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**The Use of Microcomputers in  
Documentation and Information Centres  
in Africa**

## I. INTRODUCTION

1. In 1988 the Pan African Documentation and Information System (PADIS) prepared a study on the use of microcomputers in information and documentation centres in Africa that was presented to the Fifth Session of the Joint Conference of African Planners, Statisticians and Demographers (held in Addis Ababa, 14-21 March 1988). The Conference commended the study and requested that it be replicated for the Sixth session of the Joint Conference in order to discern changes and trends in the area.

2. As in 1988, PADIS again sent out a questionnaire to its mailing list of libraries, documentation and information centres in Africa. The number of responses in 1989-1990 were comparable to those received in 1988. (A list of the responding institutions and a copy of the questionnaire are available upon request from PADIS). The data was processed using SPSS/PC+ software on an IBM-compatible microcomputer.

3. In order to facilitate comparability of the two surveys, the same questionnaire was used, updating those questions which referred to specific dates. The questionnaire had three sections:

- The first section dealt with general information: name and address of the institution, types of activities undertaken, kinds of user services provided, documentary collections, staff.
- The second section sought information on the type and characteristics of the computer equipment used, in cases where it was present, and, where applicable, the plans for computerization;
- The third section concerned only institutions which had, or had access to, microcomputers. It dealt with types of computer applications, kinds of software used, user services provided using microcomputers, equipment and personnel problems encountered, policies following for training and acquisition of equipment and, finally, the kind of assistance that might be requested from PADIS.

## II. THE RESPONSES

4. Sixty-two institutions filled out and returned the questionnaire before the preparation of this paper; one questionnaire was discarded as invalid. Eight others returned the questionnaire noting that they did not fill it out because they did not have any microcomputers.

### Documentation activities

5. Forty-four percent of the institutions said that they are engaged in bibliographic activities; an additional 6.6 percent dealt with referral information, while 24.6 percent said that they handled bibliographic and referral information. An additional 3.3 percent dealt with numeric as well as bibliographic information, while 8.2 percent said they handled the three categories of information (bibliographic, referral and numeric). The 1988 and 1989-1990 questionnaires had virtually the same percentages of responses in each category.

### Specialization

6. Most centres said that they had no specialization or left it unstated (55.7 percent, as compared to 43 percent in 1988). However, one quarter said that they were multi-sectoral, 8.2 percent indicated a sectoral specialization and 11.5 percent said that they were at the same time sectoral and multi-sectoral.

### User Services

7. Fifty-nine percent were offering current awareness listings, 73.8 percent provided bibliographic services, 54.1 percent provided Selective Dissemination of Information, 60.7 Question and Answer Services, and 19.7 percent online searches. Eleven percent said they provided other services as well.

### Documentation collections

8. Regarding their book collections, thirty percent had collections of more than 10,000 books, thirty-four percent had between 1,000 and 10,000 books, while 18 percent reported collections ranging from less than 100 to 1000 books. A sad tendency was noted in the acquisition of books - a situation that is becoming more frequent in Africa - 75 percent said that they acquired no books or stated no number in 1988. Only 21 percent acquired more than 100 books in the year. (One institution, however, acquired more than 5,000 books).

9. A similar situation occurred with respect to the acquisition of periodicals; 80 percent either didn't respond or said they had acquired none; a further 13 percent acquired less than 100. Again, one remarkable institution acquired between 1000 and 5000 periodicals.

10. As in 1988, microfiche were not commonly found. In 1988 75 percent had fewer than 1000 microfiche/forms; in 1988-90, the figure was nearly 79 percent. Only 6.6 percent of the present respondents reported any acquisition of microfiches in the previous year. Maps and audio-visual aids were infrequently found and less frequently newly purchased.

#### Staffing situations

11. The majority of institutions replying (57 percent) had between one and five professional staff members. Nine institutions (thirteen percent) had 15 or more professional staff members. As in the 1988 survey, a significant number of the libraries, documentation and information centres surveyed reported having no trained librarians or documentalists (fourteen percent in 1988, 16.4 percent in the present survey). The majority (fifty-seven percent) had between one and three librarians or documentalists. Six institutions had more than 10 documentation staff, while two had 53 and 63, respectively.

#### Computer specialists

12. There was an increase in the number of computer specialists found in the present survey; while two-thirds of centres responding in 1988 reported no computer specialists, this was presently the case with only 46 percent. Thirty-nine percent had one or two such specialists (against twenty-seven percent in 1988). Two centres had more than ten (there was one with 15 and one with 60).

