

MESSAGE FROM DEAN OF FACULTY OF MATHEMATICAL SCIENCES AT THE UNIVERSITY OF KHARTOUM

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As the Dean of the Faculty of Mathematical Sciences at the University of Khartoum, it is my pleasure to welcome the participants of our workshop held in Khartoum on 4-7 January 2012, entitled “Knowledge Management Capacity in Africa: Harnessing tools for development and innovation”. This is a pioneer gathering of its kind in Sudan which has attracted a large number of participants from Africa, Asia, Europe and the United States of America. The interest from our Sudanese participants is certainly clear. The workshop brought together these leading experts to share their experiences with over 300 registrants.

The aims of this workshop were to:

- Discuss the issues that influence the effective implementation of KM initiatives, drawing on the experiences of pioneer organizations and on the knowledge of international and regional experts.
- Engage interdisciplinary, applied and theoretical minds on best practices and lessons learned relevant to the African continent.

This workshop has been co-organized by the University of Khartoum and Garden City College for Science and Technology, in collaboration with the International Network on Appropriate Technology and the Epidemiological Laboratory. Effective collaboration between universities and colleges has always been an important issue and a main characteristic of modern science. Share of scientific knowledge and expertise are some of the benefit of this collaboration and activities like this workshop act as an important channel of access to this knowledge and expertise. There is a great need in our country for such collaborations to allow, among others, the education and training improvement of students and young researchers.

Knowledge management as stated by experts is used to identify, create, acquire, organize, share, utilize, update, and sustain its knowledge for performance and growth. This workshop covers knowledge management applications in Education, Health, Environment, Business and Governance. Since knowledge is universal, these applications may relate to the government, private or public sectors. In our Sudanese society, we often see mistakes recurred, work duplicated, or reliance on few key individuals. The right information is not delivered at the right time to the right person. Knowledge management is vital for our country to direct appropriate decision making and advance our development. We have to bear in mind that there are many challenges of the application of knowledge management in Sudan. The most crucial are related to the base of that pyramid: the problem of capturing data and resistance of information sharing. I am sure that this workshop will contribute to the capacity building need in our country and in Africa at large.

I would like to thanks sponsors for helping us have a successful workshop: Sayga (DAL group), National Information Centre, International Knowledge Management Institute, Friendship Hall, Sudapet, TWAS, Sudanese Centre for Engineering and Environmental Studies, Morgan for ICTs and Orange Technologies.

ABOUT THE PRESENTER

Dr. Manar Elsheikh Abdel Rahman B.Sc., M.Sc., Ph.D.

Manar Abdel-Rahman is a graduate from the Faculty of Mathematical Sciences, University of Khartoum (Sudan) and University of Kent at Canterbury (UK). She trained in Biostatistics and was awarded a PhD at Boston University (USA). Manar was employed at the Faculty of Mathematical Sciences, University of Khartoum soon after her graduation in 1986. She held previous positions of Head of Statistics Department and Deputy Dean. She previously worked on cancer survival of Atomic bomb survivors at the Radiation Effects



Research foundation in Hiroshima (Japan). She spent one year with the Cancer Research UK Cancer Survival Group at the Non-communicable Disease Epidemiology Unit at the London School of Hygiene and Tropical Medicine UK, during 2007-2008. Over the past decade, Manar has been involved with household surveys, particularly, Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) currently serving as a household survey expert for UNICEF Middle East and North Africa Region. She is currently the Dean of the Faculty of Mathematical Sciences, University of Khartoum (Sudan) since 2009.

Her research interests include modelling relative survival; assessing socio-economic inequalities in cancer survival; estimating secondary measures of cancer survival; survival analysis; statistical modelling of road traffic accidents in addition to analysis of complex survey data on women and children health.

MESSAGE FROM DEAN OF GARDEN CITY COLLEGE FOR SCIENCE AND TECHNOLOGY

Mohamed E. A. El Tom

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Distinguished speakers and participants:

It is with great pleasure that I welcome you to the KM Workshop, Khartoum, Sudan.

We are gathering here to talk about KM. When I was young, I knew very well that knowledge is produced, disseminated and applied but I never thought for a moment that one day we will start to be concerned with its management. Now, it is widely known that *“The basic economic resource - the means of production - is no longer capital, nor natural resources, nor labour. It is and will be knowledge.”* (Peter Drucker)

Garden City College for Science and Technology (GCCST) has, like many institutions of higher education, made the production, dissemination and utilization of knowledge its business. In today’s globalized world, we are aware that it is necessary to continue searching seriously for better ways to improve our institutions performance and development. It is for this reason and in view of our commitment to serve society that we are co-organizing this workshop.

The workshop will no doubt impact in a significant way our IT Department. For, we are aware that Knowledge sharing encourages the use of mental capacity to pursue the rapid development of information technology, which is a tool for the creation and the management of knowledge.

Furthermore, we are very much aware that KM will only work when an institution realizes that it is not about capturing knowledge but how you create and leverage it.

For our foreign visitors, we wish to thank you very much for sharing your ideas and experiences with us. We hope that you enjoy your stay in Sudan.

It remains for me to wish you all, on behalf of GCCST, a productive and engaging workshop.

ABOUT THE PRESENTER

Professor Mohamed E. A. El Tom B.Sc., D.Phil.

Mohamed El Tom received his Bachelor degree in Mathematics from Leeds University (UK) and his Doctor of Philosophy in Numerical analysis from Oxford University (UK).

He taught a variety of undergraduate and graduate mathematics and mathematics education courses at universities in Sudan, Qatar, UK and USA.

Mohamed El Tom pioneered and helped establish the School of Mathematical Sciences, University of Khartoum and the Pan-African Centre for Mathematics, Dar es Salaam University, Tanzania.

His current post is Dean of Garden City College for Science and Technology in Khartoum. He is also Chairperson of the Board of Pan-African Centre for Mathematics, University of Dar es Salaam, and a member of the Advisory Board -- Knowledge Arab Report, Mohamed bin Rashid Foundation, Dubai. He is a member of the Reference Group for Mathematics at Uppsala University International Science Program in Sweden, and Co-Founder of Sudan Centre for Educational Research in Khartoum.



THE HISTORICAL DEVELOPMENT OF THE INTERNATIONAL NETWORK ON APPROPRIATE TECHNOLOGY (INAT) AND THE INTERNATIONAL CONFERENCES ON APPROPRIATE TECHNOLOGY (ICAT)

John Trimble

INAT Chairperson
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We welcome all the participants to this Workshop on Knowledge Management Capacity in Africa: Harnessing tools for development and innovation Hosted by Garden City College for Science and Technology and the University of Khartoum here in Khartoum Sudan. A number of you have participated in our appropriate technology work over the years. This short history is designed to share our experiences with others and bring them on board this ‘appropriate technology (AT) movement’.

The 1st ICAT was held in July 2004 in Bulawayo Zimbabwe. This effort was largely possible through the support of the academic staff at the National University of Science and Technology (NUST). However, it built on years of work by a network of academics and practitioners that saw a need to an alternative and more appropriate technology development and deployment paradigm. A key group of these academics at Howard University, in 1998, formed the Howard University Project on Appropriate Technology (HUPAT). HUPAT had been involved with local and national conferences as well as an educational trip to Cuba to study that nation’s work on appropriate technology.

The 1st ICAT addressed the theme “A Knowledge management approach to the development of appropriate technology, with a focus on sustainable land-based projects”. This was a timely theme since Zimbabwe was concerned with projects that would assist newly land owning farmers following their land reclamation process. The role of NUST was critical because of the university’s involvement in agricultural and industrial development. Our 1st ICAT had paper sessions addressing: water, agriculture and environment, and knowledge management and appropriate computing.

We expanded are network of organizers for the 2nd ICAT. The role of Howard University increased and the Northern California Council of Black Professional Engineers (NCCBPE) became an active co-sponsor. The current interest in health in underdeveloped countries was addressed with the theme “Sharing the Knowledge from Research and Practice in Appropriate Technology, with a focus on Health-related projects”. Once again the conference was hosted by NUST in Bulawayo. It took place in July 2006, two years after the 1st ICAT. The highlight of the conference was the ‘health related’ paper session and special talks by health experts. Other paper sessions included: knowledge management; energy and physics; water and agriculture; environment and small-scale industry.

Active organization for the 3rd ICAT began in April 2007. We expanded our international planning committee to include 12 countries. For the first time we involved multiple universities in the host country: Kigali Institute of Science and Technology (KIST); the National University of Rwanda (NUR); Umutara Polytechnic University; Universite Libre de Kigali (ULK) and Kigali Health Institute (KHI). From the start of our efforts, the Ministry of Science and Technology in the President’s Office in Rwanda provided strong support.

The theme of the 3rd ICAT was: “Promoting Research and Practice in Appropriate Technology: Energy Solutions in the Era of Climate Change”. It took place November 12-15, 2008 in downtown Kigali at the Serena Hotel with workshops taking place at KIST. The conference included a tour of the largest PV Solar facility in Africa as well as a trip across Rwanda to Lake Kivu to view the underwater methane gas extraction and production facility. Much of the success of this conference was due to the strong support from Professor Romain Murenzi, Minister of Science and Technology in Rwanda.

