This paper discusses changes at the University of Science and Technology Library (Ghana). The first section provides historical background and summarizes current services, including the collection, the facility, the university's network of faculty/school/institute/center libraries, main library departments, staff, and automation. The next section notes factors necessitating change, including economic recession, inadequate staffing, information explosion, and technological innovations. The following areas of library work that will need to be changed or improved for the library to be relevant in the 21st century are discussed in the third section: (1) collection development, including policies/procedures and the choice between print and digital information; (2) interlibrary loans and document delivery, including the use of facsimile, e-mail, and satellite transmission; (3) the virtual library; (4) staff roles, including responsibilities of professional and paraprofessional staff; (5) the head librarian's role, including leadership, accountability, and management; and (6) other changes, including cooperative ventures, networking, charging fees, and cutting costs. The final section presents a vision for the 21st century university library that highlights reduction of red tape/bureaucracy, orientation toward meeting user needs and delivery of high quality services, library staff support of student learning, flexible structure, cooperation with faculties/institutes, an entrepreneurial approach to securing resources, and library marketing efforts. (Contains 11 references.) (MES)
INTRODUCTION

A university library well stocked with up to date materials in whatever form is the envy of any university. This library in years gone by was not hard to come by. In recent years however, the global economic crunch has brought cuts in funding including for libraries, making university libraries look more like archives. Journal subscriptions cannot be renewed, adequate new editions and new titles cannot be purchased and enough personnel cannot be trained and employed to man libraries. This situation gets worse by the day especially in the university libraries in developing countries where infrastructural facilities like electricity and telephones cannot be relied upon for electronic information transmission if even they have the technology at all. These libraries are however expected to give value service to their clientele - students, faculty and researchers comparable to what obtains in university libraries in developed countries. It is in this category that the University of Science and Technology Library in Kumasi, Ghana falls.

THE UNIVERSITY OF SCIENCE AND TECHNOLOGY LIBRARY

Historical Background

The library has been in existence since 1951. It however has a chequered history in its development. When the College of Technology, Science and Arts Ordinance No. 19 of 1951 was promulgated, the Teacher Training College at Achimota, Accra was moved to Kumasi along with its stock, of 4,000 volumes to form the nucleus of the library. These books were mostly on Education, Physical Education, Fine Arts, Housecraft and Religion. To these were added books on Commerce, Science, Pharmacy, Engineering, Agriculture, Architecture, Town Planning and General Studies when these departments were established. When the stock grew, a full time Librarian was appointed.

In 1954, the Carnegie Corporation donated $8,500 which was used to purchase some American Technical books. The United States Government in 1957 also donated 2,000 volumes of books of various technical subjects.

Soon after independence in 1957 the library suffered some dismemberment. The Government decided to make the College of Technology, Science and Arts a purely technological institution, so some of the departments which did not fit in were moved to other places. The Teacher Training Department was moved to Winneba in December in 1957 with a collection of 1,270 books on education and related subjects. The Housecraft and Music department in 1958 were also transferred to Winneba with 1,080 books. In December 1959, the Commerce department was also moved to Achimota as the nucleus of the present School of Administration of the University of Ghana with a total of about 3,600 books on Commerce, Banking, Accounting, Political Science and other related subjects. In 1962, the department of Liberal Studies was also transferred to the University College of Cape Coast with 650 books. These series of events affected the growth of the Library greatly.
The Library was initially housed in a prefabricated building which had a seating capacity for 135 readers.

In April 1961, it moved to its newly completed building which has a capacity for 100,000 volumes and 250 readers, which houses the library presently. As at the end of 1961 the book stock of the library was 24,362. After an intensive acquisition drive, the stock had grown to over 52,000 volumes by the end of 1968. As at end of September 1992, the main library had 145,480 volumes of books and subscribed to 1700 periodicals. It had been offering traditional library services like acquisition, cataloguing, circulation, reference, serials and interlibrary loans.