#### Computerization

13. Three-fourths of the centres responded that they had computer equipment as opposed to 58 percent in the 1988 survey (an increase of 17 percent). A growing number (39.3 percent, up from 32 percent in 1988) had the facilities within the documentation centre, while in 18 percent of cases they were within the parent institution or shared with another institution.

14. Of the 46 centres with computer facilities, five (11 percent) were using mainframes; eight (17.4 percent), minicomputers and 43 (93.5 percent) were using microcomputers. (Several had combinations of micros with mini- or mainframe computers). The predominance of microcomputers was thus clear. Two centres had computer equipment, but were not using it. (There were four such cases in 1988).

15. Of those centres without microcomputers, seven (about 12 percent) reported plans for computerization in 1990; one, in 1991-1993; four others (6.6 percent) had plans for computerization, but without definite dates. Eighty percent of this group intended to acquire microcomputers, while ten percent each were planning to acquire minicomputers or mainframes.

### III. UTILIZATION OF COMPUTERS

16. This part of the report is based on the replies of those centres which reported use of computer equipment.

#### Number of microcomputers

17. The number of microcomputers per centre were as follows:

**Table 1**

#### **Number of Microcomputers per Centre**

<u>Number of micros</u>	<u>Frequency</u>	<u>Percentage</u>
1	15	34.9
2	11	25.6
3	12	27.9
4 or more	5	11.6
	43	100.0

Compared with the 1988 survey, an increase in the number of microcomputers per centre can be observed. While in 1988, 43 percent had only one micro, in the present survey this fell to about 35 percent. In 1988 only 9 centres had three or more micros; this had nearly doubled in the present survey. One remarkable centre (in Egypt) reported 425 micros! In nearly 12 percent of the cases, the micros increased their utility by being connected to mainframe computers.

### Kinds of microcomputers

18. Of those centres with microcomputers, five (11.6 percent) had IBM compatible models without hard disks; another centre had a non-IBM compatible model without a hard disk. Thirty-seven centres (84 percent of those with microcomputers) had IBM PC/XT/AT and compatibles models; they generally possessed one or two such models (sixty-percent of this group); however, one centre had seven units, and another had 3271. Some 79 IBM PS/2 and compatible models were also found in the group surveyed, distributed among three centres (one with one, one with two and one with 771); this also included machines with powerful 80386 processors. Four other centres (comprising a total of 24 microcomputers) were using non IBM-compatible machines with hard disks.

### Utilization of computers

19. Respondents were asked for what purposes they used their computers. Nearly 58 percent were using them for bibliographic and/or library data base management; 54 percent for word processing, 16.4 percent on financial and management applications; and 16.4 percent on numerical and statistical applications. Another eight percent used them for other applications as well.

20. Regarding bibliographic and/or library data base management, there was an overwhelming dominance of use of CDS/ISIS in its several forms. Of 34 users reporting utilization of bibliographic software programmes, more than three-fourths (26 centres, 76.5 percent) were using CDS/ISIS in its micro and mainframe versions, either alone or in combination with MINISIS. Only 8 centres used another software programme. In its mini-micro version, this represented a doubling of the usage over the 1988 survey (22 vs. 11 users reported earlier).

### Peripherals and other reproduction equipment

21. On the subject of peripherals and other reproduction equipment either linked or auxiliary to microcomputers, the majority had dot matrix printers (55.7 percent); laser printers were also found widely (in nearly forty percent of centres). Fifty (eighty-two percent) had photocopiers and 17 institutions (27.9 percent) had microreprography equipment. Another quarter also had offset presses. Thus, of those with microcomputer equipment, many were well set up for in house publishing activities, whether in microform or hardcopy format.

### Utilization of computers for user services

22. Eighty-six percent of centres with computer facilities reported using them for user services (as against two-thirds in the 1988 survey). Nineteen (44.2) percent used them to provide current awareness lists for their users (again representing a doubling of centres doing so over the 1988 survey), 72 percent prepared computer-generated bibliographies, nearly half (48.8 percent) operated Selective Dissemination of Information services (SDI), while thirty percent provided question/answer services and one-third did online searches for users. Nearly ten percent provided other unspecified computer-based user services as well.

