

## Foreword

The Permanent Secretary/Secretary to Treasury (PSST), In accordance with the Public Finance Management Act, 2015, Section 13(13), I have the honor to present to you the Innovation Technology Development and Transfer (ITDT) Program Budget Framework Paper for FY2022/23. This program includes: Vote 010: Uganda Industrial Research Institute (UIRI): Subventions: Science, Technology and Innovation: Uganda National Council for Science and Technology (UNCST): The Presidential Initiative on Banana Industrial Development (PIBID): Kiira Motors Corporation (KMC) (Project 1511): National Science Technology Engineering and Innovation Skills enhancement Project (Project 1513) and Commercialization of Sericulture Technologies and Innovations (the Silk Industry and Silk Textile Research and Development) project.

The ITDT Program envisages to increase development, adoption, transfer and commercialization of Technologies and Innovations through the development of a well-coordinated STI eco system through achievement of its strategic objectives as such:

1. Develop requisite STI infrastructure
2. Build human resource capacity in STI
3. Strengthen R&D capacities and applications
4. Increase development, transfer and adoption of appropriate technologies and Innovations
5. Improve the legal and regulatory framework

As we embark on the implementation of roadmap for FY2022/2023, we are committed to fulfilling our mandate in line with the strategic direction spelt out in the NDP III under the ITDT Program. The above strategic direction of the program is guided by the NDP III theme of enhanced Sustainable Industrialization for inclusive growth, employment and sustainable wealth creation. In fulfillment of this strategic direction, we commit to perform in line with the expectations of the citizens amidst the challenges we might face, some of which, are spelt out in this Budget Framework Paper. It is pleasing to note that many of these challenges are adaptable, with the support and commitment of all Stakeholders including the Honorable Members of Parliament, in particular, the Committee on Science, Technology and Innovation.

Equally, the Program is mindful of the gender and equity requirements. And as we finalize our budget for FY2022/23. In this regard, its focus will be to foster research, capacity building and technology transfer in Life Sciences, with the ultimate purpose of promoting sustainable global development while leaving no one behind. Similarly, the Program shall prioritize the mainstreaming of all cross cutting issues in its policies, plans, programmes and budgets. And as such, the four cross cutting issues shall be given due consideration.

I therefore, request you to receive and consider approval of the budget allocation to the Innovation, Technology Development and Transfer Program for Financial Year 2022/23 therein amounting to Shs. 285.85 Billion.

Haji Kakande Yunus

Secretary  
Office of the President

## Abbreviations and Acronyms

N/A

**P1: PROGRAMME OVERVIEW****Snapshot of Medium Term Budget Allocations****Table P1.1 Overview of Programme Expenditure and Medium Term Allocations (Ush Billion)**

<i>Billion Uganda Shillings</i>		2022/23 Proposed Budget	MTEF Budget Projections			
			2023/24	2024/25	2025/26	2026/27
Recurrent	Wage	7.308	7.308	7.308	7.308	7.308
	NonWage	11.328	11.328	11.328	11.328	11.328
Devt.	GoU	5.496	5.496	5.496	5.496	5.496
	ExtFin	0.000	0.000	0.000	0.000	0.000
<b>GoU Total</b>		<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>
<b>Total GoU+Ext Fin (MTEF)</b>		<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>
A.I.A		0.000	0.000	0.000	0.000	0.000
<b>Grand Total</b>		<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>

**Programme Strategy and linkage to the National Development Plan**

The Program strategy is to increase development, adoption, transfer and commercialization of Technologies & Innovations through the development of a well-coordinated STI eco-system while the NDP III key Strategic objectives are;

- To Develop requisite ST&I infrastructure
- To Strengthen R&D capacities and applications
- To Increase development, transfer and adoption of appropriate technologies and innovations
- To improve the legal, institutional and regulatory framework
- To Build Institutional and human resource capacity in ST&I

