TEMDO

Tanzania Engineering and Manufacturing Design Organization

Strategic Action Plan

2011-2016

April, 2011

Message from the Director General TEMDO

This Corporate Plan sets out what TEMDO will do over the coming five years and how implementation of the strategies is going to be ensured. The plan will be reviewed every year to ensure that it continues to meet the needs of the stakeholders. This Corporate plan is being formulated at a time of change- globally, at regional and national levels as well as within TEMDO itself: Globally we are now living in a world where time and distance has been compressed by Information and Communication Technologies (ICT) while passing through unprecedented economic challenges brought about by the credit crunch which has thrown the world economy in a recession. The launching of the East African Custom's Union is a significant step in the process of realizing deeper integration among the East African community. TEMDO is evidently operating in an environment which is opening up for more opportunities and challenges.

Locally there are more opportunities and challenges brought about by the new entrepreneurial drive in a number of public sector bodies like agriculture, mining, tourism, trade and infrastructure. Over the past decade or so, Tanzania has been pursuing a number of reform policies all centered on the improvement of life of the majority of the Tanzanians. The main policy guiding the country's development agenda is the Tanzania Development Vision 2025. Vision 2025 and other supporting sectoral policies including MKUKUTA and KILIMO KWANZA all aim at "*enhancing access to knowledge, appropriate technology and resources to the majority of people to enable them address their basic needs to sustain their livelihood and development"***.** TEMDO will work closely with its customers and especially the manufacturing sector in continuously re-engineering their production processes so as to enhance Economic Value Addition (EVA), competitiveness, customer value, product quality and cost advantages.

TEMDO will focus its attention on the improvement of its delivery capacity in developing and adapting new technologies which are responsive and sensitive to market needs in a rapidly developing economy. TEMDO will also improve its research capacity by developing its staff for current and future challenges thus attain the levels of development effectiveness and results expected by its stakeholders. TEMDO will develop more linkages with local/national and international institutions with academic excellence with a view to supporting the local manufacturing sector for global competitiveness.

This TEMDO Strategic Plan is an ambitious and a futuristic undertaking. This is clearly envisaged in its vision which determines to achieve competitiveness of Tanzania's manufacturing enterprises while improving livelihoods of the citizens. This will be achieved through the use of quality and eco-friendly plants, equipment and technical services. At the heart of its vision and mission TEMDO will strive to inculcate to its staff integrity and provide quality, excellence, entrepreneurial and eco-friendly services to its customers.

The core of TEMDO's mission is the strong belief that improvement of the livelihoods of Tanzanians requires a globally competitive manufacturing sector. Hence, with the support of our Government, development partners and other stakeholders, TEMDO will be able to play its key role of stimulating industrial growth and sustainable development.

DIRECTOR GENERAL

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ABBREVIATIONS

ACP	-	African Caribbean Pacific
AIDS	-	Acquired Immune Deficiency Syndrome
AIRF	-	Agricultural Innovation Research Foundation
AIST	-	Agency of Industrial and Science Technology Laboratories, Japan
ASDS	-	Agricultural Sector Development Strategy
ASDP	-	Agricultural Sector Development Program
AU	-	African Union
AUWSA	-	Arusha Urban Water Supply Authority
BEM	-	Business Excellence Model
BOT	-	Bank of Tanzania
CAADP	-	Comprehensive African Agriculture Development Program
CADCAM	-	Computer Aided Design and Computer Aided Manufacturing
CAMARTEC	-	Centre for Agricultural Mechanization and Rural Technology
CBO	-	Community Based Organization
COMESA	-	Common Market for Eastern and Southern Africa
CSP	-	Corporate Strategic Plan
COSTECH	-	Commission for Science and Technology
EAC	-	East African Community
EATV	-	East African Television
EFQM	-	European Foundation for Quality Movement
EPA	-	European Partnership
EU	-	European Union
DTDT	-	Directorate of Technology Development and Transfer
DTSM	-	Directorate of Technical Support Services and Marketing
DSTV	-	Digital Satellite Television
FAO	-	UN Food and Agriculture Organization
GA	-	Gap Analysis
GCLA	-	Government Chemist Laboratory Agency
GDP	-	Gross Domestic Product
GoT	-	Government of Tanzania
HB	-	Hardness Brinell

HV	-	Hardness Vickers
HRC	-	Hardness Rockwell
HRD	-	Human Resources Development
HIV	-	Human Immuno Virus
HR	-	Human Resources
HRDM	-	Human Resource Development and
ICRTD	-	Institutions Collaboration in Research and Technology Development
ICT	-	Information and Communication Technology
IDRC	-	International Development Research Centre
IIDS	-	Intergraded Industrial Development Strategy
IPR	-	Intellectual Property Right
ISO	-	Industrial Support Organization
KRA	-	Key Result Areas
LAN	-	Local Area Network
LGA	-	Local Government Authority
MAAP	-	Market Access for African Agricultural Products
MAFC	-	Ministry of Agriculture Food Security and Cooperatives
MDGs	-	Millennium Development Goals
M.Sc	-	Masters of Science
MKUKUTA	-	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini (National Strategy for Economic Growth and Poverty Reduction)
MNBP	-	Marginal Net Private Benefit
MP	-	Master Plan
MITM	-	Ministry of Industry, Trade and Marketing
MTEF	-	Medium Term Expenditure framework
NBAC	-	National Biotechnology Advisory Committee
NBC	-	National Biosafety Committee
NDC	-	National Development Corporation
NEPAD	-	New Economic Partisanship for African Development
NEMC	-	National Environment Management Council
NGO	-	Non-Governmental Organization
NSGRP	-	National Strategy for Growth and Reduction of Poverty
OC	-	Other Charges
OPRAS	-	Open Performance Review Appraisal System

PESTEL	-	Political, Economic, Social, Technological and Legal
PSRP		Public Sector Reform Programme
RTDIC	-	Research and Technology Development in Industry Collaboration
PMU	-	Procurement Management Unit
R&D	-	Research and Development
S&T	-	Science and Technology
SADC	-	Southern Africa Development Community
SAP	-	Strategic Action plan
SME	-	Small and Medium Enterprises
SDS	-	Service Delivery Survey
SIDO	-	Small Industries Development Organization
SMT	-	Strategic Management Team
SUA	-	Sokoine University of Agriculture
SWOC	-	Strengths, Weakness, Opportunity and Challenges
TANESCO	-	Tanzania Electricity Supply Company
TATC	-	Tanzania Automotive Technology Centre
TBC	-	Tanzania Broadcasting Corporation
TBS	-	Tanzania Bureau of Standards
TEMDO	-	Tanzania Engineering and Manufacturing Design Organization
TIRDO	-	Tanzania Industrial Research and Development Organization
TDTC	-	Technology Development and Transfer Centre
TDV	-	Tanzania Development Vision
ToR	-	Terms of Reference
TPRI	-	Tropical Pesticides Research Institute
TZS	-	Tanzanian Shillings
UDSM	-	University of Dar-es-Salaam
UNIDO	-	United Nations Industrial Development Organization
UNDP	-	United Nations Development Programme
USP	-	Unique Selling Proposition
VCA	-	Value Chain Analysis
VNA	-	Value Net Analysis
VPO	-	Vice President's Office
WTO	-	World Trade Organization

EXECUTIVE SUMMARY

The Tanzania Engineering and Manufacturing Design Organization is a Government institution based in Arusha which was established through Parliament Act No 23 of 1980 and became operational in July 1982. TEMDO is vested with the major responsibilities of conducting applied engineering research and development and to provide technical support services to the manufacturing industry.

The aim of this strategic plan is to set TEMDO's future direction and develop corporate strategies in order to fulfill its mandate and address the challenges of the national industrial production and sustainable development as well as counteract the impact of emerging globalization in the 21st century. The other aim of the strategic plan is to reaffirm the commitment of the TEMDO Board of Directors, the TEMDO management and staff to consolidate the efforts initiated since its establishment and towards its transformation of its processes and structure to build excellence in its service delivery systems.

The major goals to be achieved by this strategic plan are: to research and develop efficient and affordable eco friendly plants and equipment for the following sectors: manufacturing, value addition to agro and livestock products, energy & environment and health; to promote local manufacture of plants and equipment; to integrate science and technology in the manufacturing sector; and to deliver competitive R&D and training services to the industrial sector.

These goals will be achieved through development of ten plants and equipment for use by medium to large industries by 2016; transfer of five different plants and equipment for commercial manufacture by 2016; and provision of quality engineering support services worth more than TZS 100 Million per year to five different manufacturing industries by 2016.

The strategic plan also presents new vision, mission, goals, strategic objectives, strategies, service delivery targets, strategic income and revenue matrix (MTEF budget), revised organizational structure, staff audit and required manning levels, personal emolument matrix, list of major assets, capital expenditure budget, monitoring and evaluation plans and communication strategy.

TEMDO has a vision of becoming the best developer and provider of quality and competitive plants, equipment and technical services in the Region (East and Central Africa). TEMDO's mission is to research, develop and transfer plants and equipment for commercial manufacturing and deliver competitive R&D services to the industrial sector.

It will also strive to instigate core values of quality; excellence; entrepreneurship; integrity; and eco-friendliness.
The desired key result areas are: efficient research, design and development of plants and equipment; effective technology transfer for commercial manufacture and use of plants and equipment; competitive provision of researched manufacturing solutions for

sustainable development of the industrial sector; and thus a sustainable institution in service delivery with respect to: human resource, information, ICT, knowledge base, skills & expertise, technology base, technical and physical infrastructure.

The strategic objectives adopted in order to achieve the desired key result areas by 2020 include: to develop ten plants and equipment for use by medium to large industries by 2016; to transfer five different plants and equipment for commercial manufacture by 2016; and to provide quality engineering support services worth more than TZS 100 Million per year to five different manufacturing industries by 2016.

In order to achieve its strategic objectives some of the strategies to be adopted include: to enhance capacity in terms of human resources through training; to enhance capacity in terms of facilities and working tools; to expand markets for its products and services; to prepare, create stakeholders' awareness and enforce regulations; to prepare bankable project proposals; to use idle TEMDO land for investments; to attract and develop, motivate and retain qualified professional staff, especially in the areas of design, development of plants and equipment and engineering support services, to initiate and participate in programs that aim at reducing the impact of HIV/AIDS on the workers community and the general public; to mainstream gender issues in all TEMDO programs and activities so as to enhance equity and productivity; to create collaborative and cooperative undertakings with various stakeholders; to establish collaboration with other research institutions which are in the fore front of new manufacturing technologies; and to have an effective organization structure.

The total budget required to implement this strategic plan during the first three years is TZS is 7,398,630,000. This excludes staff emoluments which are expected to continue to be received from the Government support. The distribution of the financial requirements for the first three years of the strategic plan is as follows:

Financial Year	**2011/2012**	**2012/2013**	**2013/2014**	**TOTAL**
Budget requirement in TZS	1,968,500,000	2,565,540,000	2,864,590,000	7,398,630,000

The sources of financing are expected to come from the Government of Tanzania (GoT), Development Partners and TEMDO internal sources as follows:

S/N	**Source**	**2011/2012**	**2012/2013**	**2013/2014**
1.	GoT	1,698,500,000	2,208,700,000	2,407,900,000
2.	Development	82,000,000	131,840,000	187,690,000

	Partners			
3.	TEMDO	188,000,000	225,000,000	269,000,000
	TOTAL	**1,968,500,000**	**2,565,540,000**	**2,864,590,000**

It is believed by TEMDO that implementation of this five year strategic plan will enable TEMDO realize its stated objectives which are vital to the development of Tanzania.

AUTHORIZATION

We, the members of TEMDO Management declare that this Strategic Plan (SP) has been prepared by TEMDO staff in collaboration with its stakeholders and approved by the Management committee. We have approved the SP for implementation by TEMDO employees and other stakeholders. The views expressed in this publication are those of TEMDO employees and its stakeholders. The source of this information should be cited as TEMDO Strategic Plan 2011-2016, Arusha, Tanzania.

Date ……..…

Signature ……..

CHAIRPERSON TEMDO SMT

Date ……

Signature …….…….....

DIRECTOR GENERAL, TEMDO

1.0 BACKGROUND

1.1 Organizational Description

Tanzania Engineering and Manufacturing Design Organization (TEMDO) is an applied Engineering Research and Development institution established through Parliament Act No 23 of 1980 and became operational in July 1982. TEMDO operates under the Ministry of Industry, Trade and Marketing (MITM). TEMDO is based at Njiro Hills in the Municipality of Arusha.

1.2 Roles and Core Functions of TEMDO

TEMDO mandates as per the TEMDO Act No. 23 of 1980 include the following:

(a) To design and promote designing of products and processes for Tanzanian industry in accordance with national industrial development policy;
(b) To adapt foreign designs of machinery and equipment to suit local conditions of manufacture, use and maintenance;

(c) To manufacture and develop prototypes and spares based on the designs produced by the Organization as well as those which may be brought to the Organization;
(d) To design tools, dies, jigs and fixtures required by the industrial sector;
(e) To provide technical extension services including training aimed at increasing the skills of technical manpower at all levels and establishments in the country and enabling industry to produce the products or processes for mass marketing;
(f) Either alone or in co-operation with other bodies, to assist the industrial sector in solving production bottlenecks for the purposes of increasing productivity, capacity utilization and quality of products;
(g) To provide relevant information and advice to the industrial sector relating to production, purchase and supply, quality control, marketing and other related areas;
(h) To identify and conduct short courses in so far as it is within the competence and capacity of the Organization, to co-operate with other institutions in the conduct of such courses.
(i) To give on the job training to engineers in designing, production engineering, foundry technology, metrology and metallurgy;
(j) To conduct a systematic on the job training, in tools, dies, presswork, specialized welding, design, draftsmanship (mechanical and structural machinery maintenance and, for industrial electricians and electronic technicians;
(k) To offer consultancy services on material testing, met, design and other technical undertakings;
(l) To act as the national link with other international institutions engaged in activities related to the functions of the organization; and
(m) To do such things incidental or conducive to the fulfillment of the objectives of the organization as the board may decide.

1.3 Current Status of TEMDO

The assessment of the organizational life cycle, SWOC analysis and viability assessments of TEMDO revealed some weaknesses and strengths of the organization. Strategies to address the observed weaknesses and to capitalize the strengths have been itemized in this strategic plan. TEMDO reviewed its functions to focus its customers and summerised as Key Result Areas (KRAs) in this strategic plan. Furthermore, the core competence and the organization structure have also been reengineered.

TEMDO values, vision, mission and goals are well stated in this SAP. In addition, the strategic objectives, service delivery targets, annual action plan, MTEF budget, monitoring and evaluation and communication strategies have also been worked out appropriately. Internal and external source of funding and TEMDO assets has been transcribed.

1.4 Review of Previous Corporate Strategic Plan

Review of TEMDO Corporate Strategic Plan (CSP) 2007/08-2009/10

In general, the focus of TEMDO CSP 2007/08 – 2009/10 was to support the implementation of the National Development Vision 2025 and other Government policies including "MKUKUTA" in a bid to contribute to economic growth and poverty reduction for the majority of the population. During the period, TEMDO designed and developed a number of technologies to stimulate economic growth in industrial and agricultural sectors. These initiatives to some extent improved the capacity utilization of the existing manufacturing industries and SMEs for higher production and productivity through technical support services and training. For example, a technical solution provided to Tanzania Malting Company in Moshi during the period resulted into 25% increase in the production capacity of the plant.

The **Mission** of the TEMDO CSP 2007/08 – 2009/10 was to promote design, development, manufacture and application of demand driven equipment and technologies, and to provide technical support services in mechanical engineering and related fields to the industrial sector

The Development Goal of the CSP was to contribute to the attainment of improved living standards for the majority of the people.