23. The bulk of centres operating computer generated user services sent or gave the results of their searches to users in the form of computer printouts (81.4 percent); thirty percent furnished their users with the results on diskettes while 4.7 percent distributed data to users on magnetic tape and another 4.7 used other, unspecified, formats. Three centres (seven percent) indicated that they used CD ROM for user services (one more centre than in the 1988 centres).

### Problems in computer use

#### a) Hardware and software problems

24. Eighty-four percent of those centres with microcomputers reported encountering some kinds of problems with their use. In the hardware category, one quarter stated that they had difficulties with peripherals, 35 percent had problems with memory, another thirty percent had difficulties with processing speed, and 37.2 percent had problems in obtaining spare parts. Nearly 19 percent had found problems in utilizing various software, with one-fourth had problems with software documentation. The environment (heat, humidity, dust, etc.) also posed problems for a quarter of microcomputer users. More than a third (37.2 percent) had maintenance problems with their microcomputer hardware.

### Servicing

25. Microcomputer users were asked what actions they took when servicing problems arose. More than four-fifths (81.4) reported difficulties in obtaining local servicing of their microcomputers. In the unavailability of local servicing, 9.3 resorted to the use of a backup system, only one centre (2.3 percent) sent the system abroad for

repair; another identified the faulty parts and replaced them itself. Although the majority had said that local servicing was not easily available and that they had encountered problems, most did not identify the strategies that they used in such situations, leading to the possible conclusion that many servicing problems go unremedied. While locally servicing had been mentioned as a problem, the majority (62.8 percent) did say that they were able to purchase spare parts from local dealers (about the same percentage as in 1988).

#### b) Personnel Problems

26. Two-thirds of centres reported shortage of trained staff (as opposed to only 50 percent in the earlier survey; while one might surmise that staff trained earlier have been leaving for other employment, only 12 percent reported this as a problem).

#### Training

27. Fifty-six percent of microcomputer users complained of lack of training facilities/opportunities in their localities. Nearly half (46.5 percent) of centres were sending their staff abroad for training. This figure had increased by more than 14 percent over 1988, while most of the training abroad continued to be in short courses. Fourteen percent said that no local training was undertaken/available. However, of the 86 percent who utilized local training, one third used dedicated training (including at dealer sites) while 18.6 percent organized the training themselves. Nearly a third (30.2 percent) utilized both dedicated and self-training methods. Less than half organized training on their own site; of these, most training was done in groups rather than individually.



Policies regarding computer acquisition

28. While the bulk of institutions/governments were still without policies governing the acquisition of computers, there was a growing trend in this direction. In the 1988 survey, 57 percent of respondents said that their institutions/governments lacked such policies; the present survey reported the lack of such policies in 49 percent of cases. The following table gives the breakdown for all categories on this variable:

**Table 2**  
**Computer Acquisition Policies**

	Frequency	Percent
No Policy	21	48.8
No restriction on purchase	9	20.9
Local purchase only	8	18.6
Brand restriction	4	9.3
Other considerations	1	2.3
	<hr/>	<hr/>
TOTAL	43	100.0

Thus, nearly twenty-one percent reported no restrictions on purchases made (as opposed to only 13.3 percent in this category in 1988). More respondents were reporting purchase restrictions to companies with local representation in 1989-1990 than in 1988 - 19 as opposed to 10 percent earlier. Perhaps this represents the growing awareness of the need for local brand service. The percentage remained about the same of those restricted to purchase from particular companies.

Efficiency

29. Despite the problems reported above, nearly three-quarters of respondents with microcomputers (72.1 percent) said that they felt their efficiency had been increased through the use of these machines. This represented a small increase (2.1 percent) of satisfied users over the 1988 survey. That the percentage of satisfied users was not higher may reflect the need for more and better training and backup service facilities to increase the efficient use of microcomputers.

Requests for PADIS assistance

30. The types of requests for assistance addressed to PADIS by the centres equipped with microcomputers which responded to the questionnaire are listed below:

**Table 3****PADIS Assistance Requested**

Type of assistance	Percent	+ over 1988 Survey
Training in software use	79.1	9.1
Software installation	46.5	3.5
PADIS data base installation	60.5	17.5
PADIS user services	62.8	12.5

Thus there was an increase in all categories of requests for PADIS assistance, pointing to the need for PADIS to intensify its technical assistance to member States in the listed areas. The fact that the greatest percentage increase was in requests for installation of PADIS data bases shows the increasing sophistication of libraries, documentation and information centres in Africa and growing awareness of the need for computerized resources to supply the information needs of their users.