**P2: Highlights Of Programme Projected Performance****Table P2.1 Programme Outcomes Indicators**

Programme Outcome	Enhanced development of appropriate technologies					
Programme Objectives contributed to by the Intermediate Outcome						
Build institutional and human resource capacity in STI						
Programme Outcome Indicators	Performance Targets					
	Base Year	Base Line	2022/23	2023/24	2024/25	2025/26
Number of intellectual properties registered	2017/18	2	14	18	22	26
Proportion of the population using appropriate technologies	2017/18	0	0.2	0.25	0.3	0.35
Value of International payments for the use of intellectual property - Payments - (USD Mn)	2017/18	20	200	300	411.7	523.4
Value of International payments for the use of intellectual property - Receipts - (USD Mn)	2017/18	1.8	20	20	46.6	73.2

<b>Programme Outcome</b>	Increased innovation in all sectors of the economy					
<b>Programme Objectives contributed to by the Intermediate Outcome</b>						
Develop requisite STI infrastructure						
	<b>Performance Targets</b>					
<b>Programme Outcome Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
No. of incubators established and operationalized	2017/18	2	6	8	8	8
No. of laboratories/ R&D facilities improved or established	2017/18	0	6	6	5	5
No. of Science and Technology Parks established and operationalized	2017/18	0	0	0	1	1
No. of technology transfer centres established and operationalized	2017/18	0	15	20	25	30
<b>Programme Outcome</b>	Increased utilization of appropriate technologies					
<b>Programme Objectives contributed to by the Intermediate Outcome</b>						
Increase development, transfer and adoption of appropriate technologies and innovations						
	<b>Performance Targets</b>					
<b>Programme Outcome Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
No. of firms graduating from incubators	2017/18	0	40	60	75	90
No. of firms graduating to S&T parks	2017/18	0	5	10	15	20
No. of firms graduating to S&T parks	2017/18	0	5	10	15	20
No. of new technologies adopted	2017/18	0	5	7	10	13
Percentage of firms using innovative technologies	2017/18	0	15%	20%	25%	30%
Percentage of new technologies or research results commercialized	2017/18	0	4%	5%	6%	7%
<b>Programme Outcome</b>	Improved legal and regulatory framework					
<b>Programme Objectives contributed to by the Intermediate Outcome</b>						
To improve the legal, institutional and regulatory framework						
	<b>Performance Targets</b>					
<b>Programme Outcome Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
No. of ST&I Laws and Regulations drafted and submitted to cabinet/ parliament	2017/18	1	2	3	3	3
Percentage of inspected entities that are compliant to ST&I regulations	2017/18	0	20%	40%	60%	80%
<b>Programme Outcome</b>	Increased R&D activities					
<b>Programme Objectives contributed to by the Intermediate Outcome</b>						
To strengthen R&D capacities and applications						
	<b>Performance Targets</b>					
<b>Programme Outcome Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Business enterprise sector spending on R&D (% of GDP)	2017/18	0.01	0.1%	0.16%	0.21%	0.26%
Global Innovation Index (%)	2017/18	25.3%	31%	33%	35%	37%
Gross Expenditure on R&D (GERD) as a % of GDP	2017/18	0.4%	7%	0.8%	1%	1.2%
Number of applications for IP protections per annum	2017/18	200	1000	1400	1800	2000

<b>Programme Outcome</b>	Increased R&D activities					
<b>Programme Objectives contributed to by the Intermediate Outcome</b>						
To strengthen R&D capacities and applications						
	<b>Performance Targets</b>					
<b>Programme Outcome Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Researchers in R&D (per million people)	2017/18	50	300	400	600	800
Technicians in R&D (per million people)	2017/18	20	80	100	120	140

