1. INTRODUCTION

- The Tanzania Industrial Research and Development Organization (TIRDO) is a multi-disciplinary research and development organization established by an Act of Parliament No. 5 of 1979 and it became operational on 1st April, 1979.

- TIRDO is a semi autonomous organization under the Ministry of Industry and Trade.
1.1 Mission

- To conduct research, development and technical services on industrial processes and products, while utilizing local materials in partnership with industries.

1.2 Core functions

i. Carry out and promote the carrying out of applied research designed to facilitate the evaluation, development and use of local materials in industrial processes.

ii. Research into local and foreign industrial techniques and technologies and evaluate their suitability for adoption and use in industrial production.

iii. Promote and provide facilities for training personnel for carrying out applied scientific and industrial research.

iv. Operate documentation system to disseminate information on applied research.

v. Provide technical services for industrial development.

vi. Provide technical capacity to mitigate industrial pollution.
1.3 Core departments

- **Industrial Research (Director)**
  - Food & biotechnology Division (Head)
  - Industrial Chemistry and Agro-processing Division (Head)
  - Environment and Occupational Safety Division (Head)

- **Engineering Development (Director)**
  - Materials Science and Technology Division (Head)
  - Textile and Leather Division (Head)
  - Energy Division (Head)

- **Information, Communication Technologies and Technology Transfer (Director)**
  - ICT Division (Head)
  - Instrumentation Division (Head)
  - Technology Transfer Division (Head)

2. ACTIVITIES AND PROGRESS MADE FOR THE LAST YEAR

2.1 Research and Development

i. Green cassava processing
ii. Coal briquetting
iii. Development and transfer of mushroom substrate blocks

2.2 Consultancies in industrialization

i. Complete shoe factory from tannery to leather goods
ii. Cotton medical products (northern TZ – Simiyu region)
iii. Others

2.3 Technical audits to industries; (18) audits
2.4 Environmental audits and environmental and social impact assessments (ESIA)

i. ESIA is done for new projects
ii. Auditing is done to operating projects

2.5 Energy auditing to industries

i. 10 water utilities were audited for energy efficiency
ii. Energy study to refugee camps (Nyarugusu, North-western Tanzania) was done for prospecting fuel switching to renewable energy.

3. COLLABORATION WITH TUBITAK MARMARA RESEARCH CENTRE, TURKEY

- MoU for technical collaboration was signed in 2016
- Areas of collaboration
  1. Energy
  2. Engineering
  3. Food science and technology
  4. Biotechnology
  5. Materials technology
  6. Environment, and
  7. Chemistry
On-going collaboration activities with Tubitak MAM

i. Development of technologies for extracting Mchuchuma and Liganga iron ore
   ➢ VanadiumTitanoMagnetite $\text{Fe}_2\text{O}_3$ (70.39%, ); $\text{TiO}_2$ (12.94%); $\text{V}_2\text{O}_5$ (0.52% ) and $\text{Al}_2\text{O}_3$ (8.63%).

ii. Development and transfer of coal briquettes for household/industrial use.

iii. Technical services e.g., materials analysis (essential oils, etc.)

4. SOUTH-SOUTH COLLABORATION

4.1 Under COMSATS
   - Collaborate with Tubitak MAM (Coal, services); IRCC Sudan (Leather technologies)
   - Participating in ITRG (Mathematical modeling)
   - Participated in Training Workshop on “Waste to Energy at the Zhejiang University, Hangzhou China From 22nd October - 3rd November 2018
   - Established the COMSATS Centre for Climate & Sustainability (CCCS) at TIRDO
     (http://www.tirdo.or.tz/CCCS1.php)
     - Ambassador Kamal is highly appreciated
4. SOUTH-SOUTH COLLABORATION

4.2 General
- Participates in regional projects and research
- Regional research on Innovating OKOA Substrate Blocks for Mushrooms Cultivation in collaboration with researchers from University of Rwanda
- Signed a memorandum of understanding (MoU) with Africa region research centres for Uganda (UIRI) and Kenya (KIRDI)

5. S&T FOR ACHIEVING SUSTAINABLE DEVELOPMENT GOALS

TIRDO establishment was in fulfilling that science and technology contribute significantly to the country’s socio-economic development. The organization is therefore mandated to:
- Undertake R&D for industries
- Provide industrial technical and quality assurance
- Advise the Government on issues pertaining to industrial development
6. FUTURE PROSPECTS FOR COLLABORATION UNDER COMSATS’ NETWORK

1. Joint research and development projects
   - Research
   - Consultancies

2. Capacity building activities
   - Training through COMSATS and by utilizing member countries’ capacity building programs

3. Expert exchange and staff attachment
   - For bridging capacity gap at TIRDO

4. Technology transfer
   - Agro processing
   - Industrial technologies
   - Coal and mining, etc.
THANK YOU, ASANTE

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