The 3rd ICAT generated an intense interest in building our international network on appropriate technology. It was preceded by presentations and workshops on appropriate technology in Guyana in 2007 and Trinidad and the Sudan in 2008. Participants left the 3rd ICAT with an increased sense of purpose. At Howard University we initiated an Annual National Spring Symposium on appropriate technology in 2009. We expanded this one-day symposium to two days in the Spring of 2010. With funding support from Howard University we were able to bring Bunker Roy from Barefoot College in India as a featured speaker. At that symposium we issued our first declaration on appropriate technology (see figure 1 below).

With the success of our work came increased support from Howard University. In 2010, the Offices of President and Provost of Howard University provided principal funding for the 4th ICAT. With additional support from various Deans at Howard, our affiliate sponsor Chicago State University, CSIR, African University College of Communications and KNUST we were able to advance our effort with this 4th ICAT. Our theme that year “Appropriate Technology for Water and Sanitation: Solutions for a Thirsty Planet” extended our conference efforts to relate appropriate technology to basic needs. On the closing day of the 4th ICAT the conference delegates selected Pretoria South Africa as the site for the 5th ICAT with the theme Appropriate Technology for the 21st Century: linking education, research and practice to inform policy. This was a collective recognition of the importance of technology policy in our efforts to promote appropriate technology and consistent with our work to forge a universal declaration on appropriate technology.

In August 2011, a number of the members of our appropriate technology network participated in a 2 day workshop on ‘socially relevant computing’ hosted at the University of Pretoria. This work was a direct outshoot of the broader work on appropriate technology. In September 2011, Howard University hosted their 3rd annual Appropriate Technology symposium. The symposium hosted posters and a diverse set of presenters from Howard University, the DC community and Morehouse College. The keynote speaker, Dr. Gada Kadoda, traveled from Khartoum Sudan to present on the Barefoot College efforts and solar deployment in rural Sudan. She also discussed the upcoming conference on Knowledge Management she is coordinating in Khartoum January 2012. Her insightful, yet critical presentation at Howard University raised many issues and elicited support for this Workshop on ‘Knowledge Management Capacity in Africa: Harnessing tools for development and innovation’.

Our ongoing work on AT must be seen as a process to bring ‘appropriate technology’ to the forefront of discussion and practice regarding science and technology - education, policy, research, development and deployment.

Public education on ‘what is appropriate technology’ is central to our mission as the International Network on Appropriate Technology (INAT). The cornerstone of our platform on appropriate technology (AT) is that AT is ‘technology to empower people’. The more the world population is empowered the more the potential of the world’s human resources can be utilized. The broader the world population is empowered, the better equipped the mass of human society is to exercise democracy.

The nature of ‘appropriate technology’ is technology that is culturally sensitive yet ecologically sound and economically sustainable. Science and technology are not philosophically and ideologically neutral. To fully embrace appropriate technology, one must be driven by compassion for humankind and Mother Earth. To fully embrace Appropriate Technology, one must be philosophically rooted in the belief that humanism, collectivism and egalitarianism are abiding human characteristics that heighten a collective conscience across human society. To fully embrace Appropriate Technology, one must be ideologically committed to organize for appropriate technologies to replace all unproductive and war centered technologies in the realm of education, policy and practice.

This process must move Appropriate Technology from the general pronouncement of the goal of appropriate technology advocates, to a reality where Appropriate Technology dominates in all realms of science and technology. This requires a strategy and detailed plan.

The educational aspect of this Appropriate Technology goal is centered in our global network of higher education institutions. While the private sector and government control the bulk of technology research, development and deployment resources, institutions of higher education are the direct and indirect sources for the leading research and development of technology practice and deployment as well as technology policy investigation and technology policy promotion.

Focusing on technologies that are human-centered promote: better health, better education, improved access to clean water, necessary shelter and safe food, as well as transportation and energy solutions that do not cause ecological imbalance. Driven by fear and the inequitable access to resources, today’s world governments focus a disproportionate amount of our resources on war technology, policing, and security.

Developing science and advancing engineering presents us with opportunities to solve global health and education problems and meet the basic water, food, and shelter needs of the world’s population. Unjust control of the planet’s natural and developed resources stand in the way of achieving these people-centered goals of forwarding science, engineering and resource distribution to end poverty and human suffering.

In addition to redirecting higher education to focus on appropriate technology, we must mandate civic, worker and professional organizations across society to call for and work toward redirecting science and technology toward meeting the needs of the masses of humankind and an ecologically balanced planet. A populace versed in the benefits of appropriate technology as well as the disadvantages of the current direction of technology will be motivated to

engage civic society, worker and professional organizations and government at all levels on issues of fair resource allocation.

As part of the broader project a series of documents researching science and technology development and its impacts will be developed. This deeper research effort will be accompanied with the development of a series of ‘appropriate technology declarations’ that can be examined and embraced by educational institutions, worker and professional organizations, and civil society organizations.

Once a larger audience’s consciousness is heightened with respect to global human-centered technology needs of our world, an appropriate technology manifesto can provide more detail on how to redirect our planet’s resources toward appropriate technology. This manifesto can be the tool to get organizations to reallocate resources to this people-centered cause. Reallocation of resources will allow detailed demonstration of the validity of ‘appropriate technology’ as a solution to impoverished and disempowered societies. This manifesto will establish the grounds for a yet more comprehensive and challenging ‘Appropriate Technology Protocol’ to be addressed to international agencies and world governments calling for the global redirection of our resources to empower our planet’s masses through appropriate technology development and deployment.

Declaration of Appropriate Technology
April 30, 2010

We declare that, the resources of our planet Earth must be used to develop the technologies needed to meet the needs of our total population.

We declare that priority must be given to meeting the basic needs of all humankind. Clean air and water, food security, healthcare, shelter, energy needs and education are basic human rights that can be provided for all of humankind **today** by devoting the planet’s natural, financial and human resources to appropriate technology.

We declare that technology development and deployment must foster cultural sensitivity, ecological balance and economic sustainability.

We declare that priority must be given to providing technology focusing on empowering people directly. An empowered population can more effectively use their creativity and critical thinking to improve the state of the planet and society. An empowered population is most capable of exercising democracy in all local, national and global contexts.

We declare that in this process of implementing Appropriate Technology, that the most disadvantaged populations must be given priority. We must dedicate special attention to the technological needs of the ‘Global South’ - the most underdeveloped countries.

We declare that in this process of implementing Appropriate Technology, that special attention must be given to the least empowered sectors of all communities - women, children and oppressed minorities.

We declare that a primary goal of the ‘Appropriate Technology movement’ is to use science and technology research, development, deployment and policy to work toward worldwide egalitarianism. We envision – a social reality where all women, men and children of our planet have equal access to resources to meet their basic needs and a controlling voice in how resources are to be distributed and technology is to be developed.

Figure 1 – First Declaration of Appropriate Technology.

ABOUT THE PRESENTER

Dr. John Trimble B.Sc., M.Sc., Ph.D.

Associate Professor, Systems and Computer Science Department, College of Engineering, Architecture & Computer Sciences at Howard University (US). He received a BS in Science Engineering from Northwestern University, MS in Computer Science from Stanford, MS in Operations Research from University of California Berkeley, and PhD in Systems Engineering from Georgia Tech. Worked in industry for 13 years (HP, Xerox, Amdahl) before joining the academy. At Howard University since 1996. Fulbright professor at National University of Science and Technology (NUST) in 2003-2004, Served as Dean of ICT at Umutara Polytechnic University in Rwanda 2006-2008, Chair of International Network on Appropriate Technology, Chair of international planning committee and co-editor of proceedings for 1st – 4th International Conferences on Appropriate Technology.



**MESSAGE FROM DIRECTOR OF EPIDEMIOLOGICAL LABORATORY
(A COLLABORATIVE CENTRE OF THE INTERNATIONAL UNION AGAINST
TUBERCULOSIS AND LUNG DISEASE)**

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The importance of Knowledge management in Health cannot be overemphasized, Knowledge, as a valuable resource, creates opportunities for sound health decisions by policy makers and health workers to improve health delivery, hopefully, in an innovative efficient level in Sudan, Africa and South of the Globe and eventually have an impact on Human health; being the most important asset for socio-economic development.

In Health the practice of capturing, storing and sharing knowledge so that we promote a continues learning process and development of local capacity, is vital in order to improve the quality of Human Live which leads to economic development that ultimately alleviate suffering, and reduce poverty.

Knowledge management is the defining word of this workshop, we hope that this workshop is one step along the road to advocating for a simplified and standardized approach towards knowledge management in Health among the other important topics that will be discussed in the coming few days ***& The Epi-Lab; a public health research centre, as a co-organizer, flags up that Knowledge Management expands the base of public health innovation, and broadens our chance towards development.*** This is a challenging time for global public health and particularly for the fragile health of populations in developing countries. Many of the solutions to health problems of the poor exist, but are not applied, leading to what is called the “know-do” gap: the gap between what is known and what is done in practice.

