Tanzania Agricultural Research Institute
TARI

Strategic Plan

2019/20 - 2024/2025

July, 2019

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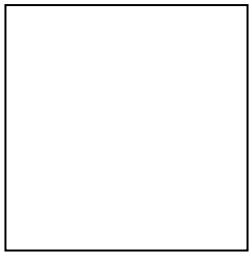
FOREWORD



I am pleased to present the first Tanzania Agricultural Research Institute (TARI) Five Year Strategic Plan for 2018-2024. The Plan has outlined strategic objectives for accomplishing TARI's research-related mission; supporting the national food and agricultural systems while recognising human nutrition, environment, agricultural modernisation and inclusiveness. It is organized within the framework of our existing National policies, Strategies and Programs, but also most importantly, emphasizing the priority Agricultural Sector Development Programme Phase II (ASDP II) goals of enhanced Sustainable Agriculture, Productivity and Profitability, Food and Nutrition Security, and Agricultural Commercialization and value addition to reduce hunger and improve well being of the people in the country and beyond.

During development of this Plan, the vision and mission of the Institute were formulated to accommodate contemporary policy and climate change concerns affecting agricultural sector. The opportunities and challenges that now exist as a result of major changes in the external operating environment have been considered in formulating the plan. The vision and mission, the strengths and weaknesses within the current operational structure of the institute have also been assessed in terms of policy, physical, financial and human resources. Assessment of the external and internal operating environments has led to the identification of objectives to be achieved and the formulation of strategies that will be carried out for the next five years. This Strategic Plan therefore, seeks to make the institute effective, client responsive, capable of providing quality services to the stakeholders. It is therefore, imperative that the Institute recognizes the enormous opportunities that exist in the domestic, regional and international markets with a view of exploiting them in development and dissemination of research results by involving all key actors along the value chains.

TARI will adopt agricultural innovation system by working together with a range of stakeholders on matters related to agricultural research, innovations and appropriate allied sciences. In this respect, the Institute will play an effective role in organizing, informing, empowering, and enabling the agricultural clients to take advantage of the unfolding opportunities in the economy to enhance their productivity, income and livelihood. However, the Plan will be dynamic to respond to new and emerging problems. As research goals are achieved and new problems and priorities emerge, the Strategic Plan will be updated accordingly and regularly to reflect necessary needs in emphasis. It will facilitate the Institute to improve performance of its mandates, and therefore, achieving the set goals.

I wish success to all stakeholders who will be involved in the implementation of this strategic plan. More importantly, I hope all staff will enjoy their duties as they will be working with clear targets in sight. It is a big step to start focusing on doing the right things but we must also do them right. It can be done successfully if all stakeholders play their roles effectively, efficiently and transparently.

Lastly, I extend my sincere appreciation to all members of the Institute and other stakeholders who in one way or another contributed to the preparation of this Strategic Plan. The Plan is available on the TARI Web site: http://www.tari.go.tz.

TARI BOARD CHAIRMAN

STATEMENT OF THE DIRECTOR GENERAL

Agricultural Research Institute is a body corporate, established under section 3 of TARI's Act No. 10 of 30th September 2016 responsible for conducting basic, applied and strategic research, promoting, regulating and coordinating all agricultural research activities in the Mainland Tanzania and advise the governement and other stakeholders on matters related to agriculture research for sustainable developement. Its current headquarters is in Dodoma region.

The TARI Strategic Plan (SP) 2019/2020 - 2024/2025 stipulates TARI's mandate, vision, mission and strategies required to achieve the planned objectives taking into consideration the national socio-economics policies, programmes and the priority goals for agricultural sector as prescribed in the FYDP II as a means to chart out the growth path, aimed at realizing a semi-industrialized and competitive economy both at the national and international levels

The SP is also informed by the Agricultural Sector Development Programme Second Phase (ASDP-II) which aims at transforming the agricultural sector towards higher productivity, profitability and increased smallholder farmer incomes for improved livelihood and ensure food and nutrition security. More emphasis will be given on technology development, validation and up/out scalling to ensure the technologies are widely used by end users. Another critical areas of focus will be seed production and distribution (of all seed classes), which will be supported by rehabilitating irrigation infrastructure, storage facilities and cold rooms in selected TARI Centres. Also, special consideration under capital investment will be on strengthening seed production of sunflower, oil palm, cotton and cashew.

Our progress on the implementation of this MTSP will be measured against the achievement of key performance indicators. This progress will be reported on through a variety of mechanisms including the Institute's annual report.

Since the development of the MTSP has been much of a multi-stakeholder involvement, I thank all who have been involved in one way or another in the preparation of the document and wish a success to all stakeholders who will be involved in the implementation of MTSP to achieve its high-level goals and objectives which will require flexibility, openness to change and a continued focus on delivery and provision of a quality services.

I, therefore, call upon all personnel and all other key agricultural stakeholders to pool their energies and work together for realization of the set Institutional strategic objectives.
I now look forward to working with you in its implementation.

TARI DIRECTORS GENERAL

LIST OF ABBREVIATION

ASDP	Agriculture Sector Development Programme
ASDS	Agriculture Sector Development Strategy
DLRT	Division of Livestock Research and Training
DRD	Division of Research and Development
DRT	Department of Research and Training
DT	Division of Training
EEC	European Economic Commission
FINNIDA	Finnish International Development Authority
FSA	Farming Systems Approaches
FYDP	Five Year Development Plan
GoT	Government of Tanzania
ICT	Information and Communication Technology
IEC	Information, education and communication
MALD	Ministry of Agriculture and Livestock Development
MALF	Ministry of Agriculture Livestock and Fisheries
MTSP	Medium Term Strategic Plan
NARS	National Agricultural Research Systems
ODA	Overseas Development Authority
OPRAS	Open Performance Review and Appraisal System
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SWOC	Strengths, Weaknesses, Opportunities and Challenges
TALIRI	Tanzania Livestock Research Institute
TALIRO	Tanzania Livestock Research Organization
TARI	Tanzania Agricultural Research Institute
TARO	Tanzania Agricultural Research Organization
TOSCI	Tanzania Seed Certification Agency
TPRI	Tropical Pesticides Research Institute
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Tanzania Agricultural Research Institute (TARI) Act was enacted by the Parliamentary Act No. 10 of 30th September 2016 with the mandate of carrying out agriculture research in the country. TARI is a semi-autonomous body responsible for all agricultural research activities conducted by the National Agricultural Research Systems (NARS) in Tanzania Mainland. Thus, its mandate is to conduct basic and applied research, promote, coordinate agricultural research and advise the government and other stakeholders on matters related to agricultural research for sustainable development.

This Strategic Plan presents an outline of the TARI Key Result Areas, strategic objectives, vision, mission and strategies for achieving the stated objectives. In addition, the Plan presents Results Framework and implementation arrangement.

Based on the situation and stakeholders' analyses, critical issues were identified: i) Strengthening capacity of research centres and human resource; ii) Developing demand-driven and client oriented innovations and technologies; iii) Adapting to cutting edge science in conducting both basic and applied research; iv) Enhancing availability of improved seed, access and use by farmers; v) Research infrastructure for production, processing, value addition and marketing of agricultural products; vi) Plant genetic resource conservation, improvement and utilization; vii) Improving information and knowledge management system; viii) Strengthening technology dissemination and uptake pathways; ix) Strengthening resource mobilization; and x) Environmental degradation and climate change.

The Vision and Mission of TARI are:

Vision: To be the Institute of Excellency for agricultural research in the country and beyond.

Mission: To generate and promote application of knowledge in agricultural technologies as catalyst of change in achieving agricultural productivity, food and nutrition security, sustainable agriculture and economic growth involving stakeholders in the country and global community.

Thus, in order to contribute to the vision, five Key Result Areas (KRAs) are developed including i) Demand-driven technologies and innovations generated and promoted; ii) Socio-economics Information, policy and marketing options for agricultural product value chains developed and advocated; iii) Mechanisms for streamlined, Regulated and well-coordinated research established and operationalized; iv) Knowledge, information, and communication on agricultural technologies shared; and v) Capacity to implement agricultural research enhanced.

For each of the KRA, strategic objectives, strategies and key performance indicators are highlighted as a measure of outcomes and impacts of the interventions to be developed. The Strategic Plan also presents Result Framework and Implementation arrangement providing linkages between strategic objectives with clear indicators, targets and budget that are relevant for planning and measuring performance.

In the operationalization of the Strategic Plan, there will be inherent critical factors to bring about successful outcomes. They include: i) Good corporate governance; ii) Effective, efficient and strong leadership; iii) demand-driven technologies; iv) Effective communication; v) Adequate, skilled and professional human capital; vi) Cooperation and support from partners, collaborators and stakeholders; vii) Motivated and satisfied internal and external customers; and viii) Effective monitoring, control and learning.

CHAPTER ONE: INTRODUCTION

1. Background

1.1 Agriculture in the Context of National Development

Agriculture is the main stay of Tanzania economy as in 2017 contributed about 28.7% of the GDP, out of which crop sub-sector contributed 16.58%. It comprises about 65.5% of the labour force. However, agricultural growth has stagnated at 3-4% over the last few years against the desired growth rate of about 6% necessary to achieve the Sustainable Development Goals (SDGs). As in many countries of Sub-Saharan Africa, agriculture in the country is highly vulnerable to bio-physical factors (weather), socio-economic factors and other nature-based adverse effects. The agriculture is still characterised by smallholder farmer productivity which remains low, widespread malnutrition and inequality. Redressing these problems it is necessary to create an enabling environment for inclusive, broad-based, and sustained agricultural sector growth through adaptation of agricultural technologies and innovations.

Due to frequent changes in institutional structure of Agricultural System in the country and inadequate funds for research, the effectiveness of research activities were diminished and therefore the government realized the need of having an effective system of undertaking agricultural research in the country. Thus, Tanzania Agricultural Research Institute (TARI) was established by the Act No. 10 of 30th September 2016 as a semi-autonomous public institution under the then Ministry of Agriculture (MoA), Food Security and Cooperatives. Its mandates are to conduct, coordinate and promote agricultural research activities in Tanzania mainland.

