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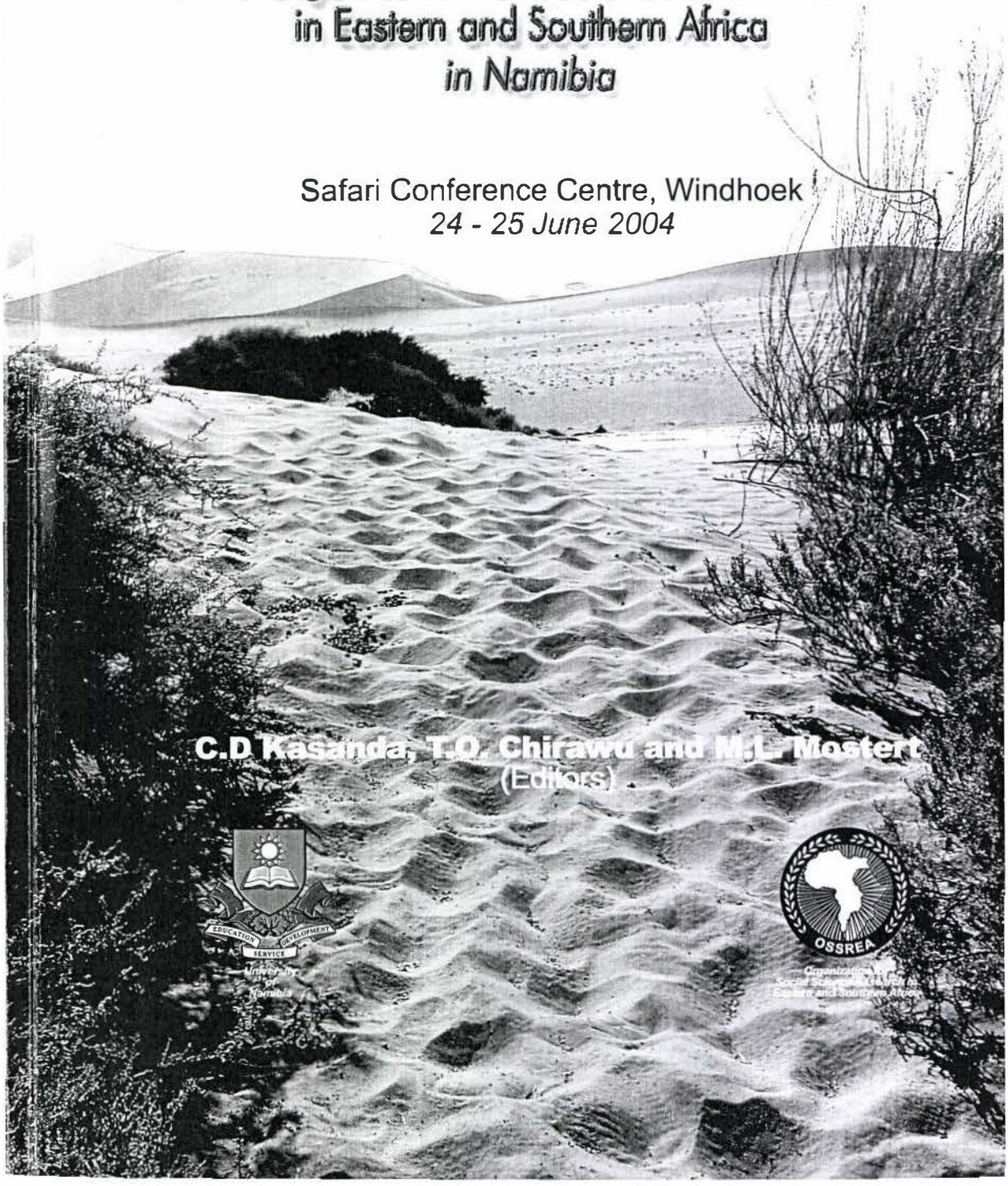

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SECTION 2: RESEARCH PAPERS

USING THE INTERNET FOR SOCIAL SCIENCE RESEARCH

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1. Introduction

It is estimated that Internet users around the world are over 200 million (Clarke 1998). Others have claimed that by 2005, Internet users will number one billion. Chadwick notes that few technologies have generated as much interest, paranoia, and hype as the Internet (Chadwick 1998). Apart from its vast reach, another characteristic of the Internet is the fast development of the technology. In fact the technology is developing so fast that it seems capable of running ahead of definitions. As recently as 1999, for example, the Internet was defined as "a large number of interconnected computers in a single cooperative global system". To date, such a definition would be inadequate because of the rapid advances in technology. An appropriate definition would have to include: Satellite technology, Wireless applications (WAP), I-mode (wireless Internet connection via cell-phones), TV sets, to mention but a few possibilities.

