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# The use of CDS/ISIS software in Africa

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## Abstract

*CDS/ISIS is free-of-charge software that has been developed by UNESCO and is distributed through a network of country distributors and more recently through the World Wide Web. CDS/ISIS is ideally suited for the manipulation of bibliographic data. Literature sources reveal that the use of CDS/ISIS is widespread in Africa. This study surveyed the use of CDS/ISIS by library institutions and organisations as well as the functional use of the software. The advantages and disadvantages of using CDS/ISIS are also discussed.*

## Introduction

This survey of the use of CDS/ISIS (Computer Documentation System/Integrated Set of Information Systems) raises several issues and topics such as:

- library automation;
- free-of-charge software;
- the organisations promoting the use of CDS/ISIS software, like UNESCO (United Nations Educational Scientific and Cultural Organisation);
- organisations and institutions using CDS/ISIS software, that is the actual users;
- aspects of the CDS/ISIS software itself like its history and evolution;
- technical details about the software as well as application and utilities associated with it; and
- the question of standards and standardisation.

This survey will mainly cover the use of the CDS/ISIS software by library and information organisations and institutions in Africa. However some of the above aspects will be mentioned briefly in this report.

Many libraries are realising the benefits of automation. Library automation refers to the utilisation of a combination of hardware, software and people to improve management of the library and its resources. Library automation software usually comprises one or more of the following functions: cataloguing, acquisition, circulation, Online Public Access Cataloguing (OPAC), serials control and interlibrary loan (Bilal 2002:1; de Smet 2007). Library automation is an expensive and time-consuming task to initiate. Expenses are usually due to the acquisition of hardware, software, cabling and human resources (Idahosa 2001:59). Limitations in financial and human resources encourage staff to utilise free software. Although free software is attractive to small libraries, the hidden costs lie in the installation, self-training and adaptation of the software for local use (Boss 2007:1-2). CDS/ISIS is a free-of-charge, menu-driven, generalised storage and retrieval system used for structured, non-numerical databases containing text. It is distributed free-of-charge by UNESCO (Jayakanth 2001:42).

Kumar and Kar (in Kiem and Middleton 1998:284) in their review of the world wide application of CDS/ISIS found that its use in developing countries was widespread. It is interesting to note that CDS/ISIS is not widely known or used in South Africa.

## Purpose and objectives of the study

The purpose of this study was to survey the extent of use of the CDS/ISIS software in Africa. Therefore, the objectives of the study were:

- To establish which African countries were using CDS/ISIS;
- To establish what types of libraries and information organisations were using CDS/ISIS;
- To establish what these organisations were using CDS/ISIS for; and
- To establish the advantages and disadvantages of using CDS/ISIS.

## Literature review

The literature covering CDS/ISIS software is quite varied and well documented. It is also published in a variety of languages, including, English, French, Portuguese and Spanish. For this survey reference is made to English language articles because of the difficulty in retrieving and accessing foreign language publications and translating the articles.

Rodriguez's (1995) study of the use of CDS/ISIS in Latin America and the Caribbean is similar to this study although her work compared to this study is more in-depth. In addition to journals and web articles there are many other publications in the form of handbooks, manuals and guides. Rodriguez (1995) therefore groups the literature into three categories in her study. The first group covers publications tracing the development of CDS/ISIS. The second group deals with the technical literature concerned with the features of the software. The third group is also technical in nature but discusses application and utility programs that work with CDS/ISIS. Brown-Syed and Witzke (1997) have also noted the varied nature of ISIS literature. They have categorised the literature into five categories. These categories cover reports about the use of ISIS in libraries, features of new software releases, discussions around the utilities developed by users, pilot projects using ISIS, technical tips and help for ISIS users and finally analyses of ISIS user communities.