TARI is a leading National Agricultural Research System (NARS) with the mandate to oversee all matters related to agricultural research in Tanzania. In addition, the Institute will coordinate private research institutes dealing with crops including i) Tanzania Coffee Research Institute (TaCRI); ii) Tea Research Institute of Tanzania (TRIT); and iii) Tobacco Research Institute of Tanzania (TORITA). TARI will collaborate with other NARS Institutes including Tanzania Livestock Research Institute (TALIRI), Tanzania Fisheries Research Institute (TAFIRI); and Tanzania Forestry Research Institute (TAFORI) and Tropical Pesticides Research Institute (TPRI). In addition, there are regional and international agricultural research centres operating in the country which include: International Institute of Tropical Agriculture (IITA), International Rice Research Institute (IRRI), World Agro-forestry Centre (ICRAF), etc.

In the past two decades, the Division of Research and Development (DRD), now TARI made significant achievements in technology development and transfer in the area of variety development, agronomy research, integrated pest and disease management, value addition and utilization, soil and water management and biotechnology, and research methodology and approaches. For example, in the last 10 years, 72 improved varieties of different crop species were released. Others include improved small scale processing technologies for oil crops, root crops, horticultural and cereal crops; integrated pest management technologies in various crops and fertilizer recommendations. Also, appropriate and participatory research approaches were developed including Farming System Approach (FSA) and Client Oriented Research and

Development Management Approach (CORDEMA). These technologies have contributed to increased yields, production and incomes; and have also averted the country from potential major food shortages. Currently, TARI has a total of 724 staff of whom 332 are research scientists (65 PhD, 216 MSc, 111 BSc), 192 technicians and 200 support staff.

This is TARI's first Medium Term Strategic Plan (MTSP) which covers a period of five years from 2019/19 to 2024/25./ The Plan maps out the strategic direction for transforming agricultural Research system in the country. The MTSP essentially focuses on the functions of the TARI which include research on crops, crop products and by-products, soil and water, agricultural engineering, agro-forestry, socio-economics, systems interaction, biotechnology and climate change management in Tanzania.

1.2 The Approach

The Plan builds on existing, national program planning processes. TARI identified strategic and responsive, relevant goals for each result area through intense customer and stakeholder interaction. It was prepared in alignment with the Medium Term Strategic Planning and Budgeting Manual of the United Republic of Tanzania. Preparation of this MTSP was done in consultation with key stakeholders including Ministry of Agriculture, Ministry of Livestock and Fisheries Development (MALD), Ministry of Industry, Trade and Investment, President's Office - Public Service Management, Vice Presidents' Office responsible for Environment, Tanzania Livestock Research Institute (TALIRI), Local Government Authorities (LGAs), Civil Society Organizations and Private Research Institutes.

In addition, reference was made to the national development plans and programmes (Tanzania Development Vision 2025; National Five Years Development Plan 2016/17 – 2020/21, TALIRI and TOSCI Strategic Plans); Sector policies, strategies and programmes (National Agriculture Policy, Agriculture Sector Development Strategy, Agriculture Sector Development Programme II, Tanzania Agricultural and Food Security Investment Plan); Comprehensive Africa Agriculture Development Program and Sustainable Development Goals.

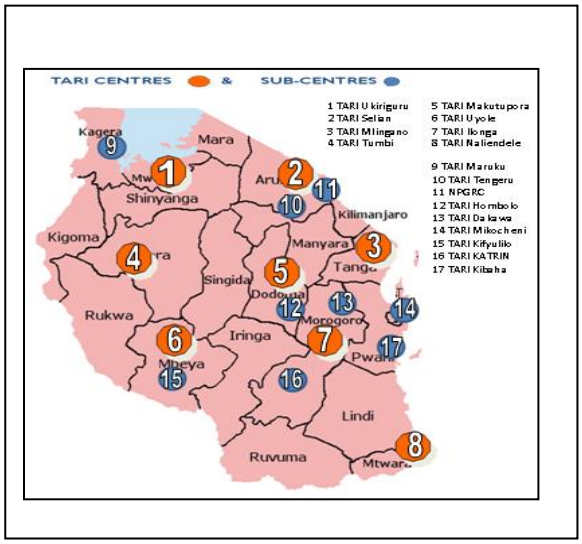
The process of preparing this MTSP involved situation analysis, stakeholders' analysis and the analysis of Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the Institute. The Situation Analysis revealed critical issues that are addressed in this MTSP. The identified critical issues were the basis for formulating TARI's Vision, Mission, Core Values and for developing Objectives, Strategies, Targets and Key Performance Indicators.

1.3 TARI Mandate

TARI is a semi-autonomous body responsible for all agricultural research activities conducted by the National Agricultural Research Systems (NARS) in Tanzania Mainland. TARI mandate is to conduct basic and applied research, promote, coordinate agricultural research and advise the government and other stakeholders on matters related to agricultural research for sustainable development.

Scope

TARI is the overseer for guiding, coordinating and promoting agricultural research on crops, crop products and by-products, soil and water management, soil mapping, agro-forestry, agricultural engineering, socio-economics, biotechnology and climate change management in Tanzania.



TARI has research network of 8 centers and 9 sub-centres. The Centres are Ukiriguru, Uyole, Selian, Ilonga, Makutupora, Tumbi, Naliendele and Mlingano. The Sub-centres are Kibaha, Mikocheni, Kifyulilo, Hombolo, HORTI-Tengeru, Maruku, Dakawa, Ifakara and National Plant Genetic Resource Center (NPGRC). There are also 25 Experimental Stations which are under TARI Centres or sub-centres. They include Bwanga, Mwanhala, Kazinga, Mwalogwabagole, Nyamasindi and Usagara (TARI-Ukiriguru); Mbimba, Mitalula, Ismani, Seatondale, Igeri, Suluti, Ndengo, Milundikwa, Igurusi, Kikusya and Kinyika (TARI Uyole); TAC (TARI Sub-centre Ifakara); Mtanila and Mubondo (TARI Tumbi); Nachingwea and Mtopwa (TARI Naliendele); Amani Botanical Garden (TARI Mlingano) and Mkuranga and Chambezi (TARI Sub-centre Mikocheni).

1.4 TARI's Core Functions

The core functions of TARI are to:

a) Conduct, promote and coordinate basic, applied and strategic agricultural research;
b) Advise the Government on the formulation of national policies, laws and regulatory frameworks for promoting and regulating agricultural research;
c) Formulate and oversee the implementation of intellectual property policy of the Institute;
d) Formulate research standards, code of ethics, conduct and practice, and guidelines for delivery of agricultural research services;
e) Set, in collaboration with key stakeholders, national agricultural research agenda and priorities of the national agricultural research system and coordinate the implementation of such agenda and priorities;
f) Establish and operate an efficient system of documentation, dissemination and promotion of information on agricultural research;
g) Promote advancement of skills by providing facilities for training research personnel for the Institute and other stakeholders for better carrying out basic, applied and strategic research;
h) Mobilise funds for agricultural research and development;
i) Coordinate and promote cooperation and collaboration with other countries, institutions, scientific or professional societies and other agricultural research service providers, with regard to agricultural research, development and technology transfer in the agricultural sector;
j) Provide, undertake and promote consultancy services in research, training and dissemination of information in agriculture and allied sciences;

k) Register and maintain a register of agricultural research service providers and their research projects in the public and private sectors;
l) Promote seed deployment and multiplication;
m) Establish and maintain gene bank for purposes of characterizing, evaluating and conserving plant genetic resources; and
n) Perform any other functions related with agricultural research for better carrying out the purposes of TARI Act.

1.5 The Purpose of the Plan

According to the national development policy, based on the strategic priorities of MoA and its common agenda of commercialization, modernization, productivity and food security, the TARI Strategic Plan aligns the strategic objectives and priorities with the agricultural policies and strategies to be pursued towards objectives of the National Five Year Development Plan and Ministry's objectives for the five years. It is designed to provide strategic direction with respect to ministry's policy, strategies, programs, projects and activities.

The Strategy is indicative in nature and outlines the necessary plans that should be realized toward the attainment of agricultural sector development goals. In the need to monitor and measure progress, the Strategy sets targets that indicate major milestones. The strategy sets up a logical and integrated implementation arrangement of the main activities necessary for the achievement of the mandate of the Institute.

1.6 Layout of the Plan

This Plan consists of four Chapters. Chapter one covers the Introduction that consists of the background, methodology, purpose and layout of this Plan. Chapter two covers the Situation Analysis comprising the mandate, roles, SWOC Analysis, Stakeholders' Analysis and Critical Issues. Chapter three presents the Plan containing Vision and Mission Statements, Core Values, Objectives, Strategies, Targets and Key Performance Indicators. Chapter Four presents Research priority thematic areas and Chapter Five describes results frame work.

CHAPTER TWO: SITUATION ANALYSIS

2.1 Historical Perspective of NARS

During the colonial era, the focus of agricultural research in Tanzania was on the major export crops: coffee, cotton, sisal, tea and tobacco. After independence, the focus of agricultural research was directed to include food crops and livestock produced by smallholder farmers. During the early seventies, research in Tanzania focused on commodities, funded by the government and various donors. For example, the main food crops, namely, maize, sorghum and grain legumes were supported by the United States Agency for International Development (USAID), wheat by the Canadian International Development Agency (CIDA), coffee by the European Economic Commission (EEC), cashew nut by the Italian Government, coconut by the Government of the Federal Republic of Germany, cotton and oils seed crops by the Oversees Development Authority (ODA) of the United Kingdom and research activities under the Uyole Agricultural Centre supported by the Finnish International Development Authority (FINNIDA). However, there was limited research done on other commodities. It was therefore difficult under this arrangement for government to make proper priorities, planning, management and funding of agricultural research activities covering all commodities.

Between 1976 and 1980, the government reorganized the agricultural research department into four semi autonomous research parastatals to take charge of crops and livestock research. The research institutes or organizations established were: i) Uyole Agricultural Center (UAC) in 1976; ii) Tropical Pesticides Research Institute (TPRI) in 1979; iii) The Tanzania Agricultural Research Organization (TARO) in 1980; and iv) Tanzania Livestock Research Organization (TALIRO) in 1980.

These organizations were mainly funded by the government and had teething problems such as inadequate recruitment of competent research staff and development of excellence research capacities. These organizations lasted for nine years before the government decided to dissolve them. However, for the nine years of their existence the observed achievements were: i) Established improved research coordination and networking; iv) Improved staff motivation schemes including attractive scheme of service; iii) Smooth flow of resources to its research stations; iv) Improved information management and documentation system; and v) Generation and dissemination of demand driven technologies increased.