Below is a summary of the strategic objectives, planned outputs and achievements of the CSP:

Strategic Objectives	**Planned outputs by June 2010**	**Achievements by June 2010**
1.0 Design and develop technologies and promote their commercial manufacture and use		
1.1 To develop and promote commercial manufacture and use of palm oil and palm kernel processing technology	Palm oil and palm kernel oil processing plant developed, four plants pilot manufactured, transferred and commercially manufactured by at least three manufacturing SMEs	Manufacture / acquisition and testing of machines for one palm processing plant was completed
1.2 To develop and promote commercial manufacture and use of milk processing technology	Development of milk processing plant completed, three plants pilot manufactured, transferred and commercially manufactured by at least three manufacturing SMEs	• Prototype of butter churn completed • Design of LPG fired milk pasteurizer completed • Fabrication of cheese draining table completed

		• Design of milk cooler completed. One manufacturing SME (SIDO TDC Arusha) was identified and memorandum of understanding (MOU) for technology transfer signed
1.3 To develop and promote commercial manufacture and use of honey and honey products processing equipment	Development of honey and honey products processing equipment completed, three units of each equipment pilot manufactured, transferred and commercially manufactured by at least three manufacturing SMEs	Three units of equipment for honey and honey products processing equipment pilot manufactured and sold. Technology transfer MOU was signed with SIDO TDC Arusha
1.4 To develop and promote commercial manufacture and use of fruits processing plant for oranges, pineapples, tomatoes and mangoes	Fruit processing plant for each orange, pineapples, tomatoes and mangoes developed, four plants pilot manufactured, transferred and commercially manufactured by at least two manufacturing SMEs	Development and pilot manufacture of one fruit processing plant consisting of manually operated fruit press, a juice pasteurizer and fruit pulper was completed
1.5 To develop and pilot manufacture of biomass briquetting technology	Development of briquetting machine, drier, sieving machine and conveyor completed and four plants pilot manufactured	Briquetting machine adapted and tested to make briquettes from charcoal dust and jatropha cake. Development of a sieving machine for saw dust briquetting plant was completed awaiting for testing
1.6 To develop and pilot manufacture hospital waste incinerator	Development and pilot manufacture of one hospital waste incinerator completed	Development completed and a total of two hospital waste incinerators were pilot manufactured and installed at

		Ngorongoro Crater Conservation Authority and St. Jude School in Arusha
1.7 To develop, pilot manufacture and promote use of wind power systems	Development of a wind power system completed and four systems pilot manufactured	Development of Wind Power Electric Generating System was completed by designing of electric generator and wind turbine One Wind Electric Generating System (including tower) was fabricated in collaboration with a local entrepreneur at USA River. In collaboration with the Hai District Council, several sites for field testing the Wind Power Electric Generating system were visited.
1.8 To develop and pilot manufacture of Soya processing plant	Design and development of Soya processing plant completed and four plants pilot manufactured	Preliminary investigations were done and presented to Ministry of Agriculture, Food Security and Cooperatives regarding the viability of the project
1.9 To develop and pilot manufacture of soap making plant	Soap making plant developed and two plants pilot manufactured	Designs of the following machines were made available • Milling • Cake cutter • Amalgamator • Stamping
1.10 To develop and operate a technology / business incubator programme	Technology/ business incubator programme implemented	Technical and business support services were provided to 20 incubator clients, incubator infrastructure was expanded and rehabilitated and backstopping

		machines/equipments provided to incubator clients and serviced
2.0 Provide engineering and other technological support services to manufacturing industries and SMEs	Engineering and technological support services provided to sugar, brewery, textile, tourism, mining, cement, coffee, sisal, tea, tobacco, and SMEs. To generate a total of at least Tshs. 254.0 million from technical support services (Consultancy) and Tshs. 181.0 million from workshop services	A total of 14 industries and institutions were visited to market technical support services and to identify their needs. A total of Tshs. 45.9 million was generated from technical support services (consultancy) and a total of Tshs. 116.2 million was generated from workshop services
3.0 Provide training to engineering personnel in industry and SMEs to upgrade their knowledge and practical skills	Engineering and technological training provided to sugar, brewery, textile, tourism, mining, cement, coffee, sisal, tea, tobacco, SMEs and Government Ministries / institutions. To generate a total of Tshs. 32.5 million from training activities	Six industrial surveys conducted in fourteen industries to identify training needs. A total of Tshs 19.0 million was generated from training activities
4.0 Become a national referral centre in mechanical engineering and related fields	35/17 Human resource capacity strengthened • Upgrade design office and offices by purchasing the following: Design software, nine pieces of laptop, computers, scanner A3 size, Digital Camera	35/17 Four engineers were training at Masters level (two in Engineering and two in MBA). One technician was training for BSc. Mechanical Engineering degree • The following design office and office software/ equipment were acquired: Computers (6 pcs), Digital camera(1 pc), Printer Laser jet (1 pc)

	• Upgrade workshop facilities by acquiring the following equipment: MIG, MAG, TIG, and Plasma machines, Sheet shearing machines, Sheet bending machines, Cutting and measuring tools • To be recognized in the country as a provider of R&D products, technical support services to industry through participation in various trade fairs, exhibitions and workshops	• The following workshop equipment were purchased: Pipe bending machine, Mig welding machine, Bench vice machine • Participated in the Leon H. Sullivan Summit, DITF and Agricultural Shows in Arusha and Dodoma.

During the CSP period from 2007/08 to 2009/10, TEMDO's financial plan and performance in the implementation of the CSP was as follows:

SOURCE	BUDGET (TSHS)	ACTUAL (TSHS)	% Actual/budget
Own sources	766,789,584	451,633,688	58.9
Government (Recurrent subvention)	1,125,296,188	966,374,413	85.9
Government (Development)	406,423,000	329,423,000	81.1
Government (Mkukuta)	422,692,216	424,227,175	100.4
Total	**2,721,200,988**	**1,875,177,576**	**68.9**

On the overall, the CSP made considerable achievements in:

- Designing and developing technologies and promote their commercial manufacture and use
- Providing engineering and other technological support services to manufacturing industries and SMEs, and
- Providing training to engineering personnel in industry and SMEs to upgrade their knowledge and practical skills

The major challenges encountered in the implementation of the CSP included:

- Lack of adequate physical and financial resources to accomplish the CSP plan
- Some of the services could not meet the best standards
- Delays in disbursement of funds for recurrent and development activities

- There was no donor support for the period
- Inadequate professional human resources and technical capacity to develop and deliver products and services in line with new structure and systems, e.g. preparation of program proposals for funding
- Limited capacity of manufacturing industries and SMEs to absorb and use the developed technologies

1.5 Need for Strategic Planning for TEMDO

TEMDO developed its strategic plan in order to set its future direction, develop corporate strategies, fulfill its mandate and address the challenges of the national industrial production and sustainable development as well as counteract the impact of emerging globalization in the 21st century. This has been achieved by having and implementing a viable and customer focused strategic planning. The SP also aims at achieving the following:-

(a) Providing a strategic renewal of TEMDO;
(b) Meeting the current and future expectations of its stakeholders;
(c) Provision of better services to the satisfaction of its customers;
(d) Optimal and effective use of limited resources;
(e) Concentrating on what the institution can do best and develop as its core competence; and
(f) Adaptability to external changes and become proactive.

The SAP developed is goals-based and focused on the organization's vision, values and mission. The SAP also serves a variety of purposes in the organization, including to:-

(a) Clearly define the purpose of the organization and to establish realistic goals and objectives consistent with their mission in a defined time frame within the organization's capacity for implementation;
(b) Communicate those goals and objectives to the organization's stakeholders;
(c) Develop a sense of ownership of the plan by the employees;
(d) Ensure the most effective use is made of the organization's resources by directing resources on the key priorities;
(e) Provides the direction of the organization and known to everybody;
(f) Bridges staff and board of directors and their stakeholders;
(g) Produces great satisfaction among employees around a common vision;
(h) Increases productivity from increased efficiency and effectiveness; and

The SAP was developed with realization that, its implementation is key to the success of the organization. To ensure that the plan is implemented effectively, all TEMDO staff were involved as part of the people who will be responsible for implementing the plan. The overall strategic plan was organized into smaller action plans so as to ensure the plan is practical and realistic during implementation.

2.0 DESCRIPTION OF STRATEGIC PLANNING APPROACH AND PROCESS USED

2.1 Process and Approach

The strategic planning process was participatory as it involved both the internal and external stakeholders and was built in a transparency and created staff ownership of the whole process. A cross-functional and multilevel Strategic Management Team (SMT) comprising of 14 employees from various cadres and departments was selected, trained, and was assigned the whole process of reviewing and revising the business and R&D critical processes, preparing a change plan, SAP development and pilot testing, and institutionalizing the changes on behalf of all the TEMDO staff. This was done in collaboration with external consultants who gave fresh thinking and shared best practices.

A seminar on the purpose, benefits, outputs and outcome of SAP was held to all TEMDO employees. The aim was to build understanding, transparency and ownership of the strategic plan process to TEMDO employees. The seminar was followed by selection of Strategic Management Team (SMT) among employees from managerial, operations and supporting levels. The SMT was headed by the Chairperson and the Secretary. The Director General was the leader and the Champion of the SMT. The SMT developed its terms of reference (ToR), criteria for team building, work ethics, and commitment to achieving the goals of the assignment.

The zero draft strategic Action plan was presented to the TEMDO employees and the Board to obtain their inputs. The first draft SAP document will be presented to the external stakeholders to obtain their inputs and recommendations. The second draft SAP document will be developed incorporating stakeholders recommendations and sent to Reviewers for their scrutiny and inputs. A final SAP document will be presented to the Board for their approval for implementation by TEMDO employees and circulation to relevant stakeholders.

Considering the fast global changes in the economy, environment, social, and technology, the SAP was developed such that it will be possible to develop relevant programs that address the needs of a vibrant and dynamic industrial policies, strategies and plans such as the National Development Vision 2025, the Sustainable Industrial Development Policy (1996-2020), the Small and Medium

Enterprises Development Policy (2003) and the Science and Technology Policy (1995). Furthermore, the SP recognizes the need to allow TEMDO to incorporate income generating activities and human resource management so as to enhance TEMDO's sustainability.

Various assessment tools such as Business Excellence Model (BEM), Stakeholder analysis and Value Net analysis, were used to analyze the situation of both internal and external stakeholders. PESTEL tool was particularly used to analyses political, economic, social, technical, environmental and legal factors that will affect TEMDO's operations at national, regional and global levels. The SWOC analysis tool was used to analyze strengths, weaknesses, opportunities and challenges that TEMDO is facing. Strategies to deal with the identified barriers and bridges were developed. Specific action plan and indicative budget for the strategic plan period were developed.

3.0 ENVIRONMENTAL SCAN FOR TEMDO

Environmental scan is a prerequisite for development of a Strategic Action Plan (SAP). The internal and external assessment of TEMDO was developed as part of initial assessment for development of a SAP based on assessment of the current and potential future factors that are likely to influence and affect the organization's business, scientific and technological research and development operations. For the development of the SP, several analytical tools were used. Potential environmental factors include national and international political, economical, social cultural, technological, environmental, legal and other factors related to research and development in Tanzania and globally.

The other activities that were conducted include service delivery survey; strategic renewal and repositioning of TEMDO; fundamental redesign of R&D and Technical Services; changing the organizational paradigm; assessing the management system and organization structure; and conducting staff audit levels to enable TEMDO to continually deliver the improved value proposition to its stakeholders.

Finally, a review of leadership, human resource capacities, customers, policies, resources, networking and processes was conducted. These activities were carried out so as to develop ways and strategies of achieving improvements in TEMDO's critical core processes in delivering services to stakeholders; enhancing future customer needs, technical and financial growth perspectives. Another purpose was to revitalize and renew TEMDO so that a) it can realign itself to the fast changing global science and technology systems, b) it can positively respond to continuously changing stakeholders' needs and markets requirements, c) to enable it to conform to national

and international best working practices, and d) it can comply to emerging product and services standards and regulatory requirements.

The implementation of the strategic plan will create excellence to TEMDO and enhance operating efficiently, effectively and economically to satisfy its stakeholders and remain relevant and ensure long term sustainably.

A strategic action plan stating the new values, vision, mission, goals, key result areas, strategic objectives, strategies, service delivery targets, specific activities, strategic income and revenue matrix, revised organizational structure, staff audit, personal emolument matrix, list of major assets, capital expenditure budget, monitoring and evaluation plan, and communication strategy is presented in the strategic plan document. Other important issues such as reviewing the TEMDO Act, development of mechanisms for changing the organizational culture, change management, leadership training, revising the staff regulations, scheme of service, revising the code of conduct, client service charter and Open Performance Review Appraisal System (OPRAS) will be performed at a later stage.

Furthermore, internal and external environmental scans are performed through an in-depth analysis of the current situation in the organization, prediction of potential future situations, and analysis of bridges and barriers that may influence the organization's performance. The analysis includes thinking and learning about the competitive forces and impact of uncertain and important driving forces. The environmental scan was conducted by using effective tools such as Self Assessment, Stakeholder analysis, Viability Assessment, SWOC analysis, PESTEL, Business Excellence Model (BEM), and Value Net Analysis. It also analyzed and linked TEMDO objectives with various national, regional and international policies and strategies such as the Sustainable Development Goals, Millennium Development Goals (MDG), National Strategy for Growth and Reduction of Poverty (NSGRP) popularly known as MKUKUTA, Agricultural Sector Development Strategy (ASDS), and the Integrated Industrial Development Strategy (IIDS). The results from the internal and external environmental scans of TEMDO are presented in **Tables 1 to 6.**

3.1 ***SWOC Analysis***

SWOC Analysis is a technique used for understanding the organization's Strengths and Weaknesses, and for looking at the Opportunities and Challenges the organization is facing. In the current context SWOC analysis is also used as a tool for:-

a) Auditing TEMDO and its environment

b) Uncovering opportunities that TEMDO is well placed to take advantage, and

c) Understanding its weaknesses.

d) Setting strategies to overcome challenges.

SWOC framework will help TEMDO to know and analyze its competitors and craft strategies that will help enhance its competitive edge in the R&D business and to delight stakeholders by giving them a superior value. It will also enable TEMDO to manage or eliminate potential future challenges that would otherwise catch it unaware. The results from the SWOC analysis and the strategies are presented in **Table 1.**

Analysis of TEMDO **strengths** revealed that TEMDO has strong technical competence in human resource to undertake design and development of plants and equipment. TEMDO also has adequate and quality physical infrastructure in the form of buildings and prime land for expansion and investment. In addition, it has a well developed links and networks with local technical design houses, equipment manufacturers, science and technology institutions, and business organizations. TEMDO staff has good responsiveness to current and future customer needs and requirements.

The existence of a large potential of untapped market for equipment, plants, and technical services designed for local usage provide a great **opportunity** for TEMDO to expand within Tanzania and in the neighboring countries. The ICT has also increased opportunities for TEMDO to design affordable and customized equipment and plants. Furthermore, the growing health, safety and environmental awareness increases demand for eco-friendly equipment and plants for environmental preservation and pollution control. Also the emergence of entrepreneurship mind among the semi-skilled and skilled population, government bureaucrats, NGOs, CBOs and other stakeholders increases the demand of TEMDO products and services. Globalization and increasing regionalization (e.g. EAC, SADC, NEPAD, etc) creates opportunities for TEMDO to partner and collaborate with many stakeholders.

The major **weakness** of TEMDO is inadequate and outdated working facilities for technology development. The overdependence on government funding has lead to inadequate design and prototype development facilities. TEMDO employee's remuneration and motivation packages are below market value and are continually eroded by escalating inflation and economic crisis. The other weakness is the outdated TEMDO Act which also lacks its implementing regulations.

The major **challenge** is the low purchasing power of TEMDO's target market due to low level of economic growth. The other challenge is availability in the markets of low quality, low cost plants and equipment because of trade liberalization and hence, decreasing markets for TEMDO products. Also TEMDO products and services are not well known by majority of its stakeholders which has resulted to low market growth.

3.2 *PESTEL analysis*

PESTEL Analysis is a simple but important and widely-used tool that helps understand the big picture of the **P**olitical, **E**conomic, **S**ocio-Cultural, **T**echnological, **E**nvironmental, and **L**egal situations an organization is operating in currently and in the future. These factors are used firstly to brainstorm the characteristics of an area, country or region and, from this, draw conclusions as to the significant forces of change operating within it and how they may impact on the organization. PESTEL is used by business leaders worldwide to build their vision of the future. In addition, the PESTEL Analysis is a useful tool for understanding the opportunities and threats that lie within it and outside. By understanding the organization's environment, TEMDO can take advantage of the opportunities and minimize the threats from emerging competitive forces. Furthermore a good use of PESTEL analysis helps the organization to avoid taking action that is doomed to failure for reasons beyond its control; helps to break free of unconscious assumptions, and helps to quickly adapt to the realities of the new business environment. The results from TEMDO's PESTEL analysis are presented in **Table 2.**

Political issues at a global level which directly affect TEMDO include the Millennium Development Goals (MDGs) Nos 1, 3, 6, 7 and 8 (Table 2). In order to contribute to these goals, TEMDO is planning to develop efficient and environmentally friendly technologies which are needed by its stakeholders. TEMDO is also planning to involve more women in income generating activities and to enhance economic power of its potential clients. This can be done through increased networking among international R&D institutions and economic development partners.