In comparison the number of articles dealing with the practical use of ISIS is quite small. Rodriguez's (1995) study was a statistical analysis of the use of CDS/ISIS in Latin America and the Caribbean. Brown-Syed and Witzke (1997) referring to Frantao's 1994 study (in the French language) looked at the use of CDS/ISIS in information networks in Africa. Mahmood (1998) gives a good account of the use of CDS/ISIS in Pakistan. De Smet (1999) made an evaluation of an ISIS application in Belgium. Tchougbe (2005) conducted a survey into the use of CDS/ISIS in French-speaking Africa and released an initial summary at the 2nd World Meeting on CDS/ISIS held in Brazil (Tchougbe 2005). The final report of this survey have not been published.

As CDS/ISIS is free and not proprietary very little support and training is provided by UNESCO thus training often becomes a problem. Hopkinson (2005:35) touches on training and mentions that organisations offer some sort of training sometimes as part of another course.

## What is CDS/ISIS

As mentioned earlier CDS/ISIS is a "generalised information storage and retrieval system" software package that is used for creating and manipulating textual databases (Jayakanth 2001). Textual databases are well suited for bibliographic applications which makes them ideal to use for the catalogues in small and medium sized libraries (Buxton 2002:1). Figure 1 illustrates the function and role CDS/ISIS can play in a typical organisation.

The CDS/ISIS software package is derived from the ISIS program developed by the International Labour Organisation (ILO). The ISIS program has developed into a group of software applications based on the same data formats. “The data format allows for textual information of the ‘semi-structured’ type to be stored in a highly economical but still very organised way” (De Smet 1999). The importance of the format is demonstrated in information exchange. One of the advantages of the ISIS software is that it accommodates international information formats based on the ISO-2709 format like the Machine Readable Catalogue (MARC) and Common Communication Format (CCF) developed by UNESCO. These formats promote the exchange of bibliographic data. De Smet (1999) states that the powerful retrieval and formatting (output) functions of the ISIS program makes it well suited for the manipulation of bibliographic data. Storti (2001), in his ISIS tutorial makes it quite clear that CDS/ISIS is not a relational database like Dbase or MS-Access and is designed for structured non-numerical databases. An advantage of the CDS/ISIS software is that it is multilingual enabling easy adaptation to local languages and situations. This contributes to its popularity in developing countries. For instance CDS/ISIS has been adapted for use by the Arab community (Younis 1999:337).

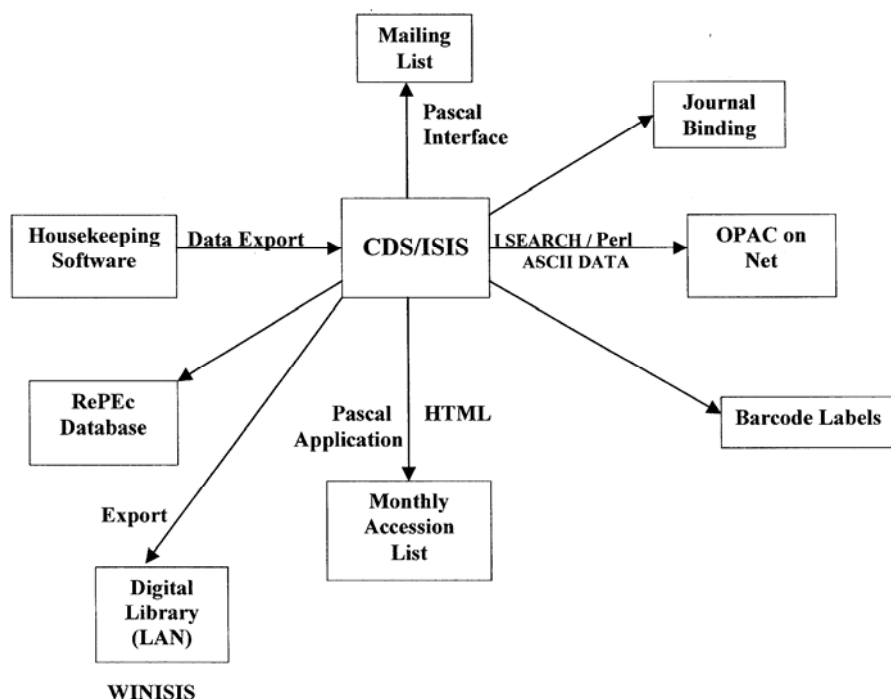


Figure 1: CDS/ISIS in a working situation showing the different functions that can be linked to CDS/ISIS

