NDPIII INNOVATION, TECHNOLOGY DEVELOPMENT AND TRANSFER PROGRAMME IMPLEMENTATION ACTION PLAN

MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION

NATIONAL PROGRAMME 17: INNOVATION TECHNOLOGY DEVELOPMENT AND TRANSFER PROGRAMME (ITDTP)

November, 2020

Style Definition: Heading 2: No bullets or numbering

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List of Acronyms

DPI	Development Plan Implementation
GOU	Government of Uganda
KCCA	Kampala Capital City Authority
PLC	Programme Leadership Committee
LG	Local Government
LGFC	Local Government Finance Commission
MoFPED	Ministry of Finance, Planning and Economic Development
MoGLSD	Ministry of Gender, Labour and Social Development
MoICT	Ministry of Information & Communication Technology
MLHUD	Ministry of Land, Housing and Urban Development
MoLG	Ministry of Local Government
MoPS	Ministry of Public Service
MoSTI	Ministry of Science Technology and Innovation
NDP	National Development Plan
NPA	National Planning Authority
NIRA	National Identification Registration Authority
NITA-U	National Information Technology Authority
OAG	Office of the Auditor General
OP	Office of the President
OPM	Office of the Prime Minister
PIAP	Programme Implementation Action Plan
PPDA	Public Procurement and Disposal Authority
PSD	Private Sector Development
PWG	Programme Working Group
TWG	Technical Working Group
UBOS	Uganda Bureau of Statistics
URA	Uganda Revenue Authority
URSB	Uganda Registration Services Bureau
DIT	Directorate of Industrial Training
UVRI	Uganda Virus Research Institute
UIRI	Uganda Industrial Research Institute

UNCST	Uganda National Council for Science and Technology
UNDP	United Nations Development Programme
URSB	Uganda Registration Services Bureau
WAITRO	World Association of Industrial and Technological Research Organisations
WIPO	World Intellectual Property Organization
STEM	Science, Technology, Engineering and Mathematics
PIBID	Presidential Inntitaive on Banana Industrial Development
MMISTC	Machining, Manufacturing, and Industrial Skills Training Centre
MoSTI	Ministry of Science, Technology and Innovation
MTIC	Ministry Trade Industry and Cooperatives
MWE	Ministry of Water and Environment
NARO	National Agricultural Research Organization
NBC	National Biosafety Committee
NCHE	National Council for Higher Education
UNCST	Uganda National Council for Science and Technology
KMC	Kiira Motors Corporation
LEAP-Agri	Long-Term EU-Africa Research and Innovation Partnership on Food and Nutrition Security and Sustainable Agriculture
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries

Foreword

The process of crafting the Innovation technology development and transfer programme (ITDTP) envisioned consistency with Uganda's Vision 2040, National Development Plan III, the Sustainable Development Goals (SDGs), Africa agenda 2063, and the East African Vision 2050. This Action Plan will aid the Country tackle her scientific, technological, and innovative bottlenecks and contribute to its transformation from a peasantry to middle income status country through integrating science, technology and engineering in implementation processes. This will spur productivity and competitiveness at all levels of economy.

Considering the unique socioeconomic situation of the Country and its aspirations for sustainable development, the ITDTP puts heavy emphasis on stakeholder consultations throughout the process which included Ministries, Departments, Agencies and Local Governments, Academia and Researchers, Development Partners, the private sector, Innovators and beneficiaries of the sector services. Globally Science, Technology and Innovation is increasingly becoming the main catalyst for development and therefore a priority in any development process of a country.

Currently the Ugandan Science, Technology, Engineering and Innovation (STEI) ecosystem is faced with several challenges that prohibit its catalytic role to development some of which include; lack of a well-established ST&I Infrastructure; insufficient use of intellectual property (IP) rights; Weak legal and regulatory framework for promoting private sector investment and commercialising of ST&I; sufficient data, inadequate capacity to create and support own innovations; inadequate skills to assume practical roles required by the private sector and fulfil the needs of a growing ST&I sector; insufficient financial resources for the sector to support Research and Development and other new emerging technologies and areas of science.

This PIAP when implemented, is expected to drive the country towards a scientifically and technologically awake country.

I must express our deepest gratitude to the leadership of the Government of Uganda—H.E. The President, Hon Rt. Prime Minister, the Speaker of Parliament, the STI Standing Committee of Parliament, Ministry of Finance, Planning and Economic Development and National Planning Authority—for giving us the latitude and flexibility to conceive PIAP.

Special thanks go to the Ministry team led by the able Permanent Secretary the Sector Agencies namely; Uganda National Council for Science, Technology, The Banana Industrial development centre, Kiira Motors Corporation, Uganda Virus research Institute and Uganda Industrial research Institute, the programme working group members for the critical role played in the development of the PIAP.

For God and my Country.

Dr. Elioda Tumwesigye

HON. MINISTER FOR SCIENCE, TECHNOLOGY AND INNOVATION

Detailed Action Plan FY2020/21-2024/25

Programme: DEVELOPMENT PLAN IMPLEMENTATION PROGRAMME

Program Lead Ministry: Ministry of Science Technology and Innovation

Program Technical Lead: The Permanent Secretary

Lead Implementing Partners

1. Uganda Industrial Research Institute (UIRI)
2. Uganda National Council for Science and Technology (UNCST)
3. Banana Industrial Research Development Centre (BIRDC
4. Kiira Motors Corporation (KMC)
5. Uganda Virus Research Institute (UVRI)
6. Sericulture Commercialisation
7. Directorate of Industrial Training (DIT)
8. Ministry of Agriculture, Animal, Industry and Fisheries (MAAIF)
9. Ministry of Gender, Labour, and Social Development (MoGLSD)
10. Ministry of Finance, planning and Economic Development (MoFPED)
11. Ministry of ICT and National Guidance (MoICT&NG)
12. Ministry of Water and Environment (MoWE)
13. National Environmental Management Authority (NEMA)
14. Office of the President (OP)
15. Ministry of Education and Sports (MoES)
16. Ministry of Health (MoH)
17. Ministry of Trade Industry and Cooperatives (MTIC)
18. Uganda Investment Authority (UIA)
19. Ministry of Energy and Mineral Development (MEMD)
20. Ministry of Local Government (MoLG)
21. National Agricultural Research Organisation (NARO)
22. Uganda Registration Services Bureau (URSB)
23. Uganda National Bureau of Standards (UNBS)
24. Uganda Bureau of statistics (UBOS)
25. National Planning Authority (NPA)
26. Uganda National Council for Higher Education (UNCHE)
27. Uganda Meteorological Authority (UMA)
28. Uganda National Health Research Organization (UNHRO)
29. National Chemotherapeutics Research Institute (NCRI)
30. Joint Clinical Research Centre (JCRC)
31. Public Universities
32. Private Sector

1. Introduction

This Programme Implementation Action Plan (PIAP) outlines the key outputs together with their actions that will be delivered by participating institutions in response NDP III outcomes under Programme 18 - Development Plan Implementation (DPI) over the period 2020/21 to 2024/25. The PIAP consists of the follow 5 key sections;

(i) Background
(ii) Programme Executive Summary
(iii) Programme Governance and Accountability Arrangements
(iv) Programme Monitoring Framework
(v) Programme Actualisation Plan
(vi) Programme Financing Arrangements

2. NDPIII Goal, Overall strategy and Objectives

The overall goal of the NDP III that runs from 2020/21 to 2024/25 is **Increase Average Household Incomes and Improve the Quality of Life of Ugandans.**

This goal is expected to be achieved through an overall strategy **of sustainable industrialisation, for wealth creation, employment and inclusive growth.**

To achieve this goal, five key objectives have been identified in the NDPIII and this include;
(i) Enhancing value addition in key growth opportunities (of agriculture, tourism, minerals, petroleum, CT) ;
(ii) Strengthening the private sector capacity to drive growth and create jobs;
(iii) Consolidating and increase the stock and quality of productive infrastructure;
(iv) Enhancing productivity, inclusiveness and social wellbeing of the population; and
(v) Strengthening the role of the state in guiding and facilitating development

Following a paradigm shift from sector based planning to programme based planning approach, twenty (20) strategies for achieving these objectives were developed and 18 national level corresponding programmes were developed as indicated in the table below.

NDPIII Objective	Strategies for achieving objectives	National Level programme for achieving the objective (s)
1. Enhance value addition in Key Growth Opportunities	1. Promote agro-industrialization 2. Increase local manufacturing activity 3. Promote mineral-based industrialization 4. Harness the tourism potential 5. Promote export-oriented growth	1. Agro-Industrialization 2. Mineral based Industrialization 3. Petroleum Development 4. Tourism Development 5. Water, Climate Change and ENR Management
2. Strengthen private sector capacity to drive growth and create jobs	6. Provide a suitable fiscal, monetary and regulatory environment for the private sector to invest 7. Increase local content participation	6. Private Sector Development 7. Manufacturing 8. Digital Transformation
3. Consolidate & increase stock and quality of Productive Infrastructure	8. Institutionalise infrastructure maintenance 9. Develop intermodal transport infrastructure 10. Increase access to reliable & affordable energy 11. Leverage urbanization for socio-economic transformation	9. Transport Interconnectivity 10. Sustainable Energy Development 11. Sustainable Urban Development
4. Increase productivity, inclusiveness and social wellbeing of Population.	12. Improve access and quality of social services 13. Institutionalise HR planning 14. Enhance skills and vocational Development 15. Increase access to social protection Promote STEI 16. Promote development oriented mind-set	12. Human Capital Development 13. Community Mobilization and Mind-set Change 14. Innovation, Technology Development & Transfer 15. Regional Development

NDPIII Objective	Strategies for achieving objectives	National Level programme for achieving the objective (s)
5. Strengthen the role of the State in development	17. Increase govt. participation in strategic sectors 18. Enhance partnerships with non-state actors for effective service delivery 19. Re-engineer Public service to promote investment 20. Increase Resource Mobilization	16. Governance and Security 17. Public Sector Transformation 18. Development Plan Implementation

3. Innovation, Technology Development & Transfer Programme (ITDTP) Summary

Programme Context

ITDTP is a central programme out of the eighteen NDPIII national level programmes. All the other programmes rely on technology, engineering, innovation and science to enhance productivity and competitiveness at whatsoever level. This programme is intended to spear head industrialisation in all other sectors of the economy. However, for this to be achieved, the following constraints will be addressed that currently exist. i) Absence of formal mechanisms put in place to facilitate technology transfer; ii) Dismal country's investment on STEI; iii) Absence of well organised incubation and technology parks to facilitate innovation and technology development; and iv) Nonexistence of formal established mechanisms linking universities and research institutions with industry to facilitate development and commercialization of new innovations.

The programme equally fits within the National, regional and continental aspirations as depicted in the NDPIII, Uganda Vision 2040, East African Vision 2050, the Science technology and Innovation strategy for Africa (STISA), the Africa agenda 2063 and the SDG 2030 agenda.

Programme Objectives, Outcomes, targets and outputs

Innovation, Technology Development and Transfer Programme (ITDTP) is intended to increase the application of appropriate technology in the production and service delivery processes across the country through the development of a well-coordinated STEI eco-system. To achieve this programme goal, six (6) objectives will be pursued over the medium term including;

(i) To develop requisite STI infrastructure;
(ii) To build human resource capacity in STI;
(iii) To strengthen R&D capacities and applications;
(iv) To increase development, transfer and adoption of appropriate technologies and nurturing the local innovation potential;
(v) To improve the legal and regulatory framework.

These objectives are expected to contribute to the following set of outcome targets over the medium term.
NDP III has also outlined ITDT Programme outcomes as;

(i) Increased innovation in all sectors of the economy,
(ii) Enhanced development of appropriate technologies,
(iii) Increased R&D activities in the economy,
(iv) Increased utilization of appropriate technologies,

(v) An enabling environment for STEI created

Table 1: shows the mapping of the outcomes to the Programme Objectives.

Objective	Outcome
To develop requisite STI infrastructure	Increased innovation in all sectors of the economy
To build human resource capacity in STI	Enhanced development of appropriate technologies
To strengthen R&D capacities and applications	Increased R&D activities
To increase development, transfer and adoption of appropriate technologies and innovations	Increased utilization of appropriate technologies
To improve the legal and regulatory framework	An enabling environment for STEI created

The programme objectives are expected to partially contribute to the attainment of the following programme targets, notwithstanding the contribution of the other 17 programmes.

The ~~K~~key NDP III targets under the ITDT Programme are;

(i) Increase the Global Innovation Index from 25.3 to 35.0;
(ii) Increase Gross Expenditure on R&D as a percentage of GDP (GERD) from 0.4 percent to 1 percent;
(iii) Increase business enterprise sector spending on R&D (percent of GDP) from 0.01 percent to 0.21 percent; and
(iv) Increase the number of Intellectual Property Rights registered per year from 2 to 50.

In order to measure the progress towards attainment of the objectives, a mixed set of intermediate, and immediate results will be measured through a set of indicators. These are summarised in table 2 below.
The Indicators listed in the Table 2 will be used to measure progress towards the Outcomes under the Programme;

Table 2: ITDT Programme Outcome Indicators

Outcome	Indicators
Objective 1: Develop requisite STI infrastructure	
Increased innovation in all sectors of the economy	1.1 No. of Technology Business Incubators established and operationalized
	1.2 No. of Science and Technology Parks established and operationalized
	1.3 No. of technology transfer centres established and operationalized
	1.4 No. of laboratories/ STI facilities improved or established
Objective 2: Build institutional and human resource capacity in STI	
Enhanced development of appropriate technologies	2.1 Number of Intellectual Property Rights registered
	2.2 Value of International payments for the use of intellectual property (USD million)
	2.3 Proportion of the population using appropriate technologies (USD million)

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Outcome	Indicators
Objective 3: Strengthen R&D capacities and applications	
Increased R&D activities	3.1 Global Innovation Index (%)
	3.2 Gross Expenditure on R&D (GERD) as a % of GDP
	3.3 Business enterprise sector spending on R&D (% of GDP)
	3.4 Number of applications for IP protections per annum
	3.5 Technicians in R&D (per million people)
	3.6 Researchers in R&D (per million people)
Objective 4: Increase development, transfer and adoption of appropriate technologies and innovations	
Increased utilization of appropriate technologies	4.1 No. of firms graduating from S&T parks
	4.2 No. of firms graduating from incubators
	4.3 Percentage of new technologies or research results commercialized
	4.4 No. of new technologies adopted
	4.5 Percentage of firms using innovative technologies
Objective 5: Improve the legal and regulatory framework	
An enabling environment for STEI created	5.1 No. of ST&I Laws and Regulations drafted and submitted to cabinet/ parliament
	5.2 Percentage of inspected entities that are compliant to ST&I regulations

Detailed results and reporting framework is attached in Annex IV

Sub-Programme Intermediate Outcomes and indicators

The sub-programmes are:

1. Science Research and Development
2. Biosciences Development
3. Innovation and Technoprenureship
4. Engineering and Technology Development
5. STEI Institutional and Human Resource Capacity Development.
6. General Administration, Finance and Planning

Table xx shows the intermediate outcomes and indicators of the sub-programmes

Sub-programme 1:	
Programme Objective (s) contributed to by sub-programme: Objective xx:	
Intermediate Outcomes	**Indicators**

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Sub-programme 2:	
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Important to note is that under the programme approach to planning, several other programmes will directly or indirectly contribute to the realisation of the above outcome targets. The stakeholders in the STEI eco-system, will contribute towards the above outcomes through implementing various actions and outputs stipulated in the programme implementation action plan.

Key among the targeted outputs a means of contributing to the programme outcomes, are indicated in the table below.