## Conclusions

31. A number of conclusions can be drawn from this survey, by itself and in comparison with the 1988 survey. The picture that emerges of libraries/documentation and information centres in the Africa region (the population surveyed) is that of relatively small centres, with small documents collections and smaller resources for the acquisition of costly books and periodicals. Their staffs, too, are small. Although less than two years elapsed between the two surveys it is clear that the centres are acquiring microcomputers at increasing rates and the percentage which are computerized is also growing. That the majority is committed to microcomputers over other forms of computers is appropriate given the generally small scale of their operations. It is comforting to see, as well, that more and more are acquiring computer specialists to deal with this process and smooth the transition from manual operations. The number of computer-based services that they are providing to users is also increasing. Computerization is not without its problems, but it is clear that information technology offers many low cost possibilities to Africa to participate in the "information revolution." One particular problem area that needs amelioration is the reported availability or inadequacy of local (i.e. in country) training facilities.

32. While African libraries, documentation and information centres lag behind other regions in this area, the direction towards other complementary information technology (such as CD ROM), for full document storage among other uses, is also beginning to take shape. While a number of centres have facilities for microreprography, the use of microforms do not appear to be either widespread or increasing. There is a clear trend toward the adoption of CDS/ISIS as the preferred software for bibliographic data base management. The increasing services requested of PADIS is also encouraging; however, it puts the burden on ECA and PADIS to seek the funds to continue its clearly needed operations beyond 1990 (when its present funding ends).

33. The Annex to this report gives the frequency tables for all the variables from the questionnaire.

STATISTICAL FREQUENCY TABLES  
SURVEY ON THE USE OF MICROCOMPUTERS IN  
INFORMATION AND DOCUMENTATION CENTRES  
IN AFRICA

PART I: ALL RESPONDENT INSTITUTIONS

DOCUMENTATION ACTIVITIES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	8	13.1	13.1	13.1
Bibliographic	1	27	44.3	44.3	57.4
Referral	2	4	6.6	6.6	63.9
Biblio. & Referral	3	15	24.6	24.6	88.5
Biblio. & Numeric	5	2	3.3	3.3	91.8
All	7	5	8.2	8.2	100.0
		61	100.0	100.0	
TOTAL		61	100.0	100.0	

SPECIALIZATION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	34	55.7	55.7	55.7
Multisectoral	1	15	24.6	24.6	80.3
Sectoral	2	5	8.2	8.2	88.5
Both	3	7	11.5	11.5	100.0
		61	100.0	100.0	
TOTAL		61	100.0	100.0	

USER SERVICES PROVIDED

CURRENT AWARENESS LISTS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Service not provided	0	25	41.0	41.0	41.0
Service provided	1	36	59.0	59.0	100.0
		61	100.0	100.0	
TOTAL		61	100.0	100.0	

## BIBLIOGRAPHIES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Service not provided	0	16	26.2	26.2	26.2
Service provided	1	45	73.8	73.8	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## S.D.I.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Service not provided	0	28	45.9	45.9	45.9
Service provided	1	33	54.1	54.1	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## QUESTION-ANSWER SERVICE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Service not provided	0	24	39.3	39.3	39.3
Service provided	1	37	60.7	60.7	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## ONLINE SEARCHES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Service not provided	0	49	80.3	80.3	80.3
Service provided	1	12	19.7	19.7	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## OTHER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Service not provided	0	54	88.5	88.5	88.5
Service provided	1	7	11.5	11.5	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

DOCUMENTATION COLLECTION

## TOTAL COLLECTION OF BOOKS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	11	18.0	18.0	18.0
Less than 100	1	2	3.3	3.3	21.3
100 to 1,000	2	9	14.8	14.8	36.1
1,001 to 5,000	3	17	27.9	27.9	63.9
5,001 to 10,000	4	4	6.6	6.6	70.5
More than 10,000	5	18	29.5	29.5	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## BOOKS ACQUIRED IN 1986

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	46	75.4	75.4	75.4
Less than 100	1	2	3.3	3.3	78.7
100 to 1,000	2	8	13.1	13.1	91.8
1,001 to 5,000	3	4	6.6	6.6	98.4
5,001 to 10,000	4	1	1.6	1.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## COLLECTION OF DOCUMENTS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	26	42.6	42.6	42.6
100 to 1,000	2	8	13.1	13.1	55.7
1,001 to 5,000	3	17	27.9	27.9	83.6
5,001 to 10,000	4	2	3.3	3.3	86.9
More than 10,000	5	8	13.1	13.1	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## DOCUMENTS ACQUIRED IN 1986