CDS/ISIS forms the core database of a system that handles a variety of tasks in addition to database functions supporting a web accessible OPAC, e.g.

generating a monthly accession list, printing barcode labels and mailing lists, and recording journal binding (Manjunath and Pujar 2004:6).

## Background and history

CDS/ISIS software was created for the Central Library of the ILO in Geneva to process the abstracts of documents. It was also adapted for library services within the ILO (Hopkinson 1996:73). In 1975 the ILO decided that it could no longer support ISIS and made the software and the source code available to other organisations. UNESCO and the International Development Research Centre (IDRC) in Canada adopted ISIS. UNESCO developed the ISIS software further for its Computerised Documentation Service (CDS) with the original intention of developing ISIS to meet its own needs (Rodriguez 1995:227).

The product of this development was the first version of CDS/ISIS designed for an IBM mainframe computer which was released in 1975. The IDRC went on to develop ISIS into MINISIS which was designed for Hewlett-Packard minicomputers and distributed freely to developing countries (Mishra 2006; Rodriguez 1995:226).

In 1985 UNESCO released the Micro CDS/ISIS version which was designed to be used on the IBM Personal Computer. UNESCO also distributed the software freely to developing countries (Mahmood 1998:23; Rodriguez 1995:227). Hopkinson (1996:76) states that UNESCO's intention in developing CDS/ISIS was to benefit developing countries and in doing so promote the exchange of information between similar sectors or agencies. With the launch of the windows version, commonly called WINISIS, in 1998, the DOS version was suspended. The latest windows version 1.5 appeared in 2003.

Software applications associated with CDS/ISIS are so varied and numerous that it is sometimes referred to as a "family of software" (Matovelo and de Smet 2005). The developers of CDS/ISIS associated software span many countries and even expert users find it difficult to know all the associated programs (de Smet 2007). Some of the applications and their main functions include:

- CDS/ISIS, a menu-based character-mode system on three computer platforms:
  - Micro CDS/ISIS for PC (MSDOS);
  - CDS/ISIS for UNIX (Intel based UNIX : SCO, Linux, Free BSD and so forth);
  - CDS/ISIS for VAX (not maintained anymore); and
  - CDS/ISIS comes with a built-in Pascal programming language.

- WINISIS, the Windows-based release of CDS/ISIS with multimedia extensions.
- CISIS, a set of command-line tools for database maintenance, available for most UNIX-environments and DOS.
- WWWISIS, a server software allowing for WWW-based access to ISIS-databases on UNIX, NT (as a DLL) and DOS/Win95.
- ISISDLL, a programming library to develop graphical interfaces and applications based on the ISIS-formats for data storage, retrieval and formatting.
- JAVAISIS, JAVAISIS is a Client-Server software which allows you to browse any CDS/ISIS databases through a JAVA interface (De Smet 1999).

According to De Smet (1999) the first two family members were developed and maintained by the General Information Programme of UNESCO, Paris; and distribution is for free through accredited national distributors. The next three software categories were developed and maintained by BIREME, Sao Paulo (Brazil); distribution is either for free or for a moderate fee (which entitles support) through the Internet. The last member, JAVAISIS, was developed by the Italian Association for Documentalists and Librarians (DBA). All ISIS-software are deliberately multi-lingual (or rather: language-independent) and adaptable in nature, allowing several 'profiles' and interface-types.