Current services

The library's collection is strong in the pure, applied and engineering sciences with a few on the humanities. The collection in the main library as at end of September 1997 was 166,219 volumes and 514 titles of journals. In recent times the stock has been added to through the World Bank Book Project where some tertiary institutions in the country had a supply of new books and journal subscriptions under an agreement between the Government of Ghana and the World Bank. It is under another World Bank Project that the extension to the library building started in 1981 was completed in 1997. The 4-storey building extension which is solely for readers with a capacity for 1,200 readers is yet to be furnished and occupied. The ground floor rooms now house the African Virtual University (AVU) Project, which is a satellite transmission of educational instructions from Ireland and the United States for students.

The network of libraries in the university consist of the Main Library and the 11 Faculty/School/Institute/Centre libraries. These are the Faculty of Agriculture, Faculty of Environmental and Development Studies, Faculty of Social Sciences, Faculty of Pharmacy, Faculty of Science, Faculty of Art, School of Medical Sciences, School of Engineering, Institute of Renewable Natural Resources, Institute of Mining and Mineral Engineering, Institute of Land Management and Development which together has a total of about 70,000 volumes and with the main library provide the information needs of the university community.

The Main library has the following departments; Acquisitions, Cataloguing, Serials, Lending, Undergraduate Reference, Reference, Publications of the United Nations and related Agencies, Ghana Collection, Reprography and E-mail Services. It offers readers services like lending, reference, short loans, CD-ROM, Photocopying and E-mail.

The reprographic services offer microfilming and photography to the university community first and then to the general public.

There are 15 professional staff and the library is governed by a library committee comprising representatives from faculties/ institutes/centres. At the end of 1997 the library had 2194 registered users. Non registered users are however allowed the use of the library's facilities inside the library premises.

Since 1995 the library has embarked upon computerising its cataloguing practices. A database named 'Catalo' has been created using the Micro CDS/ISIS Software Version 3.07. Over 8,000 records have been entered which represent books processed from January 1995. Manual cataloguing and classification is being done, since we do not have access to the BiblioFile and other quick processing methods. This makes processing of materials very slow. There are 4PCs in the cataloguing section for data input and searches. There are plans to set up a Local Area Network (LAN) to enable users access 'Catalo' on-line and also for use as a circulation system. We intend to have Open Access Public Catalogue (OPAC) so 6 Pentium MMX Processors have recently been acquired for this.

There is the CD-ROM with its dedicated PC in the Serials Section. Softwares on Science and Engineering can be accessed. Update of softwares are however not regularly received.

E-mail services are also being offered to the university community and the public. "Points" are being
installed on request in various offices on and off-campus. The library will soon be hooked unto the Internet through an aid programme from the Danish Government for Ghanaian university libraries.

The E-mail services is however not perfect because of constant power cuts. It is necessary to state that the library still offers traditional library services, manually in addition to these attempts to computerise. These services are grossly inadequate in terms of speed and efficiency. The traditional method of accessing information through physically combing through books and journals as is being practiced in this library must give way to computer and electronic information systems.

The computerisation of the library is also suffering some setbacks because there are plans for an Integrated Management Information System for the 4 older universities in Ghana - Accra, Kumasi, Cape Coast, Winneba - where the libraries will have modules. This has not taken off and library personnel have not been involved in the designing of the module.

With the World Bank Book Project now ended, there is serious thought about how to acquire new books since the funding from government is very inadequate. The problem of maintaining journal subscription caused by inadequate funding is also staring the library in the face.

These mean that there is need for a change. This change has become necessary because of various factors.

**FACTORS CAUSING CHANGE**

Change is a challenge. An unresponsive university library may be sidelined in this age of change if it is adamant. Cronin supports this need for change when he opines that "Inertia, redundancy and proceduralism are features of the university library system, cemented by years of smugness and arrogance on the part of our knowledge custodians. Since we, the academic community are now routinely required to account for our actions and performance, is it not time that those academic related staff who superintend our university libraries were likewise asked to account for themselves?" Change therefore in this age is a necessity but it must be made after activities which had been carried on earlier, old roles, perceptions and responsibilities have been assessed, to determine if they are still useful or not to the society today. Most times change is accepted because the new information age cannot accommodate most of the roles and perceptions of yesterday.

