Calcutta

Again, the range of points within a category has been kept wide enough to give maximum flexibility to allow growth and development activities of a particular library. Some examples have been provided (Table 2) to help in categorising a library

based on the data supplied and evaluated.

Multiples of the maximum figure of each variable will carry one point e.g. 1-150 annual intake of books; multiples of 150 i.e., 300, 2 points; 450, 3 points, etc. However, for the purpose of calculation to the points will not be counted in fraction. They are being rounded off to the nearest figure. For example, a collection size of 1-1000 will be given 1 point; even when the collection reaches 14999, it will still be put within 1 point limit but 15000-24999 will be given 2 points. Further, for certain variables the maximum limit has been fixed. For example, annual budget of Rs. 5 lakhs will obtain 10 points. At the same time, annual budget of Rs. 10 lakhs will also obtain 10 points which is the maximum limit of the range.

Formal categorization of libraries may be undertaken after every 5 years from the date of initial fixation of category.

Virus—How to Tell If Your Computer is Infected

Around 200 computer viruses are currently known to exist, and their symptoms vary greatly. However, 95 per cent of all "infections" are caused by 12 known viruses. The most common symptoms are:

- data loss
- slower than usual program load
- warnings, or unusual messages or characters on the screen
- unaccountable hardware malfunctions
- files disappear, or strange files appear
- memory and disk space drop markedly
- disk access is slower than normal
- unusual screen or printer activity
- drive lights come on without apparent reason
- changes in the size of executable files

This last symptom is a clue to the way in which the majority of viruses work: they attach themselves to executable files, such as those with the extensions EXE, COM, SYS, PRG, OVL, or BAT. If your executable files appear to be slightly larger than they should (most viruses add 800-2000 bytes), it probably means that they are infected.—LOGON (UNDP), April 1990.

R & D Statistics 1988-89

Highlights*

- The national investment of R&D activities attained a level of Rs. 3471.81 crores during 1988-89. The figure for the year 1989-90 has been estimated to be Rs. 4003.79 crores.
- 1.00% of gross national product was devoted to R&D activities in the country during 1988-89.
- In the institutional sector about 12% of the total expenditure was spent on basic research, 35% on applied research, 32% on experimental development and the rest 21% on other supporting activities.
- About 92.5% of the expenditure incurred by government sources came from central government and rest 7.5% from the state governments. About 75% of the expenditure incurred by central government came from major scientific agencies like Atomic Energy, Space, CSIR, ICAR, etc. and the rest came from other central ministries/departments. Amongst the major scientific agencies, Defence Research and Development Organisation accounted for 27% of the expenditure.
- State sector spent Rs. 232.91 crores on R&D activities during 1988-89. About 98% of the R&D expenditure by the state sector was spent for the development of agriculture and allied areas. About 18.4% of total state sector R&D expenditure was by the State of Maharashtra.
- Rs. 725.11 crores was spent on R&D by industrial sector in 1988-89. The number of units involved were 895 in the private sector and 121 in the public/joint sector. The share of Industrial sector R&D in total national R&D was 20.9% during 1988-89.
- Industry spent 0.72% of their sales turnover on R&D in 1988-89. About Rs.129.70 crores of the total expenditure by the industrial sector was in the group of defence industries. Next to this was electricals & electronics with about Rs. 118.03 crores of total industrial sector R&D expenditure.
- As on 1-4-1988 nearly 2.68 lakh personnel were employed in the R&D institutions in the country including inhouse R&D units of public and private sector industries. Out of this 37% were performing R&D activities, 31% were performing auxiliary activities and rest 32% were providing administrative and other non-technical support. There were 4893 women directly engaged in R&D activities.
- 44.7% of the total personnel employed primarily for R&D work were from engineering and technology background, 28.7% were from natural sciences, 22.7%, were from agricultural sciences, 2.1% were from medical sciences and the rest 1.7% were from social sciences. 42.9% had post graduate or above qualifications, 26.6% had graduate degree and the rest 30.5% had diploma or other qualifications.
- There were 174 universities which include 142 universities, 22 deemed universities and 10 institutes of national importance during 1987-88. Pure science doctorates had a share of 73.2% of total 4010 S&T doctorates produced during 1986-87.
- Patents sealed in the year 1987-88 numbered 2104; out of this 588 were sealed by Indian citizens. This is a mere 28% of the total patents sealed. Maximum number of applications filed by Indians were from the Union Territory of Delhi (29.5%).
- In relation to population, stock of S&T personnel for India is not high as compared to that observed for developed countries. India has only 3.43 S&T personnel per thousand population. Only 0.22 S&T per thousand were employed in R&D.
- In the year 1970, developed countries accounted for 97.4% of the total expenditure for research and development in the world. This figure came down to 93.7% in 1980. Most of the developed countries devoted 2 to 3% of their GNP on R&D while India has spent 1% of GNP on R&D. India's per capita R&D expenditure was only a mere US \$ 3.06 whereas this was between US \$ 100 and US \$ 400 for most of the developed countries.
- More than two third of total investment in research and development in the world was by countries in the continents of America and Europe during 1988-89.
- Plan allocation for S&T increased from Rs.142 crores in the fourth plan to Rs 4257 crores during the seventh plan. The share of S&T in the total public sector outlay was 2.4% during the 7th plan.

*Source: Research and Development Statistics, 1988-89, Department of Science & Technology, New Delhi, May 1990.

Rationalization of Periodicals Acquisition in S&T: Indian Effort

It is common experience among library and information professionals that the cost of S&T periodicals increases at the rate of 15-25%, whereas the library budget in most institutions remains almost static. The net result is reduction in the acquisition of titles. On the other hand, our scientists and technologists are getting into newer areas. These activities naturally demand acquisition of a new set of periodicals.

Unfortunately, none of us could give sufficient thought to rationalizing periodical acquisitions individually or collectively. Could one identify some of the avoidable overlaps? Could we exchange notes among the major institutions which hold major information resources and rationalise our acquisitions? Could we evolve a photocopy supply facility within a city through inter-library cooperation? Is it possible to work out a mechanism of circulation of expensive journals like secondary periodicals among institutions within a city? Would circulation of photocopies of contents page of select set of recent journals be desirable?

There are hosts of such questions. Much of the problems could be handled if the institutions located within a small geographic region like a city could get together and look for solutions in right earnest. In most cases, a formal mechanism to facilitate exchange of notes does not exist. On an experimental basis, a recent NISSAT initiative was aimed at bridging the gap in a few selected cities. A Consultative Committee in each city coordinated either by a NISSAT Sectoral Center or local library association was formed to look into the possibilities of rationalization of periodicals acquisition in metropolitan cities. The mechanism would attempt to bring several librarians in these cities together to discuss their acquisitions, especially renewal subscriptions of periodicals, and resource sharing possibilities. The exchange of notes would lead to rationalized acquisitions and savings to the institutions or the group of cooperating libraries. NISSAT had initially identified 9 cities and organisations/professional bodies to establish such fora. Work in some places could not start

early yet the results so far have been quite encouraging as evident from the following:

Status/Results of Consultative Meets

Ahmedabad — ATIRA

ATIRA organized a one day seminar on 22 Sep 1989 attended by 30 Heads of the Library and Information Centres in Ahmedabad. Besides considering several aspects of cooperation and resource sharing, ATIRA itself discontinued 16 periodicals worth Rs. 57,500 in new subscriptions. The participants agreed to provide for documents through photocopies and inter-library loans.

Bangalore — CMTI

The first meeting of the leading engineering organizations in Bangalore was held on Dec 14, 1988 at CMTI with 22 participants attending. A second meeting took place on 11 Sep 1989. Besides many observations, it was evident from the 1988 data that 48 periodicals currently received at CMTI were found duplicated in other libraries. While others will drop these subscriptions, CMTI would provide photocopies from these sources if required. CMTI may also get FAX facilities. Modalities for document delivery are being worked out. Decisions based on this effort would save around Rs. 1,50,000.

Bombay — IIT

Work started late at IIT as the new Head, Library Services took over only recently. Presently, they are considering inhouse studies on core journals. IIT is considering a multi-criteria based rationalization of periodicals acquisition within their own institution.

Hyderabad — IPE

The Consultative Committee Meeting was held at the IPE, Hyderabad on March 10, 1990 and was attended by 34 invited participants. The committee first considered the need for resource sharing, especially of industrial information. The committee decided to have a map of Industrial & economic projects; assessment of existing information systems and facilities; inter library loan and photocopy services.

Lucknow — CDRI

The first Consultative Committee meeting was

held at CDRI on 2 December 1988 and was attended by 16 members of LUSLIC. The committee suggested:

- 1 Identification of groups by subject areas
- 2 Identification of core periodicals in the subject areas
- 3 Model code of conduct for resource sharing
- 4 Display of periodicals in other libraries as well
- 5 Dropping 14 journals worth Rs. 1,50,000 in subscription

Pune — NCL

The Consultative Committee at Pune met on 24 Oct 1988. Data from 18 libraries on 2609 journals was collected. A combined list of current periodicals called Union Catalogue of Current Periodicals in Pune Science & Technology Libraries (PSTL) was prepared in machine readable form. All the participants agreed on photocopy services at their institutional rates, sharing, and bilateral cooperation. Activities in Delhi and Madras have not started yet. The representative from Calcutta was not present to report on the activities.

Recommendations

On behalf of DLA, New Delhi Shri H.C. Jain suggested that this work may be assigned to DELNET instead of Delhi Library Association. The

committee agreed on this suggestion. Shri S. Subbarao (CLRI, Madras) agreed to take up the task immediately.