## Methodology

A self-administered questionnaire<sup>1</sup> consisting of open- and close-ended questions was used to collect data. This was conducted via email. The aim of the questionnaire was to get an indication of the number of CDS/ISIS users and also to assess the advantages and disadvantages of using the CDS/ISIS software.

The email survey was carried out during October 2007. Email addresses were obtained through three sources. The first source was obtained from the list of African distributors on the ISIS component of the UNESCO website (<http://www.unesco.org>). The distributors were requested to circulate the questionnaire to other users. The second source of email addresses was obtained from a world wide survey carried out by Ernesto Spinak (2007) in which he investigated the operating systems on which ISIS databases functioned. The third source was gleaned from literature sources. The questionnaire was further

posted to list servers including the ISIS Users, Library Association of South Africa (LIASA) and African Libraries. Microsoft Excel was used to analyse the data and generate tables.

Country data from Tchougbe (2005) have been incorporated into Table 2 so that the geographic distribution could be determined and compared. A reference list of countries in Africa, obtained from the About.com website was compiled. Against this reference list the *Survey of French-speaking Africa* and the About.com website survey is tabulated. Frantao's 1994 survey was not used owing to lack of accessibility and is available only in French (See Table 1).

## Limitations of the survey

The distribution method of the questionnaire had a variety of limitations. Firstly, it could not portray a true reflection of CDS/ISIS users due to the limited sample size. Secondly, it was difficult to determine the exact number of questionnaires distributed and so a percentage response could not be determined. Since distributors of the software were asked to distribute the questionnaire, it could not be ascertained if the questionnaire had been distributed to all their clients. Thirdly, users that did not have email access did not have an opportunity to respond. Fourthly, language might have been a limiting factor as many users may not have been able to communicate in English. Lastly, users of some web-based systems such as WebAgris did not respond as they may not have considered themselves as CDS/ISIS users even though their systems are based on CDS/ISIS.

## Results

The results from the questionnaire and literature review are presented below in the form of tables.

Table 1: Geographical distribution of responses of CDS/ISIS users in Africa

<b>Country</b>	<b>Frequency</b>	<b>%</b>
Namibia	5	28
Zimbabwe	4	22
Nigeria	2	11
Benin	2	11
Malawi	1	6
Cote d'Ivoire	1	6
Ghana	1	6
South Africa	1	6
Burundi	1	6
Total	18	100

The highest number of responses was from library and information organisations in Namibia with 28% (five) followed by Zimbabwe with 22% (four). Nigeria and Benin with 11% (two) each. Six percent (one) responded from Malawi, Cote d'Ivoire, Ghana, South Africa and Burundi respectively. It is interesting to note that South Africa had one (6%) library and information organisation responding to the questionnaire.

Table 2: List of African countries showing CDS/ISIS distributors, French-speaking Survey and Africa Survey (list of countries tabulated from Rosenberg 2007)

	List of Countries in Africa	List of CDS/ISIS Distributors	Use of CDS/ISIS in French speaking Africa	Use of CDS/ISIS in Africa
1	Algeria		1	
2	Angola			
3	Benin	1	1	1
4	Botswana	1		
5	Burkina Faso	1	1	
6	Burundi		1	1
7	Cameroon		1	
8	Cape Verde			
9	Central African Republic		1	
10	Chad		1	
11	Congo		1	
12	Cote d'Ivoire	1	1	1
13	Djibouti			
14	Egypt			
15	Eritrea			
16	Ethiopia	1		
17	Gabon	1	1	
18	Gambia			
19	Ghana		1	1
20	Guinea	1	1	
21	Guinea Bissau			
22	Kenya			
23	Lesotho	1		
24	Liberia			
25	Libya			
26	Madagascar		1	1
27	Malawi			
28	Mali		1	
29	Mauritania			
30	Mauritius	1		
31	Morocco			
32	Mozambique	1		
33	Namibia	1	1	1
34	Niger		1	
35	Nigeria	1		1
36	Rwanda		1	
37	Sao Tome & Principe			
38	Senegal	1	1	
39	Sierra Leone			
40	Seychelles			
41	Somalia			
42	South Africa			1
43	Sudan			
44	Swaziland			
45	Tanzania	1		
46	Togo		1	
47	Tunisia		1	
48	Uganda			
49	Zambia	1		
50	Zimbabwe	1		1
	TOTAL	16	25	9
	% of Number of countries	32	50	18