TEMDO is planning on pooling of its resources to maximize resource utilization in achieving the integration of East African countries and the rising movement to harmonize R&D activities at EAC, SADC and COMESA. At the national level TEMDO has put strategies to contribute to Tanzania Development Vision 2025 and the National Strategy for Economic Growth and Poverty Reduction. This will be done by increasing demand for TEMDO plants and equipment due to its increased efficiency and effectiveness of its products and services and by inculcating entrepreneurial principles.

As social factor, TEMDO has put mechanism for combating HIV aids and malaria problems to its staff. This will be done through awareness creation, mentoring and coaching. TEMDO is also planning to increase ability of its staff to access information and carry out design work and development through the use of ICT.

The issue of global warming, green house effects and climate change will seriously affect TEMDO R&D activities. TEMDO has focused on technologies that may be needed due to global warming and climate change effects. Sustainability of Regional major water reserves will seriously affect TEMDO research and development activities as a result of reduced productivity of the agricultural and other sectors. Strategies include increasing awareness on conservation of environment, and the effect of pollutants on human, livestock and on ecology and development of technologies that are eco-friendly.

Legal aspects that have directly affected TEMDO include increasing new international legislation and regulations on control of standards on quality and safety of products, environment, and human health. Strategies adopted by TEMDO include increased efforts to harmonize legislation all over Africa which will strengthen inter Africa trade and hence increases TEMDO's chance to participate in inter-African Research & Development programs. In order to achieve this objective, TEMDO will be involved in the certification process, e.g. quality assurance through ISO 9001. TEMDO has also devised several key strategies, e.g. to review its legislation.

3.3 *Business Excellence Model (BEM)*

The Business Excellence Model (BEM) measured the holistic performance of TEMDO and identified areas of weaknesses, bridges, barriers and areas for improvement. It was used to analyze TEMDO's performance so as to devise strategies to make it operate efficiently, effectively, economically and remain relevant to its customers, employees, partners, society and shareholder.

BEM gives an insight into performance by identifying and sharing best practices with its partner institutions, it creates a vision of excellence and common language to achieve it. BEM generates fresh motivation for improvement by identifying priority areas and changes the areas of weakness to the future anticipation.

This tool assessed TEMDO's strengths and areas of weaknesses in the following areas:-

(a) Leadership;
(b) Policy and strategy;
(c) Employees' motivation, competence and performance;
(d) Partnerships and networks;
(e) Resources needs and mobilization capacity;
(f) Processes for delivering services to customers;
(g) Customer and employee satisfaction;
(h) Impact on society; and
(i) The key performance indicators.

BEM can enable TEMDO to respond more effectively to customer needs and requirements; to facilitate internal benchmarking comparisons among departments, divisions, and units; and it can provide a year round assessment of performance in future. The BEM analysis outputs are shown in **Table 3.**

TEMDO has identified their customer needs to be quality products, affordable modern plants and equipment, new eco friendly technologies to combat global warming, climate change and timely service delivery. They have also noted that their customers have low customer satisfaction and loyalty. In this strategic plan, TEMDO has developed strategies to satisfy and delight their customers **(Table 3).**

TEMDO is planning to develop visionary leaders who lead by influencing, are proactive, confident, risk takers and innovative. They also plan to develop management which walk the talk and which create a learning organization, build culture of transparency and openness (**Table 3.1**).

In this strategic plan, TEMDO is planning to introduce a continuous training and technical exposure programs so as to build skills and confidence of its employees. It also plans to develop human resource management and implement an effective incentive packages. TEMDO has developed strategies to acquire resources through writing of winning proposals, preparing of bankable proposals to acquire equipment and facilities and lobbying for more government funding. Strategies to strengthen social responsibilities include strengthening the technology business incubator, develop plants and equipment which are affordable and efficient, not labor intensive and are gender sensitive.

3.4 Core Competence Analysis

The core competencies are those capabilities that are critical to enabling an organization to achieve its goals. The starting point for analyzing core competencies is recognizing that competition between organizations is much a race for competence mastery as it is for market power. The institute's budget and competitiveness need to focus on few activities required to attain value to its customers. So the goal of the assessment is for management to focus attention on competencies that really affect competitive advantage. Core competencies once set are not fixed. Core competencies should change in response to changes in the business environment and customer needs. They are flexible and evolve over time.

The core competence analysis will direct TEMDO's efforts to develop a unique level of expertise in areas that really matter to the organization.

The core competences of TEMDO were analyzed by assessing inherent competencies, external environment and the structure of its internal systems and processes. The analysis obtained a clear picture regarding the institute focus in performing its core activities sustainably. The role of resources and capabilities towards operationalization of TEMDO's strategies was analyzed and is presented in **Table 4**.

The core competence was looked in 3 aspects:-

(a) **Relevance:** How relevant is the activity to the existence of TEMDO. If it is not that relevant, then it has no effect on the competitive position and is not a core competence;
(b) **Difficulty of Imitation:** How easy that activity can be imitated by others. If it is easy, it is not a core competence. This allows an organization to provide services that are better than those of your counterparts, and hence, the institute can maintain a competitive position; and
(c) **Breadth of Application:** The activity should be something that opens up a good number of potentials to a good number of markets.

The identified core competences of TEMDO of which trade mark and intellectual property rights will be sought are as follows:-

(a) Design and development of efficient, effective and eco-friendly plants and equipment;
(b) Technical support for commercial manufacturing of plants and equipment for various sectors of the national economy;
(c) Training of engineers and technicians from industry in the design and development of efficient and effective plants and eco-friendly equipment and provision of technical support services to the industrial sector.

3.5 Stakeholder Mapping

A stakeholder is any person or party that has an interest in the activities of an organization, however strong or weak that interest may be. Stakeholder mapping identifies stakeholders, their power and interest in the organization's objective setting process. Stakeholder power refers to the ability to influence the organisation while stakeholder interest relates to the willingness to influence the organisation. The most powerful and high interest stakeholders will have the most input into the process.

TEMDO depends on its stakeholders for its survival and prosperity. Hence, in crafting the strategic plan, TEMDO conducted a stakeholder analysis so as to consider what they need currently and in the future.

Stakeholders were clustered along common criteria such as power and interest. The strategic plan is focused on the high power and high interest stakeholders through customer satisfaction and building of loyalty. The relationship of low interest customers will be improved by inviting them to TEMDO open days and develop collaborative and networking programs (**Table 5).**

3.6 Viability Assessment

TEMDO used viability assessment tool to assess the current situation of the institution, stakeholders attitude, firm's historical tragedy, leadership and its sources of finance. The assessment revealed that the organization has never reached maturity since its establishment. This is due to inadequate investment and poor funding for operationalization of TEMDO activities. The organization is highly dependent on Government funding which is not adequate (**Table 6**). The assessment also revealed that since its establishment TEMDO does not have operating regulations of its Act.

3.7 Value Net Analysis

The Value Net Analysis is an approach used to address a wide variety of relationships with customers, suppliers, competitors and complimentors. It analyzes value-creating interactions which focus on realizing value as well as providing resources and opportunities. It also helps to identify, analyze, evaluate, prioritize, manage relationships and develop strategies to strengthen those relationships. The Value Net analysis outputs are shown in **Figure 1.**

4.0 STRATEGIC POLICY ANALYSIS

TEMDO's SP aims at contributing to a strong, diversified, resilient and competitive changing markets and technological conditions in the regional and global economy. The following national policies and strategies have been linked while setting up TEMDO's future direction:

4.1 The National Development Vision 2025 and the Sustainable Industrial Development Policy (1996-2020)

TEMDO's main mission is to contribute towards achieving overall national long-term development goals as enshrined in the national vision and to enhance sustainable development of the industrial sector. All manufacturing activities will be geared towards increasing their contribution towards GDP growth through optimizing their qualitative and quantitative efficiency.

4.2 The Small and Medium Enterprises Development Policy (2003)

Technology advancement and transfer are important aspects for SME development. SMEs have limited access to technology development partly because they lack the relevant information.

The problem is further compounded by the existence of industrial support institutions which are weak and do operate in isolation without focusing on the actual requirements of the SME sector. TEMDO's SP is directed towards industrial support.

4.3The National Trade Policy (2003)

The development instruments stimulate the development of export trade by focusing on measures at all levels of production, such as crop/animal husbandry practices and product transformation processes through the various aspects of marketing and actual delivery.

4.4 National Strategy for Growth and Reduction of Poverty – (NSGRP)

This policy aims to meet the millennium development goals (TDV 2025) for developing high and equitable shared economic growth, high quality livelihoods, peace, stability and unity, good governance, high quality education and international competitiveness. TEMDO's SP addresses this area of national strategy through:-

(a) Promoting sustainable and broad-based growth;

(b) Improving food availability and accessibility;

(c) Reducing income poverty of both men and women in rural areas; and

(d) Reducing income poverty of both men and women in urban areas.

4.5The Tanzania Rural Development Policy (2003)

The Rural Development Policy points out the need for increasing agricultural productivity by improving markets, private sector investment, physical infrastructure, human capital, and demand–driven research and extension services. TEMDO is one of the government institutions which focus towards establishment of agri-processing industries in rural areas. TEMDO will capitalize on technologies focusing on value addition to farm produce. The institute will also capitalize on its R&D to address this issue.

4.6Local Government Authority (LGA) Reform Program (1998)

The program aims at decentralization of responsibilities and accountability intended at improving the delivery of quality services to the public. Reformed LGAs are visualized as a potential stakeholder in implementation of TEMDO`s SP.

4.7Sustainable Development (Agenda)

There are several programs in the country aimed at enabling the country to have sustainable development (social, economical and environmental). Sustainable industrial production is one of the many aspects which ought to be taken into consideration. Environmental conservation programs are of importance to sustainable development. TEMDO goals are compatible to these programs.

4.8 Kilimo Kwanza Resolution (June, 2009)

The Kilimo Kwanza (Agriculture First) Resolution aims at transforming Tanzania's agriculture into a modern and commercial sector through integration of the resolution into the Government machinery to ensure its successful implementation and mobilization of the private sector to substantially increase its investment and shoulder its rightful role in the implementation of the resolution.

The potential area where TEMDO could contribute is in the pillars of Kilimo Kwanza which focus on industrialization for agricultural transformation. TEMDO will contribute in the expansion and rehabilitation of agro-processing plants (e.g. milk, leather, etc.), commercialization for local manufacture and use of seed treating and tomato seed separating machines, offer support for local manufacture of agricultural machinery and farm implements and in the area of energy.

4.9 Millennium Development Goals (MDGs)

The current TEMDO SAP addresses a number of MDGs such as eradication of extreme poverty and hunger, promotion of gender equality and empowerment of women, combating HIV/AIDS, malaria and other diseases, ensuring environmental sustainability and developing a global partnership for technological and economical development.

4.10 World Trade Organization (WTO)

Tanzania has ratified the WTO agreement. This creates an opportunity for the country to trade with other countries in various industrial based products. This is in line with TEMDO's objective that in order for industries to increase productivity they must use quality and efficient equipment and plants.

4.11 Five Year Development Plan

Spanning from 2011/12 to 2015/16, the five year development plan is the formal implementation tool of the country's development agenda, articulated in the Tanzania Development Vision 2025. The SAP is in line with the plan in various sectors.

5.0 STRATEGIC FUTURE DIRECTION OF TEMDO

5.1 Vision

To be the best developer and provider of quality and competitive plants, equipment and technical services in the Region (East and Central Africa)

5.2 Mission

To research, develop and transfer plants and equipment for commercial manufacturing and deliver competitive R&D services to the industrial sector

5.3 Core Values

At the heart of TEMDO's vision and mission are the following core values and beliefs which will direct and guide its actions:-

a) Quality;
b) Excellence;
c) Entrepreneurship;
d) Integrity; and
e) Eco-friendly.

6.0 MAJOR GOALS

The following are the TEMDO major goals:-

(a) To research and develop efficient and affordable eco friendly plants and equipment for the following sectors: manufacturing; value addition to agro and livestock products; energy & environment and health;
(b) To promote local manufacture of plants and equipment;
(c) To integrate science and technology in the manufacturing sector;
(d) To deliver competitive R&D and training services to the industrial sector.

7.0 KEY RESULT AREAS (KRA)

The following are the functions of TEMDO which are depicted as Key Result Areas:

KRA 1**:** Efficient research, design and development of plants and equipment.

KRA 2: Effective technology transfer for commercial manufacture and use of plants and equipment.

KRA 3: Competitive provision of researched manufacturing solutions for sustainable development of the industrial sector

KRA 4: Sustainable institution in service delivery with respect to: human resource, information, ICT, knowledge base, skills & expertise, technology base, technical and physical infrastructure.

The key result area 4 will have been achieved as a result of the first three key result areas.

8.0 STRATEGIC OBJECTIVES

The following strategic objectives are adopted in order to achieve the desired Key Result Areas:

(a) To develop ten plants and equipment for use by medium to large industries by 2016;
(b) To transfer five different plants and equipment for commercial manufacture by 2016;
(c) To provide quality engineering support services worth more than TZS 100 Million per year to five different manufacturing industries by 2016; and
(d) To establish and maintain partnership and alliances with at least five bodies in the development of industrial sector by 2016

9.0 IMPLEMENTATION STRATEGY

For efficient and effective implementation, TEMDO reviewed its organization structure, carried staff audit and manning levels and developed an MTEF budget for its activities in line with its new Strategic Plan.

9.1 Organization Structure

The reviewed TEMDO organization structure includes the Board of Directors at the apex followed by the Director General and other departments. There are three departments i.e. Directorate of Technology Development and Transfer, Directorate of Technical Support Services, and Directorate of Finance and Administration. The Directorate of Technology Development and Transfer, comprises of three functions; research and design, technology development and production (workshop), and technology transfer. The Directorate of Technical Support Services consists of two functions; consultancy and training. The Directorate of Finance and Administration consists of Accounts, Administration, Human Resource Development and Information and Communication Technology. The Internal Audit, Planning &Marketing and Procurement Management Unit are reporting direct to the Director General (Figure 2).

9.2 Annual Action Plan and MTEF

An annual action plan stating the key result areas, strategic objectives, strategies, service delivery targets and its costs have been itemized (Table 10). This is followed by a three year MTEF budget (Table 11). The annual action planning and the budget are key elements for successful implementation of the Strategic Plan.