Considering the spin-off of the approach, the members present recommended that NISSAT should support the Consultative Mechanism for rationalization of periodical acquisitions in metropolitan cities on a continuing basis. Similar work may be taken up in other cities as indicated below:

Bhopal	Nagpur
Chandigarh	Trivandrum
Mysore	Visakhapatnam

Since the meeting of the Conveners of various consultative committees held on 24 April, 1990, the Delnet has taken up the problems of periodicals acquisition and held two meetings so far — the first one at JNU Library under the chairmanship of Mr V.B. Nanda and the second at the INSDOC under the chairmanship of Prof T. Viswanathan. An important aspect of this group is that they have mutually agreed to cooperate on the creation of a directory of current subscriptions for journals and secondary periodicals, and also the updation of NUCSSI. The two projects are NISSAT supported — one at the JNU library and NUCSSI at INSDOC. The movement is slowly gaining wider, voluntary participation of the library and information scientists and should now be able to spread to the other cities as well. NISSAT is getting in touch with institutions/associations in other cities to take up this activity.

S&T Information Systems and Services:

Emerging Trends—Theme for SIS Convention, Trivandrum

The Tenth Annual Convention and Conference of the Society for Information Science will be held at Regional Research Laboratory (CSIR), Trivandrum during 17-19 January 1991.

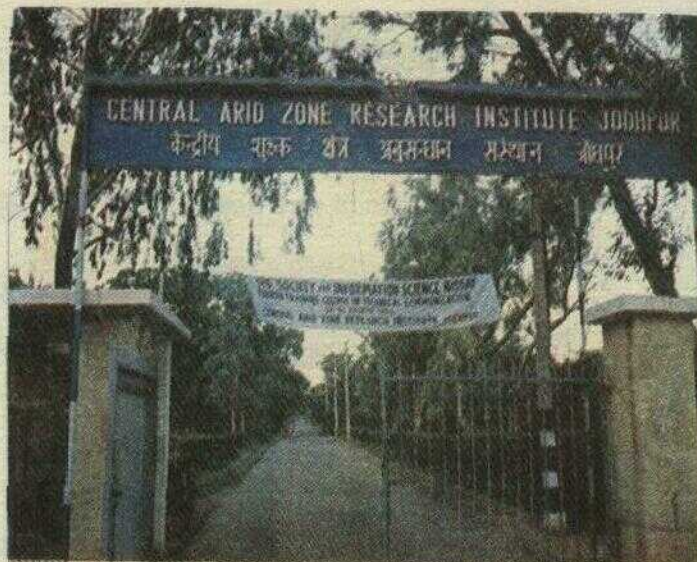
The focal theme chosen for the Conference is "S&T Information Systems and Services: Emerging Trends".

A detailed announcement on the scope and technical sessions to be organized would be made soon. For further information contact Secretary, Society for Information Science C/o PID Bldg. (CSIR), Hillside Road, New Delhi 110 012.

Technical Communication: Fourth Training Course, Jodhpur

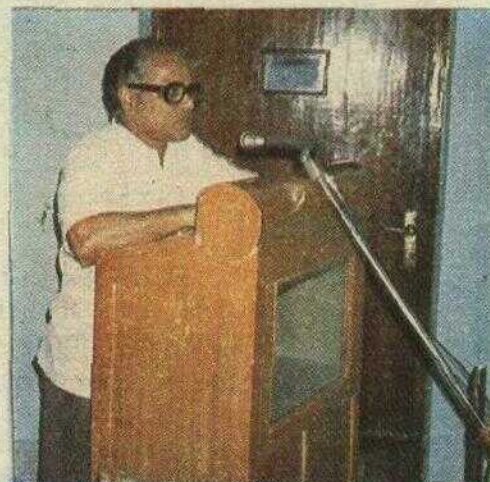
"The course has been conducted very systemically. It was informative and useful but the duration is too short; it should be run for at least one week..... More weightage should be given to technical writing and communication than to library science..... There is need for emphasis on standardization in technical communication with regard to reference citation, units of measurement, abbreviations, signs and symbols, etc.... More time should be allowed for tutorials and workshop sessions for writing reports, press releases and other exercises.... As it is, the programme is very tight.... Such courses should be conducted regularly, three or four times a year and on a zonal basis..... Role of communication in rural development may be included as part of the course."

This is a cross section of the views and suggestions contained in the feedback proforma received from the participants who attended the fourth training course in technical communication held at Central Arid Zone Research Institute (CAZRI), Jodhpur during 28-31 August 1990. The course was organized by the Society for Information Science in collaboration with NISSAT (Department of Scientific & Industrial Research, New Delhi). As many as 34 participants had registered for the course but due to *disruption of rail and air traffic* in some parts of the country, 27 of them were able to make it to Jodhpur. Their institutional affiliation is as follows: DRDO 9; ICAR 6; CSIR 4; Dept. of Atomic Energy 3; ICMR 1; and universities 4.



Studded in a world of serene tranquility, CAZRI, the venue of the programme made an ideal setting for communication with Nature—and in Science.

Inaugural
Address
by
Director
CAZRI
Dr. Venkateswarlu



Valedictory
Address
by
Dr. I.
Prakash
Prof. of
Eminence
CAZRI



Warm
Welcome
by
Shri R.N. Sharma
Course Director



There was a wide scatter in terms of the participants' professional affiliations too. There were R&D scientists, information and library science professionals and public relations and liaison officers. The faculty comprised Sarvashri R.N. Sharma (former Senior Editor, CSIR), the Course Coordinator, Ram D. Taneja (formerly Chief Editor and Deputy Director General, Bureau of Indian Standards) Editor, NISSAT Newsletter, and P.C. Bose Secretary SIS and Head, ARIC (ICAR).

Inauguration

The training course was inaugurated by Dr J. Venkateswarlu, Director CAZRI on 28 Aug. in the presence of Heads of Departments and senior scientists of CAZRI. Dr Venkateswarlu complimented the initiative taken by SIS and NISSAT (DSIR) to organize courses of this type for creating awareness among scientists and information professionals of the need for adopting standardized procedures in respect of various facets of information processing, storage, retrieval and communication. Earlier, Shri R.N. Sharma and Shri Ram D. Taneja elaborated on the objectives behind the programme. They emphasized the importance of effective communication of S&T information for healthy growth of science and technology.

Shri P.C. Bose in his remarks, briefly traced the genesis and growth of SIS, while highlighting its activities and programmes. He thanked the Director, CAZRI, and his colleagues, notably Dr Ishwar Prakash, Prof. of Eminence and Dr D.C. Ojha, Librarian, for the meticulous care and attention bestowed on the arrangements made for conducting the course.

Course Content

The topics chosen for coverage embraced all major facets that are of concern to a heterogeneous group. Thus, an even balance was attempted among the three main streams, namely, processing of information; storage and retrieval. A distinctive feature of the programme was the emphasis laid on newer developments in the field. Notable among the new topics covered were database creation; development of software; AGRIS Database; public relations for librarians; writing a press release; and handling the media.

For the benefit of the participants, a bound volume containing exhaustive advance notes on the lectures delivered by the faculty members was

made available to them. This volume, besides helping them to comprehend the instruction imparted, would be of lasting value to them in their professional activities.

Also included in the programme were two tutorial classes on editing of manuscripts and proof-reading.

Valedictory Function

Dr Ishwar Prakash, Professor of Eminence and also officer-in-charge CAZRI Library was the Chief Guest at the function held on 31 Aug. afternoon.

An animal ecologist by profession, Dr. Prakash invited the attention of the participants to the communication systems in the animal world which provide lots of lessons to be learnt by the rational animal, the *Homo sapiens*. He narrated that an African boy was recovered from a gorilla group which was rearing him. When the boy learnt the human language, he described the vocal mode of communication among gorillas. 32 notes were identified by the zoologists through which gorillas are able to contact all the members of the group. The zoologists checked these vocal signals by playing them amongst gorillas and confirmed what the gorilla-boy had learnt while living with the non-human primates. Dr. Prakash emphasized that we can learn from gorillas an aptitude of brevity and specificity. He classified this type of communication as auditory in nature.

Further, he explained the ocular or visual mode of communication among animals. In many species there are colours which reflect the mood of animals and even give an alarm call by exhibiting them. How the chameleon can change its body colours to exhibit, fear, warning and love, has become proverbial.

Dr. Prakash, also explained the olfactory communication among rodents. One of the species of the gerbils, a desert rodent, possesses a scent marking gland in an homologous position as that of the musk deer (*Kasturi hiran*). Dr. Prakash has been conducting research work for the last ten years on the role of this gland in relation to olfactory communication among rodents. Through his studies, it has been revealed that the scent mark of this gland is like a 'name plate' of the individual. When it enters its burrow it leaves the scent at its opening. By smelling it, the other inmates can identify its sex, its status in social hierarchy (dominant or subordinate), oestrous and ready-to-

mate condition of females. This, Dr. Prakash mentioned, is an example of indirect communication.

Dr. Prakash thanked the SIS to have organised this workshop at CAZRI. Thereafter, he gave away the Certificates to the course participants.

Feedback from Participants

Near unanimity was expressed by the participants in the written feedback proforma submitted by them in respect of the following points:

- General impression about the manner in which the course was conducted.
- Extent of satisfaction at instructions imparted through lectures, visuals, etc.
- Opinion about usefulness of course material.