Table 2 shows that 50% (25) of CDS/ISIS user countries are found in French speaking countries. It is interesting to note is that out of the 50 African countries

only 32% (16) countries are distributors of the CDS/ISIS software. South Africa does not have a distributor.

Table 3: Use of CDS/ISIS in organisations and institutions

Type	Frequency	%
Special Libraries	9	50
Academic Libraries	6	33
Research Libraries	3	17
Public Libraries	0	0
School Libraries	0	0
Total	18	100

The survey shows that CDS/ISIS is mostly used in special libraries with a 50% (nine) frequency followed by academic libraries at 33% (six) and research libraries at 17% (three). There was no response from public or school libraries.

Table 4: Number of staff in the organisation surveyed

Country	Staff no.	%
Zimbabwe	2000	62.21
Zimbabwe	500	15.55
Nigeria	300	9.33
Burundi	130	4.04
Zimbabwe	50	1.56
South Africa	50	1.56
Zimbabwe	35	1.09
Namibia	30	0.93
Ghana	25	0.78
Malawi	21	0.65
Benin	20	0.62
Zimbabwe	20	0.62
Namibia	17	0.53
Cote d'Ivoire	8	0.25
Namibia	5	0.16
Namibia	3	0.09
Benin	1	0.03
Total	3215	100

Table 4 reveals that some organisations surveyed have a large staff complement for instance an organisation in Zimbabwe had 62.21% (2000) staff. The second highest had a considerably lower number of 15.55% (500) followed by Nigeria with a staff of 300 (9.33%). Only 17% (three) organisations have a staff complement of more than 5%.

Table 5: User population size

Country	User size	%
Zimbabwe	6000	40.71
Zimbabwe	5000	33.93
Namibia	1000	6.79
Zimbabwe	800	5.43
Burundi	700	4.75
South Africa	250	1.70
Zimbabwe	200	1.36
Ghana	150	1.02
Benin	150	1.02
Namibia	150	1.02
Nigeria	100	0.68
Namibia	80	0.54
Cote d'Ivoire	60	0.41
Malawi	40	0.27
Namibia	20	0.14
Nigeria	20	0.14
Zimbabwe	17	0.12
Total	14737	100

The user populations of library and information organisations listed in Table 5 above also indicate a wide range of user numbers. The user population ranges from 0.12% (17) to 40% (6000). Of the organisations surveyed only 22% (four) have a user population of more than 5%. A Zimbabwean organisation had the largest user population of 40% (6000) users.

Table 6: User population

Category of User	Number of responses	%
Students	15	83
Organisation's Staff	14	78
Research Staff	13	72
Academics	11	61
Public	11	61
Visitors	3	17
Total	18	372

(Multiple responses received therefore totals exceed 100%)

Students form the highest category of users with 83% (15) while the organisation's staff and research staff accounts for 78% (14) and 72% (13) respectively. Academics and the public make up 61% (11) of the user population with visitors making up 17% (three) of the users.

Table 7: Period of use of CDS/ISIS

Period used (yr)	Frequency	%
Used 10+	5	28
Used 7-9	5	28
Used 4-6	5	28
Used 1-3	2	11
Used <1	1	5
Total	18	100

The majority of users (56%) have used CDS/ISIS for a period of between 4 to 9 years. Twenty eight percent (five) have used CDS/ISIS for over 10 years. Some 11% (two) have used CDS/ISIS for between 1 and 3 years with one organisation (6%) having used it for less than a year.

