REPUBLIC OF SUDAN
Ministry of Higher Education and Scientific Research

TECHNICAL EDUCATION CORPORATION(TEC)

The Promotion and Development of Technical Education in SUDAN

KHARTUOM - SUDAN
CONTENTS

1- Introduction
2- Historical background of the Technical Education in Sudan
3- Current situation of Technical Education in Sudan
4- The National Project
5- The Technical Colleges.
6- Promotion of T.E.
7- Challenges.
1- Introduction

Technical education is distinguished from other types of education, because of:

- its direct link to the needs of the labour market;
- it promotes the economic and social life;
- it follows-up the new technical modifications.
The qualifying of the Technician needs several capabilities such as:

- Establishing laboratories and specialized workshops;
- Preparation and qualifying of instructors and trainers;
- Review of the curricula in accordance with the needs of the labour market and development.
2- Historical background of Technical education in Sudan:

1902 - Gordon Memorial college (GMC) established a vocational and technical education secondary school (four years of study: two academic and two vocational).

1939 - Post secondary technical education introduced.

1951 - Khartoum Technical Institute (KTI) established by annexing to it all the training units in the different governmental departments. The period of study is three years after the secondary school.
1962- In the (KTI), the period of study for the diploma was increased from three years to four years.

1971- The (KTI) was divided and distributed to a number technical colleges in the different regions in the Sudan.

1975- The (KTI) was transformed into the Institute of Technical Colleges (ITC).

1983- The (ITC) started studies of Bachelor degree of Technology (B. Tech) + the diploma degree.

1990- The (ITC) was transformed to the Sudan University of Science and Technology (SUST).
International Pyramid for the Labor Force

- **Specialists**: 1
- **Technicians**: 4-6
- **Skilled Laborers**: 15-20
- **Under Skilled Laborers**
3- Current Situation of Technical Education:

The following bar charts show the distribution of diploma students for Higher Education institutions for the academic years 2001/2002 up to 2004/2005.
Distribution of Diploma Students for Higher Education Institutions for the Academic Years 2001/2002 up to 2004/2005

Specializations

No. of Students

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<td>Humanities</td>
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<td>Agricultural Sciences</td>
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<td>Medical Health Sciences</td>
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<td>Computer Sciences</td>
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<td>Engineering Sciences</td>
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Distribution of B.Sc. Students for Higher Education Institutions for the Academic Years 2001/2002 up to 2004/2005

Specializations

No. of Students

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<td>Agricultural Sciences</td>
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<tr>
<td>Medical Health Sciences</td>
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<tr>
<td>Engineering Sciences &amp; Computer</td>
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Establishing Ideal technical colleges

(a) College Objectives :-

1- Providing scientifically and practically qualified technicians able to work in the changing modern technology.

2- Giving due consideration to scarce technical specializations.
3 - Giving due consideration to applied scientific research required to the country's development plans.

4 - The selected specialization of these colleges must satisfy the local needs of the community around the college premises.
(b) College Tributaries

1- Technical secondary schools (industrial, agricultural commercial and woman studies)

2- Academic secondary schools.

3- Successful students in the qualifying course for students of vocational training centers and apprenticeship institutes.
(c) Characteristic features of the college:

1. Study system: credit hours system
2. Type of study: Diploma level
3. Number of Departments: 3-5 departments
4. Number of semesters: 4-6 semesters
5. Study hours in class: 15-20 credit hours
6. Total credit hours for each programme: 70 – 110 hours.
7. Total contact hours (Practical training included): 1500 - 2500 hours
(d) Preparations:

* Laboratories
* Workshops
* Halls and theatres
* Offices
* Computer labs
* Equipment and devices
* Library
* Public utilities, gardens and passages
(e) Fields of Technical Colleges:

1- Technical Engineering Colleges:

(Civil Engineering)

(Construction - Irrigation and drilling - Sewage system - Roads and bridges - Buildings and quantitative methods - Surveying - Environmental Engineering - Hydraulic Engineering)

(Electrical Engineering)

(Internal Electrical Connections - Electrical Networks - Electronic devices - Computer maintenance - Computer Network - Medical equipment and instruments - Communication - Electrical Equipment and Devices)
(Mechanical Engineering)

(Petroleum and Mining Engineering)
(Drilling - Petroleum refining - Mining - Petroleum transport (Pipeline only))
(Textile Engineering)
(Trico - Dyeing and Printing - Textile - Spinning and Weaving).