Among the lacunae identified by some participants were:

- Not enough practical exercises were included.
- Inadequate arrangements for stay
- Tight working schedule.

More than 60% participants felt there was no lacuna in the organization of the course.

The suggestions put forward for improving the effectiveness of future courses include the following:

1. Courses like this should be of 7-10 days' duration.
2. More faculty members should be included.
3. It would be advisable to split the course into at least two segments—one for editorial practices and the other for information and library activities.
4. Such course should be held on quarterly and on a zonal basis.
5. Coverage needs to be made wider by covering items like conference proceedings, financial aspects of proposals, periodic reports, etc.
6. Printed course material should be supplied.
7. Popular writing should be covered.

The course ended with a vote of thanks proposed by Shri R.N. Sharma and the participants for the very fruitful conduct of the programme with the cooperation and support extended by the host institution CAZRI, the DSIR and the Society for Information Science. The keen interest and interaction from the participants contributed to making it a really purposeful and worthwhile exercise.

R.N. Sharma
Ram D. Taneja

UNIDO DG Calls for Renewed Commitment to Industrialization

Prospects for developing countries are not bright, UNIDO Director-General, Domingo L. Siazon, Jr., warned at the opening of the sixth session of the Industrial Development Board which ended in Vienna last June. "Problems of underdevelopment aggravated by heavy debt, a limited flow of foreign aid and unfavourable terms of trade", Mr. Siazon forecast, "will remain with the global economy over the coming decade."

While the eighties were often seen as a loss decade for much of the third world, he said, "it is thus more important than ever before that we help the developing countries to recharge and manage their own economic development. Flexibility, creativity, innovation and openness must become integral parts of our economic systems."

Mr. Siazon felt that UNIDO could look back over the past year "with a distinct touch of pride." Technical co-operation delivery reached a record \$133.8 million, compared with \$119.8 million in the previous year. Project approvals continued to rise from \$161.4 million in 1988 to \$169.5 million in 1989.

Reduced duplication of functions, enhanced internal co-ordination and simplified procedures were among the efforts contributing to improved efficiency in the Organization. Besides affecting the more traditional activities related to technical co-operation, they also had an impact on promotion of industrial investment projects. An upswing from 121 projects promoted in 1988, valued at \$413.8 million, to 143 projects valued at \$556.4 million was the result last year.

Biotechnology Information System

Developments in biotechnology have resulted in a large volume of information and scientific knowledge, facilitating intense R&D activities all over the world. The need to keep abreast with the latest information on advances in biotechnology has become imperative for rapid progress in research, production and applications. In addition, it also calls for interaction with those working in advanced and frontier areas for developing specific applications of knowledge. In view of the enormous amount of information that needs to be closely scanned and collated, the use of computer based information storage, retrieval and data scanning systems is made to accelerate the research endeavour in this field.

Structure of Biotechnology Information System (BTIS)

Biotechnology Information Centre (BTIC)

The Apex Centre at the Department of Biotechnology will coordinate the activities of distributed information centres at the national level and establish on-line communication with external sources thus forming part of the International Network on Bioinformation.

Distributed Information Centres (DICs)

There are nine information centres in the universities and R&D institutions in the country engaged in one or more of the following areas in biotechnology:

1) Genetic Engineering

- i) Indian Institute of Science, Bangalore.
- ii) Madurai Kamaraj University, Madurai.
- iii) Bose Institute, Calcutta.
- iv) Jawaharlal Nehru University, New Delhi.

2. Animal Cell Culture and Virology

- v) Poona University, Pune.

3. Plant Tissue Culture, Photosynthesis and Plant Molecular Biology

- vi) Indian Agricultural Research Institute, New Delhi.

4. Oncogenes, Reproduction Physiology, Cell Transformation, Nucleic Acid and Protein Sequence

- vii) Centre for Cellular & Molecular Biology, Hyderabad.

5. Immunology

- viii) National Institute of Immunology, New Delhi.

6. Enzyme Engineering, Immobilised Biocatalysts, Microbial Fermentation and Bioprocess Engineering

- ix) Institute of Microbial Technology, Chandigarh.

User Centres

A large number of manufacturing units/institutions and universities would form as the User Centres in geographic locations affiliated to each DIC in their respective areas. While the Distributed Information Centres act as a repository of information in their specialised disciplines, the User Centres provide an access mechanism for the information to be available at the Universities, R&D manufacturing institutions. Thus, the User Centres provide an added dimension of access and diffusion of information across the network. fourteen User Centres have already been established at the locations mentioned in Table 1.

BTNET

The most exciting and potentially beneficial out-growth of the union of computers and telecommunication equipment is the formation of computer network. BTNET is an S&T Network linking at present 9 Microvax II Computers at specialised centres (DICs) that form the base of the biotechnology information on resources, databases in specialised subject areas and on current developments in biotechnology. To facilitate the access facility, 14 Terminal User Centres are identified at various educational and R&D institutions located in different parts of the country having computer and data transmission systems. These will be linked to the nodes of DICs through the Department of Telecommunication's (DOTs) Packet Switched Data Network (PSDN) facility. The entire system will be superimposed on the

Table 1 Locations of User Centres

Institution	Location
1. Aligarh Muslim University	Aligarh
2. All India Institute of Medical Sciences	New Delhi
3. Anna University	Madras
4. Assam Agricultural University	Jorhat
5. Banaras Hindu University	Varanasi
6. Cancer Research Institute	Bombay
7. Central Drug Research Institute	Lucknow
8. Indian Institute of Technology	New Delhi
9. Indian Veterinary Research Institute	Izatnagar
10. M.S. University	Vadodara
11. National Dairy Research Institute	Karnal
12. National Environment Engineering Research Institute	Nagpur
13. National Institute of Oceanography	Goa
14. Tamil Nadu Agricultural University	Coimbatore

nationwide NICNET system taking advantage of the powerful computing and the satellite communication facilities. Necessary communication interfaces will be available at all DICs which would enable information to be accessed at various nodal centres as well as from User Centres through the integrated satellite communication transport system of NICNET. It is expected that the network will be used mainly to query information from DICs and outside systems. It is not meant for large data file transfer. Five of the centres under this programme have already been linked through NICNET. These are the Apex Centre at Department of Biotechnology (DBT), New Delhi; Madurai Kamaraj University, Madurai; Indian Institute of Science, Bangalore; Centre for Cellular Molecular Biology, Hyderabad; and Poona University (Department of Zoology), Pune.

Communication links with external sources/systems become possible through international gateways set up on the existing national networks such as NICNET.

18 Services

Under the BTIS programme, the computerised service will be available for retrieval of relevant information related to bibliographic information (reference to publications, abstracts), scientific

information (e.g. Nucleic Acid Sequence, Protein Sequence Databases), Management Information (Projects, facilities, experts, etc.) and on-line information (e.g. DIALOG).

On-line literature retrieval from international databases is a rapid method of identifying published information on specific topics in a couple of minutes. Relevant information can be located from a search among millions of articles. While searching for some current information one may find only one article from a rare journal which is of great relevance. A copy of the reprint of the article could be accessed through FAX transmission from the specialised centres of the Biotechnology Information System or a printout may be obtained as a hard copy.

Institutions situated in remote areas which do not have adequate library facility could access the current scientific information in biotechnology through BTIS Computer Network. The Network also facilitates the researchers to process their scientific data at their end utilising resource material available as databanks in the BTIC and DICs. The databanks include:

1. Nucleic Acid Sequence Databank
2. Protein Sequence Databank

3. Protein Crystal Structure Data
4. Virus Data Bank
5. Animal Cell Line Information
6. Chromosomal Variation in Man
7. Vector Bank
8. Amino Acid Sequence
9. System on Enzymes and Enzyme Engineering
10. Hybridoma and Immunoclonal Databank

The system provides new horizons in learning, allowing the learner to assimilate knowledge through an interactive process rather than conventional class room lectures on selected subjects of biotechnology through the educational software packages available with the system.

An added advantage that the system provides is the easy access through the network to the germplasm collections such as plants, viruses, microorganisms for specimen selection in research investigations.

Training

Training is an integral part of BTIS on use of Computers and software development in bioinformatics, databases operations and management and also on data networks. The earlier workshops centred on the first two topics cited above and the third workshop organised at Poona University, Pune focussed on Microbial Strain Data Bank, Hybridoma Data Bank and Networking with experts from CODATA. Now, NII, New Delhi has become a node of the Hybridoma Network

for collection and dissemination of data in India and the other countries in South East Asian Region. Similarly, the centres at IMT, Chandigarh and NCL, Pune are recognised as nodes for information on microbial collection. While the DIC at the University of Poona is affirmed for Protein Sequence data, India is taking a lead to form International Data Bank of Animal and Plant Viruses

Projects Completed

Under this programme, an important project for creating a database on Indian Patents in Biotechnology has been completed. The database is available in printed as well as on magnetic media. The database is operational at BTIC, New Delhi.

On-going Projects

The support of DBT to develop source databases has resulted in (a) Project to develop a database on Indian experts in Biotechnology utilising a special software to recognise the Indian names in BIOSIS database; (b) "Serials in Biotechnology" to develop union catalogue in Life-Sciences area; (c) This year a database has been initiated in BTIC on the "Status of Biotechnology in India".

International Collaboration In Bioinformatics

Under the joint collaborative programmes between India and GDR, bioinformatics has been recognised as one of the areas for bilateral collaboration between the two countries. The first international workshop was held in New Delhi from February 21-23 in which experts from both the countries presented papers on various aspects of bioinformatics.