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Table3: Programme Outputs aligned to programme level outcomes

Outcomes	Outputs
1. Increased innovation in all sectors of the economy	1. STEI operational framework established.
	2. Technology Business Incubation (TBIs) established and operationalized including training centres.
	3. Engineering machining, manufacturing and skills enhancement centres established
	4. Science Centres for STEI advancement and promotion established
	5. Strategies for specific emerging technologies developed
	6. Emerging technology regulations and guidelines developed
	7. R & D laboratories (centres of excellence) established
	8. UN Innovation Lab for Least Developed Countries (LDCs) established
	9. Green incubation facilities for integrated production constructed and equipped
	10. Operational Science and Technology Parks
	11. Operationalize R&D facilities
	12. Biosciences centres established
	13. Virus research Infrastructure developed
	14. Material science and nano technology centres established
	15. Space Science and Aeronautics Technology Exploited
	16. Indigenous knowledge institute established
	17. Documentation of traditional Knowledge (TK)
	18. Climate Research and Technology institute established

Outcomes	Outputs
	19. Nuclear Science, Research and Development Centre established
	20. Automotive industry parks established
	21. Banana industry infrastructure park established
	22. Sericulture industry infrastructure established
	23. Silk processing facilities established.
	24. Increased funding for technology development & transfer
	25. Increased private sector investment in STEI
	26. Government funding to Innovation, Research and development Increased
2. Enhanced development of appropriate technologies	1. A National STEI Advancement and Outreach Strategy developed
	2. STEI education and training needs in the national curriculum integrated
	3. Intellectual Property integrated in the curriculum for tertiary and higher learning institutions
	4. Practical skills development programmes in place
	5. Special academic programs in emerging areas of Science and technology developed and implemented
	6. STEI mainstreamed in all 18 programmes
	7. Strong institutional coordination framework established
	8. Human Resource capacity in the IP value chain developed
	9. Informal Business Sector- Juakalis supported with appropriate technology business skills
	10. Apprenticeship Programmes for Informal sector "artisans, technicians" developed
3. Increased R&D activities	1. Functional systems and frameworks developed
	2. IP support infrastructure established
	3. Utilization of the IP system enhanced
	4. Intellectual Property value chain (generation, protection, commercialisation &Enforcement) enhanced.
	5. A national STEI information management systems developed.
	6. Sector R&D investments coordinated
	7. Increased STEI collaborations at the different levels
	8. Increased R&D in new emerging and re-emerging areas
	9. Additional critical multi hazard early warning and disaster systems information provided through local satellites
	10. National Innovation and IP survey conducted
	11. Technology Action Plan in place for Industrial and Energy sectors
	12. Policy and regulatory framework for a national technology and innovation ecosystem for the selected sectors strengthened
4. Increased utilization of appropriate technologies	1. National Technology Transfer Strategy developed
	2. Local and international partnerships and cooperation on technology transfer signed
	3. Identified commodities commercialized
	4. domestic products and services Standards developed
	5. STEI think tank established
	6. public investment in technology transfer and adoption Increased
5. Improved policy, operational and investment environment for STEI	1. International conventions, agreements and treaties on STEI domesticated
	2. STEI Policies, laws and regulations developed
	3. Research certification, clearance and accreditation system improved
	4. Multisectoral programme and multilateral collaborations framework developed
	5. Programme administrative and operational costs met
	6. Programme working group operationalised
	7. Programme monitoring and Evaluation reports prepared

Outcomes	Outputs
	8. Program reviews, evaluations conducted
	9. Programme Strategic, annual planning and budgeting conducted
	10. Programme data management conducted

4. Implementation reforms

4.5. ITDT Programme Implementation Action Plan

The Programme Action Plan list the key priority programme level outputs and actions that will be implemented to deliver ITDTP outcomes over the years 2020/21 to 2024/25. Outputs have been derived by MDAs from NDP III interventions which also aligned to the programme objectives in the NDP III. In turn, the actions in the Action Plan were generated by key implementing MDAs on the basis of these outputs. To complete the plan, each action is recorded with annualized costs for the period of the plan (5 years). The detailed Action Plan is listed in Annex III to this PIAP. The Sector will contribute to the realization of other NDP III actions with support actions as identified in Annex VI

5.6. Programme Financing Framework

The table here below provided the summary annualized costs for implementing the PIAP by Objectives and by lead MDA. Detailed costs by Interventions are provided in Annex IV.

Table 4: Summary ITDTP PIAP Annualised Costs by Objective

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Objective	Annualised Cost Projections (Billions)						%Tage by Objective
	020/21	2021/22	2022/23	2023/24	2024/25	Total	
1. Develop requisite STEI infrastructure	475.981	1,348.623	1,489.936	1,565.724	1,301.619	**6,181.884**	81.78%
2. Build Institutional and human resource capacity in STEI	8.040	19.733	24.687	27.772	28.688	**108.919**	1.44%
3. Strengthen R&D capacities and applications	24.849	86.996	99.039	101.792	89.430	**402.105**	5.32%
4. Strengthen mechanisms and processes for technology development, transfer, adoption and nurture national innovation potential	16.925	183.329	150.315	153.481	143.484	**647.534**	8.57%

5. Improve the legal, institutional and regulatory framework	2.160	8.070	6.075	4.891	4.600	**25.795**	0.34%
6. Strengthen Programme Governance, implementation and coordination	26.767	44.267	45.245	38.367	38.502	**193.148**	2.56%
Grand Total	**554.722**	**1,691.017**	**1,815.297**	**1,892.026**	**1,606.322**	**7,559.385**	**100%**

Table 5: Summary PIAP Annualised Costs by lead MDA

LEAD IMPLEMENTING AGENCY/SUBVENTION	**Annualized Cost Projections (UGX millions)**					**Total**
	2020/21	**2021/22**	**2022/23**	**2023/24**	**2024/25**	
MOSTI	173,545	392,946	840,628	930,062	680,724	**3,017,905**
MOSTI Programme Secretariat	1,400	4,400	13,078	6,200	6,335	**31,413**
MTIC	1,100	8,350	8,350	8,350	4,150	**30,300**
MGLSD	5,640	11,450	13,640	15,240	10,640	**56,610**
MAAIF	2,000	5,000	4,000	5,000	3,800	**19,800**
MOES	-	100	100	100	100	**400**
MEMD	-	-	1,500	1,500	1,500	**4,500**
AEC	-	-	1,500	1,500	1,500	**4,500**
MOSTI-UNCST	9,209	79,855	178,550	83,577	164,717	**515,907**
UIRI	212,404	292,900	145,778	126,237	126,019	**903,338**
UVRI	5,134	222,274	187,634	287,534	287,484	**990,060**
URSB	115	165	165	565	165	**1,175**
MOSTI-KMC	42,775	474,828	220,024	226,611	125,638	**1,089,876**
MOSTI-BIRDC	13,900	53,750	55,350	54,550	48,550	**226,100**
MOSTI- SERICULTURE TECHNOLOGIES	87,500	145,000	145,000	145,000	145,000	**667,500**
GRAND TOTAL	**554,722**	**1,691,017**	**1,815,297**	**1,892,026**	**1,606,322**	**7,559,385**

~~6.~~7. Programme Sustainability and Risk Management

This subsection presents the envisaged sustainability and the risk management aspects of the plan over the medium term. Sustainability of the interventions in the PIAP is assured on two-levels.

On macro-level, sustainability will follow from the overall strategy adopted in the NDPIII: focusing on the NDPIII ITDP goal of goal which is to aims to increase the application of appropriate technology in the production and service delivery processes through the development of a well-coordinated STI eco-system. It is thus expected, that by the close of the NDPIII implementation period; this science, technology and innovation system will be functioning so that a virtuous cycle of investments in new technological innovations yields commercial ventures at different levels of the private sector which, in turn, incentivizes private businesses to invest more in up-front R&D for ST&I as successful examples grow and are replicated. This will fill-in the missing private sector funding element that is so critical to the long-term growth and sustainability of the programme.

On a lower more micro-level, the key infrastructural building blocks of the S&T innovation system that the programme is putting into place that will make it fully functional—the ST&I incubators, the science and technology parks, the technology transfer centres, the university/research institution research centres and the science museums—will all be operating on a sustainable basis. This will be assured through the attention given in the PIAP on developing a clear strategy and management plan for these investments that will be outputs from the National Science, Technology and Innovation Strategy to be developed.

PIAP Risk Management Plan

The ITDTP is one of those programmes that is highly prone to risks given the highly dynamic nature of technology advancements, scientific advancements, and the emerging move by countries world over to leverage STEI in commerce, security, health, education and all aspects of life. The Table 6.1 presents key identified risks that may be confronted by the ITDTP during implementation of the plan. In the table potential risks by category, causes, and envisaged effects on the ITDTP are enlisted with their corresponding likelihood of occurrence and level of impact on realization of PIAP plan results. In addition the table risk mitigation measures are indicated alongside key actors. Risk occurrence and expected impact scales range from 1 to 3 with 3 as the highest/significant point level (low/minor -1, moderate-2, and high-3). The risk rating is the product of the likelihood of occurrence and the envisaged impact level of the risk on the PIAP plan (This rating ranges from 1 to 9 with 1-3 = Low, 4-6 = Moderate and 7-9 = High/significant). These risks will be reviewed from time to time and measures taken depending on the potential impact expected.

Table 6.1 ITDTP Risk Management Matrix/Action plan

SN	Identified Risk	Risk category	Analysis					Mitigation	Lead Actor
			Causes	Key ST&I Elements affected	Occurrence Likelihood (A)	Potential risk Impact (B)	Risk rating =(A*B)		
1.	Disasters and/or Climatic change induced risks.	Household and Community risks	Poor environmental management practices	Civil, mechanical, housing, transport and other engineering and technology investments are affected.	Moderate	Low	Low	Conduct Research on aspects related to resilient technologies, Commercialize appropriate technologies. Developing innovative solutions like early warning systems	MOSTI, Academia, research institutions and other MDAs
				With respect to human, animal and crop related epidemics, pandemics, the science and technology capacity can be overwhelmed or enhanced.				Research undertakings for example crop related research is interfered with.	
2.	Bio- terrorism	Political and economic	Foreign policy influence especially on investments geared towards independence on aspects of medicines, technologies and engineering.	Sustained dependence on foreign technologies and medicines. Dampening local capacity, increasing uptake obsolete technologies. Encouraging brain drain	Moderate	High	Moderate	Develop policies and laws in areas of biosecurity, biosafety Develop own satellites and strengthen country's capacity for enhancing security	MOSTI, CMI, ISO, ESO, UPDF, UPF.
			· Existence of terrorist groups	All fields of science and technology affected.					
			· Existence of porous borders	Illegal entry and exit of biochemical, hazardous materials to and out of the country					

SN	Identified Risk	Risk category	Analysis					Mitigation	Lead Actor
			Causes	Key ST&I Elements affected	Occurrence Likelihood (A)	Potential risk Impact (B)	Risk rating =(A*B)		
3.	International trade risks		Trade restrictions Non adherence to standards e.g. phytosanitary requirements, established engineering standards.	Affects innovations, exports, and ability to develop the country's manufacturing capacity.	Moderate	High	Moderate	1. support continuous adherence to set standards by trade partners Develop innovations and products to levels that meet specific international markets requirements. Engage sectors in matters relating to science and technology product standards	MoWT, MoFA, MEACA, UIA, UNBS, MoTIC, MoFPED, OPM
4.	Dynamic nature of science and technology needs (the ever fast changing nature of technologies and science)	Economic and social	· Continuous emergence of cheaper, effective, alternative technologies especially in health, agriculture, life style, transport, engineering, security, etc.	Persistence of health and education inequalities between Uganda and the rest of the world Limited productivity in Agricultural sector. Widening balance of payment as a result of continued importation of new demand driven technologies	High	High	High	Improve research and commercialization of better solutions	MOSTI and its Agencies, MEMD, MTIC, Private Sector
	Intellectual Property Rights theft		Inadequate regulatory systems. Weak enforcement of laws	Information piracy and loss of IPR ownership and earnings to individuals and the country	Moderate	Moderate	Moderate	strengthen IPR management through registration of patents, trademarks, utility models for all applicable local innovations	MOSTI, URSB, UNCST, Academia, Judiciary, UPF, and other stakeholders

SN	Identified Risk	Risk category	Analysis					Mitigation	Lead Actor
			Causes	Key ST&I Elements affected	Occurrence Likelihood (A)	Potential risk Impact (B)	Risk rating =(A*B)		
6.	Negative attitude towards the role of science and technology in development	Social	Limited awareness on the potential role of ST&I in development processes Limited prioritization of science and technology in education Limited integration of ST&I by sectors in planning and implementation processes	Low Global Innovation index for Uganda, Low labour productivity in the productive sectors of the economy, Limited manufacturing activity and low exports of value added commodities	High	High	High	Develop manufacturing training and infrastructure to support manufacturing Support efforts to purposively build a science and technology based education at all levels Develop and enforce ST&I guidelines/ regulation.	UIRI, UIA, MOSTI, UFZA, MoWT, and MoEW

~~7.~~8. Programme Monitoring and Evaluation Framework

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Monitoring of performance under each of the programmes will be carried out through a series of activities over the implementation period. Progress will be assessed based on the action plan listed in Annex III. Performance will also be evaluated against a set of outcome and output indicators and targets listed in Annex IV

Monitoring and Evaluation Activities

To the extent possible, the programme M&E shall be carried out using existing processes - mostly the annual planning and budgeting cycle. This will minimise duplication of efforts but also increase the adoption of results of these processes within the implementation cycle aligned to the annual budget process. M&E will therefore be carried out through the following activities;

Half Annual and Annual Performance reports

Half Annual (February) and Annual (September) reports will be used to compile progress and performance information based on the Action Plans and key performance indicators. These reports shall be coordinated by the Secretariat, working with the TWGs and presented to the PWG to review. They will also inform the Leadership Committee in their performance monitoring activities. The Annual Performance Report will also provide input into the annual review process.

Annual Review and Evaluation

The Programme annual review, taking place in September/October, shall constitute the main evaluation event each year. This event shall be attended by programme external partners (DPs, CSOs, etc.). During this event, the Leadership Committee shall receive the annual performance report. From time to time, the PWG may commission independent assessment studies on any part of the programme in order to inform this evaluation. In such cases, reports from such studies will be received by the Leadership Committee. The event shall also be used to set targets for the following Financial Year.

Mid-term Review

The PWG will commission a mid-term review of the programme in the Financial Year 2022/23 to carry out a detailed evaluation of the implementation and to inform it on progress made and changes that may be necessary to improve implementation. The review study shall be carried out with the help of external independent experts. The results of the review shall be considered and approved by the PWG. The review report shall also be presented to the Leadership Committee.

Diagnostic Studies

The PWG may, from time to time commission studies or surveys to obtain a deep analytical assessment of progress or impact of the entire programme or any part of it. Assessment can be subject specific such as periodic PEFA assessment. Recommendation from such studies shall be considered by the PWG and possibly by the Leadership Committee

Physical Inspections

The PWG may, from time to time, carry out physical inspections to collect physical evidence on programme implementation progress and performance. Reports of physical inspections shall inform the monitoring function of the PWGs

Roles for Responsibilities for M&E

Secretariat

The Programme Secretariat shall coordinate the preparation of half annual and annual programme report, for collecting and compiling data on all aspects of the programme; action plan, key results performance indicators, etc. The Secretariat shall also manage contracts related to external experts for various studies, including for the mid-term review, and shall organise all evaluation events (such as annual programme evaluation). The Secretariat shall maintain a database for all indicators under each of the programme to aid tracking and reporting.

Technical Working Groups

Programme Technical Working Groups shall review sections of half annual and annual report relating to their thematic areas and clear these before the reports are submitted to PWGs. The TWGs shall also review reports of independent evaluation / assessment studies, clear them before their consideration by PWGs

Programme Working Groups

PWGs shall review and clear for LC consideration, report of half annual or annual performance together with that of the mid-term review. PWGs also shall ensure the approved recommendations of monitoring and evaluation processes are integrated in the work-programme of the PWGs and tracked for their implementation

Programme Leadership Committee

The Leadership Committee will consider half annual and annual performance reports

~~8.~~9. Programme Governance and, implementation Framework

Introduction

This section presents how the programme will be managed and implemented by the various stakeholders. Institutional structures for the management of programme implementation will comprise of 4 levels; (i) Apex Platform, (ii) The Office of the Prime Minister and Clusters, (iii) The programme Leadership Committee, (iv)the Programme Working Group, and (v) Technical Working Group. These will bring together government institutions (MDAs / LGs) and partners engaged in the STEI ecosystem at different levels (political, policy and technical) to drive the implementation of the programme. A Secretariat headed by the Permanent Secretary and coordinated by the Policy and planning department of the MOSTI will provide coordination and administrative support to these structures.