**Table P2.2: Intermediate Outcomes Indicators**

<b>Sub-Programme Name:</b>	<b>Research and Development</b>					
<b>Intermediate Outcome Indicators:</b>	Increased Biosciences R&D					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Number of biosciences products developed	2017/18	10	12	15	17	19
Proportion of R&D projects in new and emerging areas	2017/18	0	0.1%	0.16%	0.18%	0.2%
<b>Intermediate Outcome Indicators:</b>	Increased Research and Development					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Number of research projects cleared	2017/18	500	1100	1300	1500	1700
Percentage of research products commercialised	2017/18	0.1%	0.2%	0.25%	0.3%	0.35%
National Research Agenda in place	2017/18	0	0	0	0	0
National STEI surveys conducted	2017/18	0	0	1	1	1
STEI information management system developed	2017/18	0	1	0	0	0
<b>Sub-Programme Name:</b>	<b>STI Ecosystem Development</b>					
<b>Intermediate Outcome Indicators:</b>	Enhanced development of appropriate technologies					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Number of Technology Skills Development Initiatives undertaken	2017/18	0	2	2	2	2
Number of technicians skilled	2017/18	0	50	100	150	200
Percentage of MDAs integrating STEI	2017/18	10	25%	30%	50%	70%
Innovative strategies for implementing SDGs developed	2017/18	0	0	0	0	0
National apprenticeship program established	2017/18	0	0	0	0	0
STEI integration guidelines developed	2017/18	0	0	0	0	0
STEI policy developed	2017/18	0	0	0	0	0
<b>Intermediate Outcome Indicators:</b>	Increased innovation in all sectors of the economy					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Number of Science parks constructed	2017/18	0	1	0	0	0
Number of science Research and Development centres developed	2017/18	0	0	0	1	0

<b>Sub-Programme Name:</b>	<b>STI Ecosystem Development</b>					
<b>Intermediate Outcome Indicators:</b>	Increased innovation in all sectors of the economy					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Satellite ground station established	2017/18	0	1	0	0	0
Space science and aeronautics technology agency established	2017/18	0	0	1	0	0
STEI infrastructure development strategy in place	2017/18	0	1	0	0	0
UN innovation Lab for Least Developed Countries operationalised	2017/18	0	1	0	0	0
<b>Intermediate Outcome Indicators:</b>	Increased innovation in biosciences					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Number of biosciences centres established	2017/18	0	1	0	1	0
Number of R&D laboratory centres established	2017/18	0	1	1	0	0
Number of R&D laboratory centres rehabilitated	2017/18	0	2	1	0	0
<b>Intermediate Outcome Indicators:</b>	Increased Research, Innovations and development of appropriate Technologies					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Proportion of prototypes developed into products	2017/18	0	12%	15%	20%	25%
Proportion of scientists/innovators supported through the National Research and Innovation Fund	2017/18	0.14%	0.2%	0.3%	0.35%	0.4%
<b>Intermediate Outcome Indicators:</b>	Increased utilisation of appropriate technologies					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Number of technologies developed	2017/18	0	7	9	12	15
Number of technologies transferred (national and local)	2017/18	0	5	7	9	11
Number of technology needs assessments undertaken	2017/18	1	0	1	1	1
Technology adoption rate	2017/18	0	0.17%	0.18%	0.2%	0.22
Functional STEI think tank established	2017/18	0	0	0	0	0
National Technology transfer strategy in place	2017/18	0	1	0	0	0
<b>Intermediate Outcome Indicators:</b>	Increased utilization of appropriate technologies					
	<b>Performance Targets</b>					
<b>Indicators</b>	<b>Base Year</b>	<b>Base Line</b>	<b>2022/23</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Number of Intellectual Property Rights acquired	2017/18	0	70	100	120	140
% uptake of new and	2017/18	0	15%	20%	25%	30%
Rate of adoption of locally developed technologies	2017/18	0	0.2%	0.25%	0.3%	0.35%
Royalties received (in USD) for use of IPRs	2017/18	0	2000	2500	3000	3500