UNESCO Databases*

Unesco, like all other organizations of the United Nations system, gathers and disseminates large amounts of specialized information. This information is processed in about thirty machine readable databases. The exact figure will be known as soon as the inventory, started during the first quarter of 1990, is complete. A directory will then be published.

Databases are produced by the Division of Unesco Information Services, the Office of Statistics and by the different sectors. They are mainly of three types: bibliographic, referral and numerical. The fields covered reflect the various activities of Unesco in education, science, culture, social and human sciences, communication and information.

CDS/ISIS software is used to process most of them. CDS/ISIS, which is specifically designed for documentation/information applications, is now used by about 120 institutions in its mainframe version and more than 5,000 in its mini-micro version. Both packages were developed for use within Unesco and are now available free of charge to other institutions.

All the databases processed with CDS/ISIS on the mainframe computer can be searched online at Headquarters and in the Regional Offices that are connected through international teleinformatics networks.

Magnetic tapes and diskettes can be provided on request in the ISO 2709 international format. Always trying to apply new technologies, Unesco is testing a CD-ROM. A prototype was issued in 1989. However, for the moment, the main distribution method remains paper and various printed products are issued: directories, indexes, bulletins, etc. They are all listed in the Unesco publications catalogue which is available from the Unesco Press and Unesco sales agents.

Bibliographic databases

Index Translationum

Index Translationum is the largest Unesco database. It contains more than 300,000 references

to translated books published in Unesco Member States. It has been computerized since 1979. Approximately 50,000 new references are added each year. A printed index is issued yearly, the last volume, No. 37, published in 1989, corresponds to translations done in 1984. Data are collected through the national libraries of each country. Direct input by processing magnetic tapes or diskettes supplied by some national libraries is being implemented. Input delays should thus be reduced. This database is searchable on the Unesco mainframe computer by author's name, translator's name, original title, language of translation, country of translation and broad subject areas. The *Unesco Statistical Yearbook* uses information from this database to generate the relevant statistical tables on translations.

UNESBIB

UNESBIB, produced on the Unesco mainframe computer since 1972, contains, among others, bibliographic citations of Unesco documents and publications. Documents include working series, conference papers, mission reports, Executive Board and General Conference documents. Publications include monographs and articles from Unesco serials.

UNESBIB can be searched by author's name, corporate body, title and/or subject using descriptors drawn from the *Unesco Thesaurus*, bibliographic sources, type of documents and date.

Various printed products are issued: The *Unesco List of Documents and Publications (ULDP)* published quarterly with annual and triennial cumulations, the *Unesco Library Acquisitions List (ULA)* and other lists containing documents and publications relating to the different sectors and programmes of Unesco.

As far as document delivery is concerned, printed copies of documents may be obtained free of charge, as long as stocks are available. Publications can be ordered from the Unesco Press or sales agent. Photocopies and microfiches of all Unesco texts since 1945 can be purchased through the Unesco Press.

Referral Databases

DARE

This is the first and the largest Unesco referral database. It contains worldwide references to

* Paper presented at the National Commissions' meeting, June 1990, Paris.

research and training institutions, specialists, courses, projects, documentation and information services in the field of social sciences. Periodicals in social sciences are also listed. DARE has been computerized since 1974 and has a total amount of 18,000 records with a yearly growth of 1,000.

A collection of six directories is issued periodically. DARE can be searched on the Unesco mainframe computer using the *Unesco Thesaurus*.

Study abroad

A best-seller among Unesco publications, this directory refers to about 3,500 international and national scholarships and courses concerning post-secondary study and training in all academic and professional fields in 160 countries. It is managed with the DBASE III software.

Other Referral Databases

Pending the establishment of a complete list of referral databases, only a few will be listed here:

- EDUPLAN: Educational planning institutions
- ENERGY: New and renewable energy information sources and research centres
- IBECENT: Educational research and training institutions
- IIPNET: Research and training institutions in data processing and computer science
- INISTE: Institutions specialized in education, in the area of science and technology

- TRUSP: Teaching and research units in science and technology policies.

Numerical databases

The Unesco statistical data bank was founded in 1971. It contains more than three million data and has a yearly increase of 250,000. It corresponds to the printed *Statistical Yearbook* published each year and prepared by the Office of Statistics in co-operation with the National Commissions for Unesco and the national statistical services as well as with the help of the Statistical Office and the Population Division of the United Nations. Data from about 200 countries and territories are gathered concerning population, education at all levels, research and development, scientific and technical manpower, culture and communication (books cinema, television, radio, museums, etc.).

Recent statistical data are available on the Unesco mainframe computer and can be downloaded and handled on micro-computer with software such as LOTUS 123, EXCEL, etc.

Under Unesco's third Medium-Term Plan (1990-1995), all these information sources will be gradually forged into a network to be known as the Unesco Clearinghouse the purpose of which will be to provide all relevant information available to the Organization in its area of competence. Work is already under way to ensure the compatibility of all new and existing information services, and a feasibility study, based on users' needs, is being undertaken on the future development of the Clearinghouse.

....Information technology isn't a war-horse that can be ridden to glory...."It's just a tool—and an increasingly common and inexpensive one at that. The real power comes from the way people analyze information, make decisions and work together to produce products. That's the war-horse information systems specialists should be learning to ride."

Robert L.Scheier
in PC WEEK

News and Events

CDS/ISIS Version 2.3: Course for DELNET Participants

The India International Centre and Defence Scientific Information and Documentation Centre (DESIDOC) with the support of National Information System for Science and Technology (NISSAT) organized this training course during 8 to 21 August 1990, at New Delhi primarily for DELNET participants. In the selection of the participants due attention was given to the library qualifications of the participants and the computer facilities available in the sponsoring institutions.

The feasibility report on DELNET has been prepared by CMC and now efforts are being made in its 'O' phase to link some libraries in the near future. Under the arrangements made in DELNET those participants who receive training in CDS/ISIS but face difficulties in the creation of records are helped by a team of experts who visit them in their libraries from time to time. This is done to ensure that the time and money spent on the training courses does result in positive achievements.

The faculty for the course was drawn from NISSAT, DESIDOC, Council of Social Development, National Council for Cement and Building Materials and Association of Government Librarians and information specialists.

The training course started with introductory remarks by Shri H.K. Kaul, Course Director, Shri R.K. Srivastava and Shri S.N. Mehta. Then followed lectures on the introduction to computers by Dr. B.S. Nagi of the Council for Social Development and on MS-DOS commands by Dr. S.K. Jha. Shri H.K. Kaul introduced the participants to the library networking in U.K. and Spain and the importance of database creation and library cooperation through networking. The remaining lectures and demonstrations were mostly devoted to the use of CDS/ISIS 2.3 Version. Shri R.K. Srivastava introduced the participants to the different software packages and gave an overview of CDS/ISIS followed by demonstrations and actual use of the software. Smt. S. Ravindran spoke on print formatting language and definitions of database. This was followed up by several lectures and practicals on indexing languages and techniques, inverted files, search language, thesaurus construction, input formats, Pascal interface, etc. by several experts. Dr. S.S. Murthy, Director, DESIDOC introduced the participants to networking in libraries. The demonstration of networking was conducted by Shri R.K. Srivastava. At the concluding session participants were presented certificates by Dr. S.S. Murthy.

Before the concluding function, participants were invited to evaluate the training course by filling in a

questionnaire. The participants expressed satisfaction with the organisation of the course and appreciated the usefulness of the various lectures delivered during the workshop. However, they made the following suggestions:

- The period of training course should be increased to at least one month.
- Advanced training programmes should be organised.
- One PC should be provided for every two participants for practical work.
- After the training course the organisers should utilise the participants for automation work.
- Training courses on CDS/ISIS should be arranged more frequently.

CDS/ISIS Version 2.3 Advanced Features: Bangalore Workshop

As a part of its programme for human resources development in the field of library and information science, the Institute of Information Studies, Madras, organised a Workshop on Micro CDS/ISIS Version 2.3 (Advanced Features) from 18 to 29 June 1990, at the Institute's premises in Bangalore. Twelve persons (11 from India and 1 from Sri Lanka) with some previous experience or exposure to Micro CDS/ISIS attended the workshop.

Special emphasis and hands-on practice were given to:

- Designing non-bibliographic databases;
- Integrated databases;
- New utilities;
- Information retrieval techniques;
- New features in display formatting;
- Linking of records;
- PASCAL interface programs; and
- Database exchange and interconversion of records.

As part of a project assignment, participants applied the software to design a database or computerisation of a library activity which they may develop further and use in their respective institutions.

The course was conducted by Prof. A. Neelameghan. He was assisted by Ms G. Sarvamangala and Ms K. Lalith, Research Assistants of the Institute.

A special lecture and demonstration session on CD-ROM was presented at the Informatics (India) Ltd, by Shri N.V. Sathyanarayana. The demonstration included a database in Micro CDS/ISIS prepared by a co-operating group of 45 medical institutions in Latin America. Another lecture-cum-demonstration on programs for the conversion of record structures in databases, such as,

CAS, BIOSIS, etc., to ISO 2709 (data exchange format) to facilitate downloading or importing of the records into CDS/ISIS databases, were presented by Shri T.S. Rajashekar of the National Centre for Science Information of the Indian Institute of Science, Bangalore.