TABLE 1. STRENGTHS, WEAKNESSES, OPPORTUNITIES AND CHALLENGES (SWOC) ANALYSIS

STRENGTHS	WEAKNESSESS
Strong technical competence to undertake design and development of plants and equipment	Inadequate Design and Prototype development Facilities
Adequate and quality physical infrastructure in the form of buildings and prime land for expansion and investment	Overdependence on Government funding TEMDO functions and activities not well understood by stakeholders
Well developed links and networks with local and international technical design houses, equipment manufacturers, science and technology institutions, and business organizations	Employee's remuneration and motivation packages below market value (for similar education and skills) and are continually eroded by escalating inflation and economic crises
Good responsiveness to current customer needs and	Staff and stakeholders' unawareness of globalization

requirements	dynamics, reforms in Tanzania and in the region, changes in the global science and technology and associated impacts
OPPORTUNITIES 1. Existence of a large potential untapped market for equipment, plants, and technical services designed and provided by TEMDO within Tanzania and in neighboring countries 2. Sinusoidal development of national and regional economies 3. Increasing prospects of designing affordable and customized equipment and plants by using new robust software, and ease of acquiring inexpensive ICT workforce in the Tanzania labor market and through web outsourcing 4. Emergence of entrepreneurship class among the semi-skilled and skilled population, Government bureaucrats, NGOs, CBOs and other stakeholders 5. The growing health, safety and environmental awareness and demand for environmental preservation and pollution control 6. Globalization and increasing regionalization (e.g. EAC, SADC, NEPAD, etc) creates opportunities for TEMDO to partner and collaborate with many stakeholders	CHALLENGES 1. Availability in the markets of low quality, low cost plants and equipment because of trade liberalization 2. Decreasing markets for TEMDO products

S/N	KEY ISSUES	STRATEGIES	TIME FRAME	PRIORITY/IMPACT/

			(Immediate/Short/ Medium/Long Term)	IMPLEMENTATION EFFORT NEEDED
	Strengths			
1.	Strong technical competence to undertake design and development of plants and equipment	1.1 Continuous improvement of modern skills of design and prototype development personnel through short term training;	Short term (6 – 12 months)	High priority High impact
		1.2 Continuous maintenance and improvement of design and prototype development facilities;	Medium term (1 – 3 years)	High priority High impact
		1.3 Improve technical testing and analysis services (including Standardization, Quality Assurance, and Metrology);	Long term (3 – 5 years)	High priority High impact
		1.4 Accredit and certify workshops to become a national and regional centre for design and development of plants and equipment.	Long term (> 5 years) Continuous activity	High priority High impact
		1.5 Continually realign with emerging new standards of performance and quality and with national and international regulatory requirements;	Long term (> 5 years) Continuous activity	High priority High impact
		1.6 Start participating in outsourced equipment and plants development jobs or bidding for design jobs announced on the web.	Long term (> 5 years) Continuous activity	High priority High impact
2.	Adequate and quality physical infrastructure in the form of buildings and prime land for expansion and investment	2.1 Continuous maintenance of the buildings;	Short term (6 – 12 months)	High priority High impact
		2.2 Search for strategic investors to invest on the idle land on the mutual beneficial basis Make strategic and investment cost-benefit analyses, capital budgeting calculations, and an analysis on the mode of cooperation with the investor (e.g. on the basis of build-operate-transfer (BOT), etc).	Medium term (1 – 3 years)	High priority High impact
S/N	**KEY ISSUES**	**STRATEGIES**	**TIME FRAME (Immediate/Short/ Medium/Long Term)**	**PRIORITY/IMPACT/ IMPLEMENTATION EFFORT NEEDED**
3.	Well developed links and networks with local	3.1 Maintain current networks, search for new partnerships and alliances, and increase joint projects	Continuous exercise	High priority High impact

	and international technical design houses, equipment manufacturers, science and technology institutions, and business organizations	with partners using the develop-and-connect method, especially national and in regional settings, e.g. with small and medium enterprise development institutions, incubators, and companies;		
4.	Good responsiveness to current customer needs and requirements	4.1 Conduct a Customer Satisfaction Survey to identify areas of improvements and bridges to achieve customer delight; 4.2 Become proactive, aggressive in searching and attracting new domestic, regional and international customers, e.g. from the EAC, SADC, COMESA, and other African-Caribbean-Pacific (ACP) countries participating in the imminent ACP-EC Economic Partnership Agreement; 4.3 Introduce Customer Relationship Management that will lead to customer delight.	Continuous exercise Continuous exercise Continuous exercise	High priority High impact High priority High impact High priority High impact
	Weaknesses			
1.	Inadequate Design and Prototype development Facilities	1.1 Re-train or acquire the requisite staff during the implementation of the new staff establishment/staffing manning levels; 1.2 Acquire new designing facilities and software; 1.3 Continuously improve designing techniques and technologies by installing a LAN network and access to a fast (> 100 Mbps) internet.	Immediate Medium term Medium term	High priority High impact High priority High impact High priority High impact

S/N	KEY ISSUES	STRATEGIES	TIME FRAME (Immediate/Short/ Medium/Long Term)	PRIORITY/IMPACT/ IMPLEMENTATION EFFORT NEEDED
2.	Overdependence on Government funding	2.1 Eliminate or reduce unnecessary money draining and loss making activities;	Immediate	High priority, High impact
		2.2 Perform a detailed revenue and cost analysis of every activity to be performed at TEMDO and solicit funding from customers;	Immediate	High priority, High impact
		2.3 Make it a requirement that survival of every Section and Department will depend on developed proposals, attained funding, performance achieved, and satisfaction of the customer/funding entity;	Immediate	High priority, High impact
		2.4 During the design and implementation of the new SP, focus only on few activities that can be done effectively, efficiently and those that bring large efficiency gains and net benefits according to the Pareto's 20/80 principle;	Immediate	High priority, High impact
		2.5 Re-think the funding of TEMDO and strategize and plan funding options by assuming the GoT subvention does not exist; if it will be available in the future it will be additional;	Immediate	High priority, High impact
		2.6 Develop a bankable business plan based on the new strategic plan and lobby for funding from stakeholders and by marketing and selling patented ideas, knowledge, know-how, equipment and plants;	Immediate	High priority, High impact
		2.7 Task the top management to create and implement innovative fundraising for holistic technical projects to design and produce equipment and plants within a timeframe of three years;	Immediate	High priority, High impact

S/N	KEY ISSUES	STRATEGIES	TIME FRAME (Immediate/Short/ Medium/Long Term)	PRIORITY/IMPACT/ IMPLEMENTATION EFFORT NEEDED
		2.8 Base the survival and promotion of scientific and technical staff (with education above the M.Sc. level) at TEMDO on developing revenue generating mechanisms within a given time frame, e.g. three years; 2.9 Create an ex-ante and ex-post monitoring and evaluation mechanisms of the fundraising progress. For those who are unsuccessful review their promotions and positions;	Immediate Immediate	
3.	TEMDO functions and activities not well understood by stakeholders	3.1 Develop and implement communication strategies for internal and external TEMDO stakeholders;	Immediate (0 – 6 months)	High priority High impact
4.	Outdated TEMDO legislation and no TEMDO regulations	4.1 Review TEMDO Act and develop its regulations, which were not existent till today	Immediate (0 – 6 months)	High priority High impact
5.	Employee's remuneration and motivation packages below market value (for similar education and skills) and are continually eroded by escalating inflation and economic crises	5.1 Develop realistic activities programming and budgets taking into consideration the equity equation (equity= value generated to TEMDO/value gained by staff); 5.2 Upon successful implementation of the new business plan and generating own disposable income, improve scheme of service and motivation packages	Immediate (0 – 6 months) Immediate (0 – 6 months)	High priority High impact High priority High impact

S/N	KEY ISSUES	STRATEGIES	TIME FRAME (Immediate/Short/ Medium/Long Term)	PRIORITY/IMPACT/ IMPLEMENTATION EFFORT NEEDED
6.	Staff and stakeholders' unawareness of globalization dynamics, reforms in Tanzania and in the region, changes in the global science and technology and associated impacts	6.1 Improve staff and key stakeholders knowledge and exposure to global issues through provision of up-to-date news flashes, training, inviting speakers, and attending conferences;	Immediate (0 – 6 months)	High priority High impact
		6.2 Promote study tour of staff to technical incubators and centers and organizations in, e.g. South Africa, India, Pakistan and China;	Immediate (0 – 6 months)	High priority High impact
		6.3 Reposition TEMDO in the supply chain of equipment and plants in Tanzania and internationally so that it can be competitive and survive	Immediate (0 – 6 months)	High priority High impact
	Opportunities			
1.	Existence of a large potential untapped market for equipment, plants, and technical services designed and provided by TEMDO within Tanzania and in neighboring countries	1.1 Conduct a Market Survey to identify local and neighboring countries future customer needs and preferences;	Medium term (1-3 years)	High priority High impact
		1.2 Continuous improvement and nurturing the growth of TEMDO market base through designing and producing quality equipment and plants, and competitive technical services;	Medium term (1-3 years)	High priority High impact
		1.3 Conduct a Five Forces Analysis Study to analyze future potential competitive forces in the equipment and plants design and manufacturing industry and develop strategies to counter or neutralize them.	Medium term (1-3 years)	High priority High impact

S/N	KEY ISSUES	STRATEGIES	TIME FRAME (Immediate/Short/ Medium/Long Term)	PRIORITY/IMPACT/ IMPLEMENTATION EFFORT NEEDED
2.	Sinusoidal development of national and regional economies	2.1 Continuous expansion of TEMDO service delivery capacity through establishment of zonal centers;	Medium term (1 – 3 years)	Medium priority Medium impact
		2.2 Develop entry strategies and plans to regional markets;	Medium term (1 – 3 years)	Medium priority Medium impact
		2.3 Begin creating designing and manufacturing alliances with private and public organizations in Tanzania (CAMARTEC, TIRDO, SIDO, TDTC, UDSM, SUA, Technoserve, etc), African and far East countries, especially Kenya, Uganda, Mozambique, South Sudan, South Africa, Egypt, India, Pakistan, and China.	Medium term (1 – 3 years)	Medium priority Medium impact
3.	Increasing prospects of designing affordable and customized equipment and plants by using new robust software, and ease of acquiring inexpensive ICT workforce in the Tanzania labor market and through web outsourcing	3.1 To be competitive, outsource or out-contract jobs that can be done cost effectively and with better quality elsewhere, e.g. through web sub-contracting;	Immediate (0 – 6 months)	High priority High impact
		3.2 Continuously strive to follow new technical and technological developments, adopt, and use them in implementing everyday work; assign, train, and empower/equip one staff to do that job	Immediate (0 – 6 months)	High priority High impact
4.	Emergence of entrepreneurship class among the semi-skilled and skilled population, Government bureaucrats, NGOs, CBOs and other stakeholders	4.1 Increase flexibility in providing customer focused innovative solutions to a wide range of technical designs and equipment and superior value technological developments that will minimize time, effort, and costs of doing production and business.	Immediate (0 – 6 months)	High priority High impact

S/N	KEY ISSUES	STRATEGIES	TIME FRAME (Immediate/Short/ Medium/Long Term)	PRIORITY/IMPACT/ IMPLEMENTATION EFFORT NEEDED
	Opportunities			
5.	The growing health, safety and environmental awareness and demand for environmental preservation and pollution control	5.1 Increase innovation and creativity in developing environmentally friendly plants and equipments; 5.2 Promote aggressively in-house produced eco-friendly equipment by targeting a willing-to-pay customer base and use it to get a comparative and competitive advantage in the equipment marketplace.	Immediate (0 – 6 months) Immediate (0 – 6 months)	High priority High impact High priority High impact
6.	Globalization and increasing regionalization (e.g. EAC, SADC, NEPAD, etc) creates opportunities for TEMDO to partner and collaborate with many stakeholders	6.1 Develop and enhance TEMDO's brand equity; 6.2 Develop and implement a marketing plan to market TEMDO and its activities in international publications, e.g. in S&T publications, Third World Academy of Sciences publications, and newspapers, and East African audio, visual, and print media e.g. the East African, TBC1 in DSTV, EATV, etc; 6.3 Revamp TEMDO's website to accommodate new issues and frontiers that emerged in the new strategic plan and promote e-mail-marketing; 6.4 Send delegations to key technical meetings and conferences.	Short term Short term Continuous exercise Continuous exercise	High priority High impact High priority High impact High priority High impact High priority High impact

S/N	KEY ISSUES	STRATEGIES	TIME FRAME (Immediate/Short/ Medium/Long Term)	PRIORITY/IMPACT/ IMPLEMENTATION EFFORT NEEDED
	Challenges			
1.	Availability in the markets of low quality, low cost plants and equipment because of trade liberalization	1.1 Study the reasons why are stakeholders attracted by these products and modify your business, organizational, and production systems to attain the attributes required by the stakeholders, e.g. cost leadership;	Immediate (0 – 6 months)	High priority High impact
		1.2 Design strategies to develop competitive high quality and affordable plants and equipment;	Immediate (0 – 6 months)	High priority High impact
		1.3 Continuously communicate with customers to identify their changing needs, preferences and requirements;	Immediate (0 – 6 months)	High priority High impact
		1.4 Develop a new client service charter.	Immediate (0 – 6 months)	High priority High impact
2.	Decreasing markets for TEMDO products	2.1 Perform a service delivery survey and a customer satisfaction survey to identify the reasons and develop business and technical strategies (e.g. revising the value chain in the supply, production, and delivery processes)	Immediate (0 – 6 months)	High priority High impact

TABLE 2. POLITICAL, ECONOMICAL, SOCIAL, TECHNOLOGICAL, ENVIRONMENTAL AND LEGAL (PESTEL) ANALYSIS

S/N	ANALYSIS	SCALE	ISSUE	EFFECTS	STRATEGIES
1.	**POLITICAL**	**Global**	MDG 1: Eradicate extreme poverty and hunger	To eradicate extreme poverty efficient technologies will be needed by stakeholders	Develop efficient technologies which are affordable to a wide range of stakeholders
			MDG 3: Promote gender equality and empower women	Women get more involved in income generating activities	Develop technologies which are gender sensitive
			MDG 6: Combat HIV/AIDS, malaria and other diseases	Enhance economic power of potential clients	Develop and commercialize efficient technologies which assist in income generating activities for social and economic development
			MDG 7: Ensure environmental sustainability	Increased demand for environmentally friendly plants and equipment	Develop and commercialize technologies which are more eco-friendly
			MDG 8: Develop a global partnership for development	Increased networking among international R&D institutions and economic development partners	Establish contacts and cooperation worldwide
		Regional	Integration of East African Countries and the rising movement to harmonize R& D activities at EAC, SADC and COMESA	(a) Increased cooperation among R&D institutions within the region (b) More competition among R&D institutions for the same customers	Turn TEMDO into a more competitive and internationally recognized and accredited institution

S/N	ANALYSIS	SCALE	ISSUE	EFFECTS	STRATEGIES
		National	Government's budget allocation to support Research and Development activities decreases with time	(a) Less funding will be provided to R&D activities (b) Reduced R&D activities in the country	(a) Prepare bankable R&D proposals and look for funding (b) Increase marketing of TEMDO activities (c) Prepare and implement TEMDO customer based Strategic Plan
2.	**ECONOMICAL**	**Global**	Liberalization of world economy and fall of financial markets	(a) Difficult access to resources including research project funding; (b) Increased competition in international trade; (c) Increased challenges in industrial sectors by SMEs	(a) Prepare and market bankable projects; (b) Reduce operation costs and produce affordable plants and equipment to SMEs
			Unpredictable (falling) global economy	Reduced access to resources, including project funding	Focus on customers and prioritize activities
		Region	Expansion of trade in COMESA, SADC and EAC	Increased opportunities for TEMDO to market its products and related services.	(a) To review marketing strategies; (b) Reengineering of TEMDO business and focus on the regional customers.
			Integration of East African Countries and other Regional groupings	(a) Rising movement to harmonize R&D activities at regional level; (b) Plants and equipment can be designed, developed and commercialized in cooperation with Regional R&D Institutions; (c) Pooling of meager resources to maximize resource utilization in the region.	(a) TEMDO to strive and become a Centre of Excellence so as to serve the region; (b) More collaboration with regional institutions which render similar services

S/N	ANALYSIS	SCALE	ISSUE	EFFECTS	STRATEGIES
		National	Tanzania Development Vision 2025	Increased demand for plants, equipment and industrial services to SMEs	(a) Increase capacity and capability of TEMDO business in terms of HR and facilities; (b) Enhance networking with other R&D institutions and provide better services to SMEs.
			(a) National Strategy for Economic Growth and Poverty Reduction; (b) Changes due to economic reforms and free market policies	(a) Increased demand for TEMDO plants and equipment due to increased purchasing power of potential clients; (b) To survive, TEMDO must inculcate entrepreneurial principles.;	(a) Increase capacity and capability of TEMDO business in terms of HR and facilities; (b) More collaboration with national and international R&D institutions which render similar services to TEMDO; (c) Diversify TEMDO activities to exploit new ventures for income generation.
3.	**SOCIAL**	**Regional**	Population growth	Increased demand for TEMDO goods and services.	(a) Increase marketing of TEMDO products to a large population; (b) Strengthen TEMDO service delivery system
		National	HIV/AIDS and malaria problems	TEMDO staff may be affected by HIV/ AIDS and frequent malaria	Create awareness campaigns in the organizations against HIV/AIDS and malaria.