Table 8: Version of CDS/ISIS used

Year	Version	Frequency	%
2004	CDS/ISIS for Windows Version 1.5	13	72
	Not Mentioned	2	11
2001	CDS/ISIS for Windows Version 1.4	1	6
1998	CDS/ISIS for Windows Version 1.31 (Winisis)	1	6
1992 (approx)	Micro CDS/ISIS Version 3	1	6
	Total	18	100

Of the organisations that responded 72% (13) were using CDS/ISIS for Windows Version 1.5. The earlier versions are used equally at 6% (one) with two respondents failing to indicate which version of CDS/ISIS was being used.

Table 9: Library function that CDS/ISIS was used for

Function	Frequency	%
Catalogue	14	78
OPAC	8	44
Circulation	7	39
Database creation	3	17
Registration	1	6
Online bibliography	1	6
Total	34	189

(Multiple responses received therefore totals exceed 100%)

A clear majority of 78% (14) respondents used CDS/ISIS for cataloging, while 44% (eight) used it for OPAC and 39% (seven) used it for circulation. CDS/ISIS

was used for database creation by 17% (three) of the users with registration functions and online bibliography making up 6% (one) of the organisations.

Table 10: Advantages of using CDS/ISIS

<b>Advantage</b>	<b>Frequency</b>	<b>%</b>
Features	13	72
Versatile	10	56
Free-of-charge	9	50
User friendly	9	50
User support	7	39
OPAC	3	17
Share data	2	11
Self development	2	11
Catalogue	1	6
Output	1	6
Popular	1	6
Total	58	324

(Multiple responses received therefore totals exceed 100%)

The majority of users, 72% (13) reported that the features of CDS/ISIS were an advantage, with versatility of the program being the highest reported advantage in 56% (10) of the users. The fact that CDS/ISIS was free was another advantage reported by 50% (nine) of users with 39% (seven) citing user support as an advantageous factor.

Table 11: Disadvantages of using CDS/ISIS

<b>Disadvantages</b>	<b>Frequency</b>	<b>%</b>
Features	9	50
No Disadvantage	6	33
Training needed	5	28
No response	4	22
Suitability	3	17
Not user friendly	2	11
Installation problems	1	6
Manual not clear	1	6
Management of electronic document	1	6
Set-up costs	1	6
Total	35	185

(Multiple responses received therefore totals exceed 100%)

Fifty percent (nine) of the respondents reported features of CDS/ISIS which were disadvantageous. Only 33% (six) stated that there were no disadvantages at all while 28% (five) mentioned that training was needed to use CDS/ISIS. A no response to the question was received from 22% (four) of the respondents. The suitability of CDS/ISIS was a factor to 17% (three) of the respondents. Only 11% (two) reported that CDS/ISIS was not user friendly. Further disadvantages

encountered by one (6%) of the users respectively included problems with installation, manuals, electronic document management and set-up costs.

Table 12: Comments about CDS/ISIS

Comments	Frequency	%
No Comment	8	44
Encourage use	5	28
Future developments	4	22
Training workshops	4	22
Feature	1	6
Local User groups	1	6
Total	24	133

(Multiple responses received therefore totals exceed 100%)

Of the respondents, 44% (eight) made no comments while 22% (four) were concerned with future developments and training workshops respectively. It was interesting to note that 28% (five) of users would like to encourage the use of the CDS/ISIS software. One user (6%) commented about the lack of a local user group.

## Discussion

Due to the low response rate, results are not generalisable to the entire population. The low response rate was due to a number of factors discussed in the methodology section above. The South African response was expected as CDS/ISIS is not well known or used in South Africa. According to Adeniran's questionnaire, return rates in the Southern African region have a tendency to be low (Adeniran 1999:28). The use of CDS/ISIS in African countries is well documented with Hopkinson (2005) reporting that there were about 500 trained users of CDS/ISIS in Zambia alone in 2004, yet in this survey there were no responses from Zambia.