Participants evinced particular interest in the new front-end utilities, record linking, basic computing, and free text search features as well as in the PASCAL interface programs for SDI, data validation, thesaurus construction and maintenance, etc., of CDS/ISIS.

AACR2 for DELNET

The India International Centre with the support of National Information System for Science and Technology has been promoting the creation of DELNET for the last two years. During these two years maximum attention has been paid to the creation of databases and the training of library personnel in the library automation. In the creation of records some DELNET libraries have been progressing. It was felt that such records needed to be standardised. The Committee on Standardization of DELNET recommended several guidelines to be followed up by the participating libraries to enforce the creation of bibliographic records on a uniform pattern. The committee decided that in the creation of these records DELNET should follow AACR2 rules as these rules were being regularly revised in view of the experiences of the library and software experts. Such experts were busy creating bibliographic records in machine readable form the world over. AACR2 was an attempt towards international standardisation as it took care of the requirements of machine processing.

As AACR2 is likely to be used by other library networks in India, it was decided to organise a workshop on AACR2 to find out if Indian library experts have to recommend any local variations. With the financial support of NISSAT the workshop was organised during August 6-7, 1990. Several experts presented papers and participated in the discussions. From the presentations and discussions that followed it was clear that AACR2 rules were ideal for the creation of bibliographic records in machine readable form and there were no major local variations in the application of the rules in the Indian context. However, it was felt that in order to make standardisation effective cataloguing of Indian publications need to be done in uniform script to facilitate inter-filing and searching of records. It was also considered that a network style manual for DELNET and other networks should be prepared. This manual should include guidelines on transliteration schemes, and special rules for non-English materials. Also more research should be conducted in the cataloguing of non-English materials.

Also, a manual for subject headings was considered necessary. It was felt that DELNET should work on this manual soon. The revision of manuals should be a periodic process for, sometimes headings

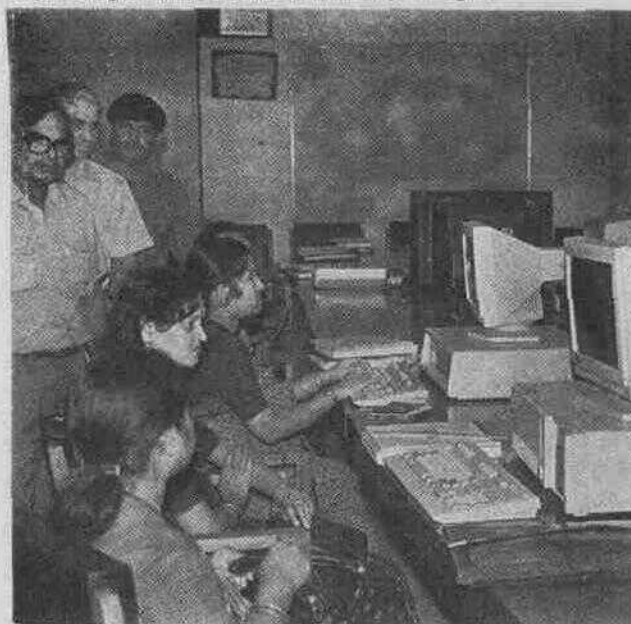
did not remain in vogue for long, and were replaced by new headings. The autonomy in the creation of subject heading was not considered necessary and the work was desired to be monitored by a regular DELNET team.

Most of the discussions were confined to the problems that cataloguers faced in the use of AACR2 and CCF. It was felt that the CCF was basically an exchange format and concerned mostly with standard bibliographical data. The libraries that were interested in creating detailed bibliographic data through CCF would face problems. CCF was not created for in-depth recording of bibliographical details. For that purpose, MARC format which was being used by the national libraries, and that served their purpose. As the purpose of DELNET was to help the scholars with necessary and sufficient bibliographic information in the location and optimum use of records, CCF served the purpose. It was also felt that the use of CCF would eventually result in the creation of bibliographic databases in India faster and with more accurate details.

ILO/ARTEP Workshop on Micro-ISIS

To promote use of Micro-ISIS Software among ILO-ARTEP member institutions and thereby facilitate exchange of information, NISSAT organised a workshop on CDS/ISIS Software from 9 to 14 July 1990, at Technology Bhawan, New Delhi. The workshop was sponsored by International Labour Organisation/Asian Regional Team for Employment Promotion (ILO/ARTEP).

Welcoming the participants Dr. Abhijit Lahiri, Joint Adviser, NISSAT briefly outlined the major activities of NISSAT and its achievements. He also stated that NISSAT accorded high priority to all aspects of computer based bibliographic information processing. Towards this end, it obtained the official distribution rights of CDS/ISIS package in India from UNESCO, and has been regularly organising training courses on the package.



Hands-on Session : ILO/ARTEP CDS/ISIS Workshop

Dr. Piyasiri Wickramasekara, Officer-in-charge, ILO/ARTEP gave the background of the workshop and the Asian Human Resource Development (HRD) Planning Network. He observed that the activities of the network were supported by the UNDP and coordinated with other UN Agencies within the framework of Jakarta plan of action for Human Resource Development for the ESCAP Region. The network, grown out of the need among the countries in the Asian region for effective planning for the utilisation of existing and future human resources is supported by nine Asian countries. It was formed for developing an integrated approach to Human Resource Planning leading to effective employment, manpower, education and labour market analysis.

There were 8 participants in the workshop from different institutions. The Faculty members were drawn from NISSAT, DSIR; DESIDOC, DRDO; INSDOC, CSIR and NISTADS. All of them have been trainers for the package in the country and have wide practical experience in the field. Shri J.C. Malhotra, (ILO/ARTEP); Dr. A. Lahiri and Smt. Sreedevi Ravindran (NISAT) were the course coordinators.

Course Content—The workshop comprised some background lectures, but the emphasis was mainly on practicals and hands-on experience on computers. The topics included were Micro-Computers, Features of MS-DOS, Application of Micro-Computers and Software packages on Library and Information Services, Introduction of Database management, Introduction of HRD input sheets and the features of CDS/ISIS package with sufficient practical experience. The participants were trained to create their own individual sample database using the HRD input sheet.

Evaluation by the participants was quite encouraging. Some comments: (i) the workshop covered extensively the software in terms of its features and application, (ii) the balance between the lectures and practicals was very good, and (iii) the facilities provided by ILO/ARTEP and NISSAT were excellent. However, one participant felt that a more purposeful coordination between lectures/discussions/practicals is expected and demonstration part could be improved.

Dr. Wickramasekara and Mr. J. C. Malhotra, ILO/ARTEP in their concluding remarks hoped that the participants with their newly acquired skills and confidence would make the HRD Programme efforts fruitful and thanked the participants, the NISSAT and ILO/ARTEP staff for making the training programme a success. Smt. Sreedevi Ravindran thanked ILO for identifying NISSAT for taking up this activity and the participants for their active participation in the workshop.

NIC to Reach out to Rural Areas: Dr Seshagiri, Informatics Annual Lecture Series Instituted

On 18 May 1990, Informatics (India) Pvt. Ltd



Dr. N. Seshagiri, Shri V.K. Mani, Ms Nancy Green and Dr. B.S. Ramakrishna

Bangalore, celebrated the 10th year of its incorporation by instituting "Annual Lecture Series on Informatics". Dr. N Sheshagiri, Director General, National Informatics Centre (NIC) and Additional Secretary, Planning Commission, inaugurated the lecture series, and delivered the first lecture of the series on "Database production and distribution industries for the 90's".

Dr. N Sheshagiri dwelt on present Indian scenario and stated that NIC's NICNET had 420 stations linked to one another in 420 district headquarters and offered 120 information databases for public use. Plans were afoot to expand the network to 5,100 blocks all over the country.

As NIC aimed to reach the rural areas too, the databases had to be offered in regional languages. At present NIC was collaborating with the Centre for Development of Advanced Computing, Pune, to create databases in Hindi for the users in Uttar Pradesh, he said. He also added that the NICNET had 500 million bytes of information which was growing at a rate of around 150 million bytes a month. NIC hoped to increase it to 500 million bytes soon.

Ms Nancy Green, International Marketing Manager at DIALOG Information Services Inc. USA, who was in Bangalore for the occasion as guest speaker, delivered a lecture on "Online and CD-ROM—the World Scenario". Captain V.V.K. Mani, Regional Manager, The Hindu, Bangalore, presided over the function.

Mr N.V. Sathyanarayana, Managing Director of Informatics, in his welcome address observed that there are 4,500 public domain databases in the world. But very few of them were available to Indians. Mr Sathyanarayana also spoke at length on the struggles, achievements and future plans of Informatics.

The lectures are video taped and are available for viewing on request from Informatics, Post Box No. 360, Malleswaram, Bangalore 560 003.

DRDO Workshop on IT

A 4-week workshop on Information Technology was conducted by DESIDOC from 2 to 27 July, 1990. The object of the workshop was to create awareness of and impart training in the adoption of various techniques of information handling to improve the overall quality of information services in DRDO. It covered technologies of computers, telecommunications, optical disks, reprography and photography, etc. Seventeen participants including 3 from the Indian Airforce attended the workshop.

The Workshop was divided into four modules:

- 1) Introduction to use of Computer
- 2) Input preparation
- 3) Information processing
- 4) Information transfer

Module 1 covered computer hardware, software, operating system DOS and Word Star. *Module 2* covered indexing languages, indexing techniques, use of thesaurus, AACR-II and Standard Bibliographical Record Format CCF. *Module 3* was the core module which covered application of computer to library and information activities, software packages including DBASE III, CDS/ISIS ver 2.3, DELMS, database creation and online searching of databases. *Module 4* included information networks, electronic mail, expert systems, CD-ROM technology, desktop publishing and FAX.