Public health organizations & centres’ commitment to achieving equity and good health outcome is operational through four main categories; gathering & disseminating of evidence based strategies, policies & actions, intersectoral interventions, capacity development, & evaluation for further promotion of Public health services. All these are embedded and fortified **by knowledge management** with means to provide the right information to the right person and place at the right time. Knowledge is the organization’s **asset & value** that is generated inside, distributed, shared & managed to develop a **Centre of Competence**, able to provide evidence based policy & generates young health professions & public health consultants. KM approach in public health is not a new aspect, yet its realization is of novelty. It is vital & critical for public health, in order to capture and respond to more of knowledge needed **to ensure health preparedness**, to manage & **integrate existing information through cross-referencing & sharing**, & to enable **effective teams to work collaboratively & efficiently** toward a unified goal & impact. Knowledge management is a corner stone in public health programme, to achieve targets such as case detection & favourable treatment outcome. It is crucial in linking central to peripheries to notify & detect all cases for both communicable & NCDs, and to provide equitable services. KM could be visualized in implementation, consolidation, expansion & evaluation of innovative public health projects to have nationwide programmes. Evidence-informed decision making involves translation of the best available evidence from a systematically collected, appraised & analyzed knowledge.

The ultimate goal of knowledge management & exchange is to facilitate and strengthen research knowledge into decision making to improve health outcomes. Thus needs to scale up research capacity & leadership in poor settings. We should also ensure data sharing, to maximize the efficiency of research enterprises, of importance, is to reinforce funding agencies & developing countries’ link, & to emphasize on putting capacity development of data analysis/sharing as part of initial project, and to contribute to help establish enabling environments & cultures in low income setting to ensure equitable access & maximum use. As a developing country, we need to move towards system strengthening & better KM, to achieve Bridging the “Know do gap “in both health & development.

ABOUT THE PRESENTER

Professor Asma Elsony MD., Ph.D.

Asma Elsony was born and raised in Sudan. After 6 years of medical training she worked in a number of hospitals in Sudan and the United Kingdom. She stayed in Britain for 3 years and worked at several trauma and medical emergency units.

After returning to Sudan, she worked for 4 years at Juba University, the Woodruff Team of Tropical Medicine. For 13 years, she has worked for the Federal Ministry of Health as a pneumonologist, and the Director of the National TB Program. With the Central Unit Team, State coordinators and other health personnel they managed to launch a successful National Tuberculosis Program and expanded Directly Observed Treatment for TB control, and reaching 100% coverage.



Asma Elsony is a public health expert, in that capacity, she is involved in providing technical assistance to National Tuberculosis Control programs & lung health projects in a number of countries. She is also working as a consultant for the World Health Organization (WHO), the International Union against Tuberculosis and Lung Diseases (The UNION), the Norwegian Lung and Heart Association, the Norwegian Corporation Agency and many others in Asia Africa, Europe and the Middle East.

She is the Past President of the UNION and currently is a technical expert for several global organizations including the WHO, GFATM, GDF, TDR among others.

She is also the founder and director of The Epidemiological Laboratory the union collaborative centre, a national public health research institute in Sudan, working closely with partners and funded by LHL, World Bank, TB Reach and other developmental partners.

TOWARDS A KNOWLEDGE SOCIETY IN SUDAN AND THE CONCEPT OF KNOWLEDGE MANAGEMENT

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INTRODUCTION

Building knowledge society and the knowledge management has become curtail nowadays. Sudan certainly need to promote these concepts, as for as it needs to attain the governmental objective to develop the country for the well being of the Sudanese citizen. So as everybody in Sudan is supposed and encouraged to be a part of the process of building an Information Technology (IT) society and put hands together to emerge to a knowledge society. Citizens, Civil Society Organizations, Business and Government Institutes all are part of this process. This movement within the society needs an organizer to harmonize all these efforts.

National Information Center (NIC) is a governmental unit that was established in 2001. The new act [NIC ACT 2010] describes the NIC's role and objectives as follow:

- a. Care for information of the various types, systems and sets and technologies thereof in the Country, and organize the same in consultation with the competent bodies;
- b. Subscribe in the development of information's and uses thereof, and industry of the special technology related therewith in the Sudan;
- c. Patronize the information Society, to reach the knowledge Society in the Sudan;
- d. Promote the basic structures and the applications thereof, and use of the same on the part of the Government units, of the several levels thereof;
- e. Feed the state institutes with information necessary for running State affairs and to provide development in all sector;
- f. Organize, secure and protect the information and strategic information;
- g. Care for building human and institutional abilities in the field of information in the state;
- h. Care of bridging the digital gap;
- i. Indentify and encourage the private sector to contribute to developing the information infrastructure;
- j. Enter into intelligent partnerships with the bodies working in the international field of informatics.

VISION & MISSION OF NIC

Vision: Development of a knowledge society that signifies business values through scientific researches, information technology and capacity building to accomplish the quality of excellence.

Mission:

1. Development and dissemination of knowledge to obtain skills and preserve values.
2. Promote use of information in community development by providing the required enabling environment through regulation, initiatives and projects joint ventures.
3. Human resources development through scientific and practical methods by deploying the latest knowledge and technical process to accomplish knowledge economy.
4. Incorporate values of faith and product business culture.
5. Emphasis on the principles of transparency, responsibility and accountability, and justice in different management levels through legislations and regulations enforcement.
6. Manage social justice and welfare in a number of management levels to provide quality service to citizens within the framework of quality of excellence and expand the participation of workers in management.

7. Provide education for all, to train people with knowledge and skills and develop their continuous training, at the same time as emphasis on scientific research to develop knowledge and technologies needed to bring about a renaissance.
8. Decision support by providing the right information to make ICT improve performance and develop policies governing it in the state, in accordance with generally accepted indicators to measure all the way to sustainable development, stability and prosperity.

THE MECHANISM OF MANAGING ICT IN SUDAN

We have to consider that the government of the Sudan acknowledges the importance of ICT and formed a new ministry for this purpose in 2010. The ministry is composed of 3 units: National Information Center (NIC), National Telecommunication Corporation (NTC) and National Digital Certificate Committee (NDCC). NTC is the regulatory body for communications while the NDCC is the regulator for digital certifications. The NIC however, is the official supervisor of the government in the field and the focal point for all the e-applications specially the e-Gov. which has a vital role on bridging the digital gap. Technically, the NIC is supervising all the information centers at all level of governance .i.e. all ministries, governmental units, the States and its organs.

To make good co-ordination and to perform good management the government established a committee in 2001 headed by the minister of ICT and composed of some relevant ministries, under secretaries, communications companies, academics, civil society and IT specialists. It is responsible for observing the implementation of the ICT strategy [Five-Year Strategy plan 2012-2016] in the Sudan and plays the role of “ICT transform committee” – a very active committee.

At the level of the NIC, there is the council of the information centers at the ministries’ level and the council of information centers at the state level. In addition, there are some active committees which are composed of the different stakeholders to follow critical e-applications [E.gov master Plan, e-gov project 2006-2012]. Some of these applications are:

- Unified number
- Geographic Information System (GIS)
- High Education admission programme.
- e-Health (ministerial level and technical level)
- State database programme.
- Co-ordination with ministry of interior (ministerial level and technical level)
- e-Edu. (ministerial level and technical level)
- Universal fund council.

The awareness about the ICT strategy and the activities associated with it are very important. There is a good effort with the TV, Broadcasting, news papers and active websites to disseminate this strategy. Part of that is the annual ICT International conference. Other important activities include the states summit which is held twice a year and roams in different cities of different states, as well as regular workshop and seminars.

COLLABORATION BETWEEN NIC AND EDUCATIONAL INSTITUTES

Based on the following themes:

- Human capital development and lifelong learning (skills, capabilities, education. learning).
- Change management (culture, resistance to change).
- Leadership role (motivation, involve, influence, support).

NIC, NTC as the main stakeholders of the universal fund support different important projects and activities among educational institutes like:

- Sudan Universities Network (29 Universities).
- Computer labs for school (1311 Labs).
- More than 21.000 computers distributed to schools.
- Different workshops, seminars and other activities.
- Research and Development R & D.

- Education Management Information System (EMIS).

THE FUTURE VISION REGARDING KNOWLEDGE MANAGEMENT

Transparency, accountability and citizen participation are not only slogans but it is the rights of the nation and the whole people, to achieve that we should consider the following:

- To study carefully the trend of the open government and to prepare our self for it.
- Web 2.0 and expected future of web technology is associated with web applications that facilitate participatory information sharing, interoperability, user-centered design, collaboration and service oriented on the World Wide Web.
- Mobile gov. to get used of the good coverage and big number of the users of the mobile.
- The right to collect the information bill is already drafted.

CONCLUSION

To conclude, the current ICT practice is crucial for economic development and therefore it is essential to prepare a comprehensive e-government plan, for improving internal government processes and providing improved public service delivery to government, citizens and non-citizens, for incorporating e-education, e-health, e-government and knowledge management (KM) together with a change management (CM), for quicker, smooth and sustainable development.