**P3: Medium Term Budget Allocations by Sub-Programme and Vote**

**Table P3.1: Proposed Budget Allocations and Medium Term Projections by Sub-Programme**

<i>Billion Uganda Shillings</i>	2022/23	Medium Term Projections			
	Proposed Budget	2023/24	2024/25	2025/26	2026/27
02 Industrial Value Chain Development	0.830	0.830	0.830	0.830	0.830
03 STI Ecosystem Development	23.302	23.302	23.302	23.302	23.302
<b>Total for the Programme</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>

**Table P3.2: Proposed Budget Allocations and Medium Term Projections by Vote**

<i>Billion Uganda Shillings</i>	2022/23	Medium Term Projections			
	Proposed Budget	2023/24	2024/25	2025/26	2026/27
110 Uganda Industrial Research Institute (UIRI)	22.980	22.980	22.980	22.980	22.980
119 Uganda Registration Services Bureau (URSB)	1.072	1.072	1.072	1.072	1.072
525 Uganda Embassy in Russia, Moscow	0.080	0.080	0.080	0.080	0.080
<b>Total for the Programme</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>	<b>24.132</b>

**P4: PROGRAMME PRIORITIES IN LINE WITH INTERVENTIONS FOR FY2022/23**

<b>Programme Priorities FY2022/23</b>	<b>NDP III Programme Intervention aligned to</b>
i. Conduct National Innovation and IP survey ii. Establish a Technology Action Plan in place for Industrial and Energy sectors	Conduct ST&I surveys and studies for use in evidence-based planning and policy formulation
i. Develop the National Space Science and Aeronautics Program Feasibility Study and Strategy	Create capacity on application of drones, satellite imagery through GIS, real-time disaster modelling, and widespread connectedness, improve emergency response and production;
i. Establish and operationalize a Skilling Centre ii. Conduct internship programs, Apprenticeship and exchange participants in ST&I Strategic areas iii. Skill the informal sector artisan & technicians in ST&I application	Design and conduct practical skills development programmes
i. Establish and operationalize Mobility Value Chain Skilling Program and Specialized Curricula on Mobility at Higher Education Institutions including Auto Clubs in Schools Established ii. Establish and operationalize the 4IR Centre of excellence	Design and implement special programmes for Nano technology, space exploration, nuclear technology, bio sciences, ICT and engineering;
i. Conduct competitions in schools and higher institutions of learning ii. Develop Human Resource capacity in the IP value chain iii. Establish and Operationalize the National ST&I Advisory, Foresight and Compliance System iv. Mainstream ST&I in all sectors of the economy v. Develop and review laws that support the digital economy vi. Develop and operationalize the National Strategy for ST&I Integration vii. Operationalize and facilitate the PWG viii. Establish the Program monitoring and evaluation system ix. Undertake program reviews	Develop a framework for promotion of multi-sectoral and multilateral collaborations
i. Develop a National STI Strategy ii. Develop a National STI Advancement and Outreach Strategy	Develop and implement a National Science and Technology Innovation Strategy;