These achievements notwithstanding, it was noted that linkage between research, extension and training was poorly addressed, and stakeholders recommended consolidating crop and livestock research, moving to a system based on agro-ecological zones, improving links between research, extension and farmers, and adapting a farming systems approach.

The Commission of Research and Training (CRT) was established in 1990 in the then Ministry of Agriculture and Livestock Development (MALD) to take care of both crop and livestock research. Under this new setup seven research zones based on types of farming systems and agro-ecologies were established. In addition, research priorities

were developed according to agro ecological zones, the number of research centers was cut down from 50 to 21 and priority stations were rehabilitated.

In 2001 crop and livestock research were again separated and put under two ministries when the Government established the Department of Research and Training (DRT) in the Ministry of Agriculture and Cooperatives and the Division of Livestock Research and Training (DLRT) in the Ministry of Water and Livestock Development. Although the DRT and DRLT were in two separate ministries, they implemented a World Bank funded project (TARP II) jointly and shared operational offices at zonal level, thus being functionally integrated in the zonal centres. This collaboration provided a rich experience on crop/livestock integration issues but it constrained resource sharing. In 2007, the then DRT was dissolved to form two separate divisions, namely the Division of Research and Development (DRD) and Division of Training (DT), which, a year later, were re-combined to form the Division of Research and Training (DRT) again. However, this setup did not last long because in 2009 the two divisions were separated again and the DRD was formed. These frequent institutional changes have impacted negatively on the efficiency and effectiveness of agricultural research in Tanzania. Therefore, the GoT decided to transform the DRD into semi-autonomous organisation namely Tanzania Agricultural Research Institute – TARI, to become more efficient and effective in executing its mandate, roles and functions of conducting, coordinating and promoting client-oriented agricultural research and development in the country. TARI shall provide dynamic and focused leadership and that shall improve research coordination, collaboration and networking among NARS institutions on behalf of the government for better agricultural development.

It is important to note that these institutional changes were mainly due to changes in policies, politics, donor priorities and change in government structures.

2.2 Performance Review

TARI has made significant achievements in technology development and transfer in the area of variety development, agronomy research, biotechnology, integrated pest and disease management, value addition and utilization, soil and water management, and research methodologies and approaches. For example, during the periods of 2001 –2017, a total of 221 improved varieties of different crops were released. Other achievements were production of pre-basic seeds, generation of improved small scale processing technologies for oil crops, root crops, horticultural and cereal crops; integrated pest management technologies and fertilizer recommendations. Also, appropriate and participatory research approaches were developed including Farming System Approach (FSA) and Client Oriented Research and Development Management Approach (CORDEMA). These technologies have fundamentally contributed to increased agricultural productivity, production and incomes of farmers; and have also averted the country from potential major food shortages.

2.3 SWOC Analysis of TARI

Strengths and weaknesses are internal attributes that will determine the success or failure of the Institute. On the other hand, opportunities and challenges are the major forces outside the Institute that determine whether it succeeds or fails in fulfilling its mandates. In this case, the strengths, weaknesses, opportunities and challenges (SWOC) of the Institute are as indicated in Table 2. This analysis helped to identify critical gaps and strategic issues (Section 2.5) as basis for formulation of strategic objectives and strategies in Chapter Four.

Table 2: Strengths, weaknesses, opportunities and challenges (SWOC) of the Institute

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	CHALLENGES
Management	▪ Presence of enabling national laws, regulations, standing orders and circulars ▪ Active coordination of centres and agricultural research programs under TARI ▪ Existence of skilled, knowledgeable, experienced and committed leadership ▪ Clear Mandates and objectives of TARI	▪ Inadequate resources to conduct regular management meetings and leadership capacity building. ▪ Inadequate collaboration, coordination and engagement within TARI ▪ Weak adherence to set down processes and procedures	▪ Existence of training institutions on leadership & Management (National and International)	▪ Financial resources constraint ▪ Change of attitude and mind-set
Institutional Capacity	▪ Existence of skilled, qualified and specialized personnel within the institute ▪ Existence of TARI Research centres, sub centres and experimental stations in different agro-ecological zones ▪ Existence of long term accumulated knowledge, information and technologies that respond	Inadequate and dilapidated research infrastructure (buildings, irrigation facilities, farm machinery and implements, laboratories and screen houses) Inadequate use and promotion of modern technologies such as ICT, biotechnology and bioinformatics Inadequate capacity in	▪ Existence of training institutions on technology development both national and international ▪ Willingness of development partners to fund research activities	▪ Low awareness of improved agricultural technologies ▪ Inadequate capacity to cope with emerging challenges such as climate change.

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	CHALLENGES
	to client-demands and needs. ▪ Existence of National Agriculture Policy(2013) and National Research Policy (2010)	conservation of plant genetic resources Inadequate capacity to respond to emerging challenges such as climate change and emerging threats (Pest and diseases) Inadequate capacity of up- and out-scaling technologies Weak in technology documentation and sharing		
Technology development	Already available technologies for up-out scaling	Inadequate modern facilities, equipment for research (e.g biotechnology and bioinformatics); Inadequate integration of market issues in the research process.	Wide range of Availability of new research approaches to carter for different growing demand to use improved technologies by clients	▪ Outbreak, resurgence and emergency of pests and diseases ▪ Climate change and variability
Resource Mobilization	▪ Available Institute policy of resource mobilization through collaborative research, research grants, contract research, and competitive research funding.	▪ Limited research funds from government. ▪ Inadequate capacity to mobilize resources ▪ Inadequate capacity to generate own Institute funds	Willingness of Development Partners to support research	▪ Low budgetary allocation ▪ Unmatching research priorities with funders
Human resource management	▪ Availability of trained personnel	▪ Weak implementation of human succession Plan	▪ Availability of trained human resource in the labor market	Loss of qualified and skilled manpower

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	CHALLENGES
	• Existence of staff regulations • Public Service Act & Regulations ▪ Existence of Open Performance Review and Appraisal System (OPRAS) ▪ Existence of Client Service Charter ▪ Existence of a functional Organization Structure	▪ Inadequate recruitment of trained personnel and effective succession plan. ▪ Inadequate staff in some specialties/disciplines ▪ Absent of incentive and awarding mechanisms	▪ Availability of specialized training institutions ▪ Availability of National and regional collaborative Institutions	through HIV/AIDS and chronic non-communicable diseases, brain drain, etc; Higher rate of staff retirement against new recruitment Lack of awareness on processes, procedures and existing systems among stakeholders; Donor dependence on human resource development
Financial and procurement management	▪ Participatory planning and budgeting ▪ Existence of Internal and External Auditing System ▪ Existence of internal financial control	▪ Lengthy procurement procedures ▪ Ineffectiveness in procurement monitoring ▪ Inadequate procurement and finance staff ▪ Poor capacity of staff on finance and procurement ▪ Inadequate capacity to use modern financial and procurements systems	Existence of Public Private Partnership legal framework	Inadequate of staff faithfulness and integrity
Policy and Strategies	▪ Existence of TARI Act ▪ Existence of planning,	Inadequacy enforcement of intellectual property policy to	Development Partners are willing to support policy	Inadequate awareness of policies among

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	CHALLENGES
	monitoring and evaluation framework	guide acquisition, access, protection and promotion of new innovations /technologies/ inventions.	formulation and implementation	stakeholders Frequent changes of government plans and priorities
Linkages	Existence of linkage within the NARS and with regional and international institutions, local stakeholders and development partners	Weak integrated management information system Inadequate negotiation skills Weak mechanism to link with extension Weak capacity to network and collaborate in technology development and dissemination	Both national and regional research organizations are willing to collaborate, network and support agricultural research initiatives	Weak research-extension-farmer linkages leading to poor dissemination of research outputs.

2.4 Stakeholder Analysis

Stakeholders analysis was conducted to identify and define the characteristics of key stakeholders and assess the manner in which they might be affected or affect the institute. TARI's categories of stakeholders identified and their expectations are as indicated in Table 3. These are potential stakeholders that TARI will be implementing its activities together.

Table 2: Stakeholder Analysis

S / N	Stakeholder / Client	Expectations	Service offered by TARI	Potential Impact
A	**Direct Stakeholder**			
1	Ministry of Agriculture	▪ Contribute to improved agricultural production, productivity and livelihoods of rural people ▪ Alignment with ASDP II priorities	▪ Develop and transfer modern agricultural technologies	Increase in crop yield Increase in farm area under improved technologies Reduced labour drudgery
2	Farmers and Farmers' Organizations	▪ Timely and quality technological packages ▪ Enhanced capacity building in production, post-harvest management and markets (Timely advisory services, Awareness on agricultural intervention options, Access and use of factual information and Training) ▪ Gender consideration in the development of technology and provision of services	▪ Development and deployment of appropriately packaged improved technologies ▪ Provision of tailored training to farmers and related information, education and communication (IEC) materias	▪ Improved livelihoods, food security and income

S / N	Stakeholder / Client	Expectations	Service offered by TARI	Potential Impact
3	Traders	▪ Quality products ▪ Timely and reliable market information. ▪ Appropriate post harvest technologies	▪ Development and deployment of cost-effective post harvest technologies ▪ Compile and disseminate market information ▪ Development and deployment of products with quality standards	▪ Reduced costs for undertaking business
4	Processors	▪ Timely and reliable information on quality and quantity of agricultural products ▪ Timely and reliable market information. ▪ Enhanced capacity building of SMEs in processing value addition, post harvest handing, post-harvest management and markets	▪ Packaging reliable information on quality, quantity and market opportunity of agricultural products ▪ Provision of tailored training to SMEs and related information, education and communication (IEC) materials	▪ Increased efficiency ▪ Increased benefits
5	Local Government Authorities	▪ Innovativeness in agricultural technologies ▪ Well researched and applicable technical advice ▪ Timely and effective delivery of services ▪ Establishment of strong linkage between research and local government extension system	▪ Develop and deploy demand driven technologies and services ▪ Effective and timely delivery of agricultural research services ▪ Participatory generation and dissemination of agricultural technologies	▪ Availability of improved technologies
6	Consumers of agricultural produce	▪ Quality products of affordable prices Responses to consumer preferences	▪ Development of technologies, innovations and policies that will enhance productivity and labour saving ▪ Inclusiveness of all stakeholders in the generation of agricultural technologies	▪ Increased quality and prices of products