The faculty for the workshop was drawn from DESIDOC as well as from other institutions such as IGNOU, INSDOC and NIC. Special lectures by eminent information specialists were also arranged. Inhouse arrangements were made for tutorials, practical training and demonstrations. A visit to INSDOC was arranged for the benefit of the participants.

Dr. S.S. Murphy, Director, DESIDOC delivered the valedictory address and distributed the Certificates.

Shri S.K. Taneja, SIC Training and Course Coordinator presented the vote of thanks.

Workshop on Current Awareness In Business and Industry

A workshop on "Current Awareness in Business and Industry" was jointly organised by National Information Centre for Textile and Allied Subjects (NICTAS), Gujarat Granthalaya Seva Sangh and British Council, Bombay, at ATIRA, Ahmedabad in March 1990. Ms. Patricia Stoa, Specialist in Industrial Information, Tyne-Woas Chamber of Commerce, England was a special invitee.

Dr. T. Radhakrishnan, Chairman of NICTAS and Director of ATIRA, while inaugurating the Workshop pointed out the importance of correct, adequate and upto date information. Ms. Stoa apprised the participants of the "information environment" prevailing in the UK. A very important aspect of dissemination of information is to understand the organisation in which one works.

The employers fix their decisions on information they get. Therefore, accurate and timely information acts as a foundation of modern business and industry.

Development of any project depends on market potential, competition and funding. Information received from various sources should be kept in a single file with the help of Word Star (WS) and Desk Top Publishing (DTP). The top management should be convinced that strategic information can be provided. She stressed the need of the concept MBWA, i.e., Management By Wondering About. Make people aware of the services available. This will help to achieve trust and status too. Newspapers and on-line database are also important sources of information. She urged India to exploit information resources within the country and then from the Western countries. Her prognosis was that '70s was the financial decade, '80s the marketing decade and '90s will be information management decade.

Shri P.C. Shah, Project Co-ordinator, NICTAS and Manager, Library and Information Services proposed a vote of thanks. Shri A. Jambekar, Librarian, IIM, Ahmedabad summed up the proceedings.

POPLINE Service

National Social Science Documentation Centre of Indian Council of Social Science Research has acquired POPLINE (Population Information Online) database in CD-ROM from Johns Hopkins University, USA with the assistance from UNFPA. This database provides bibliographical data and abstracts of worldwide literature on (i) research in human fertility; (ii) contraceptive methods; (iii) family planning services; (iv) maternal and child health; (v) AIDS in developing countries; (vi) census; (vii) program operations and evaluation; (viii) demography; (ix) vital statistics; and (x) related health, law and policy issues.

POPLINE is the world's largest database on population with 1,60,000 records in English language. These references are from 15 types of publications including published and unpublished works.

A computer print-out of titles with bibliographic details and abstracts can be supplied to the interested scholars by this Centre. Please send your request to the Director, National Social Science Documentation Centre, 35 Ferozeshah Road, New Delhi 110001.

National Institute of Health and Family Welfare Centre (Munirka, New Delhi-110067) also provides this service from the database to the scholars.

NICRYS Data on INDONET

As a follow up to the previous three demonstrations at Bombay, Pune and Calcutta of On-line access of NICRYS data on CMC's INDONET, a few more are planned in the near future. The next demonstration is planned to be held at New Delhi sometime in September 1990.

Apart from Cambridge Structural data (CSD) NICRYS now plans to make available other databases and data banks also. It is proposed to have Protein Structural data and Nucleic acid data on INDONET. These are expected to be included for the demonstration session at New Delhi.

CSD 1989 Release — The new release of the CSD system (Version 4), is now available to the users.

The entries in the database contain extended chemical connectivity records. Associated with each atom in a structure is a pair of (x, y) plot coordinates which enable the connectivity representation to be displayed as a conventional chemical diagram.

Any publication arising out of using the NICRYS/CSD may kindly be passed on to the NICRYS office at University of Madras, Guindy Campus, Madras-600025.

NICRYS has received some enquiries with regard to the use of On-line access of NICRYS data on INDONET and the procedures to implement the same. The following notes are intended as clarifications:

The On-line access is possible with a minimum of PC/XT computer provided a Modem is available for hooking on to INDONET. However for the latter you are required to contact the nearest CMC office which will provide technical information and advice. If Modem is not available along with PC, the CMC will help in providing one.

In addition to contacting CMC for the INDONET connection, the NICRYS Headquarters at Madras should also be contacted for other technical details relating to the database. The list of CMC offices will be posted separately to the readers for their convenience in the near future.

Informatics—DIALOG Tie-up

Informatics (India) Pvt Ltd., Bangalore, and DIALOG Information Services Inc., USA have entered into an agreement under which DIALOG has appointed Informatics as their international training and educational consultants for the SAARC region which includes India, Pakistan, Bangladesh, Sri Lanka and Nepal.

DIALOG's formal entry into India is expected to help advancement of Indian information industry. DIALOG is the earliest online information system in the

world, providing access to over 350 international databases.

Computer Technology for Indian Languages

Department of Electronics has drawn up a programme, namely, Technology Development for Indian Languages (TDIL) for implementation during the Eighth Plan. The programme covers Sanskrit also.

During the implementation of TDIL programme, project proposals will be called for. These projects will cover areas such as language learning system, computer-based grammar and dictionary, knowledge representation schemes and natural language understanding system. These will be applicable to all Indian languages including Sanskrit. All projects taken up will involve targets for achievement and monitoring.

A Sanskrit oriented project, entitled "Computer Assisted Sanskrit Teaching, Learning Environment" was launched by the Department of Electronics as a joint project at the Jawaharlal Nehru University (JNU), New Delhi, in November 1989.

A project on investigating the use of Sanskrit language for natural language processing was initiated at the Centre for Development of Advanced Computing (C-DAC), Pune, in March 1989.

Apart from investigating the use of Sanskrit language for natural language processing, the target of the project at C-DAC includes development of tools and techniques for Sanskrit language processing in the Paninian grammar framework.

AGRIS on CD-ROM

AGRIS, the world's largest bibliographic database on agriculture, is now being sold on CD-ROM. Produced by the AGRIS Co-ordinating Centre of the Food and Agriculture Organization of the United Nations (FAO), the database is being distributed on CD-ROM by Silver Platter Information, Inc..

AGRIS covers all aspects of agriculture, including forestry, animal husbandry, the aquatic sciences and fisheries, and human nutrition, in over 110 participating countries. Literature covered includes grey literature such as scientific and technical reports, theses and conference papers.

An archival disc (1986-1988) contains over 300,000 records; the current disc (1989) contains approximately 150,000 records. An annual subscription to the complete set with quarterly updates costs US\$ 1,350; the current disc alone — with quarterly updates — sells for US\$ 750, and the archival disc costs US\$ 700. Developing-country subscribers are eligible for a 50 per cent discount. FAO is distributing AGRIS on CD-ROM to each of its 150 member countries.

Library Automation and Networking

More than 600 librarians from 25 countries participated in the first European Conference on Library Automation and Networking which took place in Brussels, Belgium, from 9 to 11 May 1990. Unesco's participation in this Conference was as follows:

- A financial contribution of US\$ 15,000 which allowed 15 librarians from 11 Eastern and South-European countries to participate in the Conference;
- The preparation of a working document on *Interlending and document supply in Europe* which was distributed to the participants.
- A presentation, made during the opening session by the representative of Director General, of the Organization's Medium-Term Plan (1990-1995) with particular reference to the General Information Programme.

The *Proceedings* of the Conference, including the text of some 50 communications by experienced librarians from each region of Europe, will be published by K.G. Saur Verlag, Heilmanstrasse 17, 8000 München 71, FRG.

Copies of the document *Interlending and document supply in Europe* (PGI-90/WS/13) are available from the Division of the General Information Programme, UNESCO, Paris.

WIPRO Develops Computer Products

Wipro has indigenously developed and commercialised several innovative products in computer sector. These are: advanced ruggedised computer system, flowsolver parallel computing platform MK2 jointly developed with National Aeronautical Laboratory, Bangalore; modular data bus designed and developed for Naval Physical and Oceanographic Laboratory, Cochin; station processor computer system designed to meet special requirements of ISRO and Landmark II supermini computer.

INDUSTRY — CPCB Software

Developed by Central Pollution Control Board with technical assistance from IIT, Bombay, the INDUSTRY software is in use by Central and State Pollution Control Boards. It uses Dbase III plus and clipper.

The package is designed for the management of data pertaining to air and water polluting industries. It includes the information about the general water polluting and air polluting aspects, status of pollution control equipments of the different industries i.e. name, address, waste water generation status, effluent treatment plant status, emission status, information about stacks etc. The package includes modules for the consent management

and cess computations under the different pollution control Acts. The package is user friendly, interactive and totally menu driven. Facilities for generating selective reports and utilities to perform duplicate checks, maintaining files, taking back ups etc. are also being provided.

Library and Information Services in the Middle East

Dr. S. Nazim Ali, Associate Professor & Coordinator, University of Baharin Library, addressed the library and information science professionals in Hyderabad last July. The Meeting was jointly organised by the Academy of Library Science & Documentation, Librarians' Study Circle Osmania University, ICSSR Southern Regional Centre and Department of Library & Information Science, Osmania University.