S/N	ANALYSIS	SCALE	ISSUE	EFFECTS	STRATEGIES
4.	**TECHNOLOGICAL**	**Global**	Fast development of ICT	(a) Ability to access information and carry out design work and development through use of ICT (b) Easiness to communicate globally (c) Threat of information piracy, scams, etc.	(a) Install and utilize ICT facilities e.g. CADCAM, Rapid prototyping equipment (b) Capacity building on ICT (c) Develop IPR management policy
			Emergence of new technologies e.g. engineering materials, nanotechnology	Ability to apply and work with alternative technologies	Capacity building on application of new technologies
		National	Increased application of plants and equipment in the country	Chance for increased demand of TEMDO goods and services in the country	Develop new TEMDO marketing strategies and effective service delivery system
5.	**ENVIRONMENTAL**	**Global**	Global warming, Green House Effects and Climate change	Will seriously affect TEMDO R&D activities. TEMDO will need to focus on technologies that may be needed due to global warming and climate change effects.	TEMDO to become more proactive, innovative and creative and develop plants and equipment that will be needed in future.
		Regional	Sustainability of Regional major water reserves	Will seriously affect TEMDO research and development activities as a result of reduced productivity of the agricultural and other sectors.	Develop water pumping and harvesting Equipment.
		National	(a) Increasing awareness on conservation of environment, and the effect of pollutants on human, livestock and on ecology	Resistance to TEMDO technologies that are not eco-friendly Failure to commercialize technologies which use wood as fuel	(a) Develop eco-friendly plants and equipment (b) Develop biomass briquetting technology as an alternative source of energy to firewood and charcoal

			(b) Deforestation		

S/N	ANALYSIS	SCALE	ISSUE	EFFECTS	STRATEGIES
6.	**LEGAL**	**Global**	Increasing new legislation and regulations on control of standards on quality and safety of products, environment, and human health	TEMDO clients will not be competitive globally resulting into low commercialization levels	(a) Develop technologies which will assist TEMDO clients to produce products with international standards; (b) Create awareness to TEMDO clients on legislation and standards adherence; (c) Enhance capacity of TEMDO to manage IP issues.
		Regional	SADC, COMESA, EAC, AU and NEPAD resolutions and directives, which are based on national legislations.	Harmonized legislation all over Africa will strengthen inter – Africa trade and hence increase TEMDO's chances to participate in inter-African Research & Development programs, and therefore TEMDO will be involved into certification e.g. ISO 9001 on quality	Improve TEMDO facilities to cope with influx of many products that will be released.
		National	Ongoing Law reforms in Tanzania	To streamline the way of doing business and reduce administrative barriers. The cost of doing business will decrease.	TEMDO to carry out business reengineering

TABLE 3. THE BUSINESS EXCELLENCE MODEL (BEM) ANALYSIS

TABLE 3.1 CUSTOMER FOCUSED BEM

ASPECT	ISSUE OF CONCERN	AREAS OF WEAKNESSES	STRATEGIES FOR IMPROVEMENT
TEMDO CUSTOMERS	**Customer current needs** (a) Quality products (b) Affordable products (c) Timely delivery	(a) Inadequate capacity (manpower and facilities) for design, development and technical support services; (b) Low level of commercialization	(a) Continuously upgrade of skills in designing, development and technical support services; (b) Recruit additional staff for design, development and technical support services; (c) Continuously upgrade of working facilities for design, development and technical support services; (d) Re-engineering of TEMDO business processes; (e) Link potential manufacturing SMEs with Business Development Service providers.
	Customer future needs (a) Modern plants and equipment (b) New technologies to combat global warming and climate change (c) Eco friendly technologies	(a) Lack of R&D on new technologies (b) Low funding to invest on R&D and innovations	(a) To be proactive and utilize available skills within and outside the country (b) Networking with national, regional and international institutes (c) Efficient resource mobilization and utilization

ASPECT	ISSUE OF CONCERN	AREAS OF WEAKNESSES	STRATEGIES FOR IMPROVEMENT
	Customer satisfaction levels and loyalty Low customer satisfaction and loyalty	Low capacity to provide timely and quality products at affordable price	(a) Continuous upgrading of skills in design, development and technical support services (b) Recruit additional staff on design, development and technical support services (c) Continuous upgrading of working facilities for design, development and technical support services (d) Re-engineering of TEMDO business processes (e) Training on customer relation management (f) Putting HRM in place

TABLE 3.2: INSTITUTIONAL LEADERSHIP BEM

The assessment of the current leadership (Top management, Heads of Department and Sections) based on selected leadership ingredients, skills, attributes and characteristics:-

IF A FACTOR IS	RATING
Absent/Totally Lacking	0
Very unsatisfactory	1
Low-satisfactory	2
Average	3
Good	4
Excellent	5

No.	INSTITUTIONAL LEADERSHIP STYLE	SCORE OF THE CURRENT LEADESHIP (0: Lacking to 5: Excellent)	STRATEGIES TO IMPROVE LEADERSHIP
1.	Guiding Vision	3	Develop and implement Strategic Plan
2.	Foresightedness	2	Be proactive and not reactive
3.	Passion	3	Develop skills, interest and confidence to innovate and risk taking
4.	Integrity	4	Management to walk the talk and be good examples
5.	Curiosity	3	Develop culture of seeking new information all the time

6.	Knowledgeable of organization and industry	3	Create a learning organization
7.	Initiative	3	Build culture for employees to take risks
9.	Problem solving	2	Team building and consulting each other
10.	Mastering Change	3	Build culture of transparency and openness
11.	Listening	3	Respect and learning from each other
12.	Respect for followers	3	Management should take employees as internal customers
13.	Courage	3	Building courage through coaching and mentoring
14.	Interpersonal skills	4	Continuous improvement of the skills of the employees at all levels
15	Inspiring	3	Management to be examples to employees and support their ideas
16	Good communicators	3	Training of employees on how to communicate to its stakeholders
17	Nurturers	3	Management to encourage and develop young scientists
18	Conflict resolution and management	4	Build culture of transparency and openness

TABLE 3.3: PEOPLE (STAFF) BEM

S/N	CURRENT STAFF SITUATION	ASPIRED FUTURE STAFF SITUATION	STRATEGIES TO IMPROVE THE STATUS
1.	Fairly motivated	Highly motivated staff	Prepare and implement an effective incentive package
2.	Fairly competent	Highly competent and confident staff	Continuously training and exposure
3.	Fairly risk takers	Calculative risk takers	Build skills and confidence
4.	Fairly creative	Highly creative	Training and exposure
5.	Confident	Highly confident	Continuous learning
6.	Fairly knowledgeable	Highly knowledgeable	Continuous learning

TABLE 3.4: RESOURCES BEM

S/N	TYPE OF RESOURCES	SPECIFIC RESOURCES REQUIREMENTS	STRATEGIES TO ACQUIRE RESOURCES
1.	**INFORMATIONAL**	(a) Internet and Intranet facilities (b) Technical Journals (c) Reference materials	(a) Allocate budget and look for more funding through proposal writing
2.	**KNOWLEDGE AND EXPERTISE**	(a) Training (b) Experts	(a) Prepare and implement training programme (b) Recruit experts
3.	**HUMAN RESOURCES**	(a) Laboratory technicians (b) Director of Finance (c) Internal Auditor (d) Human Resource Manager	(a) Train and recruit
4.	**TECHNICAL INFRASTRUCTURE**	(a) Material testing laboratory (b) Modern foundry (c) Tool room	Prepare bankable proposals to acquire the facilities
5.	**PHYSICAL INFRASTRUCTURE**	Building of laboratory, foundry and tool room	Lobby for more government funding and prepare bankable proposals
6.	**FINANCIAL**	(a) Capital (seed money) (b) Funds for R&D	Lobby for more government funding and prepare bankable proposals

TABLE 3.5: NETWORKING BEM

S/N	TYPE OF NETWORKING	SPECIFIC GROUP OF PEOPLE	STRATEGIES TO ACQUIRE NETWORKING
1.	**R&D**	(a) ICRTD (b) Higher Learning Institutions (c) Regional and International R&D institutions	(a) Contract agreements (MoUs) (b) Prepare and market project proposals for funding (c) Establish collaborations
2.	**OUTSOURCING**	(a) Manufacturing SMEs (b) Material suppliers (c) Consultants (d) SIDO	Contract agreements (MoUs)
3.	**PUBLIC RELATIONS**	(a) Target groups (b) Government (c) International Organizations (d) Society	(a) Publicity programme (b) Lobbying (c) Awareness creation (d) Customer Relation Management

TABLE 3.6: PROCESSES BEM

S/N	CURRENT PROCESSES	TIME TAKEN	STRATEGIES TO INCREASE EFFICIENCY
1.	Designing of plants and equipment	7-30 days	(a) Processes reengineering (b) Upgrade skills (c) Upgrade facilities (d) Motivate staff
2.	Prototype development and testing	30 -90 days	(a) Processes reengineering (b) Upgrade skills (c) Upgrade facilities (d) Motivate staff
3.	Pilot manufacture	30 -90 days	(a) Processes reengineering (b) Upgrade skills (c) Upgrade facilities (d) Motivate staff
4.	Commercialization	1-3 years	(a) Processes reengineering (b) Upgrade skills (c) Upgrade facilities (d) Motivate staff

TABLE 3.7: SOCIETY BEM

S/N	CURRENT SOCIAL RESPONSIBILITY	FUTURE SOCIAL RESPONSIBILITY	STRATEGIES TO DEVELOP SOCIAL RESPONSIBILITIES
1.	Enable community to start revenue generating activities	To grow business with positive multiplier effect benefiting the community	(a) Strengthen the technology business incubator (b) Develop plants and equipment which are efficient, will reduce time, costs, are not labor intensive and are gender sensitive
2.	-	Renting TEMDO halls to public	Rent the hall for weddings and seminars
3.	-	Establish open days for the public	Invite the public to familiarize with TEMDO activities
4.	-	Host Uhuru torch at TEMDO	While in Arusha host Uhuru torch at TEMDO premises

TABLE 3.8: KEY PERFORMANCE INDICATORS BEM

S/N	CURRENT PERFORMANCE INDICATORS	FUTURE PERFORMANCE INDICATORS	STRATEGIES
1.	**EMPLOYEES** (a) Annual Appraisal (b)	(a) OPRAS (b) Publishing and papers in journals	Internalize OPRAS for employees, Training of OPRAS
2.	**STRATEGIC PLAN** (a) Quarterly, Mid-year and Yearly reports (b) End of plan report	(a) Strategic Plan milestones (b) Strategic plan's Monitoring and Evaluation Criteria	Monitoring and Evaluation as per Strategic Plan
3.	**BUDGET** (a) Income budget (b) Expenditure budget	(a) Value for money (b) Priority setting	Monitoring and Evaluation as per budget indicators (a) Develop and Implement MTEF

TABLE 4. THE CORE COMPETENCE ANALYSIS OF TEMDO

S/N	EXISTING CORE COMPETENCES	SPECIFIC AREAS OF COMPETENCE	RELEVANCE	DIFFICULTY IN IMITATION	BREADTH OF APPLICATION
1.	Design and development of efficient and effective and eco-friendly plants and equipment,	Food and Agri -processing plants and equipment for value addition	High demand	Intellectual Property Rights (IPR)	Application covers maize, sunflower, palm milk, fruits and honey processing Regions covered include Arusha, Kilimanjaro, Kigoma, Morogoro, Mbeya, Manyara
		Other plants and equipment e.g. Soap making, leather processing, animal feed mill and mixer, construction equipment, etc.	High demand	IPR	Application covers entrepreneurs starting small industries

S/N	EXISTING CORE COMPETENCES	SPECIFIC AREAS OF COMPETENCE	RELEVANCE	DIFFICULTY IN IMITATION	BREADTH OF APPLICATION
2.	Technical support for commercial manufacturing of plants and equipment such as soap making, leather processing, animal feed mill and mixer and construction equipment, training of engineers and technicians in the design and development of efficient and effective plants and	Design and manufacture of production tools like jigs and fixtures, moulds, dies, etc.	High demand	IPR	Application covers commercial manufacturers of plants, equipment and metal products
3.	Eco-friendly equipment and provision of technical support services and maintenance to industry, food and agri -processing and value addition plants.	Maintenance, quality, safety and health.	High demand	IPR	Covers engineers and technicians from industries
		Preparation of engineering drawings	High demand	IPR	Covers engineers and technicians from industries

TABLE 5. STAKEHOLDER MAPPING AND STRATEGIES FOR IMPROVEMENT OF RELATIONS

HIGH POWER/LOW INTEREST (a) Utility providers (TANESCO, AUWSA) (b) Communication and information service providers (c) Vice President's Office (Environment) (d) Ministry of Finance (e) Presidents Office (manpower development) ***Strategies for improvement of relations*** Improve their interests by inviting them to TEMDO open days and develop collaborative and networking programs	**HIGH POWER/HIGH INTEREST** (a) Ministry of Industry Trade and Marketing (MITM) (b) Parliament (c) Treasury Registrar (d) Ministry of Finance (e) Ministry of Science and Technology (f) United Nations Industrial Development Organization (g) United Nations Development Programme (h) European Union (i) Universities ***Strategies for improvement of relations*** Strategic plan is focused on the interests of high power and high interest stakeholders through customer satisfaction and building of loyalty
LOW POWER/LOW INTEREST (a) Suppliers (b) TBS (c) Regional Economic Communities (d) Small Industries Development Organization (e) National Cleaner Production Centre of Tanzania (f) Regulatory authorities e. g. TFDA, EWURA, FAIR TRADE TRIBUNAL ***Strategies for improvement of relations*** Improve their interests by inviting them to TEMDO open days and develop collaborative and networking programs	**LOW POWER/HIGH INTEREST** (a) Manufacturing industries and SMEs (b) Higher Learning Institutions (c) Local and International R&D Institutions (d) EAC institutions which have same function like TEMDO (e) NGOs and CBOs (f) COSTECH (g) Vice President Office (VPO) - Dept. of environment NEMC (h) International Development Organizations e.g. UNIDO, UNDP (i) Business Registration and Licensing Agency (j) Tanzania Bureau of Standards (k) World Association of Industrial and Technological Research Organization ***Strategies for improvement of relations*** Strategic plan is focused on the interests of low power and high interest stakeholders through customer satisfaction and building of loyalty

POWER ↑

LOW **HIGH**

INTEREST →

TABLE 6. VIABILITY ASSESSMENT

NO.	ASSESSMENT	REMARKS
1.	The stage an organization is on the life cycle	Dwarf infant
2.	Assess causes of decline/dwarfism of the Organization performance	TEMDO has never grown from infant stage because TEMDO did not have regulation to operationalize the TEMDO Act No. 23 of 1980. Other reasons are: (a) Low resources (b) Low staff accountability and motivation (c) High core staff turnover (d) Unstable demands of TEMDO products and services (e) Leadership which is not visionary
3.	Ascertain severity of the crisis	TEMDO has remained dormant for a long time which has severely affected the performance of the organization.
4.	Attitude of stakeholders towards your institution	Most stakeholders are not getting value from TEMDO as it has been dormant for a long time.
5.	Attitude of the employees	De-motivated
6.	Institution's historical tragedy and internal ambience	Poor technology development Poor industrial support services Internal ambience is not motivating
7.	Institution's financial structure (source of income)	Too much dependence on government subvention (about 80%)

