

# IEICE Global Plaza

—Monthly community plaza in English for students, faculties and engineers—

## Essay

### ◆◆◆ Voice of Students ◆◆◆ Dream for IEICE Section in Sudan



**Omer Abdel Razag Sharif**  
*IEICE Student Member*  
*Telecommunication Systems Res. Lab.,*  
*Dept. of Electrical Engineering,*  
*Chulalongkorn University, Thailand*  
*E-mail : moshakis111@hotmail.com*  
*(from Sudan)*

## Introduction

Sudan's recent experience in building and capitalizing higher education, and information and communication technology (ICT) as a super corridor for sustainable development is a landmark in the country's history. The institutional, legal, and regulatory frameworks were reformed accordingly. However, the full potential of higher education revolution is still greatly hampered by many obstacles. Therefore, if "IEICE Sudan section" can be set up, I believe it would assist our nation, through its higher education and ICT institutions, to enhance the community potential and tie the cooperation with the international R&D institutions. Hereby, I would like to overview the higher education and ICT sector in Sudan as well as establish a connection with Sudanese of IEICE over the world to realize the proposed Section.

## Country Profile of Sudan

Sudan is a country in northeastern Africa (Fig. 1). Due to the eventual split in July 2011, where the people in the south voted in a January 2011 referendum to separate and form the continent's newest state as the valuable price to stop the civil war in the South, Sudan is the 2nd and 3rd largest country in Africa and the Arab World, respectively, with 1,882,000 sq km. The most dominant geographical feature is the Nile, where its basin constitutes 67.4% of the country's total area. Due to its unique geographical location as well as sociology diverse with more than 33 million people, Sudan has always been a trading and cultural bridge between northern and southern Africa as well as between the Arabian Peninsula and Africa, particularly west and east Africa.

Although Sudan is a low-income country (2,000US\$ approx. GDP/Capita), it is endowed with diverse natural resources which include arable land, water and minerals. Unfortunately, the caused growth in the economic, infrastructure and



Fig. 1 Political Map of Sudan

services have been unevenly distributed but are geographically concentrated in central state, Khartoum.

## ICT Development and National Projects

Telecommunications began in Sudan in 1859, using wired communications, and information technology emerged since 1960s in data analysis, education, and bills services. In 1910, Posts and Telegraphs Law was issued to organize the earliest public services. Recently, the ICT sector is the most developed part of industries in Sudan. The government of Sudan has recognized very early the important role of ICT which would play in the economic and social development of the country. In 1993, a modern communication service was established through the Sudanese Telecom Company (SUDATEL), followed by two fixed telecommunication operators with 544,684 lines, and three mobile operators serving 17,369,502 subscribers with 22% penetration rate. According to development in communication, the other information services such as Internet and media services have been established. 21 licensed ISPs and 13,000 cybercafés serve around 11.05 million users now. In addition to the national radio corporation and its 6 affiliated stations, there are 14 and 16 private and state radio stations, respectively. Sudan Television started broadcasting in 1963, where currently there are 19 and 6 State and private television channels, respectively. On the other hand, the postal services were privatized and the Sudanese Postal Services Company (SUDAPOST) was formed in 2009, as an incumbent operator.

The Sudanese national ICT strategy, however, was formulated in June 1999 and a high-level ministerial committee was commenced to oversee its implementation. The strategy focuses on five major areas: technology (infrastructure), human resource development, software industry development, contents (Arabic reservoir), and geo-information. Accordingly, many ICT projects emerged and were either adopted or initiated by governmental/private organizations of social community bodies. The most representative ones are the e-Banking project, the video conference network to connect all the States in Sudan, the national network infrastructure, the digitization of National Records Office, the e-Government project, national ID numbers and machine readable passports (launched since 2007), the higher national ICT project and virtual libraries of Sudanese universities, and ICT R&D institutes such as Nile Centre for Technology Research (NCTR) and its cooperative centers with the universities.

## Higher Education and Student Activities in the field of ICT

The educational history in Sudan dates back to the early eras as proved by archaeological evidence, where the first modern higher education institute in Sudan was found in 1951 as the University College of Khartoum (University of Khartoum). The ambitious development plans of the early 70s were a catalyst for higher education proliferation, a number of technical colleges and new universities were established to provide skilled manpower for the different projects undertaken. Since 1990, a new education philosophy was introduced. Thus, many government (33) and private (40) universities and colleges have been created, mostly in the States serving more than 388,582 and 92,675 registered students in the Bachelor and Diploma level, respectively for the different disciplines in the academic year 2009–2010, where more than 7.5% and 3.5% of these registered students are in the engineering and ICT disciplines, respectively.