The Guest speaker dwelt at length on the use of information and communication technology for library and information services in the Middle East. As a backdrop to the topic, he described the use of computers in advanced countries like United States of America, United Kingdom, Federal Republic of Germany, France, etc. He referred to networks and databases like OCLC, RLIN, ERTC etc., from the United States and how they have been contributing to bring efficiency and economy in library and information services. He also made a mention of CD-ROM and its increased use by libraries in developed countries and its usefulness for developing countries as compared to online use of databases.

Dr. Nazim Ali observed that all over the world information society is gradually emerging and the use of information technology has become unavoidable. Referring to the scenario in the middle east, he gave a detailed account of the use of various databases in western countries by libraries and documentation Centres there through GULFNET. He also mentioned that use of micro- mini- and main frame computers by libraries and documentation centres applying UNESCO/IDRC prepared software packages, namely, CDS/ISIS and MINISIS. There were no budgetary constraints in those countries and therefore information technologies were being increasingly adopted. The use of these technologies provided a boost to intellectual contribution by scholars.

Shri N.B. Inamdar, University Librarian, Osmania University in his presidential remarks made a mention of various committees and commissions reports and different centralised systems created by UGC like INFLIBNET, University Science Centre at Bangalore, and Centres for Social Sciences and Humanities at SNDT Womens University in Bombay and Baroda University. He also referred to various attempts that were being made to create local network like CALIBNET, DELNET, etc. The library and information science professionals in India, he said, were aware of the importance of modern technologies. But owing to financial constraints they were slow in adopting them.

Earlier Prof. A.A.N. Raju, Head, Department of Library and Information Science, Osmania University welcomed the gathering and introduced the Guest Speaker to the audience. The programme came to an end with a vote of thanks by Mr. M. Shanker Reddy, General Secretary, Academy of Library Science, Hyderabad.

DUNDIS — New Edition Published

ACCIS has just published the fourth edition of the *Directory of United Nations Databases and Information Services*. The new, updated edition contains information on 872 computerized databases and information services managed by 39 United Nations bodies and organizations. This represents an increase in coverage of more than one third over its predecessor, published by ACCIS in 1984. While some of the databases and information services listed have existed for a number of years, many are new; the majority of the new entries are databases.

The *Directory* explains which databases and information services are available, what kinds of information they contain, and how to find out more about them. Entries are arranged in alphabetical lists, under broad subject categories. This new arrangement responds to a need, frequently expressed to ACCIS, for an easy-to-use list of United Nations systems database and information systems/services. Subject indexes in French and Spanish, as well as English, are included.

The *Directory of United Nations Databases and Information Services* (ISBN 92-1-100349-0) costs US\$ 40 and is available from United Nations Sales Sections in Geneva and New York.

World Information Service Planned

Plans for a New Computerized World Information Service to allow information to flow freely among Non-Governmental Organizations (NGOs), from East to West and North to South, were unveiled at a meeting held in Geneva in May 1989.

The East-West Meeting was sponsored by the World Information Clearing Centre (WICC), a Geneva-based non-governmental group founded during the International Year of Peace. Attended by representatives of number of United Nations system organizations as well as NGOs, religious groups and international communications experts, it was intended to gather support for improved East-West and North-South electronic information exchange.

Bearing the acronym NCWIS, the information service will be engaged in, among others on the work programme approved at the meeting, the following activities:

- An Early Warning or Alert System covering nuclear threats, environmental degradation, natural disasters

and accidents, and human rights violations.

- An International Advisory Panel of experts, to give practical advice and guidance in WICC's efforts to provide NGOs with the kinds of services that will substantially increase their ability to respond effectively to world problems.
- A survey of office automation studies for NGOs, in conjunction with a needs assessment, to assist NGOs wishing to join the network and expand their communications capabilities.
- A study of the "village link" — that part of the communications network beyond the computer's reach.
- The "video-Globe" project, a worldwide study of available audio-visual resources on topics related to global problems. When compiled, such a database would be continually updated and publicized through the network. WICC plans to launch a videocassette project designed to educate communities on the identification and resolution of problems related to the four major areas of concern listed above.

ADONIS to Start Commercial Operations in 1991

The ADONIS electronic document delivery system has successfully passed through a two-year trial period and is expected to start commercial operations in 1991.

Results from the trial, according to the consortium of major publishers of which ADONIS is composed, cut document delivery costs in participating libraries in half. Of this, most was accounted for by savings in staff time. Perhaps not surprisingly, accessing and printing out articles on CD-ROM was found to be more efficient — and less fatiguing — than finding printed journals on the library shelves and physically carrying them to the photocopier. Storage requirements were dramatically reduced.

Encouraged by the trial's positive results, the ADONIS board plans to introduce a commercial service starting with journals published in 1991. The publishers of 400 journals are now being approached to allow their titles to be included.

Libraries will need ADONIS workstations, which in the trial phase consisted of a PC with 40Mb hard disk, high resolution monitor, CD-ROM drive and laser printer. As a result of suggestions made by staff who participated in the trial, certain refinements will have been made to this configuration by the time commercial operations get underway.

Participating libraries will agree to operate under specific site licenses, rather than on the basis of copyright law. They will pay what is described as a modest annual subscription. Royalties will be paid on use

of the service at two levels — lower for libraries subscribing to the print version of the title, higher for those that do not. They will be based on the automatic recording of the ADONIS number for articles printed or transmitted over a network; simply viewing articles on a screen will not attract royalties:

Publishers will each set their own fee, which ADONIS will collect on the publisher's behalf. The intention is to deliver disks within two weeks of the appearance of the printed issue.—*Information Media and Technology*, Vol. 23, No. 2, March 1990.

Malaria Database

A database on malaria is now available free of charge on diskette from the Walter and Eliza Hall Institute of Medical Research in Melbourne, Australia. Founded by the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases (TDR), the database is part of an ongoing project aimed at disseminating information on the availability of reagents for use in malaria research.

The database, which is intended to be a complete listing of all known malaria nucleotide and protein sequences, is updated two or three times per year. Versions are available for PC compatible microcomputers in 3½" or 5½" formats, or for Apple Macintosh Computers. It can also be installed on a minicomputer, by transferring the files from a microcomputer using an appropriate terminal emulation program.

UNEP Cleans up Production

Cleaner production and technology is the goal in front of a network being established by the United Nations Environment Programme (UNEP). The network, created using guidelines laid down by UNEP's Governing Council at a Special Session in 1988, with advice from experts from various countries and international organizations, will exchange and disseminate information.

Finance is currently being provided by France, The Netherlands, UK, USA and the Commission of the Economic Community (CEC). The United Nations Industrial Development Organization (UNIDO), the United Nations Centre for Science and Technology for Development (UNCSTD) and the Organization for Economic Co-operation and Development (OECD) are members of the network. A number of industrial associations are also playing an active role.

Through the network, UNEP is serving as an information broker. It will encourage regional, national and international activities to promote cleaner technologies and cleaner production.

The network will rely largely on information collected by working parties established on the following topics: the galvanne industry; the textile industry; the

leather industry; substitutes for and safer use of halogenated solvents; harmonization of data on cleaner production and governmental policies for promoting cleaner production methods. The working parties are composed of recognized specialists from countries throughout the world.

The first issue of a newsletter, *Cleaner Production*, has just been published by UNEP to draw attention to the need — and the opportunities — for implementation of cleaner production methods.

World Media Handbook

The United Nations Department of Public Information (DPI) is launching a directory of selected media and related data covering almost 70 countries.

Intended as a handy reference tool for United Nations information officials and other media-related specialists, the *World Media Handbook*, as the publication is entitled, integrates a wealth of data not previously available from any other single source.

The 300-page *Handbook* contains demographic data and communication statistics, laid out in a concise format. It provides a list of more than 650 newspapers, 700 magazines and other periodicals, 100 news agencies, some 350 broadcasting organizations, and 150 journalists' associations, as well as more than 150 educational institutions that teach communications. Each entry incorporates: the names of leading editorial personnel; mailing addresses; telephone, telex and fax numbers, circulation figures and frequency of publication.

Limited space meant that a maximum of 15 newspapers and 20 magazines and other periodicals could be included per country. The *Handbook* will be updated every two years; it is expected that the 1992 edition will contain entries on an additional 96 countries.

The *World Media Handbook*, price US\$ 38, will be on sale at the United Nations Bookstores.

Information on TNCs

The United Nations Centre on Transnational Corporations (UNCTC) provides developing countries with a wide range of information services on Transnational Corporations (TNCs). A recent report by the Secretary General provides an overview of these services and gives examples of the ways in which they are being used by Member States.

In response to outside requests, the Centre assists developing countries — by supplying information services or products — in their dealings with TNCs, as well as supporting local development of information systems on this issue. Research and evaluation services involve information and analysis on individual companies, industries and sectors; laws, regulations and norms;

contracts and agreements; individual countries' economic and political frameworks; foreign direct investment, policy issues etc.

A second category of service helps developing countries create their own information systems. Under this heading are: information needs assessment; system design, installation and testing; evaluation and upgrading of existing systems; hardware, software and dataware evaluation and procurement; installation of information products developed by the Centre, including software applications and dataware, and training of government officials.

In addition, the Centre makes available to Member States its extensive collection of technical information related to foreign investment and transnational corporations, as well as other related publications. Finally, it provides online access to all of the world's major business databases.

Some 700 government requests for information are currently received by the Centre every year. In a number of cases, some of which are documented in the report, the information has led governments to the discovery that a company has been misrepresenting itself or its affiliations.