2. Bits of History

The Internet started as a research project of the US Army to secure computer-to-computer communication in the 1970s. The Defense Advanced Research Project Administration (DARPA) study, (as it was called) gradually developed into a system of communication mainly for military and academic use, linking computers in the USA and ultimately worldwide. The 1980s and 90s saw more connections to commercial and personal users. At the end of the Cold War (1990s) the military element shifted to other communication systems, and the Internet usage grew with improvements in software such as Explorer

and Netscape (Web Browsers) which have made internet use easier, and more friendly (http://www.northernwebs.com/bc10.html)

3. Social Scientists and the Internet

The Internet has a research and academic background and it is not surprising that many researchers and academicians have found it invaluable. The Internet plays four complimentary roles in the social sciences. It is an incorporable source of information, data, and interpretative material in a cost effective way. It may also serve as a publishing medium through which the social scientist can become an active contributor to the world's body of knowledge at little additional effort (http://www.unesco.org/most/brochur3.htm). The Internet also serves as a communication link through which one can participate in networks, collaborations and form "invisible colleges" with like-minded researchers throughout the world. Indeed one can now co-write papers, and run courses on the Internet without ever coming face to face with students and lecturers and collaborating researchers (Chadwick 1998). The Internet has also created a world of its own (virtual world) which social scientists are now using to find research populations and research respondents, which creates interesting sampling, research population identification, scope and a host of other problems (Clarke 2000). It does however open a new and challenging research arena.

4. Tools of the Internet

i) Electronic mail -e-mail refers to the most common and popular tool on the Internet, which allows social scientists to exchange information, files, and manuscripts rapidly and cheaply. This popular tool nullifies distance and time zones.

ii)Listservs – This is an emailing list facility, which can send email messages to an unlimited number of recipients who are registered users (listserv members). All registered members receive each message sent. Listservs

have now become a powerful tool for holding discussions on-line. Some listservs are moderated, while others are unmoderated. Some listservs can compile daily message packages, and many maintain archives of messages previously sent.

iii)**Newsgroups** - Newsgroups operate on subscription basis and are topic specific. One simply posts a question or information in the form of an email message to a newsgroup and members provide answers, advice and share experiences. This can generate a lively debate if the audience is active and the issue is of interest to them.

iv) **Telnet** –Telnet is both a protocol and a tool which allows one to access resources in a distant/remote computer as if they are located on your computer – it may thus allow one to access email even when traveling out of the country. What one requires is an Internet account, and one can read email (someone@unam.na) anywhere in the world as if you are in your own office.

v) **FTP** – File Transfer Protocol a method whereby you can connect to a remote computer called an FTP site and transfer publicly available files to your own computer. These files may contain graphics, software, music etc. You can also upload files to another computer using FTP, or upload your web pages onto the web

vi) **e-Learning** – eLearning in general refers to attending a course on the Internet. In addition it might include CD-ROMs and face-to-face sessions, which will then be referred to as blended learning (a combination of all). The biggest advantage of eLearning for social scientists could be that it doesn't matter when (time) or where (space) you are, as long as you have a computer with access to the Internet (Inwent, 2004). Research ideas can be exchanged at any time, and anywhere. It is possible to do complete

Masters or PhD studies online, while researchers will have the opportunity to exchange research ideas and pitfalls through discussion forums and online chats.

The Internet and Web infrastructure also provide a suitable area on which research results can be distributed. These results can be published in electronic journals, distributed on discussion lists or posted on personal web sites.

These tools such as newsgroups, listservs, email, and ftp can be used by social science researchers to conduct online focus groups, online questionnaires and to publish research results online.