The main factors which have made it pertinent for our library to contemplate shifting from its old ways of information provision are as follows.

**Economic recession**

The global economic recession, coupled with the economic crisis in Ghana in the 1980s, brought about the Structural Adjustment Programme (SAP), which reduced drastically the funding of government establishments including universities and their libraries. Contrasting sharply is the high cost of scholarly books and journal subscriptions today. This means that only few journals can be subscribed to and only a few books can be purchased.

**Inadequate Staffing**

With the student population of over 2000 and teaching staff of over 500 there is need for more than 15 professional staff to man the library service points. Lack of funds has brought about the employment of only the number available now. Only a few para and non-professional staff can also be trained as professionals. This is a serious drawback to the provision of effective services to users.

**Information explosion**

There is now a lot of information in various formats, print and electronic, and from various sources. These pose constant challenges to library staff especially in deciding which types of materials to select and the type of equipment needed to retrieve the electronic information, in terms of cost and durability. This information explosion has brought about an overload of information and in its wake an increased
pace of work. Bichteler 4 says that work which hitherto was done in days now is expected to be done in hours. This situation has not gone down well with us as we now cannot cope with the speed especially as we are coming from a service which has been more traditional. We have accepted the change so we will improve.

**Technological Innovations**

The increased pace of work has brought in its stride the development and use of new technologies like on-line databases, integrated automated library systems, knowledge based systems, networking etc. These are fast changing how many things used to be done. In academic libraries in developed countries on-line searching in remote databases, desktop computers on desks; CD-ROMs and Local Area Networks in reference work, Internet, Integrated library computer systems, Electronic imaging systems are in use. These improve productivity and service delivery, and change the level of interaction between the librarian and the client for the better. These are what the University of Science and Technology Library looks up to in the coming century in order to offer value service.

Fortunately efforts are being made to acquire enough computers to be used. The major constraint however is this. The new technologies need huge financial investments. With the little funding available the question is whether we have to cut off maintenance or slow down the traditional services we offer now in order to save up enough to invest in the new technologies? This is why we rely mostly on aid from donor countries to equip our libraries.

The recent introduction of distance learning for university education in the country has put a lot of pressure on libraries to link up with satellite programmes abroad for the benefit of such students. These make it imperative that we provide means for such service, which are the new technologies. The university library today realising the need for change because of emerging global trends needs to decide on the types of change which will enable it to offer effective service.

**TYPES OF CHANGES**

Some areas of library work will need to be changed or improved upon if the library aims at being relevant in the 21st century.

**Collection Development**

The library will need to change or update its collection development policies and procedures to enable its collection to develop into one which will be improved by digital technologies and electronic information sources. This is important to allow for ease in the identification of scholarly materials since one will have access to a great number of them, though the problem of selection will be present here.

It will also be necessary to decide on the tilt in the collection development. Will it be heavily towards digital or still on print information. Both have their usefulness. Digital has a richer mix in content, very good searching and retrieval qualities, extended information links and expands available knowledge. Print is convenient to use as it can be moved around, is easy to use in the accessibility to its contents and is a useful back up. Digital information is a very useful mode for receiving distance information which is inevitable in achieving success in distance learning programmes.

**Interlibrary Loans and Document Delivery**

Interlibrary loans is not a new service. It is the method used today which is new. Photocopying machines, electronic catalogues of libraries, electronic interlibrary messages using facsimile, electronic mail and satellite transmission which offer service at a very rapid speed and limited time wastage are being used now. Documents are now largely supplied through electronic means rather than by the movement of hard copies, which have improved accuracy and brought about user satisfaction. We can only benefit from this if our telecommunication and electricity supply infrastructure are effective. Irrespective of these new developments the use of hardcopy and postal services for document supply cannot be excluded altogether, Baker 5 warns. This gives us some breathing space since as at now our
library carries on its interlibrary loans mostly through the 'hard copy' method.