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	50	82.0	82.0	82.0
Less than 100	1	2	3.3	3.3	85.2
100 to 1,000	2	7	11.5	11.5	96.7
1,001 to 5,000	3	2	3.3	3.3	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## TOTAL PERIODICALS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	13	21.3	21.3	21.3
Less than 100	1	23	37.7	37.7	59.0
100 to 1,000	2	16	26.2	26.2	85.2
1,001 to 5,000	3	6	9.8	9.8	95.1
5,001 to 10,000	4	2	3.3	3.3	98.4
More than 10,000	5	1	1.6	1.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## PERIODICALS ACQUIRED IN 1986

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	49	80.3	80.3	80.3
Less than 100	1	8	13.1	13.1	93.4
100 to 1,000	2	3	4.9	4.9	98.4
1,001 to 5,000	3	1	1.6	1.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## COLLECTION OF MICROFICHES-FORMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	37	60.7	60.7	60.7
Less than 100	1	5	8.2	8.2	68.9
100 to 1,000	2	6	9.8	9.8	78.7
1,001 to 5,000	3	7	11.5	11.5	90.2
More than 10,000	5	6	9.8	9.8	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## MICROFICHES-FORMS ACQUIRED IN 1986

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	57	93.4	93.4	93.4
Less than 100	1	2	3.3	3.3	96.7
1,001 to 5,000	3	2	3.3	3.3	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	



## TOTAL COLLECTION OF MAPS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	37	60.7	60.7	60.7
Less than 100	1	17	27.9	27.9	88.5
100 to 1,000	2	4	6.6	6.6	95.1
1,001 to 5,000	3	3	4.9	4.9	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## MAPS ACQUIRED IN 1986

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	56	91.8	91.8	91.8
Less than 100	1	5	8.2	8.2	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## AUDIO-VISUAL AIDS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	48	78.7	78.7	78.7
Less than 100	1	9	14.8	14.8	93.4
100 to 1,000	2	1	1.6	1.6	95.1
1,001 to 5,000	3	1	1.6	1.6	96.7
5,001 to 10,000	4	1	1.6	1.6	98.4
More than 10,000	5	1	1.6	1.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## AUDIO-VISUAL AIDS ACQUIRED IN 1986

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	60	98.4	98.4	98.4
Less than 100	1	1	1.6	1.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## OTHER MATERIAL

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	55	90.2	90.2	90.2
Less than 100	1	2	3.3	3.3	93.4
1,001 to 5,000	3	1	1.6	1.6	95.1
5,001 to 10,000	4	1	1.6	1.6	96.7
More than 10,000	5	2	3.3	3.3	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## OTHER MATERIAL ACQUIRED IN 1986

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
None or not stated	0	59	96.7	96.7	96.7
Less than 100	1	1	1.6	1.6	98.4
100 to 1,000	2	1	1.6	1.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

STAFF SITUATION

## PROFESSIONAL STAFF

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	10	16.4	16.4	16.4
	1	11	18.0	18.0	34.4
	2	7	11.5	11.5	45.9
	3	10	16.4	16.4	62.3
	4	4	6.6	6.6	68.9
	5	3	4.9	4.9	73.8
	7	2	3.3	3.3	77.0
	8	1	1.6	1.6	78.7
	9	4	6.6	6.6	85.2
	15	1	1.6	1.6	86.9
	16	1	1.6	1.6	88.5
	17	1	1.6	1.6	90.2
	18	2	3.3	3.3	93.4
	28	1	1.6	1.6	95.1
	30	1	1.6	1.6	96.7
	32	1	1.6	1.6	98.4
	53	1	1.6	1.6	100.0
	TOTAL	61	100.0	100.0	

## DOCUMENTALISTS; LIBRARIANS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	10	16.4	16.4	16.4
	1	18	29.5	29.5	45.9
	2	10	16.4	16.4	62.3
	3	7	11.5	11.5	73.8
	4	3	4.9	4.9	78.7
	5	2	3.3	3.3	82.0
	6	1	1.6	1.6	83.6
	7	1	1.6	1.6	85.2
	8	2	3.3	3.3	88.5
	9	1	1.6	1.6	90.2
	11	1	1.6	1.6	91.8
	13	1	1.6	1.6	93.4
	15	1	1.6	1.6	95.1
	18	1	1.6	1.6	96.7
	53	1	1.6	1.6	98.4
	63	1	1.6	1.6	100.0
	TOTAL	61	100.0	100.0	