S / N	Stakeholder / Client	Expectations	Service offered by TARI	Potential Impact
7	Development Partners	▪ Conducive policies, legal and regulatory framework ▪ Efficient and effective management of resources ▪ Commitment and accountability. ▪ Effective management information system and timely reporting. ▪ Good governance and Transparency ▪ Effective collaboration and cooperation	▪ Conducive policies, legal and regulatory framework ▪ Adhere to agreed commitments ▪ Demonstrate good governance, efficient and effective management of resources	▪ Enhanced partnerships
8	Service Providers	▪ Timely and reliable data on recommended technological packages according to agro-ecologies ▪ Marketable agricultural technologies by farmers ▪ Technical support	▪ Packaging reliable data on recommended technologies ▪ Provision of tailor-made training ▪ Package and disseminate improved technologies	▪ Availability of high quality raw materials
9	Agricultural research institutions (e.g CG Centres, ASARECA, NARO, TALIRI, TAFORI)	▪ Conduct collaborative research ▪ Sharing of agricultural information ▪ Streamlined coordination in agricultural research ▪ Conduct on-job training ▪ Sharing of resources	▪ Develop collaborative research and adhere to agreements ▪ Sharing of research findings ▪ Operationalize national agricultural research forum ▪ Develop and implement national research agenda	▪ Enhance colleboration, netwworking and sharing of information
10	Treasury Registrar	▪ Increased efficiency and effectiveness of the Institute ▪ Improved mechanisms for resource mobilization	▪ Writing winning research grant projects ▪ Well streamlined coordination and operationalization of TARI activities	▪ Funded research grant projects complementing to government budget ▪ Resource use efficiency
B	**Indirect Stakeholders**			
11	Politicians	▪ Professional, non-partisan agricultural services	▪ Adhere to scientific principles, rules and regulations to deliver services professionally	▪ Increased contribution to livelihoods of rural

S / N	Stakeholder / Client	Expectations	Service offered by TARI	Potential Impact
		▪ Significant contribution to economic growth, poverty reduction and livelihood improvement ▪ Efficient and cost-effective service delivery ▪ transparency and accountability ▪ Enforcement of laws and relevant regulations	▪ Contribute to national economic growth, poverty reduction and livelihood improvement ▪ Adherence to TARI Client Service Charter	people particularly in the respective constituents
12	Policy makers	▪ Transparency and accountability. ▪ Enforcement of laws and regulations ▪ Good agricultural research management and coordination ▪ Advice for policy change ▪ Significant contribution to economic growth, poverty reduction and livelihood improvement	▪ Adhere to guidelines and procedures ▪ Provision of technical advice and policy briefs ▪ Contribute to national economy and reduction of poverty through development and deployment of demand driven technologies and services	▪ Increased contribution to GDP ▪ Increaesed agricultural growth ▪ Increased food security, nutrition and sustainable agriculture
13	Central government	▪ Increasing contribution of agricultural sector to the national economy ▪ Efficient and timely delivery of quality agricultural technologies and services ▪ Contribution to sustainable agriculture and food security	▪ Strategize in contributing to national economy, food security and poverty reduction ▪ Deliver cost effective agricultural technologies and services	▪ Efficient resource use ▪ Increased contribution to GDP
14	Civil Society Organizations and NGOs	▪ Conducive legal and regulatory framework ▪ Good governance and transparency ▪ Timely and streamlined	▪ Provision of conducive legal and regulatory framework ▪ Provision of agricultural research information and technical advice ▪ Create awareness of prevailing agricultural	▪ Enhanced networking and collaboration ▪ Sharing of information

S / N	Stakeholder / Client	Expectations	Service offered by TARI	Potential Impact
		approval procedures ▪ Knowledge and information sharing in agricultural development	research standards	
15	Financial institutions	▪ Adoption of marketable agricultural technologies by farmers ▪ Sufficient and timely utilization of resources. ▪ Timely accounting and reporting ▪ Availability of collateral at the institute	▪ Generate and disseminate marketable agricultural technologies ▪ Compliance to financial commitments and regulations	▪ Meet financial commitments and compliance ▪ Increased use of financial services ▪
16	Academic Institutions	▪ Conduct collaborative research ▪ Sharing of agricultural information ▪ Appropriate research findings for teaching and curriculum improvement ▪ Utilization of education opportunities ▪ Training and supervision of students	▪ Packaging and sharing of research findings ▪ Develop collaboration agreements	▪ Sharing of training programs ▪ Networking and collaboration ▪ Trained scientists
17	Media	▪ Timely, simple to understand and reliable research information ▪ Collaboration in preparation of articles for public awareness ▪ Technical backstopping in agricultural technologies	▪ Package research information ▪ Collaborate in developing programs/articles for broadcast and publication	▪ Sharing of information ▪ Increased awareness and knowledge on available technologies by clients

2.5 Critical Strategic issues

From above analysis, the following critical issues have been identified:

i. Strengthening capacity of research centres and human resource;
ii. Developing demand-driven and client oriented research technologies and innovations;
iii. Adapting to cutting edge science (biotechnology, simulation, modeling, etc) in conducting both basic and applied research;
iv. Enhancing availability of improved seed, access and use by farmers;
v. Enhancing contribution to food and nutrition security;
vi. Enhancing generation of socio-economic, policy and marketing options in agriculture and food systems;
vii. Research infrastructure for production, processing, value addition and marketing of agricultural products;
viii. Modernising agricultural operations for better improved agricultural efficiency, effectiveness and profitability
ix. Plant genetic resource conservation, improvement and utilization;
x. Improving information and knowledge management system;
xi. Strengthening and promoting technology dissemination and uptake pathways;
xii. Strengthening resource mobilization;
xiii. Environmental degradation and climate change;
xiv. Enhancing National, Regional and International collaboration and networking.

2.6 The Theory of Change – Technology and Innovation for Impact

The Strategic Plan has six Key Result Areas (KRAs) and 22 Strategic Objectives with each assigned key indicators and realized target of achievements (Table 3). The objectives will be achieved through prioritization and sequencing of activities. Most of the objectives are intertwined and iterative in nature in a way that some of the implementation will go in tandem, thus optimizing resources required. The adopted pathway for TARI is to implement activities that create an impact and delivering positive change (Figure 1). The Result Framework presented in Figure 1 highlights critical impact pathways delivering to the TARI expected objectives and goals. With the availability of resources as inputs, a series of priority activities will be implemented to provide outputs, outcomes and impact. The central concern will be developing appropriate technologies, their dissemination, uptake by end-users so as to increase farm-level productivity, production, attain food security, nutrition, sustainable agriculture, livelihoods and thus contribute to industrial economic agenda. The key indicators of measurement along the impact pathways are: resources (funds, equipment,personnel, etc), research and dissemination activities (activities), technology uptake measured as adoption rates - % (outcome) and increased farm productivity, production, income and food security.

CHAPTER THREE: THE PLAN

3.1 The strategic Vision and Mission

Tanzania Agricultural Research Institute enhances organizational and operational structure that ensures the efficient utilization of physical, human and financial resources in achieving the institutional research goal. The vision and Mission of TARI are as stated:

Vision

To be the Institute of Excellence for agricultural research in the country and beyond

Mission

To generate and promote application of knowledge, innovation and agricultural technologies as catalyst of change in achieving agricultural productivity, food and nutrition security, sustainable agriculture and economic growth involving stakeholders in the country and global community.

Core Values

The core values of TARI are transparency, accountability, integrity, teamwork, professionalism, excellence, partnership, equity and inclusiveness.

Goal

To contribute to increased agricultural productivity through development and deployment of improved agricultural knowledge and technologies by adopting innovation systems approach

CHAPTER FOUR: KEY RESULT AREAS, STRATEGIC OBJECTIVES AND STRATEGIES

In the preparation of the Strategic Plan, the strategic objectives of the MoA Medium Term Strategic Plan 2016-22 particularly those related to TARI were reviewed to complement the vision and mission of the R&D in the country and were translated as Key Result Areas (KRAs). The purpose is to create an institution that will improve research coordination, conducting research, collaboration and networking among NARS institutions. The KRAs are the strategic objectives formulated in the institution Medium-Term Expenditure Framework (MTEF) covering a period of 2019-2024. The MTEF is also the Institutional tool for implementing the FYDP II.

This chapter presents in detail the Key Result Areas (KRAs) that TARI will address so as to achieve the stated vision and mission. For each of the KRA, strategic objectives and their strategies are formulated for implementation for over five years.

Key Result Area A : Demand-driven technologies and innovations generated and promoted.

Key Result Area B: Socio-economic Information, policy and marketing options for agricultural product value chains developed and advocated.

Key Result Area C: Mechanisms for streamlined, regulated and well-coordinated research established and operationalized.

Key Result Area D: Knowledge, information, and communication on agricultural technologies shared.

Key Result Area E: Capacity to implement agricultural research enhanced.

KRA A: Demand-driven technologies and innovations generated and promoted

Rationale

Generation of demand-driven agricultural technologies and innovations will greatly contribute to the attainment of increased production and productivity for sustainable agriculture and food systems, increased food and nutrition security, profitability and supplying of the required raw materials to feed the increasing agro-industries. Demand driven technologies will also address challenges such as low production and productivity, improper use of agricultural inputs, poor pre-and-post-harvest handling, inadequate use of mechanized labour saving technologies and low quality value added products. Others include the development of technologies that counteract the effect of climate change, depletion and unsustainable management and utilization of the natural resources. Th KCapitalize on farmers' local knowledge and social capital as well as specific research so as to address context-specific problems. Moreover, in order to implement these in a

modern way, cutting edge technologies such as precision agriculture, modeling and biotechnology will be emphasized. Most importantly, in delivering knowledge, technologies TARI will adopt Agricultural Innovation System (AIS) approaches and inclusiveness. This will be achieved by implementing the following strategic objectives:

4.1.1 Strategic Objective 1: To improve availability and use of agricultural technologies and innovations for improved crop production and productivity

Strategies

- Develop and promote improved crop varieties;
- Develop and promote good agronomic practices;
- Develop effective pest and disease management systems;
- Strengthen genetic resource conservation;
- Promote and integrate indigenous crops and technical knowledge/innovations for wide utilization;
- Adapt crop modeling and simulation techniques and biometrics;
- Strengthen seed delivery systems; and
- Enhance crop-livestock integration

Key Performance Indicators

i. Number of Improved Crop varieties released
ii. Number of Agronomic Practices developed
iii. Number of pest and disease management practices developed
iv. Number of Genetic Resource conserved
v. Quantity of breeder and pre-basic seeds produced

4.1.2 Strategic Objective 2: To enhance use of affordable and effective post harvest and storage technologies

Strategies

- Develop and promote post harvest and handling technologies;
- Develop standards of different crop produce and by products; and
- Develop and promote improved storage technologies.