FIGURE 1. THE VALUE NET ANALYSIS OF TEMDO

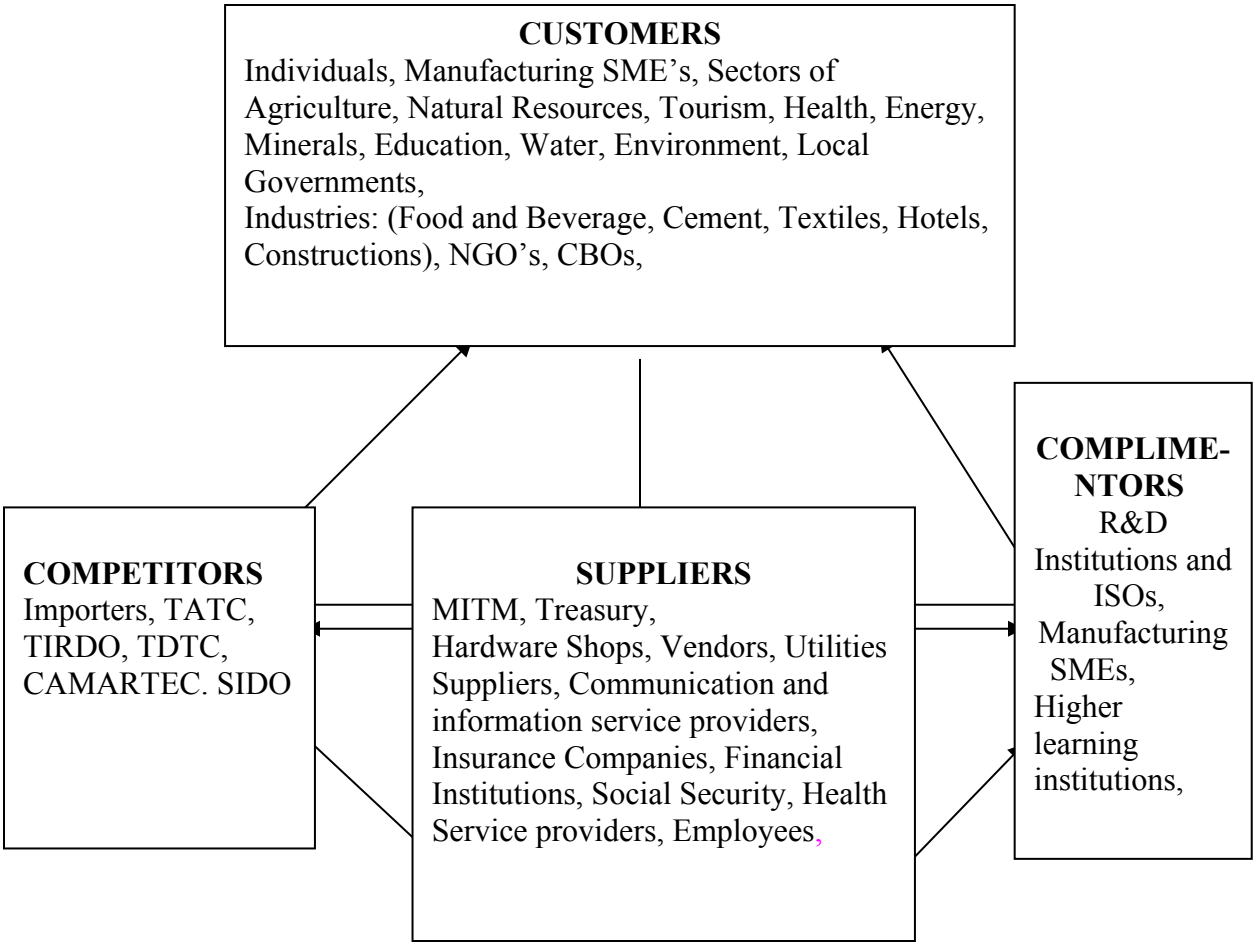

TABLE 7. EXPECTED BARRIERS AND STRATEGIES TO OVERCOME BARRIERS

S/N	BARRIERS	STRATEGIES TO OVERCOME BARRIERS
1.	Low purchasing power of our potential clients	(a) To develop technologies which are affordable (b) To encourage entrepreneurship (c) To establish hire purchase scheme (d) To solicit Government support
2.	Negative economic changes	(a) To develop short term strategies. (b) To acquire and use up to date forecasting data from relevant institutions e.g. Planning Commission, BOT, NBS etc.
3.	Fast changes in technologies resulting into our technologies becoming obsolete.	(a) To keep our staff up to date. e.g. training and exposure (b) To have a strong marketing unit
4.	Resistance to Change by Staff	(a) Educate staff on the benefits of Change. (b) To make TEMDO a learning Organization (c) To remove Staff who are unwilling to change
5.	Non availability of Seed Funding	(a) To solicit Government support (b) To solicit Donor support through proposals
6.	Lack of Commitment by Management	(a) Educate Management on leadership (b) To make TEMDO a learning Organization
7.	Political will by the Government	(a) To review existing establishment Act

TABLE 8. EXPECTED BRIDGES AS OPPORTUNITIES FOR TEMDO

S/N	BRIDGES (OPPORTUNITIES)	STRATEGIES TO CAPITALISE BRIDGES
1.	Committed and Trainable Staff	(a) HR Capacity building (b) Motivation (c) Upgrade Working facilities
2.	Idle Land	(a) Invite investors (partnership) (b) Invite investors through Build Operate and Transfer (BOT) (c) Use as Security
3.	Buildings	(a) Invite investors (partnership) (b) Expansion of business
4.	Existing customers	(a) Use as Agents (b) Use as business promoters
5.	Regional cooperation	(a) Collaboration in R & D activities (b) Business partnership (c) Direct foreign business
6.	Existence of financial institutions	(a) Access loans through preparation of bankable project proposals (b) Export facilitation (guarantor)
7.	Globalization	(a) Increase competitiveness to access more markets (b) Capitalize on access to global financial capital
8.	TEKNOHAMA (ICT)	Apply ICT for search of knowledge and information
9.	Networking with other institutions	Establish partnership and alliance with institutions world wide

FIGURE 2. TEMDO ORGANIZATION STRUCTURE (NEW)

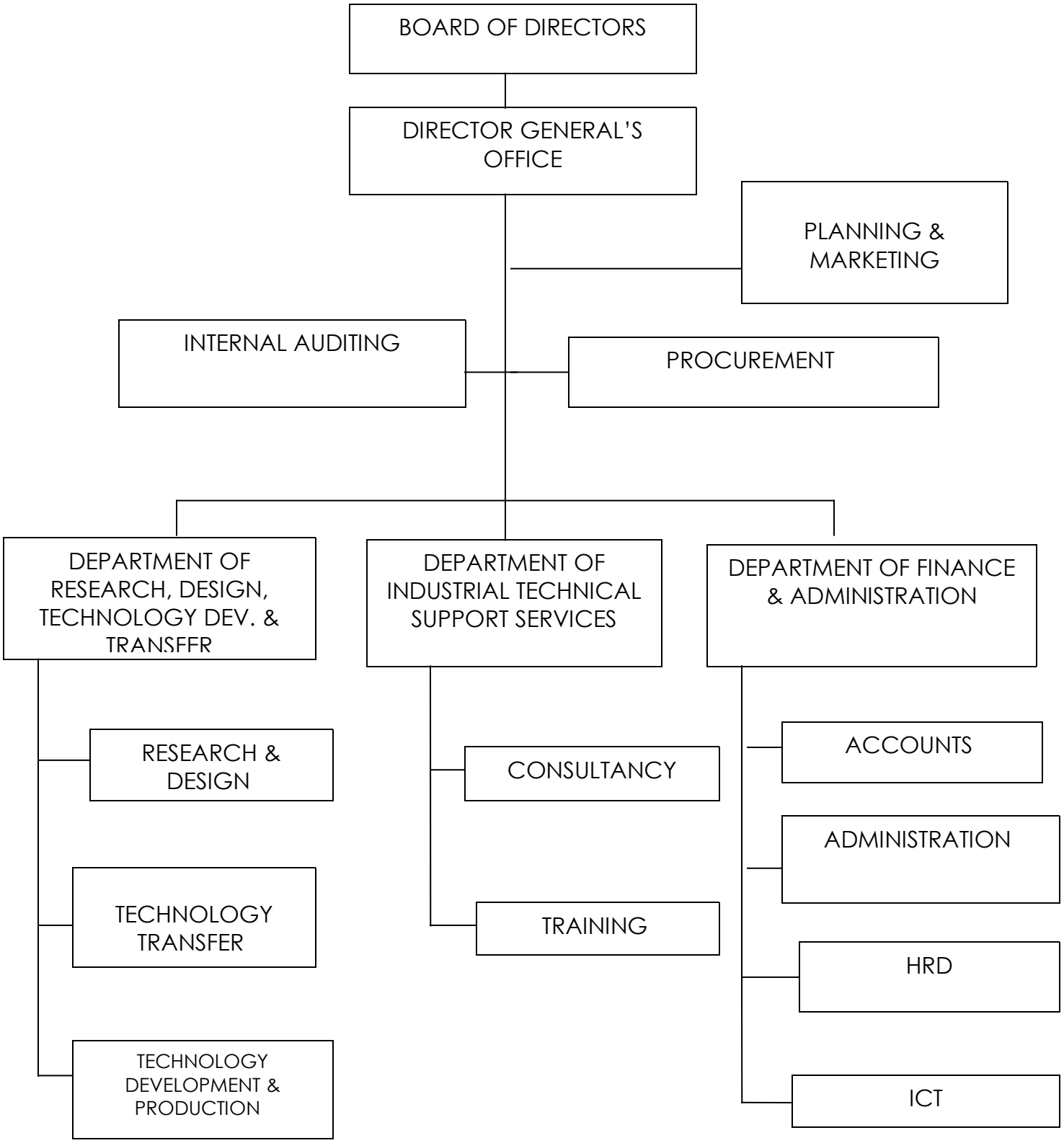

TABLE 9. ANNUAL ACTION PLANNING AND BUDGET

KRA	STRATEGIC OBJECTIVES	STRATEGIES	SERVICE DELIVERY TARGETS	SPECIFIC ACTIVITIES	BUDGET
1.0 Efficient research, design and development of plants and equipment	To develop ten plants and equipment for use by medium and large industries by 2016	Upgrade skills of design and prototype development staff	Upgrade skills of 8 design and prototype development staff by 2012	Identify skills gap of design and prototype development staff	**1,000,000**
				Identify training institutions	**2,500,000**
				Train design and prototype development staff	**60,000,000**
		Recruit additional design and prototype development staff	Recruit 6 design and prototype development staff in the fields of mechanical, electrical, civil, welding, fabrication, precision machining, environment and electronics by 2012	Identify relevant disciplines	**1,000,000**
				Recruit	**17,000,000**
				Conduct induction programme	**3,5000,000**
		Upgrade and maintain design hardware, software and prototype development facilities	Acquire 10 latest desktop computers, 5 latest laptop computers, latest design software, 1 latest A1 plotter, 1 latest A1photocopier machine, 1 latest A3 scanner and 2 latest printers, CNC Tool Room Milling m/c (with vertical head, swing holder and accessories), CNC Tool Room Universal Lathe (with accessories), Universal cylindrical Grinder m/c (internal and external), Surface Grinder m/c, Band Saw m/c, Surface Marking Plate, Digital vernier Height Gauge, Universal Tool & Machine, Radial Drilling Machine, Universal Milling Machine, Measuring/Checking Tools	Prepare and implement procurement plan	**6,000,000**
				Procure design hardware, software and prototype development facilities	**561,600,000**

			(Assorted), Surface Roughness Tester, Microscope with Camera, Universal Measuring Machine, Profile Projector, Tools & Accessories (assorted), Chemical composition analyzer m/c e.g optical-emission-spectroscopy (steel, Cast Iron, Cu, Al, etc), Electric furnace heat treatment plant (dia.400mm;depth 600mm; maximum temp.1350 ^{0}C), Hardness Tester m/c (HB, HV, HRC), Nibbling Machine, Angle Grinder Machine, Sheet Shear m/c (max. 8mm), Sheet Roller m/c (max.8mm), Sheet Bender m/c (max.8mm), Rapid Prototyping machine, Spot Welding m/c, Gear Hobbing machine (with accessories-max Dia 300mm), Hydraulic Press – 100T, Power Hacksaw by 2012		
		Increase production rate of designs of plants and equipment	Produce at least two designs of plants and equipment per year by 2012	Collect information	**5,000,000**
				Prepare designs	**5,000,000**
		Increase rate and quality of development and testing of prototypes of plants and equipment.	Prototype development and testing of at least two plants and equipment by 2012	Prepare and implement procurement plan	**3,000,000**
				Procure raw materials and standard parts for prototype development	**80,000,000**
				To carryout manufacture	**75,500,000**
				To carryout testing	**10,000,000**
				Carryout improvement	**20,000,000**

KRA	STRATEGIC OBJECTIVES	STRATEGIES	SERVICE DELIVERY TARGETS	SPECIFIC ACTIVITIES	BUDGET
		Pilot manufacture of plants and equipment	At least two units of each type of plants and equipment manufactured and sold by 2012.	Prepare and implement procurement plan	30,000,000
				Procure raw materials and standard parts for pilot manufacture	80,000,000
				To carryout pilot manufacture	
				To carryout testing	
		To have effective partnership with other institutions or bodies to assist the development of industrial enterprises. Establish market	Establish partnership with at least four local institutions by 2012. To shortlist at least two regions as potential markets for each plant and equipment by 2012	Identify relevant institution	200,000
				Prepare and sign	2,000,000
				Memoranda of understanding (MoUs) identify potential regions	500,000
				Carry out Market survey	5,000,000
				Compile report	200,000
				Select at least two potential regions	100,000
2.0 Effective technology transfer for commercial manufacture and use of plants and equipment	Five different plants and equipment are under commercial manufacture by 2016				

KRA	STRATEGIC OBJECTIVES	STRATEGIES	SERVICE DELIVERY TARGETS	SPECIFIC ACTIVITIES	BUDGET
		Establish manufacturing capacity for commercial manufacture	To shortlist at least four potential manufacturers for each plant and equipment by 2012	Carry out survey of manufacturers	5,000,000
				Compile report	200,000
				Shortlist four manufacturers for each plant and equipment.	200,000
		Entice potential manufacturers to manufacture plants and equipment.	Enter into agreement with five potential manufacturers for each plant and equipment by 2012	Conduct sensitization seminars	4,000,000
				Select two manufacturers for each plant and equipment.	400,000
				Prepare and sign MoUs	1,000,000
				Prepare support plan	1,000,000
				Implement support plan	33,000,000
3.0 Competitive provision of researched manufacturing solutions for sustainable development of the industrial sector	To provide quality engineering support services worth more than TZS 100 Million per year to five different manufacturing industries by 2016	To establish market and provide technical support services.	Five major types of manufacturing industries provided with technical support services by 2012.	Conduct market survey	4,000,000
				Compile report of service requirements	2,000,000
				Execute projects	-
		Upgrade skills of staff on technical service delivery	Upgrade skills of 3 staff by 2012	Identify skills gap of Technical Support services staff	2,000,000
				identify training institutions	2,000,000
				Train Technical support service staff	6,000,000
		To recruit additional staff on technical service delivery	Recruit 2 staff by 2012	Identify relevant disciplines	1,000,000
				Recruit	3,000,000
				Conduct induction programme	1,000,000
		Upgrade working facilities	Acquire 3latest desktop computers,3 latest laptop computers, 1 latest A1photocopier machine, 4WD Double Cabin P/up truck, 1 latest A3 scanner and 2 latest printers by 2012	Prepare and implement procurement plan	4,000,000
				Procure facilities	60,000,000

KRA	STRATEGIC OBJECTIVES	STRATEGIES	SERVICE DELIVERY TARGETS	SPECIFIC ACTIVITIES	BUDGET
		To upgrade skills of supporting staff	Upgrade skills of 5 supporting staff by 2012	Identify skills gap of Supporting staff	2,000,000
				identify training institutions	2,000,000
				Train supporting staff	28,000,000
		To recruit additional staff	Recruit 1 staff by 2012	Identify relevant disciplines	1,000,000
				Recruit	7,500,000
				Conduct induction programme	1,000,000
		To upgrade and maintain working facilities	Acquire 2 latest laptop computers, 1 latest printers by 2012	Prepare and implement procurement plan	2,000,000
				Procure facilities	20,000,000
		To provide Personnel Emoluments	Prepare and implement personnel emoluments by 2012	Reports	-
		To rehabilitate and repair of buildings	Prepare and implement actions by 2012	Reports	34,000,000
		To provide administrative services (oils, services of cars, utilities of water electricity and telephone)	Prepare and implement actions by 2012	Procurement of oils	324,208,476
				Procurement of utilities e.g. (Water, electricity and telephone)	
				Car services	
				Operating activities	
		Market TEMDO business	To generate net revenue worth at least TZS 200 mill by 2012.	Implement project proposals	
				Undertake business support Services	
				Renting of idle TEMDO buildings	
			To patent at least two designs and/or plants and equipment by 2012	Identify patentable design of plants and equipment	500,000
				Engage consultant	2,000,000
				Prepare patent	1,000,000

				document	
				Obtain patent	500,000
		Develop marketable project proposals.	Project proposals worth at least TZS 100 mill funded by 2012.	Train staff	3,000,000
				Identify potential areas	1,000,000
				Collect information	5,000,000
				Prepare project proposal	5,000,000
				Marketing	3,000,000
		To use idle TEMDO buildings space and land for investments.	To get at least one investor by 2012.	To prepare documents for TEMDO buildings and land	5,000,000
				To engage consultant	10,000,000
				To prepare investment proposal	20,000,000
				To implement	5,000,000
		To attract and develop, motivate and retain qualified professional staff, especially in the areas of design and development of plants and equipment and mechanical engineering support services	To review schemes of service, Fringe benefits and incentive schemes by 2012	To engage Consultant	10,000,000
				To prepare new Schemes of Service, Fringe benefits and Incentive schemes	30,000,000
		To initiate and participate in programs that aim at reducing the impact of HIV/AIDS on the workers community and the general public.	100% of HIV/AIDS affected persons cared by 2012	Care for HIV/AIDS affected persons	10,000,000
			New infections prevented by 2011	Prevent HIV/AIDS infections among TEMDO staff	5,000,000
		To mainstream gender issues in all TEMDO programs and activities so as to enhance equity and productivity	Gender mainstreaming guideline adhered to by 2012	Encourage qualified female staff to join TEMDO	10,000,000
			Gender issue mainstreamed, monitored and evaluated by 2012	Mainstream, Monitor and evaluate Gender Issues	10,000,000