Recently the Centre has received an increasing number of calls for assistance in the development and management of computerized information systems. These are being used in support of policy formulation; improving the role of foreign investment and technology transfer; investment promotion; the negotiation process, and monitoring and evaluation of the performance of foreign investors.

The Centre has also started to make its own databases available as components of information systems being implemented in developing countries. In addition, it is encouraging the exchange of bibliographic data in machine-readable form. One such exchange, with an organization of Caribbean governments, is being facilitated by the use of CDS/ISIS (Mini-Micro Version) by both parties. This includes the local installation of tailored software for documentation handling, and the training of local staff.

The Seventh Steering Committee Meeting of the Information Network on New and Renewable Resources and Technologies for Asia and the Pacific (INNERTAP) took place in Quezon City, Philippines, from 19 to 23 February 1990. It was attended by representatives from the six member countries (People's Republic of China, Indonesia, Republic of Korea, Nepal, Philippines and Thailand). Representatives from AIT-RERIC, CSIRO, ESCAP, IDRC and Unesco participated also in the meeting.

The meeting included an evaluation of the INNERTAP project with regard to the funding received

from the International Development Research Centre, Canada, and adopted a work programme for the next three years. The activities foreseen include: database production, technical inquiry service, document delivery, preparation of information packages on specific aspects of renewable energies and translation services, preparation of information tools (e.g. Union List of Serials), development of a database on experts and research in progress, inclusion of information on the environmental effects of energy resources in the *Renewable Energy Index*.

The Steering Committee also recommended that Unesco be approached regarding the possibility of allowing other Asian countries to join INNERTAP (namely, Bangladesh, India, Malaysia, Maldives, Singapore and Sri Lanka).

CODATA Referral Database

A *CODATA Referral Database (CRD)* has been set up with Unesco support. It provides an automated compilation of international records describing numerical data sources in science and technology. It combines the information contained in the *CODATA/Unesco Inventory of Data Referral Sources in Science and Technology* (to be published by Hemisphere Publishing Corporation), which contains entries collected through 1987, and in several of the *CODATA Directories of Data Sources*. The database contains at present approximately 1200 records and comes with simple retrieval software and a user manual.

The *CODATA Referral Database* is designed to permit a rapid search for data centres or other institutions which can provide numerical data or other factual information in any specified field of science and technology. The result of such a search is the name and location of each relevant institution, along with a description of its scope of coverage, holdings, outputs and dissemination policies. No actual numerical data are provided. The objective of the CRD is to cover all scientific disciplines and related fields of technology. The present version will be continually updated and expanded. Version 2 is expected to be available in March 1991. Purchasers of Version 1 may obtain it for a nominal fee.

The *CODATA Referral Database* and associated retrieval software are normally provided on high density 5.25 inch diskettes (suitable for an IBM PC/AT or compatible computer). However, either low-density 5.25 inch diskettes (suitable for an IBM PC/XT) or 3.5 inch diskettes can be provided. A minimum of 256 kbytes of RAM and 4.6 Mbytes of free space on the hard disk is required to load the present system; as the database grows, this may expand to 10-12 Mbytes.

Orders may be sent, along with US\$ 175 per copy by cheque (payable to CODATA) or by Unesco coupons, to: M/s Phyllis Glaser, Executive Secretary, CODATA

Secretariat, 51 Bd. de Montmorency, 75016 Paris, France.

ChIN

Prepared as the first one in a series of guidelines and studies of the International Chemical Information Network (ChIN), the *Selected annotated bibliography in chemical information* (10 pp.) by Yechezkel Wolman, Department of Organic Chemistry, Hebrew University of Jerusalem, has been published by the International Centre for Chemical Studies in Ljubljana, Yugoslavia, in co-operation with the Yugoslav National Commission for Unesco.

It cites relevant books and leading articles on producers and vendors of chemical information, spectral databases, information-handling software, on-line end-user searching, education in chemical information, chemical patents, chemical structures, chemical reactions, notation and nomenclature.

Available free of charge from: International Centre for Chemical Studies, Vegova 4, P.O.B. 18/1, 61001 LJUBLJANA, Yugoslavia

INECA Journal from UNIDO

The first issue of the INECA Journal has recently been published by the industrial and Technological Information Bank (INTIB) of UNIDO as a pilot issue. The acronym stands for industrial Energy Conservation Abstracts (INECA) which was initiated in UNIDO as a data base in 1987. In direct response to the requirements of a United Nations Development Programme (UNDP)/UNIDO regional European project.

In a preface to the Journal, UNIDO Director-General, Domingo L. Siazon Jr., points out that UNIDO, in its medium-term plan for 1990-95, emphasizes the need to increase the efficiency of energy use and conservation, including the recovery and recycling of energy and the utilization of renewable sources of energy.

He adds: "This first collection of Industrial Energy Conservation Abstracts focuses on four large-scale energy-intensive industries in the European region. In the course of the coming years coverage will extend to other sectors and other regions, thus helping to strengthen the developing countries' ability to overcome the energy-related problems besetting their industries."

The information contained in the first issue has been extracted from the Industrial Development Abstracts (IDA) database of UNIDO, in addition to that generated by the Industrial Energy Conservation Network (ENCONET).

According to the Editorial "UNIDO is trying to encourage owners of information on industrial energy conservation technology to join in an effort to help developing countries, which are in need of appropriate information to help in their decisions concerning industrial development. INECA acts as a medium to those institutions wishing to make their equipment, processes or knowhow known to a wider audience and market..."

The first issue of the *INECA Journal* is divided into two main sections: abstracts of mostly unpublished technical reports and a selection of technologies (equipment and know-how). Both sections cover industrial energy conservation.

Materials Database Experience

Moscow will host an international symposium and workshop on Materials Database in April 1992. The event is sponsored by CODATA, Academy of Sciences of USSR and the State Committee of the USSR on Quality Control and Standards (GOSSTANDART). Its objectives are:

- To exchange local and multinational experience and identify opportunities and obstacles to the provision of materials property data via computerized systems through collaboration on a world-wide basis
- To classify the problems, to propose routes for their solution, and to qualify the benefits which these systems offer

The scope of the symposium covers:

- Motivation of users and database builders in promoting the international development of activity on materials information systems
- Local, national and international materials information systems. Present state, problems, and opportunities for further development, including:
 - Software and hardware problems
 - standardization of terminology, formats, and description of materials
 - database applications: CAD/CAM/CAE systems, expert systems, knowledge systems, materials modelling, etc.
- Problems of data and database quality
- User's expectations and needs
- Database economics and marketing
- Networking of materials databases

This is a preliminary announcement. Details will follow.

Theory of Informetrics: DRTC to Host 1991 International Conference

The Documentation Research and Training Centre, Bangalore is organizing the third international conference on Informetrics during 9-12 August 1991 at Bangalore.

Co-sponsoring the conference are INSDOC, New Delhi and Sarda Ranganathan Endowment for Library Science, Bangalore. Celebrations of the birth-centenary of late Prof. S.R. Ranganathan form **part of the** conference.

Scope

The main purpose of the conference is to provide a forum for scholarly and scientific interaction in the broad domain of informetrics.

The topics include:

Informetrics: Foundations, Empirical laws, General theory

Bibliometrics: Classical Bibliometric Laws, Models, Distributions and their Applications, Epidemic models etc.

Citation Analysis

Obsolescence of literature

Growth of libraries, systems and databases

Information Use: Informetric models

Circulation theory, in-library use, use of journals, use of databases, etc.

Scientometrics: Quantitative aspects of sciences
Quantitative and graphic studies of science policy, science administration, scientific productivity, etc.

Statistical Methods as applicable to Informetrics
Rank theory, non-Gaussian distributions, stochastic models, bootstrap approach to inference, multivariate studies etc.

Software: Development of special purpose software for informetrics.

The last date for submission of full papers is 31 December 1990. Registration fee is Rs. 1200 per participant. Correspondence may be addressed to Dr I.K. Ravichandra Rao, Organizing Secretary, Informetrics-91, DRTC, 8th Mile, Mysore Road, Bangalore 560059.

ILA Conference: Jodhpur

During the XXXV All India Library Conference of the Indian Library Association, a seminar on Computerisation and Library Networking is being organized. The University of Jodhpur will host the conference and the seminar during 26-29 Dec. 1990.

Communication and Information Thesaurus

This thesaurus has been prepared by Mrs Jane Aitchison, under contract with FID. It is being translated into French and Spanish and the three versions will be published at the end of this year or early 1991, both in printed and in electronic form.

Developed out of the 2nd edition of the *Unesco Mass Communication Thesaurus* compiled by Jean Viet, it has been expanded in the communication and information technology sections and a more rigorous analysis of concepts has been sought throughout. The information technology aspects of library and information science have been covered in addition to more conventional LIS subjects.

Compiled initially for the use of members of COMNET, an international network of documentation centres on communication research and policies initiated by Unesco, it is also intended for any interested organization in the communication field and for professional, research and educational institutions concerned with library and information science management.

The project has been financially supported by Unesco, the International Programme for the Development of Communication (IPDC) and the Friedrich-Ebert-Stiftung in Bonn, FRG.

Workshop on Machine Translation Postponed

The regional Workshop on Machine Translation has been postponed from Sept. 17-22, 1990 to Feb. 18-24, 1991. The organising committee took this decision because Resource Persons did not confirm their participation. Countries invited to participate also did not respond.