Key Performance Indicators

i. Number of Post-harvest and storage technologies developed
ii. Number of Grading standards of different crop produce and by products developed

4.1.3 Strategic Objective 3: To increase use of technologies for sustainable management of natural resources and climate smart agriculture

Strategies

- Develop and review fertilizer recommendations for improved productivity
- Establish soil and crop suitability maps;
- Develop and promote appropriate integrated soil fertility management packages;
- Develop and promote compatible agro-forest systems;

- Develop and promote conservation agriculture technologies;
- Develop and promote crop water management technologies for agriculture production; and
- Promote Climate Smart Agriculture practices

Key Performance Indicators

i. Fertilizer recommendations for improved productivity developed
ii. Number of Soil and crop suitability maps established
iii. Number of water management technologies for agriculture production developed and promoted
iv. Number agriculture developed

4.1.4 Strategic Objective 4: To widen use of appropriate mechanized operations for improved production and productivity

Strategies

- Adapt agricultural machinery and equipment for efficient agricultural operations;
- Develop and up-scaling of agro-processing machinery;
- Demonstrate use of recommended agricultural machinery and equipment;
- Enhance use of wind, solar and other sources of energy for agriculture

Key Performance Indicators

i. Number of agricultural machinery for efficient operations validated
ii. Number of agro-processing machinery developed
iii. Number of clean energy sources validated and used for agriculture

4.1.5 Strategic Objective 5: To enhance food processing and value addition technologies for improved nutrition, quality and market access

Strategies

- Develop and promote food processing and value addition technologies;
- Develop and promote utilization of bio fortified and nutrient dense crops; and
- Develop and disseminate food preservation and handling techniques

Key Performance Indicators

i. Number of food processing and value addition technologies developed
ii. Number of Bio-fortified crops utilized
iii. Number of food preservation techniques developed

4.1.6 Strategic Objective 6: To strengthen and promote cutting edge science applications in agriculture

Strategies

- Establish national bioscience centre;
- Implement and promote national biotechnology framework;
- Develop and deploy biotechnology techniques in crop improvement;
- Develop and customize crop standards and protocols; and
- Develop and adapt modelling techniques, simulation and precision agriculture

Key Performance Indicators

i. National bioscience centre operationalised
ii. Number of protocols for tissue culture developed

KRA B: Socio-economic Information, marketing and policy options for agricultural commodity value chains developed and advocated

Rationale

Development, dissemination and adoption of improved technologies are highly influenced by a complex set of factors such as natural, physical, human, financial and social capital. Thus, TARI will undertake socio-economics, markets and policy research/analysis to provide evidence based advices to agricultural stakeholders through policy briefs, formulation of new policies and/or review of existing ones. The socio-economic research will include economic analysis, farm budget generation, adoption and impact assessment of improved agricultural technologies on livelihoods and the entire economy. TARI will develop and/or adapt appropriate participatory approaches and methodologies of conducting adoption and impact assessment of improved technologies and innovations.

Also, TARI will be at forefront to identify marketing constraints that might prevent value chain actors from effectively producing and marketing their produce and/or by-products and ultimately provides policy options. This KRA 2 will also focus on enhancing commercialization and competitiveness of commodity value chain actors through improved access to input and output market information for better profitability of each actor.

Development of appropriate and achievable agricultural technologies is based on credible experimental designs, data collection, analysis and interpretation. Therefore, this KRA 2 is expected to provide appropriate statistical inputs, analytical skills and data management in all stages of technology development and dissemination to ensure scientific credibility of the research products. A strong Socio-economics Section will be strengthened to support researchers in applied statistics. Therefore, TARI will adopt the following strategic objectives and their respective strategies:

4.2.1 Strategic Objective 1: To enhance use of social, cultural and economics information

Strategies

- Develop and promote the use of agricultural social, cultural and economics information;
- Analyse and promote promising dissemination pathways of improved technologies;
- Develop and promote approaches for mainstreaming gender responsive research along the commodity value chains;
- Develop integrated solutions related to agricultural system productivity, profitability, energy efficiency, and natural resource conservation.
- Develop new strategies and technologies to reduce production costs and risks of economic losses for agronomic and bio-energy crop production systems
- Develop and promote use of participatory research methods and approaches.

Key Performance Indicators

i. Number of diagnostic studies conducted
ii. Number of technologies/innovations for which farm budgets are developed and economic analysis conducted
iii. Number of technologies/innovations for which farmers' assessment is conducted
iv. Number of adoption and impact studies
v. Number of dissemination pathways assessed
vi. Number of participatory research methods validated
vii. Number of researchers trained on dissemination pathways and participatory research methods

4.2.2 Strategic Objective 2: To enhance marketing research, food systems and policy analysis

Strategies:

- Analyse and provide agricultural market information;
- Analyse agricultural input and output markets and provide policy options;
- Develop, adopt and apply standardized models and tools for market, food systems and policy analysis;
- Review and analyse the effects of policy environment on agriculture and advocate for policy formulation.
- Analyse comparative advantages of agro-ecosystems and commodity trade for better improved food and nutrition security as well as sustainable food systems

Key Performance Indicators

i. Number of marketing studies on priority crops
ii. Number of models for market and food systems
iii. Number of policy briefs

4.2.3 Strategic Objective 3: To enhance statistical applications in technology development, deployment and dissemination

Strategies

- Generate and promote applied statistical research tools, methods and services;
- Build capacity of researchers on applied statistical research methods and techniques;
- Support the development and maintenance and utilization of crop research database

Key Performance Indicators

i. Number of statistical research tools and methods
ii. Number of researchers trained

KRA C: Mechanisms for streamlined, regulated and well-coordinated research established and operationalized

Rationale

In order to achieve this KRA, the National Research Policy (2013) is a guiding document to streamline and rationalize NARS to ensure it is efficient and effective. This will improve agricultural research system, harmonize and provide direction to national research for sustainable development; strengthen the legal, institutional and regulatory framework; coordinate planning and development, strengthen human and physical capacity resources and physical assets. More focus will be on strategic workforce planning, leadership development, optimizing Institutional structures to address future challenges, and improving performance management to maximize employee performance. These will be achieved through having a strong, organized, coordinated, regulated and managed TARI research system at all levels.

TARI will continually assess the relevance, quality, participation and performance of its research, providing information to the public and ensuring a workplace conducive to personal and professional development. TARI will rely on organized interactions with customers, stakeholders and partners. All research projects will be assessed annually to determine the approved milestones whether met/not met during the preceding farming season. National Commodity Programmes and Annual Scientific Conference will be subject to retrospective reviews, which verify the scientific, socio-economic impact and programmatic relevance of the work conducted under each.

4.3.1 Strategic Objective 1: To enhance research management, planning, monitoring and evaluation

.

Strategies

- Develop and/or review national research priorities and agricultural research agenda;
- Develop TARI Business plan;
- Operationalize commercial business units;
- Develop resource mobilization strategy with emphasis on expanding and broadening funding sources;
- Develop a participatory Planning, Monitoring and Evaluation (PM&E) framework;
- Conduct an annual assessment of projects;
- Promote the use of automated services for administrative management; and
- Improve efficiency of financial system and financial reporting capabilities with adoption of automation methods and technologies;

Key Performance Indicators

i. National research priorities adopted and used
ii. Operational TARI business plan
iii. Resource mobilization strategy operationalized
iv. % increase in magnitude of research funds
v. Effective and efficient financial management system adopted
vi. Effective M&E System established
vii. Number of project reviews and assessment reports

4.3.2 Strategic Objective 2: To enhance partnership and harmonized research by providing guidelines, guidance and ensuring delivery of quality research outputs

Strategies:

- Undertaking joint technology generation, dissemination and training activities;
- Develop a shared national objective, sharing knowledge and technological outputs;
- Build capacity for partnership and networking skills;
- Develop working formal modalities with partners
- Periodic joint seminars, scientific conferences and publications
- Build capacity on communication skills, negotiation, lobbying and advocacy skills
- Foster domestic and international alliances and partnerships
- Build capacity of researchers to on scientific writing and develop grant winning proposals;
- Foster a culture of innovation and creativity within TARI

Key Performance Indicators

i. Number of joint research activities conducted with partners
ii. Number of research products shared
iii. Number of scientists trained
iv. Number of partnerships and networking activities
v. % increase in scientists attending international alliances and conferences
vi. % increase in grant winning competitive projects

4.3.3 Strategic Objective 3: To provide guidelines for conducting research and ensuring delivery of quality research information

Strategies

- Develop framework and mechanisms for coordination and regulation of agricultural research;
- Establish and implement criteria, procedures and standards for agricultural research;
- Measuring performance and making management decisions to direct resources to where they are used most effectively;
- Develop and deploy innovation platform in technology development and delivery;
- Develop agricultural research policy; and
- Establish and operationalize Agricultural Research Fora;

Key Performance Indicators

i. A framework for coordination established and operational
ii. Procedures and standards for agricultural research undertaking established and used
iii. % increase in TARI efficiency
iv. Agricultural research policy developed and used
v. Established and operationalised Agricultural Research Fora

KRA D: Knowledge, information and communication on agricultural technologies shared

Rationale

To ensure well organised execution of agricultural research information, the institute will develop proper mechanism for delivery of quality research information among stakeholders to create desirable impacts in research. Establishment of modernised institutional platform will boost linkage and provide feedback mechanism to put into research model formulation. Moreover, the Institute will strengthen its database and review intermittently to pack information relating to research programs/projects being undertaken by different research centres and sub-centres and other stakeholders in agricultural research related arena