The programme implementation arrangements will follow government existing process cycles that are defined through the various events including; strategic planning, annual planning, Budgeting and Budget execution, monitoring, reporting and evaluation. These processes will be guided by statistics/data. All key stakeholders will, in a coordinated manner, participate in these processes as guided by existing policies, laws, guidelines, regulations, and procedures that will be issued from time to time by responsible government entities to the programme.

As illustrated in figure figures 8.1 and 8.2 the implementation of the PIAP will take a two faceted approach. On one hand will be the aspect of planning, budgeting and execution while on the the other will be oversight. At the centre of all these, there will be stakeholders engaged in the various implementation process events and oversight functions.

Implementation oversight .The PIAP implementation oversight will be spearheaded by independent arms of government, and civil society. This will include Parliament, Cabinet, The Presidency (APEX platform), CSOs and other special interest groups. These shall participate in providing key guiding policy checks and balances as well as providing independent review and evaluation reports.

The programme planning, budgeting and execution arrangements shall be overseen by non-direct implementing entities including OPM, MoFPED, NPA and OP. CSOs will also provide independent assessments on the performance of the Action plans. These shall provide strategic guidance in form of planning, budgeting, reporting, and budget execution through the sector working group coordinator and directly to independent agencies under the sector. The SWG shall oversee the execution of the strategic guidance issued. MDAs and all key ST&I actors will participate under guidance of the SWG in the following implementation process events including strategic planning, project development, annual planning and budgeting and performance reviews. The governance architecture is briefly explained below.

High Level Public Policy Management Executive Forum (Apex Platform)

This forum is intended to strengthen effective public policy management and promotion of good governance practices. The platform will act as a convener for four government institutions that include; Office of the President, Office of the Prime Minister, Ministry of Finance, Planning and Economic Development, and National Planning Authority through an annual NDP forum chaired by H.E the President.

Leadership and Coordination at Office of the Prime Minister

In line with guidance issued by NPA, the Prime Minister, as leader of Government Business and the overall coordinator, will be responsible for overall leadership of NDPIII the ITDTP implementation. OPM will house a secretariat that will consolidate progress reports from Ministries leading the implementation of individual programmes. The OPM will through the APEX platform submit an Annual Government NDPIII Programme Performance Report to H.E. the President. The APEX platform will synthesize high level policy issues for action by H.E the present.

The ITDT Programme Leadership Committee

The Innovation, Technology Development and Transfer Programme Leadership Committee (ITDT-LC) shall consist of political leaders (Minsters, Board Chairpersons, Chief Executive Officers) of MDAs, the directors of MOSTI, and Corporations with the largest contributions to the ITDTP. The Minister of Science, Technology and Innovation will be the convening chairperson. Membership for the committee is listed below and may be reviewed as and when the committee deems fit.

Table 6: Members of Leadership Committees for DPI

DPI Leadership Committee Membership
1. Minister, Science Technology and Innovation (Chairpersons)
2. Chairperson and Executive Secretary UNSCT
3. Chairperson and Executive Secretary KMC
4. Chairperson and Executive Secretary UIRI
5. Chairperson and Executive Secretary UVRI
6. Permanent Secretary MOSTI
7. Directors MOSTI

Function of ITDP Leadership Committee

The Committee shall have an oversight function over the programme implementation enabling policy level coordination and monitoring progress towards target programme outcomes. The Committee will be expected to ensure accountability for results by PWG. Specific functions for committee shall be as follows;

(i) Provide political and policy guidance and advocacy; review and act as a clearing house for sector policies before cabinet, and advocate for approval of programme based policies before Cabinet and Parliament;

(ii) Monitor implementation of programme based policies and support the PWGs is resolution of impediments to implementation of such policies

(iii) Monitor programme implementation based on programme outcome targets and support resolution of political or policy constraints during implementation

(iv) Approve the Half Annual and Annual programme performance reports provided by the PWGs

(v) Advocate for mobilisation of resources to support programme implementation where there are financing gaps

Meeting; Inputs and Outputs. The Leadership Committee shall meet 2 times in year;

(i) At the annual programme review (September / October); to consider the annual programme performance report, to review programme performance, understanding emerging policy issues and agree to programme targets for the following year, and

(ii) In February each year to consider the half-annual performance report and to be appraised of programme implementation.

The key input documents to the work of the Leadership Committee namely half annual and annual performance reports, shall include a policy level section on performance and emerging issues, targeting the LC role for oversight and decision making.

Figure. 8.1 Broad Programme Governance: Oversight, Planning, Budgeting and Implementation

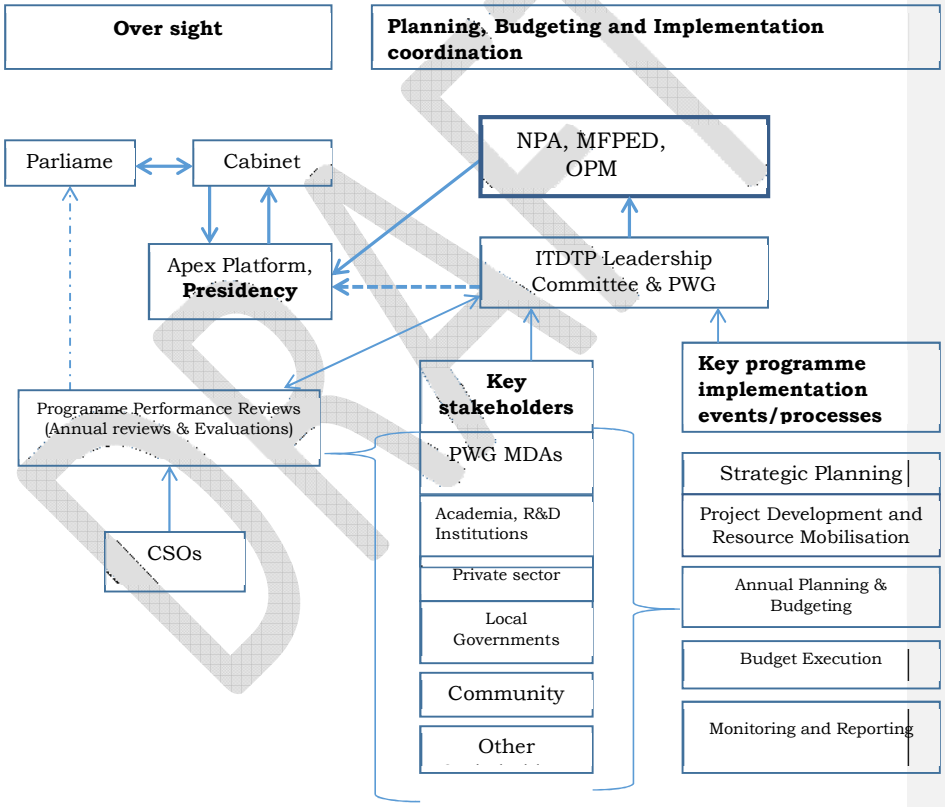
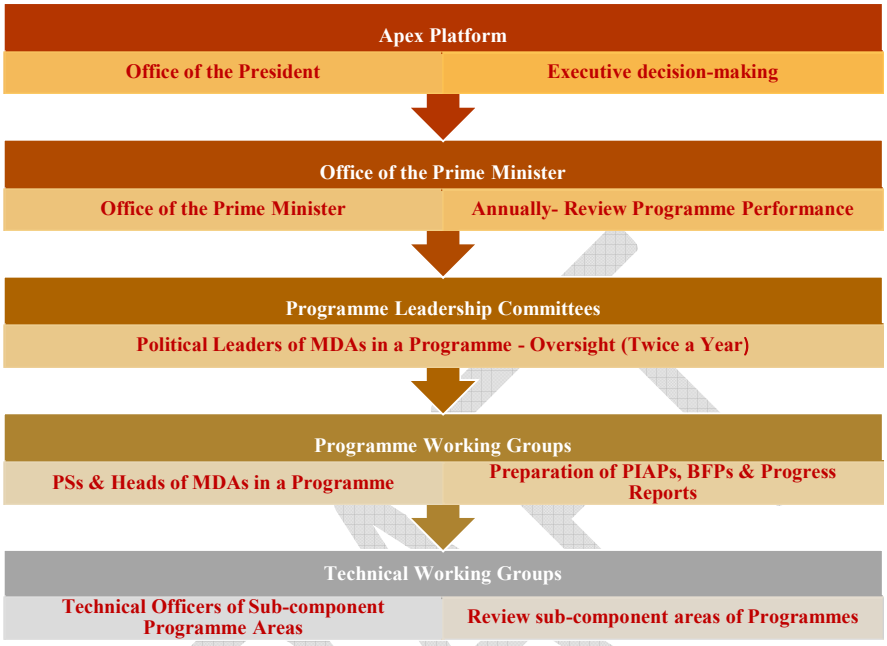


Figure 8.2: Programme Hierarchical Structure



Programme Working Group

The Programme Working Group shall be the highest technical organ for the Programme. The Programme Working Group shall be chaired by the Permanent Secretary of the MOSTI with membership drawn from Permanent Secretaries, and Heads of Institutions of the constituent programme MDAs and key STEI ecosystem stakeholders. Given the cross cutting nature of the programme across all other programmes, the Secretariat following broad criteria was used to establishing its membership. The criteria and membership was adopted during the first ITDP PWG meeting hled in October 2020 at the ministrys figth floor. The adopted criteria included.

1. All lead government Ministries for programmes
2. All key implementing Agencies affiliated/under the programme
3. Select Science and Technology oriented agencies of Government
4. STEI ecosystem stakeholders

(i) Academia (public and private)
(ii) R&D institutions (Public and private)
(iii) Private sector- formal and informal (STE oriented)
(iv) LDPG on STEI (Select UN agencies, International Corporations Agencies
(v) Innovation Associations/Institutions

(vi) Civil Society Group on STEI

For ease of working,

(i) Other, members will be coopted depending on the relevance of the subject under discussion

(ii) Subprogram working groups based on clusters will be created to form effective planning and budgeting teams.

Functions of Programme Working Groups (PWGs)

PWGs shall be responsible for preparation of Programme Implementation Plans, preparation of Programme Budget Framework Papers (PBFPs), Quarterly, Semi-Annual and Annual Programme performance reports and the medium-term budget strategy documents and issuing them to the Leadership Committee and approval. Specifically, they will;

(iii) Ensure broad stakeholder consultation in discussing key issues and harmonize Government and stakeholder positions;

(iv) Formulate Programme Implementation Plans in line with the National Development Plan and the Manifesto of the ruling government;

(v) Joint clearance of projects for inclusion in the Public Investment Plan, a requirement by the Development Committee;

(vi) Ensure alignment of PIAPs, PBFPs with the NDP III;

(vii) Coordinating inter-ministerial and agency budget allocations in a consultative way ensuring transparency and accountability, and alignment with Programme priorities.

(viii) Provide a platform for consultation and dialogue between programme MDAs and external partners (DPs) on strategic and policy matters related to the programme;

(ix) Examine and review of programme related policies and plans, reviewing past performance, emerging policy issues and future spending pressures;

(x) Identify key outputs and programme performance targets both annually and in the medium term;

(xi) Undertake monitoring and assessment of programme implementation – examining progress based programme outcomes and interventions;

(xii) Monitor performance under associated strategies or initiatives such as PFM Reform and the Private Sector Strategies

(xiii) Resolving Strategic emerging and cross-institutional issues impeding program implementation

(xiv) Prepare semi-annual and annual programme reviews and reports and issue for consideration by the Leadership.

(xv) Review and approve programme mid-term review report

(xvi) Receive and consider reports of Technical Working Groups

Meeting; Inputs and Outputs

The PWGs shall meet at least once every quarter. Specifically, the PWGs shall hold the following meetings, at minimum

(i) A meeting at least 2 weeks (August / September) prior to the annual programme review to consider and approve the annual programme performance report and clear agency budget allocations - Quarter 1;

(ii) A Meeting to consider the Programme Budget Framework Paper (PBFP) and clear new projects (October / November) - Quarter 2;

(iii) In February, to consider and clear the programme half annual performance Report - Quarter 3;

(iv) In May / June, to take stock of programme implementation for the year ending and final allocations for the new FY - Quarter 4;

PWGs shall use (i) reports of the Secretariat on programme progress and performance and others related to programme budget, (ii) Report of the performance under the PFM Strategy, (iii) analytical and policy based reports of TWGs, and (iv) an expanded PRAM (from PEMCOM) to track emerging issues, as inputs to its meetings.

Programme Reports of the PWG shall be cleared by the Leadership Committee and forward to Office of the Prime Minister for further consideration.

Technical working Group (TWG)

Due to the cross cutting nature of the programme, its composition has over 100 members from several institutions. TWGs shall be created to provide special platforms to consider in a more comprehensive way, the sub-component areas for each programme. This will allow the PWGs to limit their discussion to strategic issues of the programme while at the same time ensuring adequate attention is given to the detail for each programme within the TWG. Membership to each TWG shall continue to be cross-institutional, and shall include, where necessary, external partners (DPs, Private Sectors) to engender detailed technical dialogue.

TWGs shall be based on programme themes named sub programmes. To the extent possible, TWGs shall be selected along key themes under each Programme to promote greater homogeneity in the discussions. In selecting these themes, care is to be exercised to ensure harmony with existing key strategies and reforms including in the case of the PFM Reform Strategy, as provided below.

Key Thematic Areas/Sub Programmes under ITDTP

Over the PIAP period, the programme stakeholders will undertake the interventions as identified in the PIAP. The programme will be implemented through the following sub-programmes.