Modern information delivery must of necessity include interlibrary loans since no library can stock all available information. Requests therefore will need to be transmitted electronically among libraries in a network so that a single message could go through all available libraries. This is faster and cheaper. The UST Library is already doing this through E-mail.

The library sometimes cannot pay for information it needs from a service overseas which may be full-text electronic files or facsimile copies so it has to let it go because the end user may want it for free as they are used to such free services here. There is therefore the need for a more realistic approach to the value of information in commercial and economic terms if people really need available information.

**The Virtual Library**

Saunders 6 says this is a system by which the user may connect transparently to remote libraries and databases using the local library's OPAC or a university or network computer as a gateway. The virtual library will also make available links to other resources, annotations to items available at a specific place or a thesaurus, which can be used alongside other resources. It is hoped that the virtual university facilities for the University, which is now situated in the new extension to the library will be exploited to provide a virtual library for the university community soon.

**Staff Roles**

Roles of professionals and paraprofessionals are going through some changes because of new technology, limited budgets and increased expectation of users. This constantly brings confusion in who should do what. To straighten this out Gorman 7 suggests that the number of tasks deemed to be professional should not exceed the number of tasks which need to be performed by professionals... no professional should do a task which can be performed by a paraprofessional, no paraprofessional should do a task which can be performed by a clerical staff; no human being should do a task which can be performed by a machine.

In our library, staff have taken on additional duties because there is limited recruitment of new personnel. Only vacancies are filled. There are no establishments for new positions.

Librarians as they go up the ladder here are required to carry out research and publish and take very active parts in the professional, scholarly and in other university service. These areas are looked at in evaluating their performance. Some are also involved in teaching some courses in some departments in the university. Others are involved in planning information policies and working on strategic plans for the integration of communication and information systems on the university campus.

Paraprofessionals, because of the introduction of computerisation, especially in the cataloguing department, now do work hitherto done by professionals like cataloguing and classification which are copied from the Cataloguing-in-Publication-Data records in the book, as well as searching for subject headings in the computerised lists and copying such found classification numbers unto identical books. The changing roles mean staff need to be retrained to work with the new information systems. Most of our staff have gone through series of such training programmes at home and abroad, which are now being used to greatly improve their services especially those who have access to computers. What is important to be done, which is still largely undone, is the redefining of our image as collectors and preservers of books to a more active role in supporting higher education and scholarship. We need to provide information to our users and educate them on how to access the several information resources of this age. If we shirk this responsibility, we will be swept off our present positions with the increasing need for change. This is what Veaner 8 warns by writing that" if we as librarians keep a low profile and maintain an indistinct picture of who we are and what we do, we contribute to the confusion and ultimately almost guarantee that the politicians will choose the wrong systems and wrong staff mix for providing information to the scholarly and general public" This warning needs to be seriously heeded. We need to clarify our own status to our users, in our library and to ourselves. We need to clarify the scope of our responsibilities and obligations as professionals in the academia and get involved in the
university's administrative committees and activities in order to remain relevant in the system.

**Head Librarian's Role**

The demands of modern information delivery calls for new and additional roles for the head librarian. The most important is the ability to welcome change and accept challenges, lead in an atmosphere of ambiguity, be flexible, listen and accommodate views of others but be firm in decision making and take responsibility for change. He must develop and sustain team work and have a participatory process for decision making. Responsibility and authority have to be shared. He must have a vision, powerful and positive enough to propel the library forward.

He should assist the staff to manage the rapid changes in service to users by planning workshops, seminars and other training programmes for them. We have only recently been urged to move from paper-based to automated library and now on to creating the electronic library just in about only 25 years. Staff have not fully recovered from the stresses caused by the earlier demand for changes to automation and are now expected to move to another realm.

Accountability in terms of usage of time on tasks and assets and finances must be of concern to him in order to account for the huge investment put in the library. He will need to also plan fund raising programmes to support the library.