TABLE 10. MEDIUM TERM EXPENDITURE FRAMEWORK (MTEF)

OBJECTIVE	STRATEGY	ACTIVITY	VERIFIABLE INDICATORS	TARGET BY PLAN YEAR			TOTAL PLAN	ACTORS	BUDGET BY PLAN YEAR (TSHS '000,000')			
				1	2	3			1	2	3	Total
1. To develop ten plants and equipment for use by medium and large industries by 2016	Upgrade skills of design staff	Identify skills gap of design staff	Reports	1	1	1	3	HRM DTDT DTSM	41.0	49.0	60.0	150.0
		Identify training institutions	Reports	1	1	1	3					
		Train design staff	Number of design staff trained	8	3	3	14					
	Recruit additional design staff	Identify relevant disciplines	Reports	1	1	1	3	HRM DTDT DTSM	14.5	8.5	10.0	33.0
		Recruit	Number of design staff recruited	4	2	2	8					
		Conduct induction programme	Reports	1	1	1	3					
	Upgrade design hardware and software	Prepare and implement procurement plan	Reports	1	1	1	3	HRM DTDT DTSM	70.0	48.0	60.0	188.0
			Desktop computer	10	5	5	20					
			Laptop computer	5	3	3	11					
			Design software	1	2	2	5					
			A1 plotter	1	-	1	2					
			A1photocopier machine	1	-	1	2					
			A3 scanner	2	-	1	3					
			Printer	2	-	1	3					
	Produce designs of plants and equipment	Collect information and prepare designs	Reports	1	1	1	3		10.0	10.0	10.0	30.0
			Number of designs prepared	2	2	2	6					
								Sub Total	**135.5**	**115.5**	**140.0**	**401.0**

OBJECTIVE	STRATEGY	ACTIVITY	VERIFIABLE INDICATORS	TARGET BY PLAN YEAR			TOTAL PLAN	ACTORS	BUDGET BY PLAN YEAR (TSHS '000,000')			
2. Five different plants and equipment are under commercial manufacture by 2016	Develop and test prototypes of plants and equipment	Prepare and implement procurement plan	Reports	2	2	2	6	HRM DTDT DTSM	3.0	3.6	4.3	10.9
		Procure raw materials and standard parts for prototype development	Raw materials and standard parts	N/A	N/A	N/A	N/A	HRM DTDT	80.0	96.0	115.2	291.2
		To carryout manufacture	Physical number of plants and equipment	2	2	2	6	DTDT	75.5	90.6	108.7	274.8
		To carryout testing	Reports	2	2	2	6		10.0	12.0	14.4	36.4
		Carryout improvement							20.0	24.0	28.8	72.8
	Pilot manufacture of plants and equipment	Prepare and implement procurement plan	Reports	2	2	2	6	HRM DTDT	3.0	3.6	4.3	10.9
		Procure raw materials and standard parts for pilot manufacture	Raw materials and standard parts	N/A	N/A	N/A	N/A	HRM DTDT	80.0	96.0	115.2	291.2
		To carryout pilot manufacture	Physical number of plants and equipment	-	3	3	6	DTDT	-	136.0	163.2	299.2
		To carryout testing	Reports	-	3	3	6		-	18.0	21.6	39.6
	Upgrade skills of prototype development staff	Identify skills gap of prototype development staff	Reports	1	1	1	3	HRM DTDT	0.5	0.6	0.7	1.8
		Identify training institutions	Reports	1	1	1	3	HRM DTDT	2.0	2.4	2.9	7.3
		Train prototype development staff	Number of staff trained	8	3	2	13	HRM DTDT	20.0	10.0	10.0	40.0

OBJECTIVE	STRATEGY	ACTIVITY	VERIFIABLE INDICATORS	TARGET BY PLAN YEAR			TOTAL PLAN	ACTORS	BUDGET BY PLAN YEAR (TSHS '000,000')			
	Recruit additional prototype development staff	Identify relevant disciplines	Reports	1	1	1	3	HRM DTDT	0.5	0.6	0.7	1.8
		Recruit	Number of staff recruited	4	2	2	8	HRM DTDT	6.5	4.0	4.7	15.2
	To have effective partnership with other institutions or bodies to assist the development of industrial enterprises.	Identify relevant institution	Reports	1	1	1	3	DTDT DTSM	0.2	0.24	0.29	0.73
		Prepare and sign Memoranda of understanding (MoUs)	Number of MoUs signed	4	2	2	8	DTDT DTSM	2.0	2.4	2.9	7.3
								Sub Total	**303.2**	**500.04**	**597.89**	**1,401.13**
3. Five different plants and equipment are under commercial manufacture by 2016	Establish market	Identify potential regions Carry out Market survey Compile report Select at least two potential regions	Reports	1	1	1	3	DTDT DTSM	5.8	7.0	8.4	21.2
	Establish manufacturing capacity for commercial manufacture	Carry out survey of manufacturers Compile report Shortlist four manufacturers for each plant and equipment.	Reports	1	1	1	3	DTDT DTSM	5.4	6.5	7.8	19.7

OBJECTIVE	STRATEGY	ACTIVITY	VERIFIABLE INDICATORS	TARGET BY PLAN YEAR			TOTAL PLAN	ACTORS	BUDGET BY PLAN YEAR (TSHS '000,000')			
	Entice potential manufacturers to manufacture plants and equipment.	Conduct sensitization seminars	Reports	1	1	1	3	DTDT DTSM	4.2	5.0	6.0	15.2
		Select two manufacturers for each plant and equipment.						DTDT DTSM				
		Prepare and sign MoUs	Number of MoUs signed	2	1	1	4		1.0	1.2	1.4	3.6
	Support potential manufacturers	Identify required type of technical and financial support	Reports	1	1	1	3	DTDT DTSM	34.0	40.8	49.0	123.8
		Prepare support plan										
		Implement support plan										
								Sub Total	**50.4**	**60.5**	**72.6**	**183.5**

OBJECTIVE	STRATEGY	ACTIVITY	VERIFIABLE INDICATORS	TARGET BY PLAN YEAR			TOTAL PLAN	ACTORS	BUDGET BY PLAN YEAR (TSHS '000,000')			
4. To provide quality engineering support services worth more than TZS 100 Million per year to five different manufacturing industries by 2016	To establish market and provide technical support services	Conduct market survey	Reports	1	1	1	3	DTDT DTSM	6.0	7.2	8.6	21.8
		Compile report of service requirements										
		Execute projects										
	Upgrade skills of staff on technical service delivery	Identify skills gap of Technical Support services staff	Reports	1	1	1	3	DTDT DTSM	4.0	4.8	5.8	14.6
		Identify training institutions										
		Train Technical support service staff	Number of staff trained	3	3	3	9	HRM DTDT DTSM	6.0	7.2	8.6	21.8
	To recruit additional staff on technical service delivery	Identify relevant disciplines	Reports	1	1	1	3	HRM DTDT DTSM	1.0	1.2	1.4	3.6
		Recruit	Number of staff recruited	2	1	1	4		4.0	4.8	5.8	14.6
	Upgrade working facilities	Prepare and implement procurement plan	Reports	1	1	1	3	HRM DTSM DTDT	4.0	4.8	5.8	14.6
		Procure facilities	Reports	1	1	1	3		60.0	24.0	29.0	113.0
			Desktop computers	3	2	2	7					
			Laptop computers,	3	2	2	7					
			A1photocopier machine	1	0	1	2					
			4WD Double Cabin P/up truck	1	0	0	1					
			TV and Dish Antenna	1	1	1	3					
			A3 scanner	1	0	1	2					
			Printers	2	0	1	3					
								Sub Total	**85.0**	**54.0**	**65.0**	**204.0**

OBJECTIVE	STRATEGY	ACTIVITY	VERIFIABLE INDICATORS	TARGET BY PLAN YEAR			TOTAL PLAN	ACTORS	BUDGET BY PLAN YEAR (TSHS '000,000')			
	Build capacity	Train staff	Number of staff trained	5	5	5	15		10.8	13.0	15.6	39.4
		Recruit	Number of staff recruited	2	2	2	6		8.2	9.8	11.8	29.8
		Procure working facilities	Reports and working facilities	1	1	1	3		500.0	600.0	720.0	1820.0
	Prepare Regulations and Create awareness to stakeholders	Prepare regulations	Reports	1	0	0	1	HRM DTDT DTSM	10.0	0	0	10.0
		Prepare awareness creation materials		1	1	1	3		5.0	6.0	7.2	18.2
		Conduct awareness Seminars		5	5	5	15		50.0	60.0	72.0	182.0
	Establish and implement mechanism for enforcing regulations	Prepare procedure and materials for enforcement of regulations including database	Reports	1	1	1	3	HRM DTDT DTSM	15.0	18.0	21.6	54.6
		Implement enforcement of regulations										
								Sub Total	**589.0**	**706.8**	**848.2**	**2144.0**

	To create collaborative and cooperative undertakings with various stakeholders.	Attend collaboration and networking meetings, seminars and workshops	Number of meetings attended	**4**	**4**	**4**	**12**	DTDT DTSM	20.0	20.0	20.0	60.0
		Prepare joint holistic projects with other partners and collaborators	Number of projects prepared	**1**	**2**	**2**	**5**	DTDT DTSM	15.0	30.0	30.0	75.0
	Sub Total								**35.0**	**50.0**	**50.0**	**135..0**
	To establish collaboration with other research institutions which are in the fore front of new manufacturing technologies	Identify research institutions in the fore front of new manufacturing technologies	Number of research institution identified	**2**	**2**	**2**	**6**	DTDT DTSM	0..5	1.0	1.0	2..5
		Identify new manufacturing technologies suitable for Tanzania	Number of new manufacturing technologies identified	**1**	**1**	**1**	**3**	DTDT DTSM	10.0	10.0	10.0	30.0
		Mobilize resources to undertake research on at least one new manufacturing technology	Number of new manufacturing technologies undertaken	**1**	**1**	**1**	**3**	DTDT DTSM	10.0	20.0	30.0	60.0
	Sub Total								**20.5**	**31.0**	**41.0**	**92..5**

OBJECTIVE	STRATEGY	ACTIVITY	VERIFIABLE INDICATORS	TARGET BY PLAN YEAR		TOTAL PLAN		ACTORS	BUDGET BY PLAN YEAR (TSHS '000,000')			
	To upgrade skills of supporting staff	Identify skills gap of Supporting staff	Reports	**1**	**1**	**1**	**3**	**HRM**	2.0	3.5	4.0	9.5
		Identify training institutions										
		Train supporting staff	Number of staff trained	**5**	**8**	**6**	**20**		**28.0**	**35.0**	**40.0**	**103.0**
	To recruit additional staff	Identify relevant disciplines	Reports	**1**	**1**	**1**	**3**		1.0	1.2	1.4	3.6
		Recruit	Number of staff recruited	**1**	**4**	**2**	**7**		**7.5**	**9.0**	**10.0**	**26.5**
	To upgrade and maintain working facilities	Prepare and implement procurement plan	Reports	**1**	**1**	**1**	**3**		2.0	3.0	4.0	9.0
		Procure and maintain support services facilities	Laptop computers,	2	1	1	4		5.0	3.0	3.5	11.5
			1 latest A4 photocopier machine	0	1	0	1		-	35.0	-	35.0
			Staff bus, 4wD and Pick up	0	2	1	3		-	150.0	50.0	200.0
			Printer	1	1	1	**3**		22.5	30.0	40.0	92.5
	To provide Personnel Emoluments	Prepare and implement personnel emoluments	Reports	**1**	**1**	**1**	**3**	**HRM**	600.0	700.0	800.0	2100.0
	To rehabilitate and repair of buildings	Prepare and implement actions	Reports	**1**	**1**	**1**	**3**		34.0	44.0	50.0	128.0
	To provide administrative services (oils, services of cars, utilities of water and electricity)	Prepare and implement actions	Reports	**1**	**1**	**1**	**3**		20.9	35.0	45.0	100.9
		Sub Total							722.9	1,048.7	1,047.9	2,819.5

.	Market TEMDO	Undertake marketing activities	Net revenue generated	150,000,000	200,000,000	300,000,000	650,000,000	HRM DTDT DTSM	10.0	15.0	15.0	40.0
	Develop marketable project proposals, business	Implement project proposals	Number of proposals	2	2	2	6	DTDT DTSM	2.0	3.0	4.0	9.0
		Undertake business support Services	Number of contracts implemented	4	5	6	15	HRM DTDT DTSM	0	0	0	0
	To use idle TEMDO buildings space and land for investments.	Renting of idle TEMDO buildings	Revenue generated	40,000,000	45,000,000	45,000,000	130,000,000	HRM DTDT DTSM	5.0	6.0	7.0	18.0
	To attract and develop, motivate and retain qualified professional staff, especially in the areas of design and development of plants and equipment and mechanical engineering support services	To engage Consultant To prepare new Schemes of Service, Fringe benefits and Incentive schemes	New Schemes of Service, Fringe benefits and Incentive schemes prepared	1	0	0	1	HRM DTDT DTSM	10.0	0	0	10.0
	To initiate and participate in programs that aim at reducing the impact of HIV/AIDS on the workers community and the general public	Care for HIV/AIDS affected persons	N/A	N/A	N/A	N/A	N/A	HRM DTDT DTSM	15.0	15.0	15.0	45.0

	To mainstream gender issues in all TEMDO programs and activities so as to enhance equity and productivity	Encourage qualified female to join TEMDO	Number of new female staff employed	4	2	2	8	HRM DTDT DTSM	5.0	4.0	4.0	13.0
	To create collaborative and cooperative undertakings with various stakeholders	Attend collaboration and networking meetings, seminars and workshops	Number of meetings attended	4	4	4	12	HRM DTDT DTSM	5.0	6.0	7.0	18.0
	Sub Total								**52.0**	**49.0**	**52.0**	**153.0**