This survey reflects that only tertiary education institutions in Africa use CDS/ISIS software, since most of the respondent libraries are associated with tertiary education institutions. As a comparison, a visit to the National Library of Jamaica website however revealed 306 CDS/ISIS listed users (National Library of Jamaica 2007) with a high percentage of these users clearly from school and public libraries.

In this survey there are staff and user population figures with high values indicating large institutions. A high user population makes automation essential to effectively manage the information resources of the institution. Also quite evident from Tables 4 and 5 is the large number of small libraries and

information organisations. This shows that CDS/ISIS is suitable for these types of institutions. It should also be noted that some user and population figures on Tables 4 and 5 seem anomalous. This can be attributed to the fact that the questions were misunderstood.

A high percentage of users (56%) have used CDS/ISIS for over four years with 28% having used it for over 10 years. This is quite significant and is probably the result of having been associated with UNESCO and international agencies for a longer period of time. Another factor is that the CDS/ISIS software has been available for a long time since 1975. It is also possible that users have been exposed to products like CDS/ISIS through an association with Non-Governmental Organisations (NGO's) using the product.

The high percentage of users using version 1.5 of CDS/ISIS is quite exciting. This illustrates the power of the internet and also that, the users have access to the internet as the latest version of CDS/ISIS can be downloaded easily from the UNESCO website. The advantage of CDS/ISIS is that it can be used with the older Disk Operating System (DOS) systems as well. This makes it possible for old computers to be used thus reducing infrastructure costs.

The high percentage of users that use CDS/ISIS for cataloguing correlates with those that are using the latest version indicating active database development and maintenance. The three highest percentages of reported use of CDS/ISIS is for cataloging, OPAC and circulation, the main functions of the library system. Other categories of applications reveal the versatility of CDS/ISIS. These applications reveal that database creation is important with registration of users and online bibliographies forming other uses.

## Advantages of using CDS/ISIS

According to the survey, the top three advantages of using CDS/ISIS had a frequency of 50% to 72% included:

- The features of the CDS/ISIS software ranks high when grouped but when detailed shows a spread of different features, with the ability to interface with other software being an important feature.
- The versatility of CDS/ISIS ranks second and was thus considered as important by users.
- The third ranked advantage of CDS/ISIS is the fact that it is free software. This factor is especially important for developing countries where the cost implications are often critical. CDS/ISIS has enabled many developing countries to contribute to and join the information society.

Other advantages included:

- The user support group is quite significant and has developed from the fact that there is little support from UNESCO. The user support group is active with responses to questions and queries being quite rapid from a world wide group, in multiple languages. There are also local user groups within the different countries for instance Zimbabwe has an active user group. User groups are usually associated with the country's distributor of CDS/ISIS software.
- Some users liked the OPAC function of CDS/ISIS as this makes it easier for them to find and retrieve information. The ability to share data should have ranked a bit higher because the CDS/ISIS makes it easy to exchange information and data, although the catalogues of institutions can be accessed through the web.
- Some users reported that CDS/ISIS software encourages self development. The minimal support from UNESCO forces users to rely on themselves and each other. The flexibility of the software allows users to develop bibliographies, databases and registrations of almost any kind.

The last three categories in the advantages Table 10 are equally ranked. Two of these categories cover the cataloguing and output function of CDS/ISIS.

- The output function refers to the printing function which is reported to be complicated, but when mastered makes it easy to format output lists. In the last category an organisation commented that one of the advantages of CDS/ISIS is that it is popular. As organisations and institutions share information and data, they will attempt to standardise which includes using the same type of library systems.

## Disadvantages of using CDS/ISIS

The number of returns indicating disadvantages is much lower than the advantages indicating that overall the CDS/ISIS software is beneficial. Users reported a variety of disadvantages such as:

- the printing function, which is complicated; the program slows down when using large databases; the fact that the database is not relational; the set-up of a database is complicated and that the interface program is unstable on the Local Area Network (LAN).