ABOUT THE PRESENTER

Engineer Mubarak Mohammed Ahmed Hamad B.Sc.

Mubarak graduated for the Department of Electrical Engineering (University of Khartoum) in 1984. Currently he is the General Director of the National Information Centre since 2008.

Engineer Mubarak worked at a number of organisations after graduation including Pakistan Islamic Relief Agency (1985), Suki Agricultural Foundation (1986), Thailand Islamic Relief Agency Investments (1987).

He joined the General Security Agency in 1989 and headed various departments including the division for Communications of States, Technical Services (1993-7), Guidance and Security (1997), and was the Delegate of the State of Sudan to Federal Russia (1998).

Eng. Mubarak managed the technical units of Internal Security (2003), National Security and Intelligence Service (2004), and Military Intelligence (2006-8). He retired at the Rank of Major General in 2008 and was appointed as a technical consultant for the Intelligence and Security Service. He made major contributions to the privatisation of telecommunications in Sudan and later in the establishment of the National Council for Telecommunications.

He is a member of a number of national committee including the Committee of Frequency of Telecommunication and Wireless, the Committee for the Upgrade of Broadcasting and Television, the Technical Committee for IT Strategies, the Consultative Council for the Council of Ministries, member of the Consultative Committee for Human Resources Development, the Ministry of Telecommunications and IT. He is Chairman of the Committee to prepare the structure and conditions of service of the Ministry of Communications and Information Technology, member of the Committee for Computing Studies in Higher Education, e-Commerce and e-Business Committee, the Satellite Committee, the National Council for Strategic Planning, and the National Committee for Public Service Reform. He is Secretary General of the Electronic Authentication Committee and is the Chairman of the Coordinating Committee of Federal Information.



KM 101: FUNDAMENTALS FOR DEVELOPING COUNTRY PROFESSIONALS

Douglas Weidner

Chief CKM Instructor
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Did your boss suddenly get passionate about KM and task you to go buy one?

Or, worse yet, did your initial KM investment falter and now needs a jump start to realize the proven benefits of the Knowledge Age?

Or, do you have an instinctual interest in KM, but understand it might be better to understand it first to get the maximum benefit of the workshop?

In this presentation you will learn:

- What you should have uncovered before you started KM the first time – It Works!
- The essence of KM, learned since 1995 – It's Justified!
- How to get on the road to success – Here's how to do it!
- Key principles in US government funded KM Methodology, including change management
- Time to discuss developing country issues in the context of KM

ABOUT THE PRESENTER

Mr. Douglas Weidner B.Sc. MSIE, MBA

Engineering graduate of the US Air Force Academy (combat pilot-Viet Nam) -- MSIE in Operations Research and MBA in Business Economics (UCLA). Was pioneering KM practitioner: at DoD think tank, designed KBase Tool for DoD (**1994**) and actually had a KM title in 1995: **Chief Knowledge Engineer**/Sr. Technical Fellow for US\$30B Northrop Grumman (**1995-01**). Consulted/mentored KM clients worldwide: World Bank (1996), UN (1999-2000), NASA (2000-1), Islamic Development Bank, and Kuwait Inst for Scientific Rsch (2008), and many US government agencies/commercial firms (1995 – 2011).

Notably, provided custom KM certification programs and associated K Nuggets™ for most all US Combatant Commands including: NORTHCOM (5 yrs) EUCOM (3), AFRICOM (2), SOCOM, CENTCOM (3), SOUTHCOM, etc., and other major commands--USF-Korea (2), USAF, Army, Navy and marines; exclusive provider of CKM to Singapore Armed Forces – 2011-2012. Provided 160 CKM workshops in ten years; 107 public workshops included civilian governments and commercial firms around the world, from Malaysia to Middle East to Europe. Also, delivered train-the-trainer program for the **KM Awareness Series™** at Warrant Officer Career College (Ft Rucker, AL) and most recently for CENTNAVINTEL (Va. Beach, VA) and for many other gov and civilian organizations. This program prepares organizations to become self-sufficient for in-house KM training using their own certified trainers and site-licensed content – DVDs, Powerpoint slides and scripts.

Founded first **KM Chapter** (DC-1998) and the **KM Institute** (2004); developed the internationally acclaimed KM Certification Workshop (CKM) in 1999-01, which is now the world's only self-paced, interactive video KM Certification Program--the int'l standard with over 4,200 Certificants worldwide (2011), with the dominant CKM market share, (over 80% since 1999); created the first universal, core KM certification program – Certified Knowledge Practitioner (CKP)™ now being taught internationally, the site licensed interactive video **KM Awareness Series™** and the associated certified **train-the-trainer** program, a requisite change mgmt strategy for KM success.
www.kminstitute.org



Also continually enriching the:

- **Knowledge Management Body of Knowledge (KMBOK)TM**, which includes the KM Methodology, comprehensive KM Curriculum, extensive reference materials and Certification Enrichment Electives (CEEs)TM - brief video vignettes in diverse KM specialty topics.
- **Knowledge Maturity Model (KMM)TM**, which is both a diagnostic and prescriptive tool for improving organization KM progress.
- **KM Roles & Responsibilities Model** - Depicts all roles in K Age, from K Worker to KM Team, to executive staff, including skills/competencies, learning objectives, curriculum requirements and certification opportunities. Available in interactive Prezi.com format for KM Education Forum (KMEF.org).

INTERNAL AND EXTERNAL INTELLIGENCE: THE CASE FOR KNOWLEDGE SHARING

Peter Woods

*Director, Knowledge Management Centre
Chair, University level Research CoE, i-knowmedia
Faculty of Creative Multimedia
Multimedia University, Malaysia
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Few organisations now doubt the advantage of codifying important business information, SOPs, and other structural knowledge. The case is well made for improving top line measures such as performance and productivity, even if 'competitive advantage' remains elusive.

The attention now is on sharing this explicit knowledge through the workforce. Probably of greater importance is the sharing of implicit knowledge ('tacit' is unattainable), if nothing else, to prevent the loss of crucial experience through staff leaving.

Large organisations have for many years used business intelligence methods for scanning the external scene. Its competitive intelligence component can be readily equated with external knowledge in that it is actionable.

If internal knowledge sharing is taxing many organisations, the same is true for external knowledge. Even more so is the need for making sense of the effects of external knowledge on internal knowledge and visa versa. The absorptive capacity of external knowledge is enhanced by proactive knowledge sharing measures in a benevolent environment. This paper considers these issues.

ABOUT THE PRESENTER

Professor Dr. Peter Woods B.Sc., M.Sc., Ph.D.

Dr. Woods is the Professor of Knowledge Management in the Faculty of Creative Multimedia, Multimedia University, Cyberjaya.

He is responsible for postgraduate research and taught courses in Knowledge Management and e-Learning applications and strategies. He is chairman of the university level Research Centre i-knowmedia.

His initial education was in architecture and from 1995 until 2001 he was Professor of Architecture at Universiti Malaya. Previously he had taught in the University of North London, Sheffield Hallam University, the National University of Singapore and Manchester University.

His research and consultancy interests for the past thirty five years have been spread between low energy design, project, contract, and knowledge management, and teaching and learning theory.

He was a member of Malaysia Low Energy Expert Panel, 1996-98, a member of the Low Energy Design Panel, International Energy Agency, 1998-2007, and a Malaysian Representative, Asia e-Learning Network (AEN), 2003-2004

Dr. Woods has lived and worked in Malaysia and Singapore for over thirty years.



KNOWLEDGE MANAGEMENT PERSPECTIVES: THE ROLE OF TELECENTRE NETWORKS IN REGIONAL DEVELOPMENT

Dean Mulozi

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BRIEF OVERVIEW ICTS IN SOUTHERN AFRICA

With a population of approximately of over 206 million and, at the end of 2001 6.3 million fixed telephone lines and 13.2 million mobile cellular connections (ITU 2002), it is clear that the issue of access to communication services is a critical one. Overall national telephone penetration (fixed) varies within the region from between 0.5 lines to 55 lines per hundred population. A further analysis demonstrates that the reality of access to telecommunications throughout the region have significant disparities between the levels of access attained in urban, peri-urban and rural areas. Low levels of personal computer ownership and lack of access to telecommunication services means that at there is a considerably low levels of internet penetration and access to information and communications technologies (ICTs) in general, in southern Africa.

ICTs and telecenters in particular can play a key role in regional development and poverty reduction and livelihoods improvement. They help to promote regional economic expansion and growth and provide social and economic opportunities among citizens, make institutions and markets more efficient and responsive. ICTs and in particularly community telecentres make it easier for the poor to obtain access to information resources, services at shared costs and improve their local economies. Through investments in deployment and development of telecenters, the poor will be empowered and make their decisions shape their lives.