5. Searching Information on the Internet

When searching for information on the World Wide Web, it is imperative to know how to search effectively, as there is no one method of searching on the web, or no way of finding everything on the web (University of South Carolina, Beaufort Library, 2001). SOFWeb (2004:2) also argues "finding resources on the Internet can be like looking for a needle in a haystack". This confirms the fact that the Internet can never be compared with a well-organized library. Hence to find information on the WWW, it is best to start with one of the Internet search tools, either a Search Engine (crawler-based) or Subject Directory.

5.1 Search Engines

Search Engines are huge databases of web page files assembled automatically by machine (spiders or robots). These spiders or robots will crawl trough web space from link to link identifying and perusing pages. The spiders will then index most of the words on the publicly available pages at a site. When you search a search engine you are requesting the engine to scan its index of web sites and to match your keywords with those in the database. There are two types of search engines:

Individual search engines: compile their own searchable databases on the web e.g. Google – http://www.google.com

Meta search engines: do not compile their own databases, but instead search the databases of multiple sets of individual search engines simultaneously e.g. MetaCrawler – http://www.metacrawler.com.

Both of these search engines have got their strengths and weaknesses and it is up to the searcher to find out which one will satisfy the particular information needed best.

5.2 Subject Directories

Unlike search engines, directories are created and maintained by human editors, not electronic spiders or robots. They are like the yellow pages of the Internet, in other words, they are arranged into subject categories and users can select a category to search from general to specific. They only contain information, which has been submitted to them. E.g. Yahoo – http: //www.yahoo.com

They also come in different flavors – There are general directories, academic directories, commercial directories, portals and now vortals.

Portals are directories taken over by commercial interests and reconfigured to act as gateways to the web including not only subject categories, but also additional services such as email, current news, travel information and maps. E.g. Yahoo

Vortals – commonly known as vertical portals, are subject specific directories devoted to one subject only, as opposed to the broader, more generalized ones like portals e.g. ERIC Clearinghouses.

Gateways – Library gateways in particular are collections of databases, arranged by subject, and have been assembled, reviewed and evaluated by specialists, usually librarians e.g. Internet Public Library (University of South Carolina, Beaufort Library, 2001).

Remote online databases – These databases are usually remotely located and can be accessed via Telnet or the WWW. To access them, one usually would need to have a password and username, because commercial companies such as EBSCO, OCLC, and DIALOG etc own them. They are fantastic databases that researchers can search, and are available through the University of Namibia's ILRC home page, and some are also available through the African Virtual University (AVU). You can obtain a passwords from ILRC

Ebsco – http://www.ebscohost.com

AVU- http://www.avu.org

6. Invisible Web

It is also important to be aware of the so-called **Invisible/Deep web**. That part of the web that search engines cannot or may not index. It includes password-protected sites, documents behind firewalls, pdf files, archived material, contents of databases etc. However, the use of library gateways (e.g. Internet Public Library) and Subject-specific databases also known as vortals, are excellent sources for direct links to database information stored on the Invisible web. Another excellent source to find information in and about the Invisible Web is CompletePlanet – http://www.completeplanet.com

With this in mind, searching for information on the web can both be a "frustrating and rewarding experience"(Northern Webs). Taking into account that the WWW contains a lot of information on virtually any topic you can imagine, and published by anybody with the necessary technological know-how, it is best to have a strategy for searching the web:

1. Identifying concepts (break down the question into main concepts)
2. Identifying keywords
3. Identifying relationships among keywords by applying Boolean logic (AND, OR, NOT)
4. Phrase searching " " – which allows to start specific with your search and then you can broaden the search afterwards
5. Evaluate Information

Phrase searching and Boolean searches are advanced searches supported by search engines or directories, but not by all. It is advisable to start with the advanced search interface, instead of the basic search interface of any search engine or directory, and to check the help facility of search engines and directories to establish whether they support Phrase and Boolean searching, and their default settings.

Phrase searching allows you to search multiple words for one topic, grouped together, in close proximity to one another. E.g. "The impact of ICT on learning"
Boolean searching allows you to broaden and to narrow searches through the use of AND, OR, NOT.