TABLE 11. TEMDO MAJOR ASSETS

TEMDO, ARUSHA

YEAR OF INCOME:2007/2008
SUMMARY OF DEPRECIATION

S/N	TYPE OF ASSET	Year of Purchase	QTY	COST 01.07.2007	Additions	TOTAL COST 30.06.2008	RESIDUAL VALUE	DEPRECIABLE COST	Acc depr. (reworked)	Depreciation Charge (reworked)	Acc depr. (reworked)	Net Book Value 30.06.2008	Net Book Value 30.06.2007
			%						Opening Bal		Closing Bal		.
1	LAND & BUILDINGS			310,441,172	-	310,441,172	-	310,441,172	180,704,586	12,417,647	193,122,233	117,318,939	129,736,586
2	WORKSHOP MACHINERY			46,933,675	180,000	47,113,675	4,711,368	42,402,308	41,740,127	319,130	42,059,257	5,054,418	5,193,548
3	COMPUTER & TELEPHONE	-	-	47,005,916	1,360,000	48,365,916	4,836,592	43,529,324	24,863,925	5,389,960	30,253,885	18,077,729	22,240,572
4	OFFICE EQUIPMENT	-	-	14,214,945	-	14,214,945	344,600	13,904,648	8,634,229	682,807	9,317,036	4,932,212	5,709,585
5	DRAWING OFFICE EQUIPMENT	-	-	8,767,243	-	8,767,243	228,549	8,538,693	6,619,595	204,704	6,824,299	1,942,943	1,920,198
6	RESIDENTIAL FURNITURE	-	-	230,438	-	230,438	400	230,038	230,038	-	230,038	400	400
7	LIBRARY BOOKS	-	-	295,523	-	295,523	100	295,423	295,423	-	295,423	100	100
8	MOTOR VEHICLES	-	-	53,086,490	-	87,790,490	-	74,590,490	19,135,795	10,440,065	29,575,860	58,214,630	33,950,695
9	OFFICE FURNITURE	-	-	5,314,829	3,263,252	8,578,081	331,725	8,246,356	3,368,796	329,837	3,698,632	4,879,449	1,946,033
	TOTAL			**486,290,231**	-	**525,797,483**	-	**502,178,451**	**285,592,514**	**29,784,149**	**315,376,663**	**210,420,820**	**200,697,717**

TABLE 12. CAPITAL DEVELOPMENT BUDGET 2011-2016

S/N	ITEM	QUANTITY						BUDGET IN TSHS "000,000"					
		2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
1.	Desktop computer	13	7	7	5	5	5	16.0	12.0	10.0	8.0	8.0	8.0
2.	Laptop computer	8	5	5	2	2	2	16.0	12.0	10.0	6.0	6.0	6.0
3.	Design software & other computer software	1	2	2	1	1	1	15.0	40.0	10.0	5.0	5.0	5.0
4.	A1 plotter	1	0	1	0	0	1	15.0	0.0	15.0	0.0	0.0	20.0
5.	A1photocopier machine	2	0	2	0	0	1	30.0	0.0	30.0	0.0	0.0	15.0
6.	A3 scanner	3	0	2	0	0	1	6.0	0.0	4.0	0.0	0.0	3.0
7.	Printer	4	0	2	1	1	1	2.0	0.0	1.0	0.5	0.5	0.5
8.	4WD Double Cabin P/up truck	1	0	0	0	0	1	35.0	0.0	0.0	0.0	0.0	45.0
9.	TV and Dish Antenna	1	1	1	0	0	1	5.0	8.0	9.0	0.0	0.0	5.0
10.	Office Furniture and Equipment	LOT	LOT	LOT	LOT	LOT	LOT	15.0	5.0	5.0	5.0	5.0	5.0
11	Video conferencing equipment		LOT						15.0				
12	A/C Units, split type (Air conditioning)		2						3.0				
13	CNC Tool Room Milling m/c (with vertical head, swing holder and accessories)				1						150.0		
14	CNC Tool Room Universal Lathe (with accessories)			1						100.0			
15	Universal cylindrical Grinder m/c (internal and external)						1						55.0
16	Surface Grinder m/c	1						35.0					
17	Band Saw m/c	1						8.0					
18	Surface Marking Plate		1						10.0				
19	Digital vernier Height Gauge	1						0.6					
20	Universal Tool & Machine		1						15.0				
21	Radial Drilling Machine	1						30.0					
22	Universal Lathe Machine	1						20.0					
23	Universal Milling Machine	1						35.0					

S/N	ITEM	QUANTITY						BUDGET IN TSHS "000,000"					
		2011	2012	2013	2014	2015	2016	2011	2012	2013	2014	2015	2016
24	Measuring/Checking Tools (Assorted)		LOT						10.0				
25	Surface Roughness Tester			1						5.0			
26	Microscope with Camera				1						7.5		
27	Universal Measuring Machine				1						7.5		
27	Profile Projector					1						5.0	
29	Tools & Accessories (assorted)	LOT						20.0					
30	Chemical composition analyzer m/c e.g optical-emission-spectroscopy (steel, Cast Iron, Cu, Al, etc)		1						10.0				
31	Electric furnace heat treatment plant (dia.400mm;depth 600mm; maximum temp.1350 ^{0}C)	1						15.0					
32	Hardness Tester m/c (HB, HV, HRC)		1						30.0				
33	Nibbling Machine	1						10.0					
34	Angle Grinder Machine	2						1.0					
35	Sheet Shear m/c (max. 8mm)		1						150.0				
36	Sheet Roller m/c (max.8mm)	1						20.0					
37	Sheet Bender m/c (max.8mm)	1						60.0					
38	Rapid Prototyping machine				1						40.0		
39	Spot Welding m/c	1						12.0					
40	Gear Hobbing machine (with accessories-max Dia 300mm)			1						150.0			
41	Hydraulic Press – 100T					1						26.0	
42	Power Hacksaw	1						3.0					
43	Rehabilitation of Buildings	LOT				LOT		100.0	50.0			100.0	
44	Motor vehicle (staff bus)			1						80.0			
45	Video Camera	1						1.0					
46	Digital Camera	1						0.6					
	TOTAL							526.2	370.0	429.0	229.5	155.5	167.5
	GRAND TOTAL	**1,877.7**											

PROJECTED INCOME/EXPENDITURE MATRIX 2011 - 2016

TABLE13. PROJECTED INCOME/REVENUE MATRIX 2011-2016 ((FOR THE LIFETIME OF THE SP) IN TSHS '000,000

DEPART.	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
HRM	38	45	54	64	76
DTDT	70	84	100	120	144
TSS&M	80	96	115	138	165
TOTAL	**188**	**225**	**269**	**322**	**385**

TABLE 14. PROJECTED INCOME/EXPENDITURE 2011 - 2016 (FOR THE LIFETIME OF THE SP) IN TSHS. '000,000

	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
Income	**188**	**225**	**269**	**322**	**385**
Less Expenditure					
Section: HRM	38	45	54	64	76
DTDT	70	84	100	120	144
TSS&M	80	96	115	138	165
NET	-	-	-	-	-

10. 0 MONITORING AND EVALUATION OF TEMDO STRATEGIC ACTION PLAN

Monitoring and Evaluation Criteria

A criteria for monitoring and assessment of the SP performance has been developed through established SMART objectives and indicators. The following criteria will be used:-

(a) Implementation of the various SP activities will be monitored on a continuous basis to identify possible problems and/or constraints and provide for remedial actions to improve performance. Regular monitoring to track progress will be accomplished by evaluating performance indicators designed for the activities.

(b) Financial and technical reports on a quarterly and annual basis will be prepared and submitted to the Board. They will give an account of the progress of each SP strategic objective, activities and issues that have arisen and recommendations for improvement.

(c) Evaluation of the SP will be subject to three evaluations during the three year plan period. An interim evaluation will be carried out at the end of each financial year and a terminal evaluation will be made at the end of the plan period.

11.0 COMMUNICATION PLAN

Ongoing communication will be an essential ingredient to the success of this strategic plan. A written communication plan helps to give focus on the day-to-day work, setting priorities, provides a sense of order and control and helps to get support from all members. Below is a table that enlists the communication strategies and actions that TEMDO will embark on to ensure that important issues are resolved and communicated to members of staff.

TABLE 15. TABLE OF COMMUNICATION STRATEGIES

NO	ISSUES OF CONCERN	STRATEGIES TO BE USED	PLAN/ACTIVITY	RESOURCES NEEDED
1.	Mobilization and dealing with resistance to change	Sensitization of workers on need for change	Meetings and Seminars	20,000,000
2.	How will you create a shared vision?	Involvement of workers in creating the vision statement	Workers meeting, Workers Council meeting	2,000,000
3	How will you mobilize commitment and convergent views in the organization.?	To keep our staff up to date	Monthly workers meetings	5,000,000
4	How will you make change last?	Regular reviews and taking corrective actions Educate staff on the benefits of change	Meetings and Seminars	10,000,000
5.	How will you deal with employees entrenched opinion/ideals that because they are permanent and pensionable Government Parastatal staff nothing will ever happen to them even if they do not support or implement the SP?	Educate the staff on the benefits of change including the survival of the organization	Meetings and Seminars	3,000,000
6.	How will you deal with employee uncertainty and worry that the Strategic Plan (SP) will never be implemented because of lack of resources, especially financial	To make advance preparations on financial resources especially capacity building	Writing of project proposals and request documents	5,000,000

NO	ISSUES OF CONCERN	STRATEGIES TO BE USED	PLAN/ACTIVITY	RESOURCES NEEDED
7.	How will you deal with employee doubt that the SP will not be implemented because the organization's leadership is not strong/competent enough to spursue its implementation?	To strengthen the organization's leadership	Training, development and employment	20,000,000
8.	How will you deal with passive resistance to change, lack of interest and involvement, apathy, shock, mistrust of the motives for change?	To remove Staff who are unwilling to change	Train in and implement OPRAS	15,000,000
9.	How will you deal with misunderstanding details of change, belief that change is not necessary, doubting the effectiveness of the planned change, expecting negative consequences?	To make TEMDO a learning Organization Educate staff on the benefits of change	Implement OPRAS	-
10.	How will you deal with fear of losing job, status, control, anxiety about the future?	Mutual benefit negotiations with the workers	Prepare an attractive and effective exit package	-
11..	How will deal with lack of skills and experience needed to manage the change effectively?	Fill skill gaps	Training and employment	300,000,000
12.	How will you deal with the resistance of top management to support the SP because of the worry to loose power and control of people and resources, need to learn new things, worry about loosing position or job, or subordinates pushing them!	Implement OPRAS	Implement OPRAS	-
13.	What will you do if the employees covertly plan to bring down the SP by writing "*barua bubu*" and "*tuhuma*" to higher levels in Government and other policy making/decision bodies against the SP and those who prepared it?	Make the SP exercise fair, open and participatory thus making "*barua bubu*" and "*tuhuma*" redundant and useless.	Create awareness of SAP to higher levels in Government and other policy making/ decision bodies	10,000,000

NO	ISSUES OF CONCERN	STRATEGIES TO BE USED	PLAN/ACTIVITY	RESOURCES NEEDED
14.	How will you identify type of communication strategy to be used in communicating the SP?	The type that will cover all stakeholders.	Prepare publications	10,000,000
15.	How will you design the communication strategy?	The communication strategy will take into consideration the type of stakeholders involved	Prepare design of communication strategy with assistance of consultant	5,000,000
16.	How will you implement the communication strategy?	Effective communication with assistance of consultant	Stakeholders' meetings and mailing	10,000,000
17.	How will you make total communication and timely disclosure to internal and external stakeholders?	Effective communication with assistance of consultant	Arrange for Meetings and Seminars involving all stakeholders (internal and external)	30,000,000
18.	Which monitoring and evaluation plans will you use to ensure that the SP was well communicated?	Continuous monitoring and evaluation, Effective feedback mechanism	Carry out continuous monitoring and evaluation	5,000,000
19.	How will you engender commitment, acceptance, and continual support of the strategic plan by all staff?	Maintain focus of staff on SAP	Periodic reporting of SAP monitoring and evaluation to all staff members in meetings	1,000,000
20.	How will we anticipate reactions of staff to the change and strategic plan?	Questions about SAP should be answered adequately	Create a list of 20 important Q and A about the SAP	500,000
21.	How will you break bad news to those adversely affected by SP?	Give ample time to affected staff to prepare for change	Conduct counseling sessions and entrepreneurship training to affected staff	10,000,000
22.	If staffs disagree with your SP reasoning on emotional or intellectual grounds what will we do?	Educate the staff and modify the SP to reflect mutual understanding	Review SP regularly	3,000,000

23	Customer care	Delight customers beyond expectation	Develop client service charter	8,000,000
24	After sale services	Exercise immediate response to customers' complaints	Develop monitoring and evaluation mechanism	3,000,000
25	Awareness about TEMDO's existence and activities	Regular updating of stakeholders about TEMDO's activities	35 17 Update website regularly 35 17 Production of newsletter and publications 35 17 Conduct and participate in exhibitions	400,000,000

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TABLE 16. MASUALA YALIYOJITOKEZA KUTOKA KWA WAFANYAKAZI KUHUSU HALI YA TAASISI

Na	SUALA	MKAKATI	NINI KIFANYIKE	BAJETI	MAONI
1.	Kutokamilika kwa vitendea kazi (vifaa vya karakana na maabara)	Kuendelea kutafuta fedha kutoka serikalini na Washirika wa Maendeleo pamoja na kuzalisha fedha za ndani	Kutayarisha na kupeleka mapendekezo ya miradi (proposals) na maombi ya fedha serikalini na kwa Washirika wa Maendeleo	1,000,000	
			Kununua vifaa vya karakana na maabara	2,000,000,000	
2.	Uwezeshwaji mdogo wa shughuli za uendeshaji na utafiti kutoka serikalini	Kuendelea kutafuta fedha kutoka serikalini na Washirika wa Maendeleo	Kutayarisha na kupeleka "proposals" na maombi ya fedha serikalini na kwa Washirika wa Maendeleo	1,000,000	
		Kubuni miradi ya kuingizia shirika fedha	Kuandika "proposals" za miradi	1,000,000	
		Kutafuta masoko ya bidhaa na huduma	Kujitangaza	20,000,000	
3.	Ushindani kutoka nje kutokana na soko huria	Kuongeza ubora na unafuu wa bei kwa bidhaa na huduma	Kuboresha shughuli za usanifu na utengenezaji		Shughuli hii litatekelezwa sambamba na suala na. 1
			Kutoa mafunzo ya ubora kwa wafanyakazi	10,0000,000	
		Kutoa elimu kwa umma juu ya ubora wa bidhaa na huduma za	Kuendesha semina, kutoa makala na matangazo kwenye vyombo vya habari	30,000,000	

		TEMDO na athari za bidhaa zenye ubora hafifu kutoka nje ya nchi			
4.	TEMDO imeshindwa kuvutia Wataalamu wenye ujuzi wa juu	Kuboresha maslahi na mazingira ya kazi na vitendea kazi kwa wafanyakazi	Kupeleka maombi serikalini ili kuongeza mishahara	1,000,000	
			Kutafuta masoko ya bidhaa na huduma zetu ili kuongeza kipato cha shirika	-	Shughuli hii itatekelezwa sambamba na suala na. 2

Na	SUALA	MKAKATI	NINI KIFANYIKE	BAJETI	
5.	Kutokuwa na vyanzo vingine vya fedha	Kubuni miradi ya kuingizia shirika fedha	Kuandika “proposals” za miradi	-	Shughuli hii itatekelezwa sambamba na suala na. 2
6.	Kukosekana kwa motisha kwa wafanyakazi / Mishahara na marupurupu siyo mazuri	Kuboresha maslahi na mazingira ya kazi kwa wafanyakazi	Kupeleka maombi serikalini ili kuongeza mishahara	-	Shughuli hii itatekelezwa sambamba na suala na. 2
			Kutafuta masoko ya bidhaa na huduma zetu ili kuongeza kipato cha shirika	-	Shughuli hii itatekelezwa sambamba na suala na.4
			Kuboresha vitendea kazi		Shughuli hii itatekelezwa sambamba na suala na. 2
7.	Kutotambulika na wateja	Kujitangaza	Kujitangaza kwenye vyombo vya habari	-	Shughuli hii itatekelezwa sambamba na suala na.2
8.	Mazingira ya kazi si mazuri	Kuboresha mazingira ya kazi na mahusiano baina ya wafanyakazi	Kuboresha vitendea kazi	-	Shughuli hii itatekelezwa sambamba na suala na.4
			Kuwa na mikutano ya mara kwa mara kwa wafanyakazi wote	10,000,000	
9.	Wafanyakazi hawaendi na wakati	Kuamsha ari kwa wafanyakazi ili waende na wakati na wawe na matumaini	Kutoa elimu na kuhamasisha utekelezaji wa Mpango Mkakati (SAP)	10,000,000	
10.	Mawasiliano baina ya uongozi na wataalamu siyo mazuri	Kuboresha mazingira ya kazi na mahusiano baina ya wafanyakazi	Kuwa na mikutano ya kawaida na kiutendaji baina ya uongozi na wataalamu		
11.	Mikakati iliyowekwa haitekelezwi; inabaki kwenye makaratasi	Kutafsiri mikakati kwa vitendo	Kutekeleza mikakati		

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