BACKGROUND ON SATNET

SATNET is a regional ICT organization that supports capacity development to community based telecentres and respective telecentre networks in southern Africa. The organization provides a platform for knowledge sharing and information exchange among its network of members and ICT focal point organizations located in southern African countries. SATNET was established in June 2008 and registered as a regional organization in 2009.

The organization was established after the famous Sustainable Telecentre Africa Conference held in Lusaka, Zambia at Cresta View Hotel in June 2008 and supported by the Technical Centre for Rural Cooperation (CTA) www.cta.int, UNECA, Telecentre.org Foundation (www.telecentre.org) and IDRC-Canada.

SATNET operates a regional secretariat in Lusaka and comprises of 9 regional council members located in Zimbabwe, Tanzania, Botswana, Zambia, Malawi and Mozambique. SATNET operates two knowledge platforms i.e: Telecentre Africa (www.share4dev.info/telecentres) and Satnetwork www.satnetwork.org



The main partners of the organization are CTA, Telecentre.org Foundation and PANOs Southern Africa. The organization is now a member of the United Nations International Telecommunications Union (ITU)

The following presentation provides an overview and shares some of the work of SATNET and its contribution to the development of ICTs in southern African region. It provides an overview of ICTs visa vis' telecentres their status, challenges and opportunities. It gives the audience with an understanding of the potential and values of telecentres and respective emerging telecentre knowledge networks in the region.

The presentation further provides practical insights how knowledge management is practically applied to help reduce digital divide and isolation, facilitate and stimulate local participation as well as transfer and exchange of indigenous and international knowledge to impact on regional and local development through ICTs.

By the end of the presentation, the audience with appreciate through the use of ICTs how knowledge centres and networks can play a role on national and regional economic development

The presentation uses diagrams and charts to help explain understanding of the presentation.

PRESENTATION OUTLINE

The presentation will be divided in four parts and comprises of approximately 15 power point slides as follows:

Part I: Introduces SATNET and its work

Outlines key roles of the organisation, structure and how it packages its work to serve national and community based telecentres in southern Africa.

Part II: Overview of ICTs in southern Africa; existing Challenges and Opportunities

Provides a brief on ICTs pertaining to current challenges facing the sector in southern Africa. It also explains the potential role of ICTs to contribute to regional development.

Part III: Status of telecentres and Telecentre networks as knowledge platforms

Defines telecentres, types, status and their potential impact on social and economic development in Africa. Discusses how telecentres can play a key role in knowledge transfer. The part also gives some of the examples of good experiences of telecentres that have played a part in service delivery and knowledge transfer in some of the African communities. Also gives an overview on telecentres and respective emerging telecentre knowledge networks.

It provides the audience with the key roles of telecentres national and regional telecentre networks in knowledge sharing. Provides an insight on exiting challenges and opportunities and potential impact to regional development

Part IV. Telecentre networks and Knowledge Management Perspectives:

This part links knowledge management to practical African realities and contribution to social and economic sectors and how indigenous and international knowledge can be harnessed to contribute to national development. This will give examples of how ICTs and knowledge management can be effectively utilised to support some social and economic sectors such as agricultural and education. This will include what opportunities can ICTs and telecentres can bring in relation to service delivery and improved livelihoods in southern Africa and Zambia; - provide evidence of statistics if possible.

Part V: The way forward & Conclusion

Can telecentres be effectively used by local communities to improve their livelihoods? Can they be transformed into community based knowledge centres? Can telecentre networks be reliable ICT information sharing and knowledge platforms? How national telecentre networks can effectively contribute to national economies and poverty alleviation and livelihoods improvement.

What policy strategies and actions can be incorporated at national level to facilitate ICTs development?

ABOUT THE PRESENTER

Mr. Dean Mulozi B.Sc., M.Sc.

Dean Mulozi has an Agriculture and Rural Development background from the University of Wisconsin, Madison USA and Mananga Agricultural Development Institute, Swaziland.

Worked in Agriculture finance development organisation in Zambia as a senior staff member for 10 years. Worked as a project manager in a SIDA/DANIDA/Government supported rural development programmes for 5 five years in various provinces in Zambia.

Served as a Small business development specialist in UNV/UNDP in the Republic of Maldives for 2 and half years before joining SATNET as an ICT regional Facilitator.



Invited Presentations

HUMAN RESOURCES AND KNOWLEDGE MANAGEMENT

Abdelaziz Mustafa

*Director, Corporate Support at the Islamic Corporation for the Development of the Private Sector
Islamic Development Bank (IDB) Group,
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ABSTRACT

The purpose of the presentation is to discuss the role of human resources in knowledge management. To do this, it is essential to provide a definition of knowledge, and knowledge management to create a common understanding and avoid the confusion and misunderstanding that will result from giving different meanings to the word knowledge and the phrase knowledge management.

The definitions to be provided will lead to the introduction of the concept of knowledge economy with emphasis on the key outcomes of the knowledge economy era, which include new forms of organization such as the learning organization, the MAKE, Most Admired Knowledge Enterprise, organization, which paved the way for the emergence of the knowledge worker.

The emergence of the knowledge worker was the trigger of the human resources knowledge management role. Accordingly, the Presentation, based on the experience of the Islamic Development Bank Group, will discuss the following:

1. The human resources knowledge management role.
2. The human resources knowledge management oriented activities.
3. The impact of knowledge management on human resources management functions.
4. The human resources management initiatives and activities.

ABOUT THE PRESENTER

Dr. Abdelaziz Mustafa B.Sc., M.Sc., Ph.D.

Director of Corporate Support at the Islamic Corporation for the Development of the Private Sector, Islamic Development Bank (IDB) Group, and has over thirty seven years of effective, international and varied experience as a consultant, trainer, and human resources manager.

He served in various positions at IDB including as: Director of Human Capital Development Department; Director of Human Resources Management Department; Human Resources and Knowledge Management Advisor; Division Chief of Human Resources Planning and Development; and Head of Training and Development Section.

He served as Program Manager at the International Management Development Institute (University of Pittsburgh – USA); as Assistant Vice President HRM of the Gulf Investment Corporation (Kuwait); as Training Manager at the Gulf Investment Corporation (Kuwait); as Career Development Supervisor at Kuwait National Petroleum Company; as Head of Training and Programs Section, Management Development Center (Sudan).

Dr Mustafa's achievements include: Developing and implementing HRM policies, strategies, training programmes for managers and development of young executives, as well as introducing and managing organizational change, performance management systems.



KNOWLEDGE MANAGEMENT IN DAL GROUP: THE CASE OF SAYGA

Gumma Ibrahim Gulfan

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ABSTRACT

The objective of my contribution is to present an assessment of the current state of knowledge management (KM) in Sayga, a DAL Group company, through the evaluation of a number of objects that represent the key output of SAYGA's knowledge processes and their supporting infrastructure. These objects come from the following areas:

- Data collected during operational processes such as purchasing, production, distribution and sales.
- Customer Insights based on information collected during interactions other than for the purpose of selling and marketing goods and services.
- Structured Knowledge embodied in documents, reports, publications and other media accumulated through studies, surveys and consumer research.
- Lesson Learned compiled at the end of projects.
- Expertise and personal knowledge whether obtained through education or gained through experience inside or outside SAYGA.

The assessment is based on the analysis of factual observation of the state of these objects made by examining the relevant business processes and available repositories to find out how they are captured, documented, stored, retrieved and shared.

The study aims at establishing how well the processes that produce these objects are managed and how effectively the supporting infrastructure is utilized. The outcomes which will come as positive or negative answers to a defined set of questions will be used as indicators of KM state in SAYGA.

ABOUT THE PRESENTER

Mr. Gumma Gulfan B.Sc., M.Sc.

Mr Gumma obtained his University degree in Business from Sudan University for Science and Technology and Graduate degrees in Social Sciences from University of Khartoum.

He currently works as the Corporate Services Manager for Sayga Investment Company that is part of the DAL Group. His main responsibilities include: Business Process Management, Project Management, and Strategic Planning.

Mr. Gumma has extensive experience in strategic planning, business process management, change management and project management. He led a number of successful business process improvement and ERP implementation projects.

He has done extensive research on Sudanese history, culture and languages focusing on Nubian languages and contributed in a number of workshops and seminars on Nubian languages and culture. He published a number of articles on these topics.



IDENTIFY BEST PROCESS IMPROVEMENT PRACTICES: A GUIDE-BASED APPROACH FOR KNOWLEDGE SHARING

Hisham M. Abushama

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ABSTRACT

Most of software process improvement (SPI) standard models including the current de facto standard model the CMMI start in their process improvement programme by assessing organization's software process capabilities. This is mainly in order to identify areas for improvement (problems). These models although provide a roadmap for process improvement through management practices explaining what to do. Management practices are difficult to implement without the use of engineering practices. Engineering practices can be seen as a mechanism of "How" to implement these management practices. Typical example of engineering practices can be seen in extreme programming and scrum methods.