1. Science Research and Development
2. Biosciences Development
3. Innovation and Technoprenureship
4. Engineering and Technology Development
5. STEI Institutional and Human Resource Capacity Development.
6. General Administration, Finance and Planning

Table 3.1: Sub-Programme Level Interventions and Key Actors

Sector level Interventions /projects	Key Actors
Sub-Programme 1: Science Research and Development	
Objective 1.1 : Strengthen R&D capacities and applications	
1.1.1 Promote basic and applied research capacity development	MoSTI, UNCST, UIRI,UVRI NDA, Universities, PIBID, Other Public Research institutions, private sector, LGs , Development Partners and other MDAs
Develop, popularize and operationalise the National Research Agenda	
Mobilise public and private sector resources for R & D in key priority sectors like; agriculture, Oil & Gas, Minerals, Energy, Health, Transport	
Establish research collaborations at local, regional and international level	
Oversee research institutions and certify research undertakings	
Develop incentives to increase private sector contribution to R&D	
Establish mechanisms for emergency science and technology research and development	
Sub programme2: Biosciences Development	
Objective:	
Objective:	
Sub programme3: Innovation and Technoprenurship	
Objective 2.1 : Build and nurture the national innovation potential	
Strengthen the Intellectual Property (IP) value chain management	
Operationalize the National Research and Innovation Programme Framework	MoSTI, URSB, MOFPED, MTIC, UNBS, Universities , UMA, UIRI, PIBID, UNCST, Private Sector, Development Partners, Research Institutions , LGs
Establish funding linkages for ST&I with local, regional and international development partners	
Support commercialisation of Innovation	
Develop a National Innovation System	
Subprogramme4. Technology and Engineering Development	
Objective 3.1: Increase development, transfer and adoption of appropriate technologies	

Sector level Interventions /projects	Key Actors
Develop and implement initiatives in new and emerging areas of space science, marine, nuclear, data and climate science, nanotechnology, bio-technology among others; **a. Create capacity on application of drones, satellite imagery through GIS, real-time disaster modelling, and widespread connectedness improve emergency response and production;** **b. Promote technologies for multi-hazard early warning systems.**	MOSTI, KMC, Academic institutions,
Develop and implement a National Technology Transfer and Adoption Strategy	MOSTI
Develop strategic local and international partnerships and cooperation on technology transfer and adoption;	MOSTI, UIRI, UNCST, KMC, private sector, Development Partners
Develop National standards for selected technology based products and services;	MOSTI
Establish platforms for the interaction between the academia, research institutions, industry and state and non-state actors on technology development.	MOSTI, Academic institutions and private sector
Nurture and support commercial financing and investment transactions for private firms including SMEs seeking to develop and commercialize ST&I products and services • **Collaborate with Ugandan missions abroad to support technology transfer** • **Identify and provide support for commercialization of promising technology transfer initiatives** • **Evaluate the impact of various interventions to increase technology transfer and uptake**	MOSTI, UNCST, UIRI, KMC, PIBID, UIRI, private sector, Missions abroad
Undertake direct public investments in ST&I enterprises that may not seem to be viable to the private sector in the immediate term yet have tremendous impact on economic development	MOSTI,
Support the informal sector to develop and access technologies	MOSTI, UIRI, UNCST, MTIC, MAAIF
Support programmes for identifying, developing and commercialising indigenous technological innovations	MOSTI, UIRI, UNCST, MTIC, MAAIF
Objective 4.1: Develop requisite sustainable STI infrastructure	
Establish and operationalise Technology Business incubators	MOSTI, UIRI, UNCST, private sector
Establish and operationalise Technology Transfer centres	

Sector level Interventions /projects	Key Actors
Establish and operationalise Science and Technology Parks	
Support academic and research institutions to acquire R&D infrastructure;	
Establish a material science, climate science, Nano & bio science technology centres, Space Science and Aeronautics Technology and Indigenous Knowledge Institutes	
Initiate and establish funding linkages for STI with multi-national and development partners;	
Create a favourable policy environment to attract private sector funding for STI;	MOSTI
Subprogramme5: STEI Institutional and Human Resource Capacity Development	
Objective 5.1: Support human resource development for STI	
Design and support skills development in the areas of Nanotechnology, space exploration, nuclear technology, bio sciences, engineering and other critical science fields	MOSTI, MOES, NCHE, Academic Institutions, private sector
Support basic skills development for ST&I targeting youth, women and the informal sector	
Objective 6.1: Improve coordination, legal and regulatory framework for ST&I	
Develop, adopt and disseminate guidelines for the integration of ST&I in development processes of Ministries, Departments and Agencies and LGs	MOSTI
Develop and oversee the implementation of key ST&I policies, laws, regulations and standards	
Provide advocacy in support of policy initiatives for advancing the role of ST&I in national development	
Develop and maintain a national STI Information Management System	
Conduct ST&I surveys and studies	
Monitor and evaluate ST&I sector policies, programmes, plans and projects	
Enhance ST&I sector coordination, coherency and synergies.	
Subprogramme6: General Administration, Finance and Planning	

Sector level Interventions /projects	Key Actors
Programme secretariat operations (planning, budgeting, M&E, resource mobilisation, project development, statistics, policy oversight etc.)	MOSTI, UVRI, UIRI
Programme administrative costs (wages, gratuity, salaries, utilities, rent)	MOSTI, UVRI, UIRI, UNCST, KMC, BIRDC
Programme retooling, assets managment	MOSTI, UVRI, UIRI, UNCST, KMC, BIRDC

In accordance with the identification, membership to the various TWGs shall be as follows;

Functions of TWGs

TWGs shall undertake detailed planning and coordination, as well as detailed monitoring of programme implementation along specific programme objectives. Specifically, TWGs shall carry out the following functions;

(i) Monitoring the implementation of the thematic sections of the PIAP and raising issues for PWGs consideration,
(ii) Reviewing and clear thematic section of the Annual and semi-annual programme performance reports before consideration by the PWGs,
(iii) Ensuing harmony between PIAP in implementation with other sector strategies such as PFM Reforms or Private Sector Strategies, as they are constituted
(iv) Developing positions papers on policy and strategic issues in the thematic area for consideration by PWG;
(v) Reviewing new project concept notes and make recommendations to PWG for clearance

Meeting; Inputs and Outputs

The TWGs will define the frequency of their meetings. They will be expected to maintain a tracker for the emerging issues and to guide their discussions. The TWG will generate implementation progress reports which will be presented at the PWGs meeting.

~~1.~~ The Secretariat for the ITDT Programme

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The Secretariat for the ITDT Programme will be a technical unit within the Ministry of Science Technology and Innovation headed by a coordinator.

Functions of the Secretariat

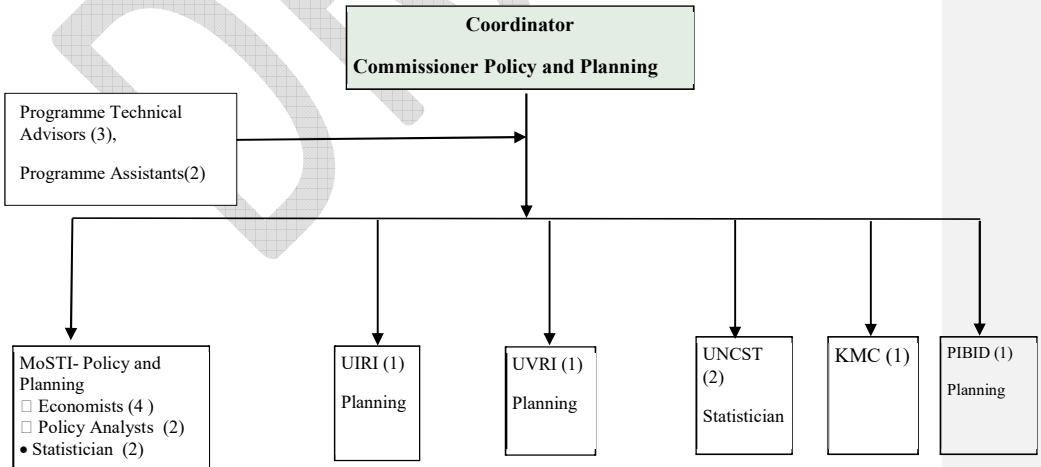
The Secretariat will provide technical and administrative support and coordination to the Programme Working Group and MoSTI in the implementation of the Programme.Specific functions of the Secretariat include:

i. Coordinate the preparation of the Programme Implementation Action Plans (including costing and Monitoring Frameworks) and Programme Budget Framework papers and ensuring alignment with NDP III, Manifesto and Presidential Directives;
ii. Organise and guide meetings and activities of management structures for the Programme namely; the PWG and TWGs that will be put in place and keeping safe custody of the proceedings of these meetings and activities;
iii. Prepare and disseminate quarterly, semi-annual and annual programme implementation reports;
iv. Facilitate the annual Programme performance reviews
v. Organise Programme monitoring, inspection and other activities to enable collection of physical data to facilitate evidence-based reporting;
vi. Promote cooperation, learning and synergies within and outside the Programmes;
vii. Ensure timely sharing and dissemination of key information to the PWG and Programme institutions to facilitate implementation of programme activities
viii. Facilitate dialogue with partners (DPs, CSOs, etc.) around each programme on emerging policy and technical issues aimed at increasing impact on programme outcomes
ix. Commission and Coordinate policy analytical work and technical studies aimed at improving impact of the various Programme reforms, interventions and services
x. Establish relations and actively coordinating with other related Programmes and strategies
xi. Coordinate any other Programme activities

Structure of the Secretariat

The Secretariat shall coordinated by senior and lower level technical staff aligned to the programmes as below;

Figure 8.3: Structure of the ITDT Programme Secretariat



In line with the guidelines issued by NPA, the Coordinator shall report to the Chair of the PWG – the Permanent Secretary / Secretary to the Treasury.

Secretariat Working with Other Units

In operation, the Secretariat will leverage and work closely with MDA planning units and Units that have played major roles in the management of existing projects and programs; the planning unit of key implementing agencies that may change with time. Some of these planning units include; UIRI, UVRI, UNCST, PIBID, KMC, Sericulture. The heads of projects in the implementing agencies will also form part of the copted members to the secretariat. To ensure harmony and cooperation while avoiding duplication, responsibilities with the units shall be shared as follows;

The Secretariat shall

- be responsible for all support to the PWG
- be responsible for coordinating the drafting and preparation of the PIAPs, PBFPs, and all reports to the PWG
- shall ensure harmony between the PIAP and these sector strategies
- coordinate all programme evaluation and reporting exercises

The Secretariat shall coordinate with the various departments of; MOSTI, MOFPED, UBOS, NPA, OPM, OP MDA planning units to mobilise these institutions in

- Drafting PWGs documents and reports; half annual and annual performance reports, etc.
- Participating in identification of priorities to facilitate budget allocations across programmes
- Drafting programme budget framework papers
- Participating in any special analytical studies related to the programme including in preparation mid-term and other evaluation reports

Key Programme Actions for the Secretariat

The following actions will be implemented under the Secretariat

(i) Operationalising the Secretariat Structure: Recruiting to fill vacant staff position, strengthening staff skills to support the programme structures in accordance with the terms of reference laid out above, and maintenance of the staff for the period of the programme

(ii) Preparing an operational manual to guide the work of the secretariat in support of programme implementation.

(iii) Operating the M&E framework for the two programmes including establishing a database for tracking all results, interventions and actions and an M&E subsystem for recording data and reporting on indicators

(iv) Preparing and implementing a communications strategy for the programmes establishing a framework for sharing and using information across programmes MDAs as well as external stakeholders and the public

(v) Working together with planning units to strengthen their capacity enabling them to attend to their responsibility in mobilising and coordinating their institutions to support programme activities

(vi) Retooling and developing necessary infrastructure (such as for virtual meetings) to facilitate activities and operations of the Programmes

(vii) Maintaining the Secretariat offices operational

~~2.~~10. Annexes

Annex I: NDP III Reforms under the ITDTP

The key implementation reforms required to fully implement this programme and realize Expected goals in the next five years:

1. Develop and implement service and service delivery standards for the STI;
2. Establish a framework where MDAs implement STEI joint initiatives between their R&D departments, academia and industry;
3. Review the education curriculum to mainstream STEI and R&D to produce globally competitive human resource.
4. Increasing the number of graduates in STEM based fields.

In order to increase the number of graduates in science, technology and engineering based fields in the country, the Sector will together with key stakeholders in the education and training institutions through a number of ways;

1. Negotiating with development partners, private sector and government institutions to increase admissions for specific identified fields;
2. Promotion of mind-set change towards Science, Technology, Engineering and Innovation based education;
3. Fostering exchange/twinning training programs; and
4. Creation of formal mechanisms for linking Academic institutions and industry (that is mechanisms for graduate trainee/apprenticeship programs)

Commented [H4]: Move to section 4. These should equally be costed in the action plan

Annex II: NDPIII -ITDTP Projects-Medium Term Projects, Project Ideas

A) Core NDPIII programme Projects Ideas:

i. Establishment of 4 Science and Technology Parks (STPs) Project

The program will focus at establishing four regional Science and technology parks across the Country for the period of the NDP III. A Science park as an organization shall be managed by specialized professionals, whose main aim will be to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions. These parks shall stimulate and manage the flow of knowledge and technology amongst universities, R&D institutions, companies and markets. They will facilitate the creation and growth of innovation-based companies through incubation and spinoff processes; and provide other value-added services together with high quality space and facilities.

ii. Establishment of 40 Business Technology Incubators (BTIs) Project.

A large network of local-level Business Technology Incubators (BTIs) - 40 in number, are planned to provide incubation and simple technology transfer training and support to Small and Medium enterprises (SMEs) and informal sector firms adapted to local capacities and market conditions. This will scale up productivity at the local levels and increase employment for many of the youth out of the start-ups that shall arise as a result of the infrastructure.

Other NDPIII ITDTP program projects and project ideas

B) On Going projects

iii. Machining, Manufacturing and Industrial Skills Training Centres.
The Program has planned to create fully automated machine tooling facilities in the four regions of the Country to offer training courses in computer-aided design and manufacturing while providing technology transfer demonstrations and contract machine tooling and manufacturing services. Two of such centres are in preparatory stages in Namanve and Sanga. The Program thus is expected to scale up the establishment of skilling centres across the Country in the different fields of Science and technology.

iv. Establishment of the Silk Industry
Sericulture provides gainful employment, economic development and improvement in the quality of life to the people and plays an important role in dropping poverty levels and preventing migration of rural people to urban area in search of employment. The silk industry will therefore be developed country wide, through expansion of the mulberry growing, silkworm rearing and value addition. Consequently, it will support the establishment of production infrastructure and post cocoon technologies for a target of 50,000 acres of land countrywide. This will produce a minimum of 2000MT of silk yarn that shall earn Uganda over UGX350 billion annually and create a minimum of 50,000 jobs in rural areas. The main factory will be established in Sheema and other will be established in Mbarara, Mubende, Bulambuli, Iganga, Kamuli, Buikwe, Kayunga, Luwero, Mukono, Kisoro, Wakiso, Pallisa, Zombo and Kiruhura and Serere. The required investment is UGX 100bn over the medium term.

v. Banana Industrial Park Project
The Banana Industrial Technology Park is infrastructure that shall be established to bring together all actors in the banana value chain for up scaling and commercialization of banana products. Some of the already produced products are: biscuits, flour, flakes, extruded products, wool and fibre, pharmaceutical products and modified starch products. It shall be situated in Sanga Kiruhura District.

vi. National Science, Technology, Engineering and Innovation Skills Enhancement Project (NSTEI-SEP) Project
The project will enhance the technological and skill base of Ugandans to participate in strategic national infrastructural projects and manufacturing industries. In line with Vision 2040 agenda of setting up science and technology parks, engineering centres, technology and business incubation centres that meet international standards, the project is establishing the:

a. National Science, Technology and Engineering Innovation Centre (NSTEIC) at Rwebitete - Kiruhura District to enhance the technological and innovative base of Ugandans through a Flexible Factory Learning & Infrastructure Model.

b. Technology Innovation and Business Incubation Centre (TIBIC) at Kampala Industrial Business Park, Namanve - Mukono District that will act as a platform

for technology development via the Process Industry Learning Factory Model, including common user facilities and shared workspaces for scientists and innovators.

c.

d. Technical Service Company to provide the services strategic to the country's development agenda, including, equipment leasing and machinery rentals for infrastructural projects, contract engineering, maintenance of engineering machinery and equipment, and provision of technical services for companies implementing various infrastructure projects in the country.

The project will:

a. Increase active participation of the Ugandans in national infrastructure development projects. Annually, the centres are expected to retool over 1,500 Ugandans specially the youths, craftsmen, and technicians;
b. Enhance the emergency of technology-oriented business start-ups;
c. Increase competitiveness of Uganda's MSME sector through import substitution and export diversification;
d. Spur locally manufactured tools designs; and
e. Enhance revenue generation and job creation from evolving science and technology hubs. The project is expected to create over 12,000 direct and indirect jobs.

C) Other project Ides

vii. Establishment of 3 Centres of Excellence in Science and Technology Research.

The Program will conduct a review of university-based and independent research institutions to designate priority "Centres of Excellence" in specific science and technology disciplines that will be prioritized for infrastructural improvements e.g. Aeronautics Technology Institute, space agency, Climate Research and Technology Institute, innovation Laboratories, Research and development Laboratories This will contribute to the improvement of Uganda's research capacity in key areas linked to national development.

viii. Establishment of a National indigenous technologies and innovation Centre Project:

Indigenous Technology is technology designed and fabricated based on the culture, tradition and needs of the people by use of a device, tool or piece of equipment. Such technology can be adopted for use in the environment of those people. Uganda possesses a vast amount of indigenous technologies (ITs) and knowledge which are embodied in the Country's cultural and ecological diversities. For instance, several communities in Uganda, just like the Baganda, Banyoro, Bagisu, Bachiga, Banyankole. Acholi, Etesot e.t.c use indigenous technology (IT) items such as tools and implements, weapons, boomerangs, nets, baskets and bags, as well as watercraft and canoes.