(Chemical Engineering)
(Food processing - Pharmaceutical manufacturing - Leather - Plastics - Oil manufacturing – Sugar technology).
2- Health Technology Colleges:

(Medical laboratories - Cardiography - Optics - Radiology - Anaesthesia - Stomatology – Dental technology - Public health - Nursing - Artificial limbs - Physiotherapy)
3- Agricultural Technology Colleges:

4- Social and Commercial Technology Colleges:

(Accounting - Business administration - Computer applications - Guidance and education - Social service - Clinical psychology - Kindergarten - Applied statistics – Woman development)
When designing the programmes of these colleges, the following points should be noted:

1- The programmes are unique and not a print copy of other ones.
2- Special considerations to be given for rare but important specializations.
3- The programmes must obey the local community needs.
4- The programmes must fulfill the country development needs.
5- The Technical Colleges
THE NUMBER OF TECHNICAL COLLEGES NOW IS 19:

<table>
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<tr>
<th>Technical College</th>
<th>State</th>
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<tbody>
<tr>
<td>Nyala Technical College</td>
<td>Southern Darfour State</td>
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<tr>
<td>Elbadri Technical College</td>
<td>Nile Valley State</td>
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<td>Elmehairiba Technical College</td>
<td>Gaziera State</td>
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<tr>
<td>Kenana Technical College</td>
<td>White Nile State</td>
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<td>Kassala Technical College</td>
<td>Kassala State</td>
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<td>Bentio Technical College</td>
<td>Unity State</td>
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<td>Elgetaina Technical College</td>
<td>White Nile State</td>
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<td>Wad Madani Technical College</td>
<td>Gaziera State</td>
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<td>Elgeraif Sharg Technical College</td>
<td>Khartoum State</td>
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<tr>
<td>Portsudan Technical College</td>
<td>Red Sea State</td>
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<tr>
<td>Marawi Technical College</td>
<td>Northern State</td>
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<td>Gadarif Technical College</td>
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<td>Elfieg Technical College</td>
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<td>Rabak Technical College</td>
<td>White Nile State</td>
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<td>Om Rowaba Technical College</td>
<td>North Kordofan State</td>
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<td>Damazin Technical College</td>
<td>Blue Nile State</td>
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<td>Fadasi Technical College</td>
<td>Gaziera State</td>
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<tr>
<td>Elbadri Health Technical College</td>
<td>Nile Valley State</td>
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<tr>
<td>Faris Technical College</td>
<td>Gaziera State</td>
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</tbody>
</table>
COLLEGE DEPARTMENTS & SPECIALIZATIONS:

- Agricultural Machines
- Automobile
- Conditioning & Refrigeration
- Mechanics & Production
- Maintenance Machines
- Mechanical Electronic
- Maintenance Ships
- Networks & Electrical Communications.
- Electrical Machines.
- Electronics
- Medical devices
- Control Systems
- Power Generation
Civil Department

- Water Technology
- Road & Bridges
- Buildings
- Technical Drawing
- Architectural Decoration
- Technical Drawing by Computer
- Social Development
- Administrative Sciences
- Accounting

- Computer Sciences
- Commercial & Accounting Systems
Agricultural Department

- Agricultural Production techniques
- Animal Production techniques
Illustration Photos
For Technical Colleges
1
Nyalta Technical College
قسم التكنولوجيا الاجتماعية
Elbadri Technical College
3
El Mehairiba Technical College
Kenana Technical College
5
Kassala Technical College
6

Bentio Technical College
El Quitina Technical College
Port Sudan Technical College
11
Marawi Technical College
El Fiej Technical College
Gedarif Technical College
New Equipment & Labs Provided
For Technical Colleges
6- Promotion of Technical Education

Through:

- Different Mass Media: Written, Spoken & Seen.

- Highlighting the role of the technicians in development as a whole and giving examples of some developed countries such as UK, Korea, Germany, Japan, ..., ETC.
- Improvement of employment services.
- Close links between the Technical education and the work sectors.
- Exemption from tuition fees.
- Offering free accommodation for technical students.
- Upgrading of technicians through more qualifications.
7- Challenges Facing Technical Education:

1- Improving the ratio of Diploma to B.Sc.
2- Finance: government, foreign donations, private sector, trainee fees.
3- Capacity building of teachers and trainers.
4- Job description specification for each specialization.
5- Development of curricula to suit the labour market.
6- Quality of Technical Education
7- Flexibility in admission
8- Diversification of programs
Thank you for your attention