4.4.1 Strategic Objective 1: To strengthen client responsive management information system

Strategies

- Promoting online platforms and mapping target audiences;
- Develop web-based system for research information storage and easy retrieval by users;
- Engage media for TARI advocacy and dissemination;
- Develop and maintain institutional ICT management
- Promote modern and advanced training tools and approaches;

Key Performance Indicators

i. Number of repositories and platform developed and used
ii. Number of automated systems established and used
iii. Number of programme developed

4.4.2 Strategic Objective 2: To Enhance Knowledge Exchange and Dissemination of TARI Outputs

Strategies

- Strengthen system of collection and documentation of technology information;
- Develop mechanisms for promoting intra and inter-institutional knowledge and information exchange;
- Enhance engagement of media in knowledge sharing
- Promote publications of research outputs and other materials
- Develop and promote information flow / feedback mechanisms

Key Performance Indicators

i. Number of packaged technologies documented and shared
ii. Number of publications
iii. Number of programmes with the media

4.4.3 Strategic Objective 3: To enhance and manage information communication technology (ICT) infrastructure

Strategies

- Develop and equip TARI staff with ICT technical skills
- Establish information, communication and knowledge management database;
- Establish, operationalize and maintain ICT infrastructure
- Enhance data integration and analytical tools

Key Performance Indicators

i. Database established
ii. Number of staff equipped with ICT technical skills
iii. Number of web-site reviewers and visitors
iv. Number of categories of information stored and accessed

4.4.4 Strategic Objective 4: To strengthen institutional communication and raise visibility

Strategies

- Develop and promote institutional brand;
- Strengthen and promote communication mechanisms and methods;
- Strengthen institute and media relations; and
- Develop and implement TARI communication strategy.

Key Performance Indicators

i. Communication strategy developed and implemented
ii. Number of branding manuals developed and promoted

KRA E: Capacity to implement agricultural research enhanced

Rationale

Successful delivery of TARI mandate will rely on a strong organizational capacity and resource mobilization. The level of institutional capacity will focus on the overall performance and functional capabilities of human, finances, information, infrastructure and other resources. Capacity development at this level will aim at developing the institute as a total system, including its constituent individuals and groups as well as its relationship to the outside. This Key Result Area will focus on individual and institutional capacity for the development of specific attributes that will enable to perform functions, make decisions and ensure implementation in an effective, efficient and sustainable manner. Successful implementation of this will require holistic approaches which include enhancing the capacity of stakeholders and institutions involved, including strengthening institutional arrangement for successful implementation of the strategy.

Strategic Objective 1: HIV/AIDS infections reduced and supportive services improved

Rationale

Sustainable agricultural development requires a healthy and active agricultural labour force. HIV/AIDS is a national pandemic threat that threatens institutes and sectors of the economy. Reducing HIV/AIDS among employees and community is a common shared vision among all other institutes and other sectors of the economy. Hence, there is a strong need for continued efforts to combat the spread of HIV/AIDS in the Institute and the agriculture sector as a whole. The current situation indicates majority of staff are highly aware of HIV/AIDS pandemic and a relatively same number know about its prevention measures. According to the public service circular No. 2 of 2006 concerning public servants living with HIV and AIDS, TARI will ensure provision of support services

to staff living with HIV and AIDS and their families. Nevertheless, continued workshops and seminars on sensitization, prevention and care of staff on HIV/AIDS is inevitable for maintaining current and future agricultural development initiatives.

Strategies

i. Develop and implement gender sensitive work place programs to fight HIV/AIDS.
ii. Encourage staff to effectively participate on the campaigning programs against HIV/AIDS as well as engage in voluntary testing
iii. Provide support to TARI affected staff and raise awareness to reduce the spread
iv. Elimination of new HIV infections;
v. Reduction of HIV Related Deaths; and
vi. Elimination of HIV related stigma and discrimination at workplace.

Key Performance Indicators

i. Number of HIV prevention Kits distributed
ii. Number of HIV/AIDs Fighting program in place
iii. Number of TARI staff trained and created awareness on how to reduce the spread
iv. Number of TARI SLHA that have access to medical and nutritional care
v. Percentage of staff attending voluntary HIV testing
vi. New reported disease reduced
vii. Disease related stigma and discrimination at workplace reduced

Strategic Objective 2: HIV/AIDS infections reduced and supportive services improved

Strategies

i. Elimination of new HIV infections;
ii. Reduction of HIV Related Deaths; and
iii. Elimination of HIV related stigma and discrimination at workplace.

Strategies

i. Create sensitization on anticorruption
ii. Strengthen and enforce laws, rules and regulation on corruption
iii. Implement institutional anticorruption plan
iv. Embrace staff motivation mechanisms;
v. Promote participatory planning and decision making;
vi. Strict adherence to and transparent administration;
vii. Create awareness on corruption effects and mitigation measures

Key Performance Indicators

i. Number of reported corruption incidences
ii. Number of complaints received
iii. Percentage of Anti-corruption plan Implemented

Strategic Objective 3: Effective implementation of the national anticorruption strategy enhanced and sustained

Strategies

viii. Create sensitization on anticorruption
ix. Strengthen and enforce laws, rules and regulation on corruption
x. Implement institutional anticorruption plan
xi. Embrace staff motivation mechanisms;
xii. Promote participatory planning and decision making;
xiii. Strict adherence to and transparent administration;
xiv. Create awareness on corruption effects and mitigation measures

Key Performance Indicators

iv. Number of reported corruption incidences
v. Number of complaints received
vi. Percentage of Anti-corruption plan Implemented

Strategic Objective 3: To improve human resource capacity, development and management

Strategies:

- Establish staff needs assessment system
- Develop recruitment plan;
- Develop and operationalize training and succession plans;
- Reinforce implementation of Open Performance Appraisal System (OPRAS)
- Develop and implement a staff motivation system for rewarding and recognition
- Strengthen an integrated Human Resource Management System and Database

Key Performance Indicators

i. Recruitment plan developed and assessed
ii. Training and succession plans develop and operationalized
iii. Rewarding and recognition system developed and implemented
iv. Integrated Human Resource Management System and database strengthened and implemented

Strategic Objective 4: To mobilize and manage financial resources

Strategies:

- Build capacity on writing grant winning research proposals (competitive grants)
- Broaden internal revenue generation through commercialization of research information, products and services;
- Advocate for increased budgetary allocation for research;
- Strengthen financial management system

Key Performance Indicators

i. Internal revenue generated
ii. Budgetary allocation for research increased

Strategic Objective 5: To enhance research infrastructure and facilities

Strategies:

- Formalize TARI land ownership (title deed) in all Centres, Sub-centres and Experimental Stations
- Establish infrastructure for TARI Headquarters
- Construction and rehabilitation of TARI Centres and Sub-centres
- Develop infrastructure for Bioscience Centre;
- Retool research with equipment and facilities;
- Develop and implement a framework for management of Institute assets
- Strengthen Information, Communication and Knowledge Management infrastructure and services; and
- Strengthen security services

Key Performance Indicators

i. TARI land ownership formalized
ii. TARI Headquarters established
iii. TARI Centres constructed and rehabilitated
iv. Bioscience Centre of Excellence developed
v. Research retooled with equipments and facilities
vi. Security services strengthened

Strategic Objective 6: To provide institutional services

Strategies:

- Develop and implement guidelines and procedures for Institute property ownership
- Develop management tools for the Institute
- Develop and operationalize effective and efficient legal procedures
- Strengthen Intellectual Property management and commercialization
- Create enabling environment, procedures and guidelines for undertaking consultancy services
- Create enabling environment, procedures and guidelines for undertaking consultancy services
- Brand and market TARI outputs;

Key Performance Indicators

i. TARI land ownership formalized and acquired title rights
ii. Management tools for the institute developed
iii. Procedures for protection from intellectual properties developed

CHAPTER 5: IMPLEMENTATION, MONITORING AND EVALUATION OF THE STRATEGIC PLAN

5.1 Coordination and management of the strategy

During the implementation of the Plan, specific actions, responsibilities and resources that will move the organization to the higher level will be mobilized. The actions will be monitored, assessed, and adjusted in order to make the vision a reality within a set time-frame. The management will foster collaboration to provide an opportunity to share knowledge, experience and skills with multiple stakeholders in order to modify goals and contribute to the development. In order to successfully collaborate, sufficient resources will be mobilized, cultivate a culture that encourages effective teamwork and cooperation as well as clearly defined responsibilities. TARI will adopt open communication and a willingness to accept new ideas and shared responsibilities so that the decision-making is based on a collaborative approach. These efforts will be complemented with effective cooperation including partnering with other research institutions in terms of resources, capabilities, and competencies in pursuit of mutual interests for the advancement of goal – a very fundamental to success.

All TARI Centres and sub-Centres will be organized in such a manner as to ensure that overall strategic objectives are achieved and each individual staff makes a contribution. Thus, coordination is vital. All departmental plans and budgets will be coordinated to ensure they are working together to achieve organizational objectives. Awareness will be created at all levels regarding coordination issues to make sure that all scientists and other staff know what they need to achieve and when. Each Centre, Sub-Centres and departments will have their own set of priorities, effective coordination to allow significant changes to be made for the pursuit of an overall set of priorities. For instance, in order to deliver efficiently research outputs, at national level there will be National Coordinating Committee (NCC) for each commodity/discipline. There will be National Lead Scientist (NLS) who will report to the NCC. Members of the NCC will be drawn from respective commodities/discipline research programs with balanced multidisciplinary representation, representatives from farmers, NGOs, agribusiness, extension and other relevant stakeholders. The NCC will receive research results, scrutinize proposals and approve research plans.

One of the critical concerns in the implementation of the Strategy is about the organization of resources and the motivation of staff to achieve objectives. Its implementation will be closely monitored on day-to-day basis. Most importantly, TARI Management will implement the Plan through promoting collaboration, cooperation and coordination where necessary making adjustments such as defining parameters to be measured, defining target values for the parameters, performing measurements and comparing results a way of achieving increased public value of the Institute.
The key activities for the implementation and coordination will include, but not limited to:

- Conduct and/or review priority setting to come up with national and zonal priorities;
- Sensitizing staff on their roles in the Plan implementation – provide job descriptions;

- Communicating the Plan to various stakeholders;
- Assigning and communicating roles and responsibilities to different players;
- Allocating resources as per priority activities identified in the Plan;
- Preparing annual work plans and budgets;
- Developing Monitoring and evaluating Framework;
- Conducting a post-implementation review to draw lessons learnt and share the results with relevant stakeholders.