If properly harnessed to meet international standards, will stimulate industrial development and domestic capacity building, impose checks on imports so that local industries can grow, and drive the economy to technological self-reliance. The project will therefore provide valuable insights in to mapping of Indigenous Knowledge (IK) and Indigenous Technology (I-Tech) systems of the economy. It will further provide for professionals that are sensitive to socio-cultural context and respect local knowledge, within the agriculture, food processing and preservation, water, health, and

other aspects of life. Most importantly, modern scientific knowledge systems (MSKS) have not exploited IKS for rural development. However, many African Traditions (ATs) have roots in IKS, the incorporation of which has resulted in implementation success. IKS remain a largely untapped intellectual resource in Uganda that necessitates well thought out interventions for their exploitation. Thus the project will support the scientific development and commercialisation of IK products

ix. Establishment of Technology Development and Transfer Centres for Emerging Technologies

The major goal of the program will be to develop Ugandan-based competency in advanced technologies Such as material science and nano technology. The program will provide an accelerated development and commercialization mechanism in these technologies that will result in the creation of high-value Ugandan technology companies.

The program shall as well focus at establishment of highly advanced and emerging high-value technologies such as those used in artificial intelligence, micro-electronics, nano-technology, biotechnology, digital analytics, cyber-security, block-chain technologies, sensor technologies etc. A material science and nano technology centre shall be established with invisible, intelligent, and powerful nano devices that shall be used in every industry redefining the limits of what's possible especially in areas of energy, bio-technology, manufacturing, ICT, defence and security, health and education. Nano-science and nanotechnology are at the intersection of almost all disciplines, including biology, engineering, medicine, physics and chemistry. Government will support special Nano science- nanotechnology programmes by training the appropriate human resource in world class universities and on return be deployed and bonded in appropriate fields. Use of such technologies will provide the ultimate convergence of computers, networks, and biotech, and create products that were never before imagined.

Importantly, currently the dawn of **COVID-19** is just one of those emerging challenges that have reminded us of the need for import substitution through home grown **scientific solutions.** The role of scientists remains critical in providing the required devices, vaccines, therapeutics and personal protection equipment that are in short supply globally. Therefore this program shall support efforts of scientists, engineers, researchers and technologists in developing scientific COVID-19 related solutions, procurement of machinery required in production processes for commercialization and any other that may arise. These scientists shall be drawn from MDAs, Universities, Research Institutions, Private Sector, Local Governments and individuals in the overall ST&I Ecosystem. This support shall mainly be defrayed from the **Innovation fund** and any other sources as shall be acquired.

x. Establishment of a National Space Program

The Space Science Program consist of technological systems of projects or interventions intended to explore outer space in a bid to solve societal challenges. This shall involve the use of satellite technologies. A Satellite is an artificial object which has been intentionally placed in orbit (circle) around the earth or moon or another planet in order to collect information or for communication. Additionally, a Space Agency shall be established as a public service organization responsible for the development of

the country's space industry, coordinating domestic activities, identifying opportunities and facilitating international space engagements.

As well, Earth Observation (EO) or Remote Sensing Satellite infrastructures shall be established to enable the Country spot environmental disasters in a timely manner, and to monitor and manage the Earth's natural resources. Data collected by EO satellites shall allow us to understand the processes and interactions among land masses, atmosphere and water bodies. The utility of different data sets for different applications are agriculture, forestry, geology, disaster and risk management, cartography, environment, mineral resource mapping, settlements, monitoring of utility networks, defense & security, among others.

xi. Establishment of Shea Centralized R&D Industrial Facility Project

The Shea industrial development project is intended to support the creation and growth of local technological enterprises through knowledge and technology transfer and business mentoring, while providing enabling platforms for the actors to further their technologies and innovations into viable Shea competitive business models.

In Uganda today, most of the Shea products got out of the Shea tree have remained of low value arising out of application of limited technologies. As a result, the innovators and entrepreneurs continue to sell such products with limited value addition to middlemen who eventually compromise their incomes. The active players as well continue to use rudimentary tools in Shea butter extraction and thus fail to meet international standards at international markets. While the Shea tree has the potential to produce medicines and pesticides among other uses, only 2% of efforts has been vested in medicinal outputs while 1% on pesticides compromising industrial exploitation of the Shea tree. The limited interventions of industrial Research and Development (R&D) in Shea products with the purpose of providing raw material and products for industrialization (Okullo, etal 2010, UEPB 2017) has led to failure of innovators and scientists to innovatively tap such industrial crop for development.

Accordingly, the project will provide a Laboratory unit and equipment for carrying out industrial research on new products and formulate industrial products, ten mini Techno-incubation facilities at community cluster level for storage, extraction and formulation of products based on recipe developed from R&D Lab for both industrial use and own consumption. And as such, shall promote community efforts in improving the local content and competitiveness of the economy.

xii. Packaging Centre of Excellence project

Uganda being an agro-based economy, there is an increasing need to bring more of the food it harvests to the global dinner table - more efficiently and with a lighter environmental footprint along the way. Smarter packaging design and better packaging materials are just one important way to reduce wastage and improve the success of the food supply.

Due to the longer time that local products spend on shelves and their inability to make it beyond the Ugandan borders, establishing game-changing packaging solutions is a

key strategy for reversing the status quo. Accordingly, the program shall combine the extensive scientific and technical expertise of companies and individuals, provide equipment and enhancing collaboration space for specialty adhesives, resins and formulated films in one space to enhance customers' ability to test materials and formulations for new package functionality and designs. Thus increasing product durability and efficiency for economic competitiveness.

Additionally, the program shall provide expert technical applications support for existing packaging product lines to those involved in the value chain and accelerate the growth of the packaging industry through holding seminars and forums that will allow package makers and brand owners to occasionally share insights about the future needs of the packaging industry.

xiii. Industrial designing Centre Project

Investments in design can make a significant contribution to successful new product development (NPD). Industrial designers develop aspects of a product that create emotional connections with the user. They integrate all aspects of form, fit and function, optimising them to create the best possible user experience. Unfortunately, Uganda lacks such expertise and infrastructure to boost its manufacturing industry. Therefore the program intends to scale up and create visually appealing designs that can stand the test of time and ensure that the products are ergonomically suited to fit the user, including how they will functionally relate, interface or live with the product. Designs can be drawn from the different sectors of the economy ie, Computer Systems, graphics, manufacturing, publishing e.t.c. Innovation has become an overarching phenomenon where technology driven solutions connect many dots in one go.

xiv. Sweet potatoes value addition project

xv. Biosciences technology development project

xvi. Scaling up renewable energy research and technology on integrated mini grid energy system

xvii. Medical and Veterinary equipment manufacturing project.

This project intends to focus on import replacement of common medical, veterinary and educational science equipment that the country continues to import. It is expected that the project will contribute to;

a. Development of local capacity in the manufacture of common/basic medical equipment, veterinary equipment and laboratory equipment for primary, secondary, tertiary and higher institutions of learning
b. Reduction of foreign exchange from import equipment
c. Employment creation for local scientists, artisans, and other spinoffs through value chains

xviii. Nutra fish project

xix. Material science and Nano technology development project

xx. Petrochemical development project

ANNEX III: Detailed ITDTP Action Plan:

Commented [H5]: Have a separate table for the budget and the output indicators and targets. The later will form the results framework at output level. See table inserted

Sub-programme	Objective	Intervention	Output	Programme Level action(s)	Annualized Costs (UGX millions)						MDA
					2020/21	2021/22	2022/23	2023/24	2024/25	Total	
					Budget	Budget	Budget	Budget	Budget	Budget	
	1. Develop requisite STEI infrastructure	1.1 Support the establishment and operations of Technology & Business incubators and Technology Transfer centres	STEI operational framework established.	Develop and disseminate a national STEI infrastructure strategy.	-	300	100	100	100	600	**MOSTI,** MAAIF, UNCST, Academia, private sector
			Technology Business Incubation (TBIs) established and operationalized including training centres.	Establish, Strengthen and operationalize 40 TBIs in cities, Municipal Councils, IBPs, universities and STEI institutions	500	55,000	55,000	55,000	55,000	220,500	**MOSTI, UNCST, UIRI, BIRDC, Universities, Ministry of trade**
				Develop standards, classification and guidelines for TBIs	-	68	85	95	24	271	**MOSTI**, all MDAs, Private sector

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Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget	
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget		
1. Develop requisite STEI infrastructure	1.1 Support the establishment and operations of Technology & Business incubators and Technology Transfer centres	STEI operational framework established.	STEI infrastructure development strategy in place	Develop and disseminate a national STEI infrastructure strategy.	-	-	-	300	1	100	-	100	-	100	600	**MOSTI,** MAAIF, UNCST, Academia, private sector
		Technology Business Incubation (TBIs) established and operationalized including training centres.	Number of Functional TBIs.	Establish, Strengthen and operationalize 40 TBIs in cities, Municipal Councils, IBPs, universities and STEI institutions	-	500	3	55,000	7	55,000	15	55,000	15	55,000	220,500	**MOSTI, UNCST, UIRI, BIRDC, Universities, Ministry of trade**
			Existence of standards	Develop standards, classification and guidelines for TBIs		-	-	68	1	85	-	95	-	24	271	**MOSTI**, all MDAs, Private sector
		Engineering machining, manufacturing and skills enhancement centres established	No. of Engineering and skills enhancement Centres established	Establish and operationalize the National Engineering and Skills Enhancement centre in Kiruhura district	-	149,970		185,069		38,919		17,078	1	31,760	422,796	**UIRI**, UNCST MOSTI, Education, UNCST, Private sector
			No. of machining, manufacturing training centres established	Establish and operationalise of the MMSTCs in Northern, Western, Central,and Eastern regions	-	40,000	1	40,000	-	40,000	1	40,000	2	40,000	200,000	**UIRI,** MOSTI, DIT/MOES, UNCST,
			Existence of packaging Centre of Excellence	Establish a packaging centre of Excellence.	-	-		23,000		23,000		23,000	1	23,000	92,000	**UIRI(90%), (BIRDC (10%)**, MOSTI, MTIC, UIA,
			Existance of industrial designing centre	Establish of industrial designing centre in all regions of the country.		15,000	-	15,000	1	15,000	1	15,000	1	15,000	75,000	**UIRI, BIRDC**, MOSTI, MTIC, UIA,

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											
					2020/21		2021/22		2022/23		2023/24		2024/25			MDA
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
		Science Centres for STEI advancement and promotion established	No. of Science Centres for STEI advancement and promotion established	Establish the National Technology Transfer and Exhibition Centers (NTTEC)	-	-	-	10,000	1	10,000	-	10,000	1	10,000	40,000	**MOSTI, UNCST**
		Strategies for specific emerging technologies developed	No of strategies developed	Develop specific strategies for emerging Technologies,				250	1		1	250	1	-	500	MOSTI, UIRI, UNCST, KMC
		Emerging technology regulations and guidelines developed	No of regulations and guidelines	Develop regulations and guidelines for emerging technologies	-	-	-	350	-	-	1	255	1	-	605	MOSTI, UIRI, UNCST, KMC
		R & D laboratories (centres of excellence) established	No. of R & D laboratory centres established and rehabilitated	Establish Centre of excellence for indigenous technologies	-	-	-	455	3	27,455	3	-	1	-	27,910	**MOSTI**
				Establish specialized biosafety level 4 lab.	-	-					1	100,000	1	100,000	200,000	**UVRI, MOSTI,UNCST**
				Strengthen existing R&D laboratories	-	5,000	1	70,000	2	70,000	2	70,000	2	70,000	285,000	MOSTI, TRIDI, CDO, MTIC
		UN Innovation Lab for Least Developed Countries (LDCs) established	UN Innovation Lab for Least Developed Countries (LDCs) established	Establish and operationalize a UN tech lab in the central region	-	-	-		1	12,000	-		-		12,000	**MOSTI**

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget	
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget		
		Green incubation facilities for integrated production constructed and equipped		Industrial business centres established with incubation and value addition facilities		-	2	46,000	2	46,000	2	46,000	2	6,000	144,000	DLIRP-MGLSD, MOSTI, UIRI, UNCST, Ministry of Trade and Industry
	1.2 Establish and operationalize Science and Technology Parks to facilitate R&D, business incubation and commercialization of science and technology based initiatives	Operational Science and Technology Parks	No. of science and technology parks constructed	Establishment of Four (4) S&T Parks	-	-	-	-	-	385,000	-	335,000	4	335,000	1,055,000	**MOSTI,** UNCST, MTIC
	1.3 Support academia and research institutions to acquire R&D infrastructure	Operationalize R&D facilities	Number of R&D facilities established in academic and research institutions	Establishment of 10 specialized research and teaching labs for selected universities and Research Institutes (Establishment of Centres of Excellence for research, and development of technologies & products)	-	25,000	1	25,000	2	25,000	4	25,000	3	25,000	125,000	MOSTI, UNCST,UIRI,BTVET,Universities,

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget	
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget		
		Biosciences centres established	Number of Biosciences centres established	Establish three two Biosciences technology development centres (with one for Biomass)	-		-		1	95,000	-	-	-	95,000	190,000	MOSTI, BIRDC (biomass) **UNCST**
				Biosciences Research Institute	-	-	-	2,000	-	2,000	-	19,000	1	-	23,000	**UNCST, MOSTI**
				Establish biotechnology reference laboratory	-	-	-	-	1	100		-	-	-	**100**	**UNCST, MOSTI**
		Virus research Infrastructure developed	Existence of a multi-purpose virus research building	Establish and operationalize a multipurpose virus research building	-	-	-	25,000	-	25,000	-	25,000	1	25,000	**100,000**	**UVRI,** MOSTI
			Existence of Virus bio bank	Establish and operationalize specialised virus Bio-Bank	-	-	-	50,000	-	50,000		50,000		50,000	**200,000**	**UVRI,** MOSTI, UNCST, MAAIF, Universities
			Operational incinerator in place	Establish and operationalize a Large capacity incinerator				5,000	-	5,000	-	5,000	1	5,000	**20,000**	**UVRI,** MOSTI
			Operational nitrogen plant place.	Establish and operationalize a liquid nitrogen plant				10,000	-	10,000	-	10,000	1	10,000	**40,000**	**UVRI,** MOSTI
	1.4 Establish a material science, nano & bio science technology centres;	Material science and nano technology centres established	Number of functional Material science and nano technology	Establishment of a Material Science, Research and Development Centre (MSRDC)	-	-	-	1,890		1,890		18,890	2	1,890.0	**22,670**	MOSTI

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
	Space Science and Aeronautics Technology institute and Nuclear Science, Research and Development Centre		centres established	Establishment of a Nanoscience & Nanotechnology Development Centre (NNDC)	-	-	-	-	-	-	-	-	2	1,890	**1,890**	
		Space Science and Aeronautics Technology Exploited	Existence of a Space Science and Aeronautics Technology Agency	Establishment and operationalisation of Space Science and Aeronautics Technology Agency	-	200	-	300	1	5,000	-	5,000	-	5,000	**15,500**	MOSTI, ICT, OP, MOWT, MAAIF, URA, UPDF
			Number of satellites Launched	Development and launch of 2 satellites (2022 & 2024)	-		-	36,700	1		-	36,700	-		**73,400**	
				Establishment of a satellite ground station				15,670	1						**15,670**	
		Indigenous knowledge institute established	Number of Indigenous knowledge centre established	Indigenous knowledge centre established	-		-	500	-		-	150,000	1		**150,500**	MOSTI, Local Associations
				develop scientifically accredited Indigenous medicines				5,000		21,000		21,000		21,000	**68,000**	
		Documentation of traditional Knowledge (TK)	Percentage of local TK documented	Develop a digital data base for traditional knowledge and practioners	-	-	-	-	1	800	-	-			**800**	URSB, MOSTI
				Carry out countrywide documentation of Traditional Knowledge and cultural expressions		200	10%	250	25%	250	50%	250	75%	250	**1,200**	URSB, MOSTI