Engineering practices (hereafter practices) can be found in literature or from industrial experiences. It is vital and prior to process improvement implementation is to identify which best engineering practices that could aid process improvement implementation to achieve its objectives. Therefore, we suggest is to re-use knowledge (i.e. best practices) that has been proven successful in solving problems (i.e. areas for improvement) as an objective for process improvement plan activity which is well worth the effort to investigate in detail. The idea of "guide" as method for capturing such knowledge is gaining popularity within the software engineering community. In this presentation, we are expanding the scope of the "guide" idea to be used as a way of recording organizational process improvement knowledge in the form of "best process improvement practices", in accordance with objectives of software organisations.

The guide has mainly been concerned with capturing and re-using knowledge. The first concerns is how the process improvement knowledge will be captured, the second concern is how process improvement knowledge stored and the third concern is how this knowledge mapped to the areas for improvement. This guide is mainly concerned for solving particular problems those have been discovered via an assessment method of a standard SPI model. This report presents other issue regarding the reusability and modification of the knowledge as presented here as "best practices" that proven have best effect for solving problems. More over this guide tends to generalize its activities in case of change management for reusing them in similar situations in software organisations.

ABOUT THE PRESENTER

Dr. Hisham Abushama B.Sc. Honours 1st Class, M.Sc., Ph.D.

Hisham Abushama graduated with a Bsc (Honors) in Mathematics & Computer Science from the Faculty of Mathematical Sciences, University of Khartoum (Sudan) and has an MSc degree in Software Development (Distinction) from University of Leeds. He was awarded a PhD from Leeds University (UK). He also worked as lecturer in Leeds University PhD for three years.

Dr. Abusshama is currently an Assistant Professor & Head of the Faculty Research Centre at the Faculty of Mathematical Sciences- Department of Computer, University of Khartoum. He also has various industrial experiences for more than 6 years, he worked as software developer and process improvement assessor and adviser in number of software companies in the UK and as IT manager and business development director in large companies here in Sudan.



DSPACE@SCIENCEUOFK: STORY OF A BUDGET KNOWLEDGE SHARING DEVELOPMENT THAT CAME TRUE

Rania M. H. Baleela

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EIFL.net Open Access Country Representative
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ABSTRACT

The University of Khartoum (U. of K.) is the leading higher education and research institution in Sudan. U. Of K. is expected to pioneer a lot of processes including establishing and developing an Open Access (OA) institutional repository (IR) and thus provide a role model and a success story for other Sudanese high education and research institutions to follow.

We decided to set up and develop the first Sudanese OA IR at the Faculty of Science, on high standards comparable to those applied at the most successful universities in the world in terms of OA, as a pilot for a U. of K. one and then as a nucleus for a future national one to preserve our tacit knowledge and to document for everything Sudanese.

Our primary goals were:

- To explain and disseminate the OA movement for Sudanese scholars and librarians;
- To have policies for OA in U. of K. designed in parallel to the advocacy campaign;
- Training Sudanese librarians to build and maintain the U. of K. IR, Sudan, with help from the GrandIR team, Spain;
- Make accessible online the available research output of the Faculty of Science as OA materials.

Other additional goals included:

- Organizing, sharing, managing and preserving U. of K. research output;
- Establishing links between institutional research output database and full-text documents;
- Exposing the institution's intellectual output to researchers around the world;
- Increasing the library's role as a viable partner in the research enterprise.

A proposal was submitted by the two partners (U. of K., Sudan and GrandIR, Spain) to EIFL.net for funding for OA advocacy campaign on February 2011, we were chosen for receiving funding (1 of 11 projects globally to receive \$4000 for campaigning) on April 2011. The first OASCIR project meeting took place on May 2011 in Khartoum while at the same time our Spanish partners started building the DSpace platform in Madrid. Since then we took lots of steps forward, we opened the IR, named DSpace@ScienceUofK for the U. Of K. IP range; we trained librarians, IT professionals and academic staff members during the OASCIR project training week (24-27 July 2011) on several issues; we then made the DSpace@ScienceUofK repository available for all (October 10th 2011). In the final week of October 2011 we were invited to give a presentation at the Open Access Africa (OAA) 2011 event in Kumasi, Ghana as a successful story that was born during the OAA2010 held in Nairobi, Kenya. OAA is an event organised by BioMedCentral, the British Publishers and Computer Aid, the NGO providing computers for underprivileged people in the developing world. We showcased the OASCIR project IR: Dspace@ScienceUofK in the EIFL.net FOSS regional seminar held at Dar es Salaam, Tanzania in November 5th 2011 as well. We organized a final dissemination event at the Faculty of Science (University of Khartoum) on November 17th 2011 with a diversity of speakers from different organisations. We were invited to present this project story at the Sudanese Ministry of Communication Meeting in November 28th 2011 and then were invited to speak in KMCA2012. We were featured in several websites (e.g.):

- <http://www.unesco.org/new/en/communication-and-information/portals-and-platforms/goap/access-by-region/arab-states/sudan/>
- <http://www.eifl.net/news/winners-eifl-call-proposals-open-access-advoc>, <http://www.eifl.net/events/open-access-workshop-university-khartoum>

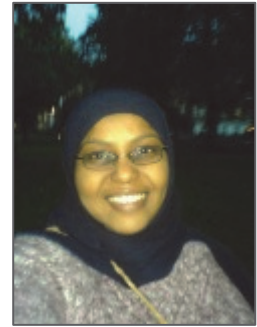
All these events revolved around a project with only \$4000 for budget, understaffed for the huge effort of scanning and uploading of loads of documents with some in seriously bad conditions (2 staff members based at Khartoum+ 2 GrandIR team members in Spain), nonetheless lots of wonderful people devoted some of their time and few of them donated even small sums of money to make this project a dream that came true.

ABOUT THE PRESENTER

Dr. Rania Mohamed Hassan Baleela B.Sc. Honours 1st Class, M.Sc., Ph.D.

Sudanese, LSHTM Alumni, IDB academic Merit Scholar, Assistant Professor at the Dept. of Zoology, Faculty of Science, U. of K., Head Quality Control Unit, Faculty of Science, U. of K. and Sudan EIFL.net Open Access representative. Specialized in infectious and tropical diseases, population geneticist, Zoologist and OA advocate with some knowledge in FOSS.

Many years quality experience in a variety of challenging situations, teaching, guiding and supervising both undergraduate and postgraduate students in addition to leading groups in national NGO's and organizing several conferences and workshops at Sudan national level. Extensively travelled inside and outside Sudan and well networked.



TEDXKHARTOUM: A PLATFORM FOR KNOWLEDGE SHARING

Anour F.A. Dafa-Alla

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ABSTRACT

TED is a non-profit devoted to Ideas worth Spreading. It started out (in 1984) as a conference bringing together people from three worlds: Technology, Entertainment, and Design. Since then its scope has become ever broader. Along with two annual conferences -- the TED Conference in Long Beach and Palm Springs USA each spring, and the TEDGlobal conference in Edinburgh UK each summer -- TED includes the award-winning TEDTalks video site, the Open Translation Project and TED Conversations, the inspiring TED Fellows and TEDx programs, and the annual TED Prize. In the spirit of ideas worth spreading, TEDx is a program of local, self-organized events that bring people together to share a TED-like experience. At a TEDx event, TEDTalks video and live speakers combine to spark deep discussion and connection in a small group [1].

These local, self-organized events are branded TEDx, where x = independently organized TED event. The TED Conference provides general guidance for the TEDx program, but individual TEDx events are self-organized.

A group of Sudanese volunteers from all over the world has organized the first TEDx event in Sudan last April 2011.

In addition to two live performance by Sudanien Band and Dr. Elfateh Hussain, TEDxKhartoum Attendees have listened to Dr. Balgees Badri, Dr.Rashid Diab, Khalid Mansour, Eltayeb Farah, Dr.Nasreldin Mohamed Sharif, AbdelKareem Badri, , Mustafa Khogali, Hisham Elzubeir, Dr.Isam Siddig, Dr.Ahmed Motasim, Dr. Abdel-Rahman El-Asha, Dr. Gada Gadoda and Fadwa Sa'ad. These speakers came from different walks of life in Sudan who shared with the world their innovative and inspiring ideas through TEDxKhartoum knowledge sharing platform.

TEDxKhartoum volunteer team has done several initiatives on the aspect of knowledge sharing such as "Khartoum profile", Andriod application, and translating TEDx resources (How to organize TEDx event) into Arabic language.

In our presentation, we will shed some lights about lesson learned from TEDx experience.

REFERENCE

[1] <http://www.ted.com/pages/about>

ABOUT THE PRESENTER

Dr. Anour F.A. Dafa-Alla B.Sc., M.Sc., Ph.D.

Sudanese Activist/Computer Scientist/Consultant. Worked in several posts including translator & copy editor at Korean Arirang TV, CEO of his own trading company based in Seoul,Korea, Researcher at Chungbuk National university Language coordinator at TED Open Translation project, and he is currently an assistant professor at Alzaiem Alazhari University. Khartoum North, Sudan. His research interest is Database Security, Privacy issues in Database and Knowledge Discovery in Databases , Multidisciplinary research , Knowledge sharing, web and emerging technologies. Dafa-Alla has over 15 publications and presentations in scientific journals and international conferences, and he received the best paper award in FITAT international conference 2009 in South Korea. In addition to founding TEDxKhartoum, Dr. Anour's activism includes establishing the Sudanese Olympiad in Informatics in 2003, the Sudan Developers Association (SudaDev) in 2002, and the Sudanese Researchers Initiative on Facebook in 2009.