5.2 Monitoring, Evaluation and Learning

TARI is accountable for how it uses its public resources. It needs to demonstrate that investment in research is a good development investment, used effectively to make a difference to the lives of the Tanzanians and represents good value for money. Effective planning, implementation, monitoring and evaluation of research are important pre-requisites for effective and quality research. The purpose of ME&L is to track and assess the extent of use and effectiveness of research outputs and get feedback on adoption, impact of technologies and illustrate the results. Information on resources acquisition, use and management, understanding research processes and the resultant delivery of outputs is necessary for effective decision making. This calls to have data / information capture templates for the next five years.

The ME&L will be responsible for the TARI's strategic learning and its overall approach to results measurement and evaluation. It will support for strong evaluation planning and technically sound measurement that are of high priority for the Institute's leadership, accountability and transparency. As such, it is expected that the ME&L will facilitate organizational learning and improvement, bring in best practice and innovation, and leads to an in-house technical community of practice.

The Strategic Plan will employ and strengthen the ME&L existing systems used to monitor and evaluate R&D performance, deliver high quality usable research outputs and to help to make sure research results influence the decisions of funders and the public at large. The results framework in Figure 1 provides details critical path of the outcomes that are expected under each of the objectives and milestone indicators which will be used to monitor progress towards each of the objectives. These indicators will be embedded in the ME&L systems of the actual and planned flagship programmes and projects that will be implemented for the next five years. At the outset, TARI will develop ME&L framework that will also aligns with that of ASDP2.

TARI will institutionalize and streamline the process of planning, monitoring and evaluation at all levels as follows:

- TARI Board for management oversight, direction and guidance to affairs of the Institute. It will review performance, and approve plans, budgets and reports.
- Institutionalize effective peer review system for research sub-projects.
- Develop and institutionalize mechanisms to engage relevant stakeholders.
- Establish strong and effective commodity/discipline and national research coordinating committees.
- Conduct periodic technical committee meetings.
- Institutionalize an efficient progress reporting, communication and management information system (MIS).

- Institutionalize an effective research performance assessment system and develop results, outcome and impact-based SMART indicators.

5.3 Critical Success Factors of TARI

Critical Success Factors (CSFs) are aspects that ensure the success of an undertaking. In the operationalization of the Strategic Plan, there will be inherent critical factors to bring about successful outcomes. These include:

- Good corporate governance;
- Effective, efficient, transparency and strong leadership;
- Demand-driven technologies;
- Effective communication and good public relations;
- Adequate, skilled professional human capital;
- Teamwork, cooperation and support from partners, collaborators and stakeholders;
- Political will to support agricultural research;
- Motivated and satisfied internal and external customers;
- Effective monitoring, control and learning;

CHAPTER SIX: RESULTS FRAMEWORK AND IMPLEMENTATION STRATEGY

Results Framework: TARI will use this results framework as both a planning and management tool that provides the basis for monitoring, evaluation and learning. It is a program level framework for the institute to monitor the achievement of results and to adjust relevant programs and activities when necessary. This Results Framework mainly focuses on impact and the outcomes of the work to be done by the Institute (Figure 1).

Implementation Strategy: Reviewing the stated vision, mission, strategic objectives and strategies it is contented that the Plan is strong for implementation and that there are institutional capacities to implement it. The good of the Plan is that it is linked to budgeting, employee's incentives, allows a yearly planning and that it will be sensitized and advocated to the stakeholders for better understanding and ownership. The implementation Plan is indicated in Figure 2, clearly linking and showing how each KRA will be achieved and measured that is in alignment with the respective strategic objective, indicator, target and budget. The estimated budget for operationalization of the Strategic Plan for five years is TZS 84.355 billion excluding personnel emoluments (Table 3).

Figure 1: TARI Results Framework

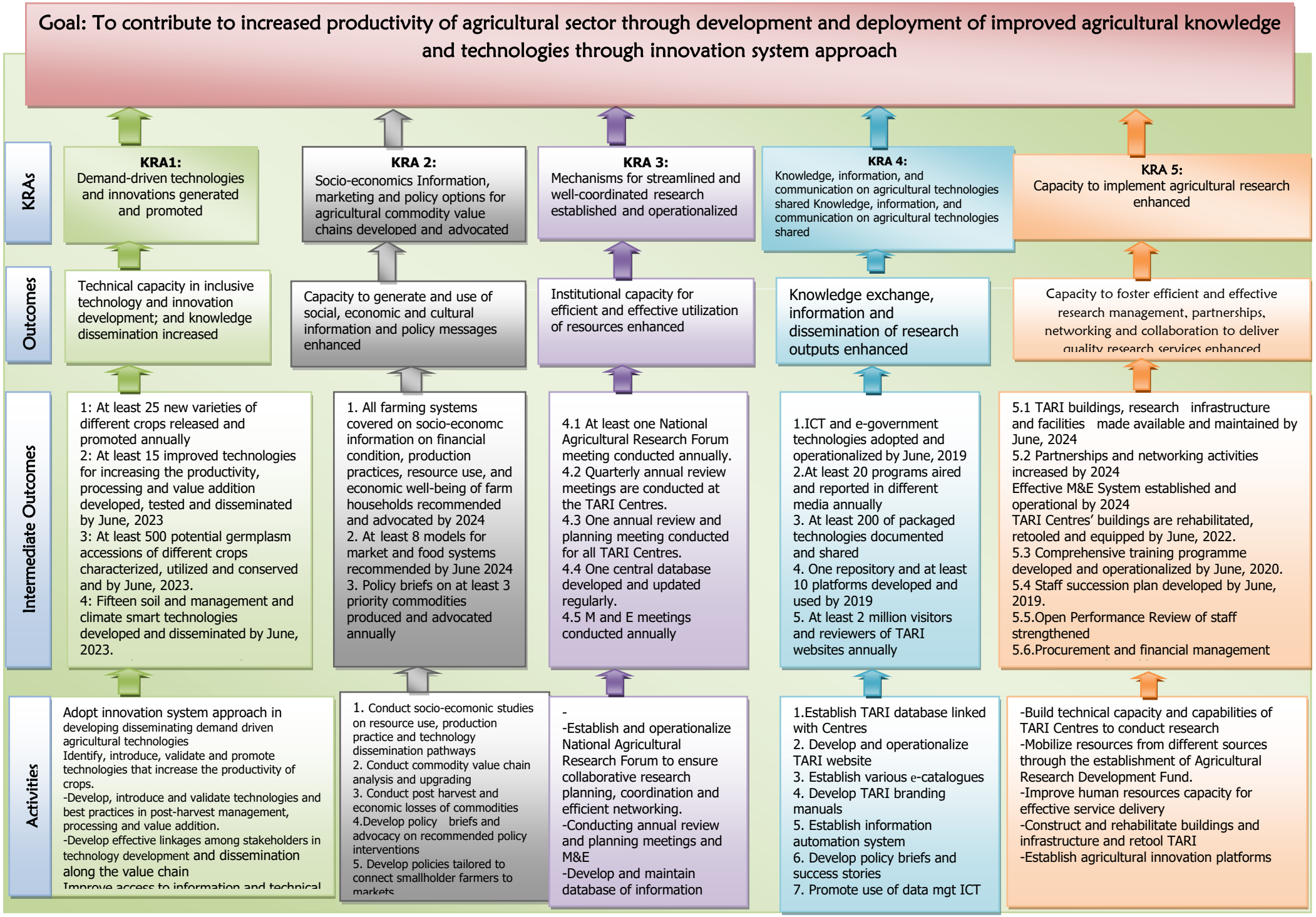


Table 3: Implementation Arrangement of the Strategy

Strategic Objective	Key Performance Indicator	Target	Estimated Budget (million TZS)	Responsibility
KEY RESULT AREA 1: DEMAND-DRIVEN TECHNOLOGIES AND INNOVATIONS GENERATED AND PROMOTED				
4.1.1 To improve availability and use of technologies and innovations for improved crop production and productivity	Number of improved Crop Varieties released	At least 10 improved varieties released annually	5,000	TARI, LGAs, MoA, NGOs, International Research Centres, COSTECH, ASARECA, CCARDESA, TALIRI
	Number of Agronomic practices developed	At least 30 agronomic packages for different crops developed by 2024		
	Number of pest and disease management practices developed	10 IPM, 5 insect packages, 5 diseases, 3 weed, 2 nematodes management practices developed by 2024		
	Number of Genetic resource conserved	At least 500 Germplasm for 5 different crops collected and conserved annually		
	Quantity of breeder and pre-basic seeds produced	At least 10 tones of breeder seed and 400 tones of pre-basic seed produced annually At least 15 million cuttings for cassava, sweet potatoes produced annually		
4.1.2 Strategic Objective 2: To enhance use of affordable and effective post harvest and storage technologies	Number of post-harvest and storage technologies developed	10 post-harvest, 10 handling, and 3 storage technologies developed and promoted annually	500	TARI, LGAs, MoA, International Research Centres, COSTECH, ASARECA, CCARDESA
	Number of Grading standards of different crop produce and by products developed	3 product grading standards developed annually		
4.1.3 Strategic Objective 3: To increase use of technologies for	Fertilizer recommendations for improved productivity developed	At least 4 fertilizer packages recommended annually	1,350	TARI, LGAs, MoA, International Research Centres, COSTECH,