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
		Climate Research and Technology institute established	Climate Research and Technology Centre established	Climate science research Centre established	-		-		-	45,000	1		1		**45,000**	MOSTI, MOWE(CCD), UNMA, DPs
		Nuclear Science, Research and Development Centre established	Nuclear Science, Research and Development Centre established	Nuclear Science, Research and Development Centre established	-	-	-	5,000	-	15,000	-	15,000	1	10,000	**45,000**	MOSTI, MEMD, AEC, UNCST
	1.5 Establish infrastructure to support Automotive Industry Development	Automotive industry parks established	Functional Kiira Vehicle Plant	Operationalize the Kiira vehicle plant in Jinja industrial park		42,125	-	137,810	1	-	-	-	-	-	**179,935**	MTIC, MOSTI, **KMC,** Private sector
			Automotive industrial and technology park in place	Establish an automotive industrial and technology park		-		276,073		189,530		220,047	1	119,483	**805,133**	
			No of spin off industries from the automobile factory	Mobilize private investment for the automotive industry value chain including; battery manufacture etc.	-		4	35,445	4	5,264	4	5,264	4	5,264	**51,237**	
				Access to the Kiira Vehicle Plant (Road network - 12km)	-	-	6km	23,800		23,800	6km	-	-	-	**47,600**	**KMC,** MOSTI
	1.6 Establish the Banana industry support infrastructure	Banana industry infrastructure park established	Banana Industrial park in place	Establish the Banana industrial park		300		25,000		25,000		25,000		25,000	**100,300**	**BIRDC,** MOSTI, Private sector
			Number of Banana Value addition centers operationalized	Operationalize the Banana value addition Centers		13,500	-	23,500	-	23,500	-	23,500	1	18,500	**102,500**	

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)												MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget		
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget			
	1.7 Establish the textile industry support infrastructure	Sericulture industry infrastructure established	Percentage increase in acreage and silk worm cocoons	Expand Mulberry growing and establish silkworm rearing houses		12,500	10 percent	25,000	10 percent	25,000	10 percent	25,000	10 percent	25,000	**112,500**	MoSTI, Sericulture project
		Silk processing facilities established.	No of factories established and operationalised	Establish and operationalize sericulture factories	2	70,000	2	70,000	2	70,000	2	70,000	2	70,000	**350,000**	TRIDI, MOSTI, UNCST, MTIC,
	1.8 Initiate and establish funding linkages for STEI with multi-national development partners	Increased funding for technology development & transfer	Number of linkages to facilitate technology development and transfer	Establish financing arrangements/frame works	-	540	1	3,000	1	3,000	1	3,000	1	3,000	**12,540**	MOSTI, KMC, UNCST, UIRI, Universities,MTIC, MOFPED, UIA
	1.9 Create a favourable policy environment to attract private sector funding for STEI	Increased private sector investment in STEI	Percentage of private sector investment in STEI	Establish and implement a strategy/mechanism for incentivizing private sector investment in STEI	0	946	0	993	0	1,043	0	1,095	1	1,149	**5,227**	MOSTI,MTIC, MOFPED, UNCST, UIA
	1.10 Scale up the Research and Innovation Fund to support science and technology driven Research and Innovation	Government funding to Innovation, Research and development Increased	No of Innovators/Technologies supported through Research and innovation fund	Select, fund and monitor strategic research and innovations	90bn	90,000	90bn	90,000	90bn	90,000	90bn	90,000	90bn	90,000	**450,000**	MOSTI, UNCST, UIRI, UniversitiesUNDP, Private sector
				Fund research in emerging themes such as artificial intelligence, machine learning, robotics, big data and data analytics	10bn	10,000	10bn	10,000	10bn	10,000	10bn	10,000	10bn	10,000	**50,000**	MOSTI, UNCST, UIRI, Universities

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget	
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget		
				Mobilise Funds to support Research and Innovation	10bn	200	10bn	200	10bn	200	10bn	200	10bn	200	**1,000**	MOSTI, UNCST, UIRI, Universities
Objective 1 Total						**475,981**		**1,348,623**		**1,489,936**		**1,565,724**		**1,301,619**	**6,181,884**	
2. Build Institutional and human resource capacity in STEI	2.1 Develop and Implement a National STEI Advancement and Outreach Strategy	A National STEI Advancement and Outreach Strategy developed	A National STEI Advancement and Outreach Strategy in place	Formulate the National STEI Advancement and Outreach Strategy	-	-	1	65	-	200	-	50	-	120	**435**	MOSTI, KMC,UNCST, UIRI, Universities
			Number of engagements on the National STEI Advancement and Outreach Strategy held	Deepen awareness on the role of Science, Technology and Innovation in socio-economic development	-		5	1,200	10	1,200	10	1,200	10	1,200	**4,800**	MGLSD, MOSTI, UNCST
	2.2 Support the review of the curriculum and delivery methods at all levels of education with a view of promoting STEM	STEI education and training needs in the national curriculum integrated	No. of schools engaged on STEM oriented curriculum	Development of Guidelines for Science Careers in all fields of STEM		-		250	1	120	1	125	-	-	**495**	MOSTI, UNCST, LGs, MDAs, Private sector, Universities, schools
				Popularization of STEM through **science and Innovation w**eek. This will be an integrated/all inclusive: Science, technology, engineering and innovation) parked event		400		2,000	1	2,000	1	2,000	1	2,000	**8,400**	MOSTI, MOES, MGLSD,UNCST, LGs, MDAs, Private sector, Universities, schools

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
			No of students supported by region through science mentorship	Develop and operationalize a Science and technology students' mentorship program	-	50	1000 per region	400	1000 per region	400	1000 per region	400	1000 per region	400	**1,650**	MOSTI, Universities, PWG,
			Number of schools supported with tools to promote STEM learning	Support learning institutions with tools to enhance skills along the STEM fields	10	100	10	100	10	100	10	100	10	100	**500**	MOSTI, MOES, MGLSD,LGs, MDAs, Private sector, Universities, schools
		Intellectual Property integrated in the curriculum for tertiary and higher learning institutions	Number of in institutions integrating IP into their curriculum	Develop IP policies for various universities	1	200	2	400	3	600	4	800	5	100	**2,100**	MOSTI, URSB, Private sector, UIRI, UNCST, Academia
	2.3 Design and support skills development in the areas of Nanotechnology, space exploration, nuclear technology, bio sciences, engineering and other critical science fields	Practical skills development programmes in place	Number of Ugandans trained in specialized STEM fields	Develop and implement practical skills development programmes for scientists, technologists, technicians in the areas of Space Science, material science, Nano technology, Biosciences, engineering and other critical science fields.	3	1,250	7	3,250	25	5,250	35	6,105	45	6,105	**21,960**	MoSTI, UIRI, UNCST, KMC, Universities

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
	2.4 Design and implement special Academic programmes for Nano technology, space exploration, nuclear technology, bio sciences, virus research, engineering and others	Special academic programs in emerging areas of Science and technology developed and implemented	Number of programs developed and implemented	Undertake academic program design for emerging fields of Science and Technology with selected universities Operationalize academic programs	-	150	-	258	-	644	1	644	3	675	**2,371**	MoSTI, UIRI, UNCST, KMC, Universities
			Number of of post graduate programmes developed and implemented in the area of virus research and training.	Develop and implement tailor made post graduate courses and internship programmes in virus research, and training			30	300	20	200	20	100	10	50	**650**	**UVRI,** MOSTI, NCHE, Universities
	2.5 Develop a framework for promotion of multi-sectoral and multilateral collaborations a. Monitor and evaluate the mainstreaming of STEI in all sectors b. Strengthen the capacity of MDAs to effectively implement STEI interventions	STEI mainstreamed in all 18 programmes	No. of Sectors with STEI mainstreamed in their plans	Develop STEI integration guidelines	-	-		200	1	200	-	200	18	461.9	**600**	MOSTI
				Undertake capacity building of MDAs and LGs in application of STEI in development processes.		50	5	100	30	100	67	100	80	100	**450**	
		Strong institutional coordination framework established	No of themes developed to guide the Technology Development competitions	Conduct Regional Technological Development competitions in higher institutions of learning			-	400	4	1,400	4	1,400	4	1,400	**4,600**	**MOSTI**, **UIRI,** BIRDC
			No of collaborations	Conduct Annual National conference on technology development and transfer			1	200	1	200	1	200	1	200	**800**	

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
	including deployment of STEI advisers to MDAs	Human Resource capacity in the IP value chain developed	Number of IP Professionals supported in capacity development	Develop capacity of various categories of Intellectual property in developing their capacity including patent examiners, patent drafters,	50	200	50	200	50	200	50	200	50	200	**1,000**	**MOSTI,** URSB, Private sector, UIRI, UNCST, Academia
	2.6 Support mass-level skilling and training programs for youth, women, informal sector and SME operators	Informal Business Sector-Juakalis supported with appropriate technology business skills	Number of citizens skilled in various science and technology practical skills	Develop and implement mass-level skilling and training programs for youth, women, informal sector and SME operators				3,560	100	3,560	120	3,560	123	3,560	**14,240**	**MOSTI,** MGLSD
			No of Juakali technicians reskilled and supported	Develop and implement Uganda National Strategy and Plan on the Informal Sector Support	-	5,640	-	5,650	1	5,913	1	5,788	1	6,078	**29,068**	**DLIRP-MGLSD** , MOSTI, UIA, MTIC
		Apprenticep Programmes for Informal sector "artisans, technicians" developed	Uganda National Strategy and Plan on the Informal Sector Support in place	Design and implement informal apprenticeships			100	1,200	200	2,400	300	4,800	400	6,400	**14,800**	
Objective 2 Total						**8,040**		**19,733**		**24,687**		**27,772**		**28,688**	**108,919**	
Objective 3: Strengthen R&D capacities and	3.1 Develop and strengthen functional systems and frameworks	Functional systems and frameworks developed	Number of functional systems and frameworks developed	Develop and popularize a National Research Agenda for STEI		150	-	250	1	200	1	200	1	150	**950**	**MOSTI**, UIR, Universities, Private sector, MDAs
				Undertake research registration and clearance		300		300		300		300		300	**1,500**	UNCST, MOSTI

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
applications	to support R&D			Develop and implement a National Science and Technology Innovation Strategy		-		250	1	250	1	1,000	-	2,000	**3,500**	**MOSTI,** UIR, Universities, Private sector, MDAs
	3.2 Strengthen the Intellectual Property (IP) value chain management	IP support infrastructure established	Innovation and IP information management system established	Develop an Innovation and IP Information management system		-	1	599	-	78	1	98	1	90	**865**	MOSTI, UNDP, Private sector, UNSCT, Universities
			National IP Management Online portal developed	Develop the National IP Management Online Portal developed	-	500	1	200	-	50	1	50	1	50	**850**	MOSTI, UNDP, Private sector, UNSCT, Universities
			Innovation and Intellectual Property Management Offices established in institutions of higher learning	Establish IIPMOs in higher institutions of learning	-	100	1	100	2	200	1	100	1	100	**600**	MOSTI, URSB, Universities
		Utilization of the IP system enhanced	Number of IPRs commercialized	Support innovators and researchers in acquisition of IPRs including Patents, Trademarks, Utility Models, Industrial Designs	-	100	1	100	1	100	1	100	1	100	**500**	MOSTI, URSB, Universities, Private sector
			IP awareness initiatives undertaken	Develop and disseminate IP commercialisation toolkits for MSMEs		100	367 participants	100	367 participants	100	367 participants	100	367 participants	100	**500**	MOSTI, URSB, Universities, Private sector
				Undertake media initiatives about innovation and IP	4	100	4	100	4	100	4	100	4	100	**500**	MOSTI, URSB, Universities, Private sector

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)												MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget		
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget			
				Undertake regional innovation exhibitions, annual national innovation week	-	-	1	200	1	200	1	200	1	220	**820**		MOSTI, URSB, Universities, Private sector
		Intellectual Property value chain (generation, protection, commercialisation &Enforcement) enhanced.	Enforcement Unit fully operationalized	Equip IP office for Enforcement				300	50%	200	75%	300	100%	300	**1,100**		URSB, MOSTI
			National IP Resource Centre Established	Establish National Intellectual Property Resource Centre								2,000	100%		**2,000**		URSB, MOSTI
	3.3 Develop and maintain a national STEI Information Management System	A national STEI information management systems developed.	Existence of a functional STEI information system	Develop and operationalize the STEI information system		-	-	450	-	450	1	222.5	-	220	**1,120**		MOSTI, UNCST, UIRI,KMC, BIRDC, Private Sector
	3.4 Increase investment in R&D in key priority sectors like; agriculture, Oil & Gas, Energy, Health, Transport	Sector R&D investments coordinated	Number of research innovations commercialized	Scale up promising innovations to commercialising levels		5,000	2	15,000	2	15,000	2	15,000	2	15,000	**65,000**		**MOSTI, UIRI, UNCTS, KMC, BIRDC,** Universities, private sector, MTIC, MGLSD
				Create and support a platform for research commercialization	-	-	-	200	1	300	-	-		-	**500**		**MOSTI**
	3.5 Establish research collaborations at local, regional and	Increased STEI collaborations at the different levels	Number of STEI collaborations established	Development of country specific areas of collaborations in research	3	399	5	5,000	5	12,000	6	15,000	9	2,000	**34,399**		**MOSTI, UIRI, UNCTS, KMC, BIRDC**, Universities, private sector, MTIC, MGLSD

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
	international level		Number of operational virus research collaborations	Establish collaborations for virus research between local Research Institutions, Universities, and global partners		-	2	10,000	2	10,000	2	10,000	2	10,000	**40,000**	**UVRI,** MOSTI,UNCST, Universitities
				Establish and strengthen University/research-academia-private sector linkages	-	50	5	100	5	100	5	100	5	100	**450**	
	3.6 Develop, oversee and implement programmes in new and emerging areas of space, marine, biosciences, Virology, nuclear, data and climate science, nanotechnology, bio-technology among others	Increased R&D in new emerging and re-emerging areas	Number of R&D projects, plans and program in emerging areas	Coordinate the development of research projects for space science, climate science, nanotechnology, bio-technology		13,650	1	14,333	1	15,049	1	15,802	1	16,592	**75,425**	MOSTI, UIRI, UNCTS, KMC, BIRDC, Universities, private sector, MTIC, MGLSD
			Number of research projects developed and implemented	Develop and implement additional Virus research projects		-	12	24,000	12	24,000	12	24,000	12	24,000	**96,000**	**UVRI,** MOSTI,UNCST
			Number of collaborative research projects undertaken	Establish and fund collaborative research and innovation projects through publication of joint calls	-	-	3	10,000	3	10,000	3	10,000	3	10,000	**40,000**	**UVRI, MOSTI, UNCST**

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget	
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget		
	3.7 Increase availability of and access to multi-hazard early warning systems and disaster risk information to save lives and reduce losses to disasters	Additional critical multi hazard early warning and disaster systems information provided through local satellites	Existence of country own satellite data and information provided	Develop satellite data and information sharing mechanism		4,200	-	4,414	-	4,630	1	4,862	-	5,105	**23,211**	**MOSTI,** UPDF, MOICT, MAAIF, OP, Development Partners
	3.8 Conduct STEI surveys and studies for use in evidence-based planning and policy formulation	National Innovation and IP survey conducted	Number of participating SMEs in the survey	Undertake the National Innovation and IP Survey	-	-	-	-	1	5,625	-	0	1	2,503	**8,128**	**MOSTI,** UPDF, MOICT, MAAIF, OP, Development Partners
			National Innovation and IP Survey Report Published	Undertake the National Innovation and IP Survey	-	-	-	-	-	-	-	1,880	1		**1,880**	
		Technology Action Plan in place for Industrial and Energy sectors	No. of Action plans developed	Development Technology Action plans informed by technology assessments.	0	-	-	500	1	40	-	500	1	200	**1,240**	**MOSTI**, UN, MEMED, MAAIF, MTIC
		Policy and regulatory framework for a national technology and innovation ecosystem for the selected sectors strengthened	No of Policy Impact assessment reports	Conduct an evidence-based and systemic analysis of Uganda's national technology ecosystem for the selected sectors	-	200	1	500	1	67	-	100	1	200	**1,067**	**MOSTI,** UN, MEMED, MAAIF, MTIC