MORGAN – A WORLD OF IDEAS

Mohamed Eissa and Sara Mohamed Mirgane

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ABSTRACT

Morgan is a private ICT company that fully committed to its public role, taking the opportunity of growing local information market, as information considered a vital instrument in human life ranging from very primitive needs to very complex decisions.

We are aiming to find out what the attributes of the ideal information society? Where we are? And how we can bridge this gap?

The presentation will shed some lights on Morgan vision and the methodologies that have been followed by Morgan to realize its dreams, what is Morgan plan to effectively contribute in promoting our local information society. Obviously, we aren't going to create information out of nothing, we'll only help and encourage people to discover, analyze, classify, and share the deluge of contents that surround them. . Out of innovative services provided by Morgan, certain ones are targeting the idea of propping up the information society as a stairway to the knowledge society. This could be realized through the following services:

- Morgan Taalem (LMS)
- Morgan Society (local social network)
- Morgan Maps
- Morgan News
- Morgan Markets

Furthermore, how these services went through the knowledge management processes (Knowledge capture, knowledge discovery, knowledge sharing, and knowledge application)? and the segmentation of the target audience (illiteracy rates, internet users, mobiles users, undergraduate/postgraduate students, and so on).

Lastly, we will point out how does Morgan portray the image of Sudan as an Information Society, and How does Information will empower our life?

ABOUT THE PRESENTERS

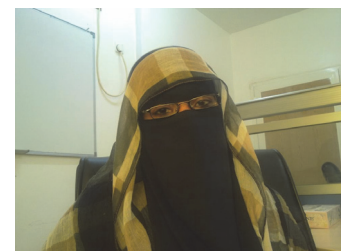
Mr. Mohamed Eissa MICT, B.Sc.

Muhammad Eissa is an IT Professional who is working as a Network department manager at Morgan Company; he had his Bachelors of Science at University of Khartoum, Faculty of Mathematical Sciences. Prior joining Morgan, Muhammad worked for NCTR as software engineer and researcher, where he spent most of his time discovering open source technologies and trying to come up with some solutions that fits local environment. Since taking over as Network department manager he managed to develop a lot of new IT services for internal and external use, and always looking for opportunities of improvement. Muhammad is very keen on information security and its practices, and has the passion of inventing new recipes to keep information secret, available, and easily integrated.



Ms. Sara Mohamed Mirgane MICT, PMP, MBA, B.Sc.

Sara Mohamed Mirgane is a Certified Project Management Professional, who is working as a Project Management Officer at Morgan Company. She holds an MBA from Business Administration Collage and Bachelors of Science in Mathematics and Computer from Faculty of Mathematical Sciences, University of Khartoum. Prior to joining Morgan, Sara worked at Garden City Collage as Mathematics as Teaching Assistant where she discovered her



passion for Teaching Mathematics. Sara was introduced to the project management world during her MBA (2008), eager to gain knowledge so became a member of Project Management Institution. During college days, as a team member, she contributed to developing systems using languages for programming like V.B, SQL etc. In Morgan she was responsible for Website testing (Askmorgan website) in Quality Management Department and was key in establishing a Project Management Office.

CREATIVE COMMONS LICENCES

Paul Corney

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ABSTRACT

In a world where Intellectual Property is much prized the concept of Creative Commons Licences emerged in 2002 in response to the growing demand for open source and collaborative development of ideas and systems. This session will examine progress since that date, its fit within a knowledge management environment and the expectations for the release of version 4 of the licence suite.

Creative Commons licenses are several copyright licenses that allow the distribution of copyrighted works. The licenses differ by several combinations that condition the terms of distribution. They were initially released on December 16, 2002 by Creative Commons, a U.S. non-profit corporation founded in 2001.

As of July, 2011, Creative Commons licenses have been "ported" over 50 different jurisdictions worldwide. No new ports are being started as preparations for version 4.0 of the license suite begin.

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- **Cite the work's title or name (if applicable),** if such a thing exists. If the work is being published on the Internet, it is nice to link the name or title directly to the original work.
- **Cite the specific CC license the work is under.** If the work is being published on the Internet, it is nice if the license citation links to the license on the CC website.
- **Mention if the work is a derivative work or adaptation,** in addition to the above, one needs to identify that their work is a derivative work i.e., "This is a Finnish translation of [original work] by [author]." or "Screenplay based on [original work] by [author]."

The concept of attribution and indeed creative commons are key for knowledge managers (many of whom will have used images from Flickr) and should underpin the give/get culture necessary for good knowledge exchange.

REFERENCE

Wikipedia. Creative Commons Licences Available at:
http://en.wikipedia.org/wiki/Creative_Commons_license [Accessed on 5 December 2011].

ABOUT THE PRESENTER

Mr. Paul Corney

Managing Partner of Sparknow LLP a change and knowledge consultancy who from 1997 has been helping organizations to shift – reposition, change gear, move forward.

Following a 25 year career in financial services based in the City of London, Paul has for the past 15 years worked as a consultant and advisor assuming the role of Managing Partner of Sparknow in 2008. He has won and led knowledge management assignments in 4 continents with such prominent names as Asian Development Bank, Islamic Development Bank and Caribbean Development Bank and Swiss Agency for Development & Cooperation. He was a member of a World Health Organisation mission to Sudan in 2010.



A former visiting lecturer on knowledge management at London Metropolitan University, he is a regular speaker and chair at global km events and a contributor to industry periodicals. In his spare time Paul was Chairman of a prominent golf club and manager of a football club. He lives in Lewes, a medieval town famous for being as the birthplace of the UK democratic system and the home of one of the founding fathers of the US constitution.

THE NEED TO DEVELOP AN INDEPENDENT WIKI FOR APPROPRIATE TECHNOLOGY DEVELOPMENT

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ABSTRACT

The intent of this presentation is to describe a way to implement the fourth resolution passed at the First International Conference on Appropriate Technology (AT) held in Bulawayo, Zimbabwe, July, 2004. The resolution is:

“Be it resolved that the Interim Steering Committee will facilitate the development of a knowledge management approach for effective appropriate technology development.

a. Develop the project plan for the knowledge management system and assure that sound planning is used for its realization of a Virtual AT Center or Portal

b. Develop a funding plan for the design, development and implementation for the Virtual AT Center or Virtual Portal.”

The need is as relevant today as it was 8 years ago, but limited progress has been made on the implementation of this resolution. Several Knowledge Management and Socially Relevant Computing workshops have resulted as spin-offs from the 1st Conference. The 5th ICAT planning is underway. However, no concrete plan exists to collect and organize the available information into one location where it is easily accessible and ICAT participants can collaborate and coordinate activities. Nor is there a mechanism in place to allow others to share their AT project information for rapid expansion of data. New wiki commercial computer software now makes this possible and cost effective. A wiki is a website that allows the creation and editing of any number of interlinked web pages via a web browser using a simplified markup language or a text editor. It enables communities to write documents collaboratively, using a simple markup language and a web browser. An AT section already exists in Wikipedia and it provides a good introduction to AT. However, it does not lend itself easily as a working tool to implement the ideas expressed at the First International Conference on Appropriate Technology. The Conference participants expressed the need for a tool to stay linked between conferences; to coordinate projects, advance research concepts; and further the development of their particular philosophy and approach to AT. An independent wiki would allow them to do this.

This presentation describes the AT wiki that would allow ICAT participants to focus and follow-up on topics of common interest; to collaborate and develop Appropriate Technology concepts; and coordinate projects sponsored by the group.

ABOUT THE PRESENTER

Ms. Hattie Carwell

Co-founder and Executive Director of The Museum of African American Technology (MAAT) Science Village. She is a graduate of Bennett College with a BS in chemistry/biology, and has a Masters in Health Physics from Rutgers and an honorary doctorate from Bennett. She worked for five years at the International Atomic Energy Agency in Vienna as a nuclear safeguards inspector and group lead. She served as Operations Lead for the US Department of Energy and retired from the US Department of Energy at the Berkeley Site Office, Lawrence Berkeley National Laboratory. She is the author of *Blacks in Science: Astrophysicists to Zoologists*. Currently, she is the Immediate President of the National Technical Association, the oldest minority technical organization in the world and co-founder and Executive Director of the Development Fund for Black Students in Science since 1983. She has been President and is currently Board member of the Northern California Council of Black Professional Engineers located in Oakland, California. Museum of African American Technology (MAAT) Science Village, which opened July 30, 2000. One of MAAT's primary purposes is to develop the lay community's understanding of cutting edge technology and the role African Americans have played in their development. It chronicles the technical achievements of people of African descent from ancient times to the present.



