



**OVERVIEW OF TIRDO RESEARCH AND DEVELOPMENT
ACTIVITIES, TECHNICAL ADVISORY SERVICES
AND FUTURE OUTLOOK**

**PRESENTATION AT THE 17TH COMSATS COORDINATING
COUNCIL MEETING IN TEHRAN-IRAN**

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BY

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PRESENTATION OUTLINE

- **BRIEF INTRODUCTION OF TIRDO**
- **CORE FUNCTIONS OF TIRDO**
- **TECHNICAL CAPACITY AT TIRDO**
- **ACTIVITIES AT TIRDO LABORATORIES**
- **PRIORITY AREAS OF RESEARCH**
- **TECHNOLOGIES TRANSFERED**
- **FUTURE OUTLOOK/CONCLUSION**

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.

**Governing
Policies on
R&D at TIRDO**

**IIDS-Master
Plan -2011**

**National Research
and Development
Policy -2010**

**Sustainable Industrial
Development Policy
1996-2020**

**National S,T
&Innovation
Policy -2010**

**Five year Dev.
Plan 2011-
2016**

**National
Development
Vision -2025**

The core functions of the organization are:

- To carry out **APPLIED RESEARCH** in various aspects of local and foreign industrial techniques and technologies and evaluate their suitability for adaptation and alternative use
- To provide to the firms engaged in industrial production **ADVISORY TECHNICAL SERVICES** relating to the establishment of systems for the control and regulation of industrial processes

GOAL  **IMPROVED INDUSTRY PERFORMANCE & PRODUCTIVITY**



TIRDO VISION

High Quality, Environmentally friendly and
Demand Driven Research Institution with
Outputs Resulting to **Competitive Industry.**



TIRDO MISSION

To Conduct Research, Development and Technical Services on Industrial Processes and Products, while utilizing local materials in partnership with Industries.

AVAILABLE TECHNICAL CAPACITY AT TIRDO

**The technical capacity at TIRDO is built on
Physical Laboratories and Pilot Plants
for:**

- Applied Research,
- Technology Development,
- Industrial Advisory Technical Support Services.

TECHNICAL CAPACITY AT TIRDO-Cont.

LABORATORIES

- **Food and Microbiology Laboratory.**
- **Environment and Occupational Safety Laboratory.**
- **Agro Technology and Industrial Chemistry Laboratory.**
- **Materials Testing Laboratory/Non destructive testing Laboratory (NDT).**

TECHNICAL CAPACITY AT TIRDO –Cont.

- *The Food and Microbiology Laboratory is the only Accredited Laboratory at TIRDO since 2009 through the South African National Accreditation Systems (SANAS) (SIX PARAMETERS ONLY)*

Efforts are underway to accredit three (3) more laboratories which includes:

- Environment and Occupational Safety Laboratory;
- Materials Testing/NDT Laboratory
- Agro technology and Industrial Chemistry Laboratory

HUMAN RESOURCE CAPACITY

- **TIRDO has 80 workers of which 45 are Scientists, Engineers and Technicians and the rest consists of Administrative personnel.**
- **PhDs (9) (3 undertaking PhD studies)**
- **MScs (23)**
- **Technicians (10)**

PRIORITY AREAS OF RESEARCH FOR COLLABORATION

- **Agro processing Technologies**
- **Gas and Petrochemical Technologies**
- **Textile and leather Technologies**
- **Coal, Iron and Steel Technologies**
- **Natural and Medicinal products
Technologies**
- **Nanotechnologies (water and energy)**
- **Biotechnologies**

PRIORITY AREAS OF RESEARCH- Cont.

- **Renewable energies**
- **Aquatic Ecosystems and Water quality Technologies**
- **Environment/Pollution Prevention and Control Technologies**
- **Information and Communication technologies (ICT),**



ON GOING RESEARCH ACTIVITIES

- Production of bio chemicals and bio fuels (such as glycerol, ethanol and bio methane) from biomass.
- Development and utilization of tunnel solar drying technologies for production of high quality cassava flour.
- Universities, Innovation and Inclusive development in Africa: Towards a Research network.

ON GOING TECHNICAL SERVICES TO INDUSTRY AND ESTABLISHMENTS

- **Physical , Chemical and Microbiological testing of foods and water quality (Metals and Non Metals), fuels, determination of calorific values etc.**
- **Environmental monitoring of Air quality, Waste water streams, Sound levels, Lighting levels, flue gas , particulate matter etc.**
- **Energy Audit to Industry , Government Buildings, Institutions, and establishments.**
- **Non Destructive Testing on Gas and Oil pipelines, Buildings, metal structures etc.**

NEEDED SUPPORT FOR CAPACITY BUILDING

- Equipment maintenance and calibration
- Accreditation of Laboratories
- Purchase of specialized Equipment in the fields of Environment Monitoring
- Specialized Skills Development in the areas of Non Destructive Testing (NDT) on Concrete Structures
- Specialized Training on Equipment Utilization (XRF, AAS-Zeeman)

TECHNOLOGIES DEVELOPED AND TRANSFERRED

- **Production of particle Boards using Cashew nut shell liquid Glue.**
- **Traceability systems in Coffee, Tea, Fish and Cashew nut Industries and GS 1 company in Tanzania.**
- **Bio control methods for prevention of Ochratoxin A in Coffee processing**
- **Solar drying technologies for vegetables and fish products**

Supporting Environment for Research & Technology Development

- Policies to Support R&D, Innovation and Entrepreneurship.
- Tanzania has the political will to ensure that R&D is the National Agenda.
- Strong R&D – Academia Linkage.
- Provision of National R&D Fund.
- Availability of R&Ds in Diversified Fields (Agriculture, Medicine, Fisheries, wildlife, Biotech, etc)

FUTURE OUTLOOK

- **Accreditation of all TIRDO laboratories to acquire international recognition of services.**
- **Establishment of more laboratories in Government strategic areas (leather and textile, metallurgy and energy technologies)**
- **Establish and strengthen collaboration with industry, academia and other R&D institutions locally and internationally.**



*THANK YOU FOR YOUR
ATTENTION*