Shaughnessy advises that the head librarian should fully grasp the 7 classic management functions - Planning, Organising, Staffing, Directing, Coordinating, Reporting and Budgeting in addition to leadership abilities in order to survive in this new information age.

He must recognise the importance of needs of today in order to lay out a good information system for the future and find ways to link traditional and electronic resources for the benefit of the users.

**Other Changes**

We need to engage in more cooperative ventures like interlibrary loans and resource sharing to satisfy users.

We are trying to establish a network in order to fill gaps in our libraries. This means each university library in Ghana will have access to the bibliographical sources of the other university libraries. When we are hooked onto the Internet then we can have access to international on-line services and so have access to the worldwide information network.

We now need to think seriously about charging fees for services rendered, because sources for information provision today are expensive. I agree with Coffman that "fees are a potential income for libraries... There are existing commercial document deliverers who make profits. How cannot libraries do the same? They only have to be business like in their operations, or in the alternative strike agreements with the users and commercial document deliverers and give them access to our large stock of information and collect a percentage of revenue generated."

The reduction in funding from government also means we should cut costs. Resorting to the new technological information sources is a means of sourcing cheap information. Though the capital investment for these new technologies is high, the potential information to be retrieved through these technologies is limitless. It is therefore necessary for libraries to cut costs and generate internal and external revenue to support the acquisition and maintenance of new technologies for information acquisition.

**THE 21ST CENTURY UNIVERSITY LIBRARY**

My vision for the University of Science and Technology Library, Kumasi, Ghana in the soon with as 21st century is this:
Red tape/bureaucracy must be reduced drastically to allow for rapid staff development, and recruitment to support the library's aims and objectives, give enough power to staff to take necessary decisions, and involve genuine staff participation especially in policy formulation.

It must be oriented mainly towards meeting user needs and the delivery of high quality services. It must exhibit modern approaches to provision of information. It must be committed to collection development policies which integrate IT-based and conventional stock information sources. Users must be trained and assisted in the use of IT in the library. All sorts of information networks must be exploited in addition to book, journal and audio-visual collections.

Library staff must support students in independent learning and for project work and dissertations. It must be a real learning organisation.

It must have a flexible structure where the library will be able to move into a new information world, where resources will be networked, new and different actions aimed at success will replace existing ones and where the great number of users of the library will never ever physically visit the library.

The library must work closely with Faculties and Institutes in academic planning, monitoring and evaluation, teaching and learning strategies, information technology strategies and modular planning.

It must have an entrepreneurial approach to securing resources to support innovations.

It must take a firm stance to market the library especially through workshops, publications, meetings, discussion papers and promotional events, like pamphlets and brochures.

I agree with Line 11 that the 21st century university library must be 'customer-based, concerned with and for its staff, efficient in its use of resources, imaginative in its use of technology, well-managed and visibly and demonstrably a first class service. It cannot stand still, it is constantly awake to new circumstances need and opportunities and designed for continual flexibility". This is my dream for the University of Science and Technology Library of Kumasi, Ghana.

CONCLUSION

The development of information is ongoing. There is information explosion today which makes it necessary for information providers, and in this wise, libraries, to devise more efficient ways to process and retrieve information for optimal use. This inevitably calls for change especially in ways of doing things for improvement.

The University of Science and Technology Library of Kumasi, Ghana, can no longer hold tightly to only the traditional library practices and expect to satisfy its users. It has to accept the change sweeping through information provision and address it adequately. Funds have always been a barrier to development but there can be a beginning. Fortunately, aid programmes are available and some of these new technology equipment can be acquired through them. If the library wants to remain relevant in today's information age then it should be thinking seriously about measures to launch it into modern information delivery so as to fit into library services of the 21st Century. As it stands now, there is still a lot to be done.

The University of Science and Technology Library in Kumasi, Ghana does really have a choice. A choice to be useful to its clientele by striving to provide the necessary technologies which will make its work easier and its clientele happier. If it fails to ride on the tide, the waters will overwhelm it and sweep it down stream with us, to inertia, redundancy and eventual oblivion.

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