## E.D.P. SPECIALISTS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	28	45.9	45.9	45.9
	1	16	26.2	26.2	72.1
	2	8	13.1	13.1	85.2
	3	2	3.3	3.3	88.5
	4	2	3.3	3.3	91.8
	5	1	1.6	1.6	93.4
	6	2	3.3	3.3	96.7
	15	1	1.6	1.6	98.4
	60	1	1.6	1.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

COMPUTERIZATION

## COMPUTER FACILITIES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not used	0	15	24.6	24.6	24.6
Being used	1	46	75.4	75.4	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## LOCATION OF COMPUTER FACILITIES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not stated	0	15	24.6	24.6	24.6
Within doc. centre	1	24	39.3	39.3	63.9
Within larger inst.	2	10	16.4	16.4	80.3
Shared w. other inst	3	1	1.6	1.6	82.0
Centre & larger inst	4	8	13.1	13.1	95.1
Centre & shared	5	1	1.6	1.6	96.7
Larger inst. & share	6	2	3.3	3.3	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## MAINFRAME COMPUTERS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not used	0	56	91.8	91.8	91.8
Being used	1	5	8.2	8.2	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## MINICOMPUTERS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not used	0	53	86.9	86.9	86.9
Being used	1	8	13.1	13.1	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## MICROCOMPUTERS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not used	0	18	29.5	29.5	29.5
Being used	1	43	70.5	70.5	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## USE OF COMPUTER EQUIPMENT

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/Not stated	0	20	32.8	32.8	32.8
Yes	1	41	67.2	67.2	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

PURPOSES OF COMPUTER USE

## BIBLIO./LIB. DB MANAGEMENT

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/Not stated	0	26	42.6	42.6	42.6
Yes	1	35	57.4	57.4	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## WORD PROCESSING

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/Not stated	0	28	45.9	45.9	45.9
Yes	1	33	54.1	54.1	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## FINANCIAL/MANAGEMENT APPL.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/Not stated	0	51	83.6	83.6	83.6
Yes	1	10	16.4	16.4	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## NUMERICAL/STAT. APPL.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/Not stated	0	51	83.6	83.6	83.6
Yes	1	10	16.4	16.4	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## OTHER APPLICATIONS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/Not stated	0	56	91.8	91.8	91.8
Yes	1	5	8.2	8.2	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## PROGRAM FOR BIBLIO.PURP. USED

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not stated	0	27	44.3	44.3	44.3
CDS/ISIS (mainframe)	1	1	1.6	1.6	45.9
CDS/ISIS (micro)	2	22	36.1	36.1	82.0
Other	5	8	13.1	13.1	95.1
CDS/ISIS+MINISIS	6	3	4.9	4.9	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## COMPUTERIZATION PLANS ?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
N.A./No Plans	0	49	80.3	80.3	80.3
In 1990	1	7	11.5	11.5	91.8
In 1991-1993	2	1	1.6	1.6	93.4
Planned but no def.	3	4	6.6	6.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## TYPE OF EQUIPMENT

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
N.A./Don't Know	0	51	83.6	83.6	83.6
Mainframe	1	1	1.6	1.6	85.2
Minicomputer	2	1	1.6	1.6	86.9
Microcomputer	3	8	13.1	13.1	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

EQUIPMENT IN INSTITUTION

## MICROREPROGRAPHIE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not existing	0	44	72.1	72.1	72.1
existing	1	17	27.9	27.9	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## DOT MATRIX PRINTER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not existing	0	27	44.3	44.3	44.3
existing	1	34	55.7	55.7	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## OFFSET PRESS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not existing	0	46	75.4	75.4	75.4
existing	1	15	24.6	24.6	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	

## PHOTOCOPIER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not existing	0	11	18.0	18.0	18.0
existing	1	50	82.0	82.0	100.0
		-----	-----	-----	
TOTAL		61	100.0	100.0	



## LASER PRINTER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not existing	0	37	60.7	60.7	60.7
existing	1	24	39.3	39.3	100.0
TOTAL		61	100.0	100.0	