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
Objective 3 Total						**24,849**		**86,996**		**99,039**		**101,792**		**89,430**	**402,105**	
Objective 4: Strengthen the mechanisms and processes for technology development, transfer, adoption and nurture the national innovation potential	4.1 Develop a National Technology Development and Transfer Regulatory framework	National Technology Transfer Strategy developed	A National Technology Transfer Strategy in place	Develop and disseminate the National Technology Transfer and adoption strategy	-	110	-	167	1	200	1	200	1	250	**927**	**MOSTI,** MAAIFS, MGLSD, UIRI, BIRDIC, MEMD, Private Sector
			Extent of implementation of a Technology transfer and adoption strategy	Undertake Technology Needs Assessment in the different sectors of the economy		50		150		150		150		150	**650**	
				Develop social safety parameters for technology transfer	-	-	-	-	-	-	1	345	-	1	**346**	
	4.2 Develop strategic local and international partnerships and cooperation on technology transfer and adoption	Local and international partnerships and cooperation on technology transfer signed	Number of formal national and international technology transfer agreements in effect (bilateral, multilateral)	Identify and develop/map specific areas of collaborations in technology transfer and adoption		252	1	264	1	277	1	292	1	306	**1,391**	**MOSTI,** MAAIFS, MGLSD, UIRI, BIRDIC, MEMD, Private Sector
				Develop and implement MoUs on Technology Transfer and adaptation with national, regional and development partners	-	-	-	500	1	500	1	500	1	500	**2,000**	**MOSTI,** MAAIF, MGLSD, UIRI, BIRDIC, MEMD, Private Sector

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25		Total Budget	
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget		
				Undertake reverse engineering Initiatives for selected STEI products imported	-	113	1	5,000	1	5,000	1	5,000	1	5,000	**20,113**	**MOSTI,** MAAIF, MGLSD, UIRI, BIRDIC, MEMD, Private Sector
	4.3 Support development and commercialization of commodities and other products from enterprises and innovations	Identified commodities commercialized	Number of commodities whose products have been commercialized	Establish and operationalize the Shea nut value addition centre		10,750	-	10,750		10,750		10,750		10,750	**53,750**	**MOSTI,** MAAIF, MGLSD, UIRI, BIRDIC, MEMD, Private Sector
				Develop and expand the of marketing system for "UGIP-Songhai model"		600	1	800	1	800	1	800	1	800	**3,800**	
				Sericulture products developed and commercialized	3	5,000	3	50,000	3	50,000	3	50,000	3	50,000	**205,000**	
				Develop and operationalize project proposal to produce chlorine from lake Katwe Salt.	-	-	-	450	-	5,000	-	5,000	1	455	**10,905**	**MGLSD, MOSTI**,
				Develop a strategy for acquisition, adaptation and adoption of foreign technologies through the establishment of a National Office for Technology Acquisition and Promotion of Uganda (NOTAPU).	-	-		100	1	200	-	-	-	-	**300**	**MoSTI,** MTIC, MICT&NG

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
				Establish and operationalize a Sweet Potato value chain in Busoga and Teso.		-	-	23,750	-	19,000	-	22,000	1	16,800	**81,550**	**MOSTI,** MAAIFS, UIRI, BIRDIC, MEMD, Private Sector
			Number of diagnostics (testing kits), vaccines, therapeutics commercialised.	Develop and commercialize diagnostics, Vaccines and therapeutics			4	88,000	2	55,000	1	55,000	1	55,000	**253,000**	**UVRI,** Universities, **MOSTI,** NDA,MoH
	4.4 Support the development of standards for domestic products and services	domestic products and services Standards developed	Number of targeted STEI products standards developed	Develop standards for selected products in Science and Technology e.g. packaging products, furniture, STEI parks etc.	-	-	1	399		419	5	439	5	461	**1,718**	**MOSTI,** MAAIFS, UIRI, BIRDIC, MEMD, Private Sector
			Number of domestic service standards developed	Develop standards for selected services in Science and Technology e.g. research clearance, certification, regulation	-	-	1	399		419	5	455	5	461	**1,734**	**UNSCT**
	4.5 Establish platforms for the interaction between the academia, research institutions, industry, state & non-state actors	STEI think tank established	Existence of the functional national STEI think tank, holding at least 2 biannual think tanking meetings	Establish and operationalize the STEI interaction think tank. Establish, strengthen and operationalize a National Society of Chemists.	-	50	2	300	2	300	2	300	2	300	**1,250**	**MOSTI,** Universities, PWG,
	4.6 Increase public investment in technology	public investment in technology transfer and	Existence of a Licensing regime for tech transfer.	Develop a licensing regime for technology transfer	-	-		100	-	100	1	50	-	50	**300**	**MOSTI,** UIRI, UNCST

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
	transfer and adoption	adoption Increased	Number of public and private Joint ventures for tech transfer established	Develop Technology Development and Transfer Standards and Guidelines	-	-	-	200	1	200	-	200	-	200	**800**	**MOSTI**, UIRI, UNCST
				Support Project development appraisal processes for joint venture investments		-		2,000		2,000		2,000		2,000	**8,000**	**MOSTI**, UIRI, UNCST, KMC, BIRDIC
Objective 4 Total						**16,925**		**183,329**		**150,315**		**153,481**		**143,484**	**647,534**	
Objective 5: Improve the legal, institutional and regulatory framework for STEI	5.1 Develop strategies to domesticate and implement international conventions and treaties that facilitate STEI	International conventions, agreements and treaties on STEI domesticated	Number of international conventions and treaties domesticated	Ratify Regional and International protocols and treaties.		-	-	200	1	200	1	200	1	200	**800**	URSB, **MOSTI**
				Innovative strategies for SDG, Agenda 2063 developed	-	-	1	500	1	150	-	150	1	150	**950**	**MOSTI,** UNDP, Private sector, UNSCT, Universities
	5.2 Develop, Implement and monitor the STEI policies, laws and regulations	STEI Policies, laws and regulations developed	No. of policies, laws and regulations developed, reviewed, implemented and monitored	Develop and or review the following policies, laws & Regulations ;											-	**MOSTI,** URSB, UNCST, KMC, Private sector and development partners
				1.STEI policy,	-	100	1	200	-	100	1	50	-	50	**500**	
				2. Indigenous knowledge policy	-	-	-	200	1	100	-	70	-	70	**440**	
				3. Bio economy policy			1	300	-	100	-	89	-	90	**579**	
				4. Biosafety and Biotechnology Policy	-	100	-	200	1	100	-	100	-	115	**615**	
				5.Innovation fund bill		400	-	300	1	330	-	320	-	-	**1,350**	

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
				6.Tech dev't and transfer policy				-	1	400	-	233	-	213	**846**	
				7. Review of UNSCT and UIRI acts	-	-	1	254	-	254	1	-	-	-	**508**	
				8. National STEMI Promotion Policy	-	-	1	354	-	145	-	200	-	200	**899**	
				9.Technology development and transfer policy			-	300	1	330	-	320	-	343	**1,293**	
				10. Automotive policy			1	500	-	330	-	-	-	-	**830**	
				11. Space Policy			-	560	-	239	1	200	-	200	**1,199**	
				12. National Start-up policy /bill	-	-	-	-	-	455	1	300	1	237	**992**	
				13.Chemical Sciences R&D Safety regulations and Standards			-	560	-	239	1	200	-	200	**1,199**	
				14.Biosecurity Policy		100		100							**200**	
				15.Chemical Sciences Promotion Policy			-	560	-	239	1	200	-	200	**1,199**	
				16.Biosecurity Bill		100		300		100					**500**	
				17.Genetic Engineering Regulatory Bill		100		100							**200**	
				18. IPRs from Public Funded Research and Innovation Policy/Act			-	560	-	239	1	200	-	200	**1,199**	

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
	5.3 Strengthen Research institution and research project certification	Research certification, clearance and accreditation system improved	No. of Research process system policies reviewed and or developed	Develop and or review research approval, certification and clearance processes		1,260	-	1,323	3	1,389	-	1,459	-	1,532	**6,962**	**UNCST**
	5.4 Develop a framework for promotion of multi-sectoral and multilateral collaborations	Multisectoral programme and multilateral collaborations framework developed	Number of collaboration frameworks established with STEI	Develop guidelines for integration of STEI across MDAs, LGs and multilateral partners	-	-	-	400	1	318	-	300	-	300	**1,318**	**MOSTI**
				Establish Mind-set and attitudinal change programs towards ST&I across MDAs, LGs and multilateral partners	-	-	-	299	1	318	-	300	-	300	**1,217**	**MOSTI, MGLSD**
Objective 5 Total						**2,160**		**8,070**		**6,075**		**4,891**		**4,600**	**25,795**	
Objective 6: Strengthen Programme Governance, implementation and coordination	Strengthen the capacity of the programme key implementers to deliver effectively	Programme administrative and operational costs met	Programme staff related expenses met	Provide for Programme wages, salaries, gratuity and NSSF		16,424		16,424		16,424		16,424		16,424	**82,120**	**MOSTI, UVIRI, UIRI**
			Administrative asset related costs met	Provide for Programme Utility costs, office rent, and transport equipment maintenance and operations		8,243		8,243		8,243		8,243		8,243	**41,215**	**MOSTI, UVIRI, UIRI**
			Programme implementing agencies retooled	provide for programme retooling and transport related costs		700		15,200		7,500		7,500		7,500	**38,400**	**MOSTI, UVIRI, UIRI**

Objective	Intervention	Output	Indicators	Programme Level action(s)	Annualized Targets and Costs (UGX millions)											MDA
					2020/21		2021/22		2022/23		2023/24		2024/25			
					Target	Budget	Target	Budget	Target	Budget	Target	Budget	Target	Budget	Total Budget	
	Strengthen programme secretariat operations	Programme working group operationalised	Number of PWG minutes	Establish Programme working agenda, subgroups and modus operandi		200		1,000		1,000		1,000		1,000	**4,200**	**MOSTI**
		Programme monitoring reports prepared	Number of Program monitoring and Evaluation Reports	Develop and implement an integrated Programme monitoring and Evaluation system		100		1,000	1	1,000	-	1,000	-	1,000	**4,100**	**MOSTI**
		Program reviews, evaluations conducted	Number of program review reports	Undertake annual, midterm and end term programme reviews		100		1,200		2,000		1,200		1,250	**5,750**	**MOSTI**
		Programme Strategic, annual planning and budgeting conducted	Number of programme strategic plans, annual plans budgets prepared timely	Develop 2025-2030 Program Plan, and MDA plans		700	5	-	-	-	-	500	5	2,000	**3,200**	**MOSTI**
				Undertake(i)Annual programme planning and (ii) budgeting		100	1	500	1	500	1	500	1	500	**2,100**	**MOSTI**
		Programme data management conducted	existence of program data base	Develop and implement program statistical plan		100	1	500	-	378		1,000		340	**2,318**	**MOSTI**
				Under take STEI survey to generate outcome level indicators for the programme		100	1	200		8,200	1	1,000		245	**9,745**	**MOSTI**
Objective 6 Total						**26,767**		**44,267**		**45,245**		**38,367**		**38,502**	**193,148**	**MOSTI**
Grand Totals						**554,722**	**-**	**1,691,017**	**-**	**1,815,297**	**-**	**1,892,026**	**-**	**1,606,322**	**7,559,385**	**ALL**

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Annex IV: Detailed Programme Results and Reporting Framework

Objective	Outcome	Indicators	Baseline FY2017/18	Targets				
				2020/21	2021/22	2022/23	2023/24	2024/25
Development Programme 13: Innovation, Technology Development and Transfer Development Challenge/Issue: Limited development, adoption and utilization of innovation and technology Overall Programme Goal: To increase the application of appropriate technology in the production and service delivery processes through the development of a well-coordinated STI eco-system								
1. Develop requisite STI infrastructure	Increased innovation in all sectors of the economy	1.1 No. of incubators established and operationalized	2	4	4	6	8	8
		1.2 No. of Science and Technology Parks established and operationalized	0	0	1	0	0	1
		1.3 No. of technology transfer centres established and operationalized	0	5	10	15	20	25
		1.4 No. of laboratories/ R&D facilities improved or established	0	4	4	6	6	5
2. Build human resource capacity in STI	Enhanced development of appropriate technologies	2.1 Number of intellectual properties registered	2	6	10	14	18	22
		2.2 Value of International payments for the use of intellectual property — Receipts - (USD Mn)	1.8	5.0	10.0	20.0	20.0	46.6
		2.2 Value of International payments for the use of intellectual property — Payments - (USD Mn)	20.0	50.0	100.0	200.0	300.0	411.7
		2.3 Proportion of the population using appropriate technologies	0	0.1	0.15	0.2	0.25	0.3
3. Strengthen R&D capacities and applications	Increased R&D activities	3.1 Global Innovation Index (%)	25.32	27.00	29.00	31.00	33.00	35
		3.2 Gross Expenditure on R&D (GERD) as a % of GDP	0.4	0.5	0.6	07	0.8	1.0
		3.3 Business enterprise sector spending on R&D (% of GDP)	0.01	0.05	0.09	0.13	0.16	0.21
		3.4 Number of applications for IP protections per annum	200	400	600	1,000	1,400	1,800
		3.5 Technicians in R&D (per million people)	20	40	60	80	100	120
		3.6 Researchers in R&D (per million people)	50	100	200	300	400	600

Objective	Outcome	Indicators	Baseline FY2017/18	Targets				
				2020/21	2021/22	2022/23	2023/24	2024/25
4. Increase development, transfer and adoption of appropriate technologies and innovations	Increased utilization of appropriate technologies	4.1 No. of firms graduating to S&T parks	0	0	0	5	10	15
		4.2 No. of firms graduating from incubators	0	10	20	40	60	75
		4.3 Percentage of new technologies or research results commercialized	0	1	2	4	5	6
		4.4 No. of new technologies adopted	0	0	3	5	7	10
		4.5 Percentage of firms using innovative technologies	0	5	10	15	20	25
5. Improve the legal and regulatory framework		5.1 No. of ST&I Laws and Regulations drafted and submitted to cabinet/ parliament	1	2	2	2	3	3
		5.2 Percentage of inspected entities that are compliant to ST&I regulations	0	0	10	20	40	60

Annex xxx: Sub-programme Results

Intermediate Outcome Indicators	Performance Targets						
	Base year	Baseline	2021/22	2022/23	2023/24	2024/25	2025/26
Sub-programme 1:							
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Sub-Programme 2:							
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Annex xxx: Programme Results, Output level

Sub-programme	Objective	Intervention	Output	Indicators	Baseline FY2017/18	Targets					
							2021/22	20			

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Annex V: ITDTP Working Group Membership

No.	Agency	Remarks
	A. Key Programme Implementing Agencies	
1.	Ministry of Science, Technology & Innovation (MoSTI)	Programme leader
2.	Uganda Industrial Research Institute (UIRI)	Direct programme Actor
3.	Uganda National Council for Science and Technology (UNCST)	Direct programme Actor
4.	Banana Industrial Research Development Centre (BIRDC)	Direct programme Actor
5.	Kiira Motors Corporation (KMC)	Direct programme Actor
6.	Sericulture Project	Direct programme Actor
7.	Uganda Virus Research Institute (UVRI)	Direct programme Actor
	B. Government Ministries Leading Programmes	
8.	Ministry of Agriculture, Animal, Industry and Fisheries (MAAIF	Agro-Industrialization
9.	Ministry of Public Service (MOPS)	Public Sector Transformation
10.	Ministry of Gender, Labour, and Social Development	Mindset change
11.	Ministry of Finance, planning and Economic Development	Devt Plan Implementation, Private Sector
12.	Ministry of ICT and National Guidance (MoICT&NG)	Digital Transformation
13.	Ministry of Water and Environment (MoWE)	ENR and Climate Change Management
14.	Office of the President (OP)	Governance and Security
15.	Ministry of Education and Sports (MoES)	Human Capital Development
16.	Ministry of Health (MoH)	Human Capital Development
17.	Ministry of Trade Industry and Cooperatives (MTIC)	Manufacturing
18.	Ministry of Energy and Mineral Development (MEMD)	Sustainable Energy Development, Petroleum
19.	Ministry of Local Government (MoLG)	Regional equalization/development
20.	Ministry of Tourism Wildlife and Antiquities (MTWA)	Tourism Development
21.	Ministry of Works and Transport (MoWT)	Transport infrastructures and services
22.	Ministry of Lands Housing And Urban Development	Sustainable housing and urban development
	C. Select Science and Technology oriented Agencies of Government and R&D Institutions	
23.	National Agricultural Research Organisation (NARO)	
24.	Uganda National Bureau of Standards (UNBS)	
25.	National Planning Authority (NPA)	
26.	Uganda Bureau of statistics (UBOS)	
27.	National Agric. Research Institute and Data Bank (NAGRIC&DB)	
28.	National Environmental Management Authority (NEMA)	
29.	Directorate of Industrial Training (DIT)	
30.	Uganda National Council for Higher Education	
31.	Uganda Meteorological Authority (UMA)	
32.	Uganda National Health Research Organization (UNHRO)	