Programme Priorities FY2022/23	NDP III Programme Intervention aligned to
i. Develop and operationalize the National ST&I Advancement and Outreach Strategy	Develop and Implement a National STI Advancement and Outreach Strategy;
i. Undertake record of all scientific research carried out in the country ii. Conduct Online Catalogue Profiling ST&I Activities and IPs registration in Uganda	Develop and maintain a national STI Information Management System (including a database of new and on-going Scientific Research, technologies innovations and indigenous knowledge from public and private sectors);
i. Develop STEI Policies, laws and regulations ii. Operationalize the Innovations Fund Framework iii. Develop National Automotive Industry Policy, and Tax and Non-Tax Measures iv. Review and streamline UNCST and UIRI Acts v. Develop JVS Partnership Agreements & Offtake Agreements	Develop policies, laws and regulations for technology development, transfer and market development and attraction of private funding and FDI in STI.
i. Coordinate Locally Manufactured Key Vehicle Parts and Mobility System ii. Undertake Registration and Commercialization of IPRs	Develop strategies to domesticate and implement international conventions and treaties that facilitate STI;
i. Undertake Applied Research in Industry Technologies and Themes	Develop, review and amend policies to promote the development and uptake of technologies
i. Establish and operationalize the STEI think tank ii. Develop ST&I Publications and Journal Articles	Establish platforms for the interaction between the academia, research institutions, industry and state and non-state actors.
i. Undertake production of Food Products, Fibres, Pharmaceuticals, Processing Machinery & Equipment, By Products (Banana) ii. Undertake production of Bamboo products iii. Establish a Technology for Commercial Extraction of Mineral Salts from National Brine Deposits iv. Establish a Production Line for Round the Clock Crop Drier with Quality-Water Recovery v. Set Up an Assembly Line for Engine Technology vi. Establish an Assembly Line for Solar Water Pumps vii. Develop and produce Vaccines for Humans, Animals or Plants viii. Develop and Produce Acricides, Pesticides, & Inseccides	Increase investment in R & D in key priority sectors like; agriculture, Oil & Gas, Minerals, Energy, Health, Transport;
i Increase Public investment in technology transfer and adoption	Increase public investment in technology transfer and adoption.
i. Documentation of traditional Knowledge (TK) ii. Establish a Silk Factory and Mulberry Plantations iii. Identify commodities to be commercialized iv. Conduct a Technological Needs Assessments (TNA) v. Innovation Accelerators vi. Establish ST&I Exchange Centre & TTO vii. Establish and operationalize the ST&I One Stop Centre	Strengthen the function of technology acquisition, promotion as well as transfer and adoption
i. Establish R&D facilities in academic and research institutions ii. Construct a Large capacity incinerator iii. Develop virus research infrastructure	Support academia and research institutions to acquire R&D infrastructure;
i. Commercialize technologies ii. Operationalize Kiira Vehicle Plant Start-Up Facilities iii. Establish and operationalize science and technology parks iv. Establish the Automotive Industrial and Technology Park v. Develop and Operationalize the Banana industrial development park	Support the establishment and operations of Science and Technology Parks to facilitate commercialization;
i. Establish and operationalize the Engineering and skills enhancement Centres ii. Establish and operationalize R & D laboratories and centres of excellence iii. Establish and operationalize the Biosciences Technology Development Centres iv. Establish Engineering machining, manufacturing and skills enhancement centres	Support the establishment and operations of Technology & Business incubators and Technology Transfer centres



Programme Priorities FY2022/23	NDP III Programme Intervention aligned to
i. Develop and implement the Curriculum addressing STI needs ii. Engage schools on STEM oriented curriculum iii. Support schools with tools to promote STEM learning	Support the review of the curriculum and delivery methods at all levels of education with a view of promoting innovation;

**P5: GENDER AND EQUITY ISSUES AND INTERVENTIONS FOR FY2022/23**

Limited mainstreaming of Gender and Equity in Program Planning, Budgeting and resource allocation.

1. Disseminate and implement the Ministry clients charter
2. Conducting the awareness campaigns on G&E mainstreaming
3. Profile G&E interventions of the departments and fast-track the progress
4. G&E assessment of Programs and Projects under STEI
  - a. Need to design an assessment tool for profiling key intervention areas on G&E compliance in the STI Program
  - b. Capture a statistics plan for the Program with G&E disaggregated data about STI in-line with SDGs
  - c. Development of administrative data systems for profiling G&E data in STEI
5. Development of the guidelines for integrating STEI in the entire government systems with focus on MDAs and LGs
6. Focus on promoting G&E at workplace e.g. access to the buildings
7. Developing the G&E strategy for the program
8. Review of the program compact in-line with NDP III in consultation with EOC to equip the team with the requisite assessment tools for the program