However, students of the engineering and ICT are steering

and participating in a wide spectrum of activities such as scientific lectures and forums with professionals, exhibitions, competitions, short training programs, which are not in networking styles. One of the soundest activities in the higher education institutions is the regular "the Engineer Week" as well as the "Information Technology Week" including scientific and cultural activities to reflect and promote the achievements of the students on the surrounding communities. These activities are initiated and implemented by student societies and unions under the patronage of universities, ICT companies and organizations. Furthermore, the annual scientific forum for students of engineering and computer, and the regular exhibition of creativity and invention which are organized by the association of patronage of scientific innovation are such examples of the activities that have oriented to the higher education students and inventors. On the other hand, it depends on the bursty individual initiative and moreover students who continue their graduate studies abroad, whether they can organize or join international activities. This can be read along with the obstacles that face the evolution of the educational revolution in Sudan such as decrease of governmental financial supports, and spread of higher educational institutions dealing with theoretical studies due to high running cost of the applied studies which result in a noticeable deterioration of the output of the education process and R&D. Then, to exploit this quantitative higher education revolution to produce qualitative outputs, many scenarios and strategies should be applied, and the most important step is to have a linkage tightly with advanced knowledge and technologies producers such as IEICE.

#### **Initiative Proposal of IEICE Sudan Section**

##### **-Vision and Mission**

The expected IEICE Sudan Section shares the overall goals, vision, mission, activities, and values adopted by the IEICE, both ethically and professionally. Meanwhile, as a non-governmental organization (NGO) in Sudan, the Section also should provide its own Articles of Association in accordance with the Voluntary and Humanitarian Work (organization) Act, 2006 in Sudan. The Section will widely accept professionals in the field of electronics, information and communications throughout Africa and Middle East as well. Further, the Section promotes the advancement of science, technology and applications in the field and related disciplines. It fosters presentation and exchange of knowledge, information and experiences.

##### **-Objectives**

The main objective of establishing the IEICE Sudan Section is based on the idea that the knowledge is the foundation of nation building. Therefore, the Section will be organized to be two ways interactive and share the knowledge-medium to facilitate the flow of knowledge between the Sudanese nation represented by the technical community in, but not limited to, electrical, electronics, computer, allied branches of engineering, the related arts and sciences, and global technical communities including IEICE. The Section will help them achieve the sustainable development of ICT and required human resources, and offer numerous educational, technical, and professional advantages not only for IEICE members but also for the surrounding communities.

##### **-Programs and Activities**

The following programs and activities will be evolved to meet these objectives :

- Expert and professionals exchange program
- Nationwide knowledge-sharing and dissemination
- Sponsorship for scientific activities
- Expansion of IEICE's membership
- Active collaborations with the other technical organizations

##### **-Development of Societies and Student Branches**

In order to promote its activities, the Section will encourage

the members to form and join Societies and Student Branches in different topics corresponding to IEICE Societies and Group. The expected activities and programs are :

- Participation in local/regional/international scientific events
- Establishment of a digital library for Student Branches with the support of IEICE's resources and services.
- Establishment of an interactive portal Web site for knowledge-sharing and distance learning

##### **-Section Launching Scenario**

The Section will be smoothly launched by an initiative committee to achieve the following milestones :

- a. To prepare a phased detailed scenario in launching the Section.
- b. To introduce IEICE to students/professionals in electronics, information, communications and related disciplines, through different scientific activities.
- c. To encourage them to join the activities with their continuous membership.
- d. To draft the articles and constitution of the Section according to the Sudanese legislations.
- e. To set up the first general assembly of launching and registering the Section.

I believe the initiative committee can be formed by the current or potential Sudanese IEICE members who are willing to serve the nation through the Section. To realize this Section, all IEICE members especially the Sudanese ones over the world are kindly invited to give their hands on launching the Section.

##### **Note for Mr. Omer's contribution :**

Mr. Omer is devoted to his PhD studies with supervision of Dr. Watit Benjapolakul, Ex-Representative of IEICE Bangkok Section. Since his proposal sounds positive and foresighted toward the realization of his dream through collaborations with many Sudanese or wider regional scholars studying in different countries, TFIPP believes it will encourage general readers of IEICE Global Plaza toward the future possibilities. (K. Takahashi, TFIPP)

##### **Upcoming International Conferences**

**KJMW 2011**-IEICE Electronics Soc., in Fukuoka, Japan, on November 10-11, 2011, <http://www.ieee-jp.org/japancouncil/chapter/MTT-17/kjmw2011/>

**AIAA ICSSC-2011**, IEICE Communications Soc., in Nara, Japan, on November 28-December 1, 2011, <http://www.ilcc.com/icssc2011/>

**ICOIN2012**-IEICE Communications Soc., in Bangkok, Thailand, on February 1-3, 2012, <http://www.icoin.org>.

**WTC 2012**-IEICE Communications Soc., in Miyazaki, Japan, on March 5-6, 2012, <http://www.ieice.org/~wtc2012/>

**VTC 2012**-IEICE Communications Soc. & Engineering Sciences Soc., at Pacifico Yokohama in Yokohama, on May 6-9, 2012, <http://www.vtc2012spring.org/>

##### **Message from TFIPP Secretariat**

This issue is delivered also by a free mail magazine "IEICE Global Plaza on Line" with updated news of interest for you. Please contact Prof. Takahashi, TFIPP (Task Force for International Policy and Planning) at [global@ieice.org](mailto:global@ieice.org), if you need. Back numbers are available in archives at [http://www.ieice.org/eng/global\\_plaza/index.html/](http://www.ieice.org/eng/global_plaza/index.html/).

##### **Editorial Committee of IEICE Global Plaza**

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