sustainable management of natural resources and climate smart agriculture				ASARECA, CCARDESA, TALIRI
	Number of Soil and crop suitability maps established	Soil suitability maps for each district developed and used by 2021		
	Number of water management technologies for agriculture production developed and promoted	At least 5 water management packages developed and promoted by 2024		
	Number agriculture developed	At least 5 CA technologies adapted and promoted by 2024		
		At least 10% farmers adopt CA technologies by 2023		
4.1.4 Strategic Objective 4: To develop appropriate mechanized operations for improved production and productivity	Number of agricultural machinery for efficient operations validated	At least 3 prototypes tested and used annually	2,500	TARI, LGAs, MoA, COSTECH, ASARECA, CCARDESA, TALIRI
	Number of agro-processing machinery developed	At least 3 processing machinery developed and recommended for up-scaling by 2021		
	Number of clean energy sources validated and used for agriculture	10% of farmers in intervention areas using validated renewable energy sources by 2024		
4.1.5 Strategic Objective 5: To enhance food processing and value addition technologies for improved nutritional quality	Number of food processing and value addition technologies developed	At least 6 processing technologies developed annually	800	TARI, LGAs, MoA, Internal Research Centres, COSTECH, ASARECA, CCARDESA
	Number of Bio-fortified crops utilized	At least 10% increase in population utilizing bio fortified crops by 2024		
	Number of food preservation techniques developed	25 preservation techniques developed and disseminated by 2024		
4.1.6 Strategic Objective 6: To strengthen and promote cutting edge science applications in agriculture	National bioscience centre operationalized	National bioscience centre established and operationalized by 2021	2,500	TARI and International Research Centres
	Number of protocols for tissue culture	At least 3 tissue culture protocols		

	developed	developed for crops by 2023		
KEY RESULT AREA 2: SOCIO-ECONOMICS INFORMATION, MARKETING AND POLICY OPTIONS FOR AGRICULTURAL COMMODITY VALUE CHAINS DEVELOPED AND ADVOCATED				
4.2.1 Strategic Objective 1: To enhance use of social, economics and cultural information	Number of diagnostic studies conducted	At least 8 diagnostic studies conducted by July 2020	300	TARI, LGAs, MoA, COSTECH, ASARECA, CCARDESA
	Number of technologies/innovations for which farm budgets are developed and economic analysis conducted	Farm budgets developed and economic analysis conducted for at least 3 technologies/innovations annually		
	Number of technologies/innovations for which farmers' assessment is conducted	Farmers' assessment conducted for at least 10 technologies/innovations annually		
	Number of adoption and impact studies	At least 8 adoption and impact studies conducted by 2024		
	Number of dissemination pathways assessed	At least 5 promising dissemination pathways assessed and promoted for use by 2024		
	Number of participatory research methods validated	At least 3 participatory research methods validated and promoted for use by 2020		
	Number of researchers trained on dissemination pathways and participatory research methods	At least 500 researchers trained by July 2021		
4.2.2 Strategic Objective 2: To enhance marketing research, food systems and policy analysis	Number of marketing studies on priority crops	At least 3 marketing studies conducted annually	510	TARI, LGAs, MoA, MTMI COSTECH, ASARECA, CCARDESA
	Number of models for market and food systems	At least 8 models for market and food systems recommended by June 2024		
	Number of policy briefs	Policy briefs on at least 3 priority commodities produced and advocated annually		
4.2.3 Strategic Objective 3: To enhance statistical	Number of statistical research tools and methods	At least 1 statistical research tool and method per commodity developed	700	

applications in technology development, deployment and dissemination		and recommended for use by 2024		TARI, LGAs, MoA, NBS
	Number of researchers trained	Short term – At least 300 researchers trained on use of statistical research tools and methods 2024		
		Long term – At least 25 researchers trained on use of statistical research tools and methods by June 2024		
RESULT AREA 3: MECHANISMS FOR STREAMLINED AND WELL-COORDINATED RESEARCH ESTABLISHED AND OPERATIONALIZED				
Strategic Objective 1: To enhance research planning, monitoring and evaluation and management for quality and relevance of research	National research priorities adopted and used	National research priorities adopted by 2019	3,000	TARI, LGAS
	Operational TARI business plan	TARI business plan developed by 2019		
	Resource mobilization strategy operationalized	Resource mobilization strategy operationalized by June 2019		
	% increase in magnitude of research funds	At least 5% annual increase in research funds from TARI initiatives		
	Effective and efficient financial management system adopted	Effective and efficient financial management system developed and used by 2019		
	Effective M&E System established	By 2019, effective M&E System established and operational		
	Number of project reviews and assessment reports	All projects conducted reviewed and assessed annually		
4.3.1 Strategic Objective 2: To enhance partnership and harmonized research by providing guidelines, guidance and ensuring delivery of quality research	Number of joint research activities conducted with partners	10% annual increase in joint activities by 2020, and remain the same from 2021	2,500	TARI, LGAs, NGOs, COSTECH, International Research Centres, ASARECA
	Number of research products shared	At least annual 5% increase in shared		

		research outputs		
	Number of scientists trained Number of partnerships and networking activities	Partnerships and networking activities increased by 5% annually		
	% increase in scientists attending international alliances and conferences	By 2019, 5% increase of scientists attending international alliances, and attaining 20% by 2024		
	% increase in grant winning competitive projects	By 2019, 5% increase in grant projects, and attaining 10% annual increase by 2024		
4.3.2 Strategic Objective 3: To promote collaboration and networking with other institutions (national, regional and international)	% increase in joint seminars, scientific conference	50% increase in joint seminars and scientific conferences by 2024	1,500	TARI, MoA and International Research Centres and Organizations
	Number of innovations	10% annual increase in developed innovations		
4.3.3 Strategic Objective 4: To provide guidelines for conducting research and ensuring delivery of quality research information	A framework for coordination established and operational	A framework for coordination established and operational by 2019	700	TARI and COSTECH
	Procedures and standards for agricultural research undertaking established and used	Procedures and standards for agricultural research undertaking established and used by 2019		
	% increase in TARI efficiency	TARI operational efficiency increased by 30% in 2020, and 70% by 2024		
	Agricultural research policy developed and used	Agricultural research policy developed and used by 2020		
	Established and operationalized Agricultural Research Fora	By 2020, at least 10% increase in Agricultural Research Fora operationalized, and attain 20% increase by 2024		
4.3.4 Strategic Objective 5: Strengthen capacity to undertake consultancy services	Number of consultancies implemented	By 2020, 20 consultancies that are building capacity of researchers implemented, and from 2021 attain 30 annually	200	TARI and Universities

	Amount of funds generated as institutional fee from consultancies	At least 5% annual increase in funds from institutional fee due to consultancies		
KEY RESULT AREA 4: KNOWLEDGE, INFORMATION, AND COMMUNICATION ON AGRICULTURAL TECHNOLOGIES SHARED				
4.4.1 To strengthen client responsive management information system	Number of repositories and platform developed and used	One repository and at least 10 platforms developed and used by 2019	700	TARI, LGAs, ICT service providers, Communication Service providers, COSTECH
	Number of automated systems established and used	At least 1 automated system established and used by 2019	700	
	Number of programme developed	At least 20 programs aired and reported in different media annually		
4.4.2 To Enhance Knowledge Exchange and Dissemination of Research Outputs	Number of packaged technologies documented and shared	At least 200 of packaged technologies documented and shared	800	TARI, LGAs, MoA, COSTECH, CCARDESA, ASARECA, CABI, FARA, CTA, TALIRI
4.2.3 To enhance management of information communication technology (ICT) infrastructure	Database established	Database (data warehouse) established by 2019	800	TARI, LGAs, MoA, COSTECH, CCARDESA, ASARECA, CABI, FARA, CTA, TALIRI
	Number of staff equipped with ICT technical skills	At least 200 staffs equipped with ICT technical skills by 2019		
	Number of web-site reviewers and visitors	At least 2 million visitors and reviewers of TARI websites annually		
	Number of categories of information stored and accessed	At least 10 categories of information accessed annually		
4.4.4 To strengthen institutional communication and raise visibility	Communication strategy developed and implemented	Communication strategy developed and implemented by 2023	3800	TARI, LGAs, MoA
	Number of branding manuals developed and promoted	At least 10 branding manuals developed and promoted by 2020		
KEY RESULT AREA 5: CAPACITY TO IMPLEMENT AGRICULTURAL RESEARCH ENHANCED				
4.5.1 Strategic	Number of staff reached and sensitized	85% of staff reached and sensitized	510	TARI, LGAs, MoA

Objective 1: To reduce number of staff loss due to HIV/AIDS and chronic non-communicable diseases		on HIV/AID by 2024		
	Supportive mechanisms to disease victims developed	At least 60% of victims supported annually		
	New reported disease reduced	New reported HIV infections reduced by 20% annually		
	Disease related stigma and discrimination at workplace reduced	Discrimination at workplace reduced by 20% annually		
4.5.2 Strategic Objective 2: To enhance anti-Corruption behaviour that leads to increased efficient and integrity among TARI staff	Number of Corruption cases reported	50% of corruption cases decreased annually	90	TARI, LGAs, MoA
4.5.3 Strategic Objective 3: To improve human resource capacity development and management	Recruitment plan developed and assessed	Recruitment plan assessed and developed by 2019	40	TARI, MoA and International Centres and Organizations
	Training and succession plans develop and operationalized	Training and succession plans developed and operationalized by 2019		
	Rewarding and recognition system developed and implemented	Rewarding and recognition system developed and implemented by 2019		
	Integrated Human Resource Management System and database strengthened and implemented	Integrated Human Resource Management System and Database strengthened and implemented by 2019		
4.5.4 Strategic	Internal revenue generated	10% increase in Internal revenue	200	TARI, LGAs, MoA,

Objective 4: To mobilize and manage financial resources		annually		International Centres and Organizations, COSTECH, ASARECA
	Budgetary allocation for research increased	Budgetary allocation for research increased by 20% by 2019		
Strategic Objective 5: To enhance research infrastructure and facilities	TARI land ownership formalized	TARI land ownership formalized by 2020		TARI, MoA, MoFP
	TARI Headquarters established	TARI Headquarters established 2022		
	TARI Centres constructed and rehabilitated	TARI Centres constructed and rehabilitated by 2022	40,500	
	Bioscience Centre of Excellence developed	Bioscience Centre of Excellence developed by 2022		
	Research retooled with equipments and facilities	Research retooled with equipments and facilities by 2020		
	Security services strengthened	Security services strengthened by 2019		
4.5.6 Strategic Objective 6: To provide institutional legal services	TARI land ownership formallized and acquired title rights	50% of land ownership formalized by 2022	1,360	TARI, LGAs, MoA
	Management tools for the institute developed	Management tools for the institute developed and operationalized by 2019		
	Procedures for protection from intellectual properties developed	Procedures for protection from intellectual properties developed and by 2020		

Annex 1: ORGANIZATION STRUCTURE OF TARI