Other tips to consider when searching, to be able to maximize relevant search results are:

- use lowercase instead of uppercase when typing keywords or phrases to ensure that you will get both
- use + to force inclusion of a term and – to force exclusion of a term e.g. +anorexia-bulimia
- use truncation to look for variations in spelling e.g. bank* will return bank, banks, banking etc.
- it is possible to combine phrases with keywords

- it is important to be familiar with the default settings of a search engine. (University of South Carolina, Beaufort Library, 2001)

To be able to find information on the World Wide Web is not where it ends, researchers must also have the necessary skills to evaluate information found on the net. Here are some useful web sites that could guide researchers as to how to evaluate information found on the web.

http://biome.ac.uk/guidelines/eval/howto.html

7. Using the Internet as part of the Research Process

It is possible to use the Internet as part of the actual Research Process, from formulating a topic, to writing references. Here are some useful sites that could assist in using the Internet as one of the tools, throughout all the different stages of the Research Process.

SOFWeb – An Australian web site about Research on the Net - http://www.sofweb.vic.edu.au/internet/research.html

Yenza – Developed by the South African Research Foundation, a guide to using the Internet for research and teaching in the social sciences and humanities. – http://www.nrf.ac.za/yenza/

8. Concluding Remarks

This presentation has attempted to highlight both basic skills and the evolution of the Internet. The concluding remarks draw attention to several broader realities in the use of the Internet for the advancement of knowledge in the social sciences. The Internet is now regarded as a mass media (similar to radio, television and print media i.e. newspapers and books). From a social science research perspective, there are several issues worthy highlighting. One is the issue of unequal access to the Internet, particularly in developing

countries. This unequal access is sometimes called the "digital divide", which occurs between the developed North and the developing South, but also within countries of the South between the urban and rural sectors. A researcher in the developing world is more likely to access materials in the Internet from the North than from the South because of the little local content in the Internet from developing countries. This quite often leads to a form of intellectual dependence on Northern researchers, as well as a biased way of analyzing problems because of the selective exposure to Internet based information to researchers in the South. It is thus important to realize that the traditional library still has an important role to play in accessing research information because they can gather more local research information as well as grey literature.

Another issue is the poor infrastructural development of the ICT sector in developing countries, particularly as the whole world is moving toward an Information Society, which is part of the Information Revolution now reshaping the Globe. For example, in the Information Society Index which claims to measure the capacity of countries transition to an Information Society, only two countries in Africa have a ranking – namely South Africa and Egypt. The former is ranked 37, while the latter is ranked 50. Sweden is ranked no 1 followed by Finland, and United States (World Bank Institute 2000.10).

The Information Society Index attempts to quantify into variable the following sectors: computer infrastructure, Internet infrastructure, information infrastructure, and social infrastructure. The process of transition to an information society and the policy framework, as well as the broad diffusion of the technology in society are all emerging as hot topics for social science researchers in countries of the South. Other equally important emerging research areas are: the use of the Internet for good governance, race and gender and the use of the Internet, e-commerce, e-learning and distance

education, and of course how this "infant" mass media can be used for social economic development.

These are by no means the only issues involved in using the Internet. The fact that the Internet is a defacto mass media has created some unique problems for the researchers. One is the problem of quantity of information available, which makes the Internet almost un-searchable to the novice. One study has likened the Internet to a "giant dustbin with a few diamonds in it" The quality of information available is also variable, ranging from utter rubbish to highly scholarly items even to pornography, hence the terminology GIGO (Garbage in garbage out). This quality problem can only be addressed through critical appraisal of every article in the Internet as it has not been pre-selected by librarians or anyone else. (Day and Bartle, 1998:3) Hence a critical attitude is vital when we use the Internet as anyone can put in the Internet what they like provided they have access. This may be particularly difficult for student researchers who have been socialized to believe that everything published is useful and not to be questioned. This is closely related to the problem of plagiarism, where research reports and proposals can be downloaded easily from the Internet. There is also the problem of commercialization where by commercial companies pay to ensure that their products come up first when a user requests for information in the Internet.

However, inspite of all the issues, the Internet is a tool which social science researchers can use to add value to their research work in developing countries where up-to-date information sources are limited and far between. Like all tools however we need to be in control and be aware of its potential, limitations and possible negative uses.

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