33.	National Chemotherapeutics Research Institute (NCRI)	
34.	Uganda Virus Research Institute (UVIRI)	
35.	Government Analytical Laboratory (GAL)	
36.	Joint Clinical Research Centre (JCRC)	
37.	Centres for Disease Control (CDC)	
	Professional bodies and Investment Institutions,	
38.	Uganda Institute of Professional Engineers,	
39.	Uganda Association of Surveyors,	
40.	Uganda Architects Registration Board	
41.	Uganda Pharmaceutical Society of Uganda	
42.	Uganda Veterinary Association,	
43.	Uganda Medical Association,	
44.	Uganda Chemical Society (UCS)	
45.	Uganda Bankers Association (UBA)	
46.	Uganda Development Bank	
47.	Uganda Registration Services Bureau (URSB)	
48.	Uganda Development Cooperation	
49.	Uganda Export promotion Board	
50.	Uganda capital Markets Authority	
51.	Uganda Development Bank (UDB)	
	D. STEI ecosystem stakeholders	
D1.	**Academia**	
52.	Vice Chancellors Forum	
53.	Two representatives of Public universities	
54.	Two representatives of from Private universities	
55.	Regional Universities Forum (RUFORUM)	
56.	Uganda Vice Chancellors university forum	
57.	Representatives of the WB African Centres of excellence in STEI	
58.	Inter University Council of East Africa	
59.	Uganda National Chamber of commerce and Industry	
60.	Massachusetts Institute of Technology (MIT)	
61.	Master Card Foundation	
D2	**R&D facilitators**	
62.	Infectious Diseases Institute (IDI) Makerere university	
63.	NEMRA	
64.	Research and Education Network of Uganda	
D3	**Private sector**	
65.	Uganda Manufacturers Association (UMA)	
66.	Private Sector Foundation Uganda (PSFU)	
67.	Uganda Herbalists Association (UHA)	
D4	**LDPG on STEI Co-Chairs**	
68.	United States Agency for International Development (USAID)	
69.	United Nations Capital Development Fund (UNCDF)	
70.	European Union (EU)	
71.	United Nations Food and Agricultural Organizations (UNFAO)	
72.	UNCTAD(United Nations Conference on Trade and Development/Commission on S&T for Development ((CSTD)	
73.	United Nations Educational Scientific and Cultural Organization (UNESCO)	
74.	Canadian International Development Agency (CIDA)	
75.	Swedish International Development Agency (SIDA)	
76.	German Development Corporation (GIZ)	
77.	United Nations Development Programme (UNDP)	
78.	United Nations Industrial Development Organisation (UNIDO)	
79.	Bill and Melinda Gates Foundation	
80.	United Nations women (UN Women)	
81.	Chinese Embassy	
82.	Irish Aid	
83.	UN Technology Bank	

84.	French Embassy	
85.	Turkish International Corporation Agency (TICA)	
86.	Korean International Cooperation (KOICA)	
87.	Japan International Corporation Agency (JICA)	
88.	Enabel (Former Belgium Technical Cooperation)	
89.	British High Commission	
90.	International Food & Agricultural Dev't organization (IFAD)	
91.	Iranian Embassy	
92.	Italian Development Corporation (Embassy)	
93.	Foreign Common Wealth and Development Office (British Commission (FCDO)	
94.	Global Green Growth Development (GGGI)	
95.	Indian High Commission	
96.	World Vision Uganda	
D5	**Innovation Associations/ Institutions**	
97.	Africa Innovation Institute	
98.	Tropical Institute of development Innovations (TRIDI)	
99.	Startup Uganda	
100.	Association of Innovators	
D6	**Civil Society Group on STEI**	
101.	Uganda National Farmers Federation	
102.	Uganda Bio safety and Biotechnology Consortium	
103.	Bio safety and Biosecurity Association of Uganda	
104.	Uganda National Academy of Sciences (UNAS)	

Annex VI: ITDTP Contribution towards the realisation of other National Programmes

National Programme (Relevant objectives and interventions)	ITDTP Support Actions
1. **Agro-industrialization Program**	
Objective 1: Increase Production and Productivity	
1) Strengthen agricultural research and technology development	
Invest in new and rehabilitate old infrastructure for agricultural research including laboratories, offices, technology demonstration and training centers, etc.;	Collaborate in establishment of (building) research infrastructure
Strengthen research standards and quality assurance through formulation of regulations and enforcement	Support in the development and enforcement of research regulations and standards
Establish climate smart technology demonstration and multiplication centers at all the ZARDIs and BTVET institutions engaged in agroindustry programmes for technology dissemination and commercialization.	Collaborate in aspects of technology and business incubation centres
Upscale research on bio fortification and the multiplication of nutrient dense food staples such as beans, cassava and sweet potatoes, rice, among others.	Support adoption/Commercialisation of innovations
2) Strengthen the agricultural inputs markets and distribution systems to adhere to quality standards and grades	
Establish and equip 9 regional mechanization centers to increase uptake of agricultural mechanization and labour-saving technologies	Support in the identification of appropriate technologies
3) Increase access and use of water for agricultural production	

National Programme (Relevant objectives and interventions)	ITDTP Support Actions
Develop solar powered small-scale irrigation systems for small holder farmers outside conventional irrigation schemes.	Support innovations on solar powered irrigation
4) Strengthen the capacity to collect, report and disseminate weather or accurate meteorological information	Through space science/technology establish mechanisms for improving own country meteorological capacity
Objective 3: Increase agro-processing and value addition	
1) Establish a strategic mechanism for importation of agro-processing technology	Provide support through issuing guidelines for technology importation into the country
2. Mineral Development Programme	
Objective 2: Increase adoption and use of appropriate and affordable technology along the value chain	
1) Provide incentives for acquisition of appropriate and clean technology	Provide support through issuing guidelines for technology uptake and commercialisation Support R&D through the Innovation Fund
2) Promote research and development;	
3. Sustainable Development of Petroleum Resources	
Objective 2: To strengthen policy, legal, regulatory and institutional framework for the oil and gas industry	
1) Develop strategy for an oil and gas innovation hub	Supporting environmentally friendly innovations centred on the by-products of oil
4. Natural Resources, Environment, Climate Change, Land and Water Management	
Objective 4: Maintain and/or restore a clean, healthy, and productive environment;	
1) Undertake applied research and innovation on sustainable consumption and production to ensure resource use efficiency to reduce domestic material consumption per capita	Support and/or commercialize innovations related to sustainable consumption and production
Objective 5: Promote Inclusive climate resilient and low emissions development at all levels	
1) Building capacity for climate change adaptation and mitigation including hazard/disaster risk reduction	Through space science/technology establish mechanisms for climate change adaptation and mitigation
2) Implement resolutions from negotiation of carbon projects and develop bankable projects	Develop and implement environmentally acceptable projects
Objective 7: Increase incomes and employment through sustainable use and value addition to water resources, forests, rangelands and other natural resources	
1) Promote research, innovation and adoption of green appropriate technology to foster sustainable use and management of Water Resources & ENR	Support research and innovation of possible appropriate green technologies
5. Private Sector Development	
Objective 2: Strengthen the organisational and institutional capacity of the private sector to drive growth	
1) Strengthening system capacities to enable and harness benefits of coordinated private sector activities a. Establish and strengthen research and innovation facilities that are accessible to Micro, Small, and Medium Scale Enterprises (MSMEs). b. Strengthen the system of incubation centres to support growth of SMEs in strategic areas	Support and/or commercialize innovations for MSMEs Establish incubation centres to support SME growth
Objective 4: Strengthen the role of government in unlocking investment in strategic economic sectors	

National Programme (Relevant objectives and interventions)	ITDTP Support Actions
1) Strengthening research and innovation capacity in support of private and public investment	Establish government innovation, machining and training centres to support business enterprises; Establish an incentive regime on aspects of critical science and technology investments required by the private sector.
6. **Manufacturing Programme**	
Objective 1: Develop the requisite infrastructure to support manufacturing in line with Uganda's planned growth corridors (triangle)	
1) Construct 4 fully serviced industrial parks (1 per region)	Putting in place manufacturing and machining centres
Objective 2: Expand the reach and access to appropriate Business Development Services for manufacturing SMEs	
1) Support SMEs to acquire and use appropriate technology	Establish an incentive mechanism for technology acquisition by the private sector.
7. **Integrated Transport Infrastructure and Services**	**N/A**
Increase adoption and use of clean energy: 1. Promote use of new renewable energy solutions (solar water heating, solar drying, solar cookers, wind water pumping solutions, solar water pumping solutions)	Support innovations on solar powered solutions
2. Adopt the use of electric transport solutions e.g. solar powered motor cycles, bicycles and tricycles	Spearhead innovations on electrified transport solutions Support the private sector in importation of electrified transport solutions
8. **Digital transformationProgramme**	
Promote ICT research, innovation and commercialisation of indigenous knowledge products: 1. Develop and implement ICT Research and Innovation ecosystem	Support importation and development of technologies that will utilise appropriate ICT software
2. Develop Innovation and incubation Centers	
3. Promote local manufacturing and assembly of ICT products	
9. **Sustainable Urbanization and Housing programme**	
Objective 1: Enhance economic opportunities in cities and urban areas	
1. Support establishment of labour-intensive manufacturing, services, and projects for employment creation including development of bankable business plans	Support establishment of eco-bus and electrified transport modes • Establish a sustainable urbanization and housing innovation cluster Enhance economic opportunities in cities and urban areas innovation sub-cluster
2. Develop and implement an integrated rapid mass transport system (Light Railway Transport and Mass Bus Transport) to reduce traffic congestion and improve connectivity in urban areas	
Objective 2: Promote urban housing market and provide decent housing for all	
1. Promote the production and use of sustainable housing materials and technologies	Support innovations and/or technology innovation on cost effective construction technologies. Establish an innovation sub-cluster to address this intervention

National Programme (Relevant objectives and interventions)	ITDTP Support Actions
Objective 3: Promote green and inclusive cities and urban areas	
1. Increase urban resilience by mitigating against risks of accidents, fires, flood earthquake, landslides and lightning specifically focusing on: a. Strengthen effective early warning systems; 2. Improve emergency responses.	Through space science/technology establish mechanisms for improved early warning systems
10. Human Capital Development Programme	
Objective 2: To produce appropriate knowledgeable, skilled and ethical labour force	
1. Provide the required physical infrastructure, instruction materials and human resources for Higher Education Institutions including Special Needs Education	Establish mechanisms for collaborations on providing science and technology support infrastructure. Establish a Human Capital Development innovation cluster to address this objective
2. Promote STEM/STEI focused strategic alliances between schools, training institutions, high calibre scientists and industry	Support innovations by students in training institutions
3. Link primary and secondary schools to existing science-based innovation hubs	Establish science and technology parks, innovation hubs, incubation centres
Objective 4: To improve population health, safety and management	
Improving Occupational Safety and Health (OSH) management.	Promotion of R&D in diagnostics, vaccines and nurturing commercial undertakings in occupational health, medical, pharmaceutical industries/firms Support in the development and enforcement of biosafety and biosecurity regulatory frameworks_
Improve the functionality of the health system to deliver quality and affordable preventive, promotive, curative and palliative health care services: 1. Availability of affordable medicine and health supplies including promoting local production of medicines (including complementary medicine)	
Objective 5: Reduce vulnerability and gender inequality along the lifecycle	
Promote Women's economic empowerment, leadership and participation in decision making through investment in entrepreneurship programmes, business centres	Promotion of Women in science and technology participation in the economy
11. Community Mobilization and Mindset programme	
Objective 1: Enhance effective mobilization of families, communities and citizens for national development.	Integrate science and technology in community development efforts
12. Governance and Security programme	
Objective 1: Strengthen the capacity of security agencies to address emerging security threats	
Strengthen research and development to address emerging security threats;	Jointly develop Space science/Agency and implement satellite project Support the development and enforcement of biosecurity regulatory frameworks
13. Public Service Transformation Programme	
Objective 1: Strengthen accountability for results across government	
1. Strengthening public sector performance management 2. Reengineer public service delivery business processes	Create innovative Public sector management processes / initiatives
14. Regional Development Programme	
Objective 1: Stimulate the growth potential of the sub-regions through area-based agribusiness LED initiatives	

National Programme (Relevant objectives and interventions)	ITDTP Support Actions
Establish post-harvest handling, storage and processing infrastructure including silos, dryers, warehouses, cold rooms and a warehouse receipt system for farmers in those regions	Promote Innovations and R&D in post-harvest handling and storage and Infrastructure
Strengthen research into the prioritized agro-enterprises for increase productivity	Support Research and Development
Objective 3: Strengthen and develop regional based value chains for LED;	
1. Provide incentives for acquisition of appropriate technology;	Identification, importation and promotion of appropriate technologies
2. Incentivize private sector to offer industrial training and apprenticeship opportunities;	Develop industrial training centres
15. **Development Plan Implementation Programme**	
Objective 1: Strengthen capacity for development planning	
1. Strengthen capacity for development planning at the sector, MDAs and local governments; a) Integrate migration and refugee planning and all other cross cutting issues in national, sectoral and local government plans and ;Professional training and retraining in planning competences	Undertake comprehensive sector wide planning. Sector capacity building in planning
2. Strengthen human resource planning to inform skills projections and delivery of national human resource capacity to support expansion of the economy;	Identification of required ST&I skills, development of joint initiatives with education, training and funding institutions
3. Strengthen Public Investment Management across the entire government to be able to develop bankable projects on time a) Strengthen capacity for implementation/multi-sectoral planning (identify, design, appraise and execute projects and programmes that cut across MDAs and take advantage of synergies across sectors) along the implementation chain. b) Strengthen the capacity of the Development Committee and MDA project units to support the PIMs process and Undertake real time monitoring of project and budget spending across all ministries through the Integrated bank of projects	Strengthen the Project Preparation Committee of MosTI and the SWG Monitor and report on progress of Sector project progress
Objective 2: Strengthen budgeting and resource mobilization	
3. Implement electronic tax systems to improve compliance both at National and LG levels.	Satellite development
4. Build capacity in government agencies to negotiate better terms of borrowing and PPPs	PIMs negotiations training
5. Strengthen the alignment of the Sector, MDA and LG Plans to the NDP III	ST&I SDP, MDP and Agency Plans
6. Alignment of budgets to development plans at national and sub-national levels	ST&I SDP, MDP and Agency Budgets
Objective 4: Strengthen coordination, monitoring and reporting frameworks and systems	
1. Operationalise the High-Level Public Policy Management Executive Forum (Apex Platform);	Provide quarterly reports to NPA, OPM, OP and MOFPED
2. Develop integrated M&E framework and system for the NDP;	Develop the SDP M&E framework
3. Develop and roll out the National Public Risk Management system in line with international best practices;	Develop Sector Risk management plan in SDP
Objective 5: Strengthen the capacity of the statistical system to generate data for national development	
1. Acquire and/or developstatistical infrastructure in the NSS including physical, ICT and Human Resources;	Sector Statistical plan developed and Implemented
2. Support Statistical professional development and application	
3. Enhance the compilation, management and use of Administrative data among the MDAs and LGs;	

National Programme (Relevant objectives and interventions)	ITDTP Support Actions
a. Strengthen compilation of statistics for cross-cutting issues.	
Objective 6: Strengthen the Research and Evaluation function to better inform planning and plan implementation	
1.	Evaluate sector plans and policies
2. Build research and evaluation capacity to inform planning, implementation as well as monitoring and evaluation;	R&D agenda developed,