A significant percentage of six (33%) stated that there were no disadvantages with the CDS/ISIS software. This shows that even though users experienced problems with the software they still remained positive about CDS/ISIS.

- CDS/ISIS training was an important factor for five (28%) users, who indicated that advanced training is required. One return stated that computer literacy alone, was not sufficient to use CDS/ISIS. UNESCO does not have the capacity to provide in-depth training, but several institutions in developed countries, for example the Free University in Brussels, offer training as does the Institute of Development Studies in the United Kingdom. It is expensive for users from Africa to attend courses in first world countries and training seminars have been run in some African countries to provide a more cost-effective solution, however these are not frequent or regular (Hopkinson 2005:35).
- Some users reported that CDS/ISIS was limited in what it could do and that as it was not a total library automation system it was not a completely suitable solution and this was seen as a disadvantage.
- Only two (11%) % of users found that the CDS/ISIS software was not user friendly and one (6%) found that the manuals were not clear. This is a reflection of the way in which CDS/ISIS evolved, initially a mainframe program used by Information Technology (IT) professionals and subsequently adapted to run on personal computers for use by non-IT users. But these difficulties are to a large extent overcome by the active and supportive user group and recent developments have included documentation and also a Windows help feature.
- The management of electronic documents seemed to be a disadvantage for one user, since CDS/ISIS does not offer full-text storing, hence the size of the CDS/ISIS record is limited.
- One of the respondents raised the question of resources needed to set-up and run the CDS/ISIS software. The acquisition of computers and the set-up of networks do have financial implications, however CDS/ISIS software can be implemented in stages and, as mentioned earlier, old personal computers can be utilised successfully. Systems that still use DOS are compatible with systems that use Windows.

## Comments about the software

Although most respondents, eight (44%), did not offer additional comments, the following comments relating to the CDS/ISIS software were provided by users:

- The use of the software should be encouraged;
- Future developments should be communicated to users;
- Training workshops should be held;
- Additional features should be developed; and
- Local user groups should be established.

From the above comments it is evident that many users have been impressed with the capability and adaptability of the CDS/ISIS program and would like to see the widespread use of the software.

In terms of the comments concerned with the future developments and the sustainability of the CDS/ISIS program, UNESCO has stated that it will continue to support CDS/ISIS and its development with co-operative partners. Alan Hopkinson reports that at a meeting at UNESCO headquarters in Paris “Software experts... agreed to support the development of ...the CDS/ISIS concept and the ISIS family” (Hopkinson 2006:234). So, the possibility of CDS/ISIS becoming outdated and obsolete is quite remote.

## Conclusion

This project set out to attempt to establish the extent of the use of CDS/ISIS in Africa. The survey revealed that CDS/ISIS is used in at least nine countries although there are distributors in sixteen countries. The literature does reveal that there are far more users than respondents to the survey.

The overall impression, gained from the survey, is that most of the users are satisfied with the product even though there are some problems that need to be dealt with. The use of CDS/ISIS in special libraries can be attributed to features such as versatility, cost-effectiveness and a supportive e-mail user group. Many of the small and special libraries, particularly in developing countries, do not have the funds to purchase commercial software and have turned to CDS/ISIS as an affordable solution. When used in developed countries it appears to be used by choice or in co-operative projects with developing countries.

The limited coverage of CDS/ISIS in South Africa can be attributed to the fact that South Africa had been out of the UNESCO arena till 1994 and libraries have made use of other software. If properly marketed, CDS/ISIS could feature

prominently in South African library circles. The fact that it is free-of-charge software should contribute to its popularity.

Finally, CDS/ISIS software has assisted UNESCO in its mission to promote the flow of information, especially in the developing world, through being cost effective and appropriate in meeting the needs of many African libraries.

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## Endnote

<sup>1</sup> A copy of the questionnaire is obtainable from the authors.