STATISTICAL FREQUENCY TABLES  
SURVEY ON THE USE OF MICROCOMPUTERS  
IN INFORMATION AND DOCUMENTATION CENTRES  
IN AFRICA

PART II: CENTRES WITH MICROCOMPUTERS

NUMBER OF MICROS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	15	34.9	34.9	34.9
	2	11	25.6	25.6	60.5
	3	12	27.9	27.9	88.4
	4	2	4.7	4.7	93.0
	5	1	2.3	2.3	95.3
	8	1	2.3	2.3	97.7
	425	1	2.3	2.3	100.0
TOTAL		43	100.0	100.0	

CONNECTION TO MAINFRAME

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	38	88.4	88.4	88.4
yes	1	5	11.6	11.6	100.0
TOTAL		43	100.0	100.0	

MICROS USED FOR SERVICES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	6	14.0	14.0	14.0
yes	1	37	86.0	86.0	100.0
TOTAL		43	100.0	100.0	

USER SERVICES ASSISTED BY MICROCOMPUTERS

## CURRENT AWARENESS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	24	55.8	55.8	55.8
yes	1	19	44.2	44.2	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## BIBLIOGRAPHIES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	12	27.9	27.9	27.9
yes	1	31	72.1	72.1	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## SDI

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	22	51.2	51.2	51.2
yes	1	21	48.8	48.8	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## QUESTION/ANSWER SERVICE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	30	69.8	69.8	69.8
yes	1	13	30.2	30.2	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## ONLINE SEARCHES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	29	67.4	67.4	67.4
yes	1	14	32.6	32.6	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## OTHER SERVICES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	39	90.7	90.7	90.7
yes	1	4	9.3	9.3	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

FORMAT OF SERVICES TO USER

## PRINTOUTS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	8	18.6	18.6	18.6
yes	1	35	81.4	81.4	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## DISKETTES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	30	69.8	69.8	69.8
yes	1	13	30.2	30.2	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## CD ROM

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	40	93.0	93.0	93.0
yes	1	3	7.0	7.0	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## SDI

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	27	62.8	62.8	62.8
yes	1	16	37.2	37.2	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## MAGNETIC TAPE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	41	95.3	95.3	95.3
yes	1	2	4.7	4.7	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## OTHER FORMAT

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	41	95.3	95.3	95.3
yes	1	2	4.7	4.7	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## PROBLEMS ENCOUNTERED

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	7	16.3	16.3	16.3
yes	1	36	83.7	83.7	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

EQUIPMENT PROBLEMS

## PERIPHERAL PROBLEMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	32	74.4	74.4	74.4
yes	1	11	25.6	25.6	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## SOFTWARE PROBLEMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	35	81.4	81.4	81.4
yes	1	8	18.6	18.6	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## SOFTWARE DOCUMENTATION PROBL.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	32	74.4	74.4	74.4
yes	1	11	25.6	25.6	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## MEMORY PROBLEMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	28	65.1	65.1	65.1
yes	1	15	34.9	34.9	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## PROCESSING SPEED PROBLEMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	30	69.8	69.8	69.8
yes	1	13	30.2	30.2	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## ENVIRONMENT PROBLEMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	32	74.4	74.4	74.4
yes	1	11	25.6	25.6	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## SPARE PART PROBLEMS

Value Label	Value	Frequency	Percent	valid Percent	Cum Percent
No/n.s.	0	27	62.8	62.8	62.8
yes	1	16	37.2	37.2	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## MAINTENANCE PROBLEMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	27	62.8	62.8	62.8
yes	1	16	37.2	37.2	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## OTHER EQUIP. PROBLEMS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	37	86.0	86.0	86.0
yes	1	6	14.0	14.0	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

PERSONNEL PROBLEMS

## TRAINED STAFF SHORTAGE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	14	32.6	32.6	32.6
yes	1	29	67.4	67.4	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## LACK OF AVAILABLE TRAINING

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	19	44.2	44.2	44.2
yes	1	24	55.8	55.8	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	



## PERSONNEL TURNOVER

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	38	88.4	88.4	88.4
yes	1	5	11.6	11.6	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## OTHER PERSONNEL PROBL.