ACCREDITATION OF ENGINEERING PROGRAMS

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ABSTRACT

The Accreditation Board for Engineering and Technology or simply ABET is a nonprofit, non-government organization that accredits engineering programs, engineering technology programs, computing programs, and applied science programs. Currently ABET accredits over 3,000 programs in 23 countries. The focus of the presentation is how to prepare your program for ABET accreditation. The presentation describes the experience of the author at Jackson State University in preparing a Computer Engineering program and a Telecommunications Engineering program for accreditation. Although the Computer Engineering program is used as an illustrative example, the discussion is applicable to all engineering disciplines.

The discussion starts by describing the 18-month ABET accreditation process which begins with the program submitting a request for evaluation. The general requirements for all engineering programs with respect to students, program educational objectives, student outcomes, continuous improvement, curriculum, and faculty will be highlighted.

The second part of the presentation outlines the preparation of the Computer Engineering program at Jackson State University for ABET accreditation. Three program educational objectives, twelve student outcomes, and the curriculum will be described in details. In addition, the assessment and evaluation processes will be explained. The instrument used in the assessment of the twelve student outcomes is the Faculty Course Assessment Report (FCAR). Certain required courses are selected for assessment. Each instructor of the selected courses completes a FCAR which includes the instructor's assessment for the appropriate student outcomes. The assessment result is represented by an [E,P,A,N] vector where E, P, A, and N stand for Exemplary, Proficient, Apprentice, and Novice, respectively. For each student outcome, all the relevant [EPAN] vectors from the different courses are measured against a predetermined target. Consequently an appropriate action is recommended and implemented for continuous improvement.

ABOUT THE PRESENTER

Dr. Mahmoud A. Manzoul B.Sc., M.Sc., Ph.D.

Dr. Mahmoud A. Manzoul is Professor of Computer Engineering and Chair of the Department of Computer Engineering at Jackson State University. Dr. Manzoul received his BS degree in Electrical Engineering from the University of Khartoum, Sudan. He received MSEE and Ph.D. degrees in Electrical Engineering from West Virginia University. Before joining Jackson State University, Dr. Manzoul was with Southern Illinois University at Carbondale. During his tenure at Southern Illinois University he spent two years with the United Arab Emirates University and one year with the American University of Sharjah in the United Arab Emirates. He served as the Chair of the Department of Electrical Engineering at the United Arab Emirates University in the academic year 1997/1998.

As the founding Chair of the Department of Computer Engineering at Jackson State University, Dr. Manzoul developed two new undergraduate programs in Computer Engineering and Telecommunications Engineering. The two programs earned accreditation by the Engineering Accreditation Commission of ABET in 2007. At the graduate level, the Department offers Master of Science degree with emphasis in Computational Engineering, Computer Engineering, Electrical Engineering or Telecommunications Engineering.



Dr. Manzoul taught graduate and undergraduate courses in the following areas: Computer Architecture; Logic Design; Microprocessor Based Design; Switching and Finite Automata Theory; Fault Tolerant Digital Systems; Computer Aided Design of Digital VLSI Systems; Testing of Digital Systems, and Electric Circuits.

Dr. Manzoul has been principal investigator or leader in approximately \$9M of contracts and grants including awards from the National Science Foundation and different government agencies. He has served on numerous review panels for NSF. He is an IEEE Senior Member and an ASEE member. He received a Best Teacher Award in 1994 from the Department of Electrical and Computer Engineering at Southern Illinois University at Carbondale. He also received the Research Innovation Award for 2005/2006 at Jackson State University. In 2008, he was inducted into the West Virginia University Lane Academy of Distinguished Alumni.

FACTORS AFFECTING NEGATIVELY IN READING ENGLISH AS A FOREIGN LANGUAGE AT PUBLIC BASIC SCHOOLS IN SUDAN

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ABSTRACT

Low standards of English language in basic schools have become an obvious and serious problem with which many educational authorities are concerned. Many factors contribute to this problem. These factors include teachers' performance, lack of teaching aids, class room size and the absence of extra-curricular activities [1].

The Ministry of Education – Ontario stated (NTIP) program (teachers' performance appraisal system) to provide teachers with meaningful appraisals that encourage professional learning [2]. Well trained teachers of English develop pupils skills .high quality teaching is essential to improving pupils out come and reducing gaps in pupils" achievement Teaching aids are stated carefully by Geeta Pumjabi in [3]. Teaching aids are not utilised in Sudan as teachers mainly use blackboards, chalk, posters, drawings and flash cards. Other teaching aids are rarely used. The National Education Association (N.E.A) stated clearly the need for a small class room size (which makes it easier for a teacher to keep order in a class room with 15 pupils than with 35 pupils). [4] Roughly our class rooms are (50 – 60), which results in teachers becoming less able give individual attention pupils and help them to better succeed in school. Extra-curricular activities such as wall magazines, school broadcasts, music bands, short plays, exchanging simplified books and group work during the school day are required for giving pupils opportunities for practice which is very important for learning a foreign language.

Several studies have been proposed in the literature, Abdallatif Saad Bilal Abdalkarim published a study (Teaching Reading Skills with reference to spine book 3, Nile Valley University, 2008) in which he refers to a weakness in reading English at basic schools. In this presentation, I highlight these factors and recommend possible solutions such as (retrain teachers, supply schools with teaching aids and electronic devices, reduce classroom sizes and activate extra-curricular activities at basic schools). We must co-operate to achieve international standards in teaching English as a foreign language in Sudan to develop pupils' outcome and prepare them for a better future in today's globalised world, where English is a necessity to acquire knowledge.

REFERENCES

- [1] http://en.wikipedia.org/wiki/Extracurricular_activity
- [2] <http://www.edu.gov.on.ca/eng/teacher/appraise.html>
- [3] <http://www.teachingaids.co.in/>
- [4] http://en.wikipedia.org/wiki/National_Education_Association

ABOUT THE PRESENTER

Mr. Mohammed Salah Eldeen Mahjoub Elkhalfi B.Sc.

Mohammed Salah Eldeen Mahjoub Elkhalfi is an English teacher. He was born in 1976. Graduated at Alneelain university (B.A,Hons) from the English Language Department (Faculty of Arts). Currently he is M.A student. He worked as an announcer at radio F.M 104 (2007- 2010). He is a member of the Sudanese Journalist Union. He attended a course in (editing and presenting programmes) at (Atheer centre for training and human development). Also he worked as a member of (school competition committee – Bahri locality) for six years. He achieved the first position in (presenting programmes on the stage) in (Teachers' innovation festival – 2008 – Bahri locality). He led TEDxKhartoum media team in the event which was held on 30- 4- 2011.



EXPERIENCES OF DOCUMENTING MEDICINAL PLANTS IN SOUTHERN AFRICA

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ABSTRACT

The use of medicinal plants as source for traditional medicine (TM) has become a very important part of primary health care for many countries in Africa. This source was first recognized by the World Health Organisation (WHO) in the Primary Health Care Declaration of Alma Ata in 1978. In Southern Africa, indigenous knowledge on traditional medicine from plants, related to human and animals has been in existence for as long as humans have been around in Africa.

Southern Africa is blessed with a rich plant biodiversity of more than 24 000 indigenous plants representing about 10 % of all higher plants on earth. Of these, about 4 000 species are used as traditional medicine. It has been estimated that 80 % of the world population are exposed to traditional medicine. However, the use of traditional medicine in southern Africa region and many of the other regions is not well documented. Although several claims have been made on the effectiveness of many of the TMs curing various diseases there is lack of adequate scientific evidence for safety, efficacy, etc. It has been reported that about 67 % of AIDS patients in developing countries use TMs. In addition about 700 plants is claimed to be used in the treatment or prevention of malaria.

Documentation of the use of TMs is a matter of paramount importance due to the fact that human development has resulted in rapid loss of natural habitat for many of these plants. In addition there is great concern of possible extinction of some of the plants due to overexploitation caused by excessive commercialisation. The outcome of the documentation would be establishment of medicinal plants gardens and farms.

In this presentation, the experience of documentation of several medicinal plants in Southern Africa, challenges, research and training activities, quality assurance, standardisation, dosages, will be discussed, and recent profiling of one of the traditional plants demonstrated.

ABOUT THE PRESENTER

Professor Mathew Muzi Nindi B.Sc. (Hons.), M.Sc., Ph.D.

Born in Bulawayo, Zimbabwe where he attended he completed his secondary education before moving to the United Kingdom where he completed his A' levels in chemistry, mathematics and zoology and first degree in Applied Chemistry. After his first degree he relocated to the USA as graduate student at Washington State University. After completing his PhD in 1988 he did a post-doctoral fellowship as a surface analytical chemist at the School of Mines, in Denver, Colorado for a year. He joined the University of Botswana as a lecturer in 1991. He rose through the ranks to Associate Professor. In 2008 he joined the UNISA as a full professor in analytical chemistry. He has graduated several masters and PhD students.



Professor Nindi's research is in food safety, aquatic environmental and analytical-natural products chemistry. His area of specialization is mass spectrometry, chromatography and sample preparation techniques. He has published over 20 papers in accredited journal.