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	42	97.7	97.7	97.7
yes	1	1	2.3	2.3	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## PROCUREMENT POLICIES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No policies/n.s.	0	21	48.8	48.8	48.8
No restrictions	1	9	20.9	20.9	69.8
Local purchase only	2	8	18.6	18.6	88.4
Brand restr. purchas	3	4	9.3	9.3	97.7
Other	5	1	2.3	2.3	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

STAFF TRAINING

## ABROAD STAFF TRAINING

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not sent abroad/n.s.	0	23	53.5	53.5	53.5
Short courses	1	13	30.2	30.2	83.7
Long courses	2	3	7.0	7.0	90.7
Both	3	4	9.3	9.3	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## LOCAL TRAINING

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No local training/n.	0	6	14.0	14.0	14.0
Dedicated training	1	14	32.6	32.6	46.5
Self-training	2	8	18.6	18.6	65.1
Both	3	13	30.2	30.2	95.3
Other	4	2	4.7	4.7	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## ON-SITE TRAINING

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No on-site training/ Individually	0	24	55.8	55.8	55.8
groups	1	7	16.3	16.3	72.1
	2	10	23.3	23.3	95.3
Both	3	2	4.7	4.7	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

MICROCOMPUTER SERVICE AND SPARE PARTS

## SERVICING OBTAINABLE LOCALLY

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	8	18.6	18.6	18.6
yes	1	35	81.4	81.4	100.0
		-----	-----	-----	
	TOTAL	43	100.0	100.0	

MEASURES IF SERVICE NEEDED

## USE BACKUP SYSTEM

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	39	90.7	90.7	90.7
yes	1	4	9.3	9.3	100.0
		-----	-----	-----	
	TOTAL	43	100.0	100.0	

## MAIL ABROAD

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	42	97.7	97.7	97.7
yes	1	1	2.3	2.3	100.0
		-----	-----	-----	
	TOTAL	43	100.0	100.0	

## IDENTIFY/REPLACE PARTS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	42	97.7	97.7	97.7
yes	1	1	2.3	2.3	100.0
		-----	-----	-----	
	TOTAL	43	100.0	100.0	

## OTHER MEASURES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	41	95.3	95.3	95.3
yes	1	2	4.7	4.7	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## SPARE PARTS

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not locally avail.	0	15	34.9	34.9	34.9
From local dealers	1	27	62.8	62.8	97.7
Dealer & own stock	3	1	2.3	2.3	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## EFFICIENCY INCREASED

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
No/n.s.	0	12	27.9	27.9	27.9
yes	1	31	72.1	72.1	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

PADIS ASSISTANCE REQUIRED

## SOFTWARE TRAINING

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not wanted/n.s.	0	9	20.9	20.9	20.9
wanted	1	34	79.1	79.1	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## SOFTWARE INSTALLATION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not wanted/n.s.	0	23	53.5	53.5	53.5
wanted	1	20	46.5	46.5	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## DATABASE INSTALLATION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not wanted/n.s.	0	17	39.5	39.5	39.5
wanted	1	26	60.5	60.5	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

## USER SERVICES

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Not wanted/n.s.	0	16	37.2	37.2	37.2
wanted	1	27	62.8	62.8	100.0
		-----	-----	-----	
TOTAL		43	100.0	100.0	

COMPUTER MODELS, MAKES, AND CONFIGUARTIONS IN USE

## IBM PC/XT/AT + Compatibles w/o HD

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	38	88.4	88.4	88.4
	1	4	9.3	9.3	97.7
	2	1	2.3	2.3	100.0
	TOTAL	43	100.0	100.0	

## IBM PC/XT/AT + Compatibles with HD

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	6	14.0	14.0	14.0
	1	17	39.5	39.5	53.5
	2	10	23.3	23.3	76.7
	3	7	16.3	16.3	93.0
	5	1	2.3	2.3	95.3
	7	1	2.3	2.3	97.7
	527	1	2.3	2.3	100.0
	TOTAL	43	100.0	100.0	

## PS/2 + Compatibles (including 386 machines)

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	30	69.8	69.8	69.8
	1	11	25.6	25.6	95.3
	2	1	2.3	2.3	97.7
	77	1	2.3	2.3	100.0
	TOTAL	43	100.0	100.0	

## Other brands (non-DOS) w/o HD

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	42	97.7	97.7	97.7
	1	1	2.3	2.3	100.0
		-----	-----	-----	
	TOTAL	43	100.0	100.0	

## Other brands (non-DOS) with HD

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	39	90.7	90.7	90.7
	1	2	4.7	4.7	95.3
	2	1	2.3	2.3	97.7
	21	1	2.3	2.3	100.0
		-----	-----	-----	
	TOTAL	43	100.0	100.0	