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# Sector: Science, Technology and Innovation

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## Foreword

The Science, Technology and Innovation Sector comprises of four Institutions:

Ministry of Science, Technology and Innovation (MoSTI-Vote 023), Uganda National Council for Science and Technology (UNCST-Subvention); Uganda Industrial Research Institute (UIRI-Vote 110); Kiira Motors Corporation (Subvention); Presidential initiative on Banana Industrial Development (Subvention).

The Sector Contributes to the attainment of the NDP II key strategic objectives that include;

1. Enhancing integration of STI into the national development process
2. To Increase transfer and adaptation of technologies
3. To Enhance Research and Development in Uganda and
4. To improve the Science Technology and Innovation legal and regulatory framework

In the current FY 2018/19, the Sector has registered a number of achievements which include but not limited to;

1. Draft Sector Development plan finalized to guide Sector interventions
2. Innovation Fund Framework finalized. This is due for discussion in Cabinet
3. Finalized the recruitment of staff to the Technical departments of the Ministry. By the close of Quarter one FY 2018/2019, the Ministry staffing level stood at 58%
4. Initiated the review of STI policy in liaison with United Nations Conference on Trade and Development (ANCTARD)
5. Scientific Innovations and Research profiled in selected locations across the Country

Inspite of these achievements a number of challenges remain outstanding;

1. Funding shortfalls: There is no funding for support for Scientists and Innovation for continuity. No Research and Innovation Fund provided this FY 2018/19. Additionally the development allocation of 0.59 Billion is so meagre and may not support the retooling needs of the Ministry
  2. Insufficient physical and technological infrastructure to support Scientific Research and Innovation.
  3. Limited commercialization of research results and utilization of acquired patents
  4. Expensive R&D and innovation infrastructure and inputs (R&D expenditures, training scientist and engineers, laboratory equipment, public research institutions)
  5. Limited involvement of private sector in STI.
  6. Inadequate budget to support Research and Development and the proven concepts for commercialization.
  7. In FY 2018/2019 however, the Sector envisages to achieve a number of outputs;
  8. Integrating STI in Government Development Processes at both Local and District Local Governments. This involves finalizing and dissemination of guidelines on integration of STI across Government
  9. Develop a National Research Agenda. This will provide a package of key Researchable areas in line with the Country's development aspirations
  10. Develop a Research and Development (R&D) strategy as a framework upon for support and commercialization of Research products
  11. Develop a National Innovation Registry. This requires a sound data bank and a strong Monitoring and Evaluation system
  12. Conduct sensitization, awareness and advocacy programs on Science, Technology and Innovation to increase the level of appreciation of STI activities and initiatives across the Country
  13. Profile Innovations and Research undertaken Country wide. This requires establishment of a coordination mechanism with Local Governments to profile these innovation whenever and wherever they occur
  14. Conduct a feasibility study on STI infrastructure development across the country (Incubation centers, laboratories, STI Parks, Business Centers)
  15. Popularization of Ministry mandate and functions at both National and Sub National levels. It is envisaged that the functions of the Ministry will be popularized up to Sun-County level
  16. Establish an Innovation and Intellectual Property Support Center
  17. Promoting and strengthening adoption and Commercialization of products
  18. Establish a robust STI Infrastructure to facilitate Research and Innovation Countrywide
  19. Facilitate and support commercialization of innovations for instance Kiira Motors Corporation
  20. Develop Policies, Standards and guidelines on Biosafety, Intellectual Property and STI integration
  21. Enforce, Monitor and evaluate implementation of STI Policy, standards and guidelines
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Being the last Year of the implementation of the Second National Development Plan it is hoped that the implementation of the interventions therein will further reinforce the contribution of STI in a Country's development

For God and my Country

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## Sector: Science, Technology and Innovation

<b>Abbreviations and Acronyms</b>	
BFP	Budget Framework Paper
DTTCS	District Technology Transfer Centers
FY	Financial year
GoU	Government of Uganda
IEC	Information Education and Communication
KCCA	Kampala Capital City Authority
LGs	Local Governments
M&E	Monitoring and Evaluation
MFPED	Ministry of Finance, Planning and Economic Development
MoPS	Ministry of Public Service
MoSTI	Ministry of Science, Technology and innovation
MPS	Ministerial Policy Statement
MTEF	Medium Term Expenditure Framework
NDP	National Development Plan
OAG	Office of the Auditor General
OPM	Office of Prime Minister
PBS	Program Budgeting System
PPDA	Public Procurement and Disposal of Public Assets Authority
PPP	Public Private Partnership
STI	Science, Technology and Innovation
STEI	Science, Technology, Engineering and Innovation
UGX	Uganda Shillings
UIRI	Uganda Industrial Research Institute
UNCST	Uganda National Council for Science and Technology
IPF	Indicative Planning Figures
PWDs	People with disabilities
JSR	Joint Sector Review
SWG	Sector Working Group

## Sector: Science, Technology and Innovation

### S1: Sector Overview

This section provides an overview of Sector Expenditures and sets out the Sector's contribution to the NDP, its policy objectives, and key performance issues.

#### (i) Snapshot of Sector Performance and Plans\*

Table S1.1 Overview of Sector Expenditure (Ushs Billion)

	2017/18 Outturn	2018/19		2019/20 Proposed Budget	MTEF Budget Projections				
		Approved Budget	Spent by End Sep		2020/21	2021/22	2022/23	2023/24	
<b>Recurrent</b>									
<b>Wage</b>	4.323	5.781	1.057	5.781	6.070	6.373	6.692	7.026	
<b>Non Wage</b>	25.579	31.365	6.518	31.291	35.985	43.182	51.818	62.182	
<b>Devt.</b>									
<b>GoU</b>	41.333	32.442	8.605	32.442	38.930	38.930	38.930	38.930	
<b>Ext. Fin.</b>	0.000	114.422	0.000	49.434	69.900	66.092	19.041	0.000	
<b>GoU Total</b>	<b>71.235</b>	<b>69.587</b>	<b>16.179</b>	<b>69.514</b>	<b>80.985</b>	<b>88.485</b>	<b>97.440</b>	<b>108.138</b>	
<b>Total GoU+Ext Fin (MTEF)</b>	<b>71.235</b>	<b>184.010</b>	<b>16.179</b>	<b>118.948</b>	<b>150.884</b>	<b>154.577</b>	<b>116.481</b>	<b>108.138</b>	
<b>A.I.A Total</b>	0.200	0.256	0.044	0.310	0.410	0.480	0.560	0.670	
<b>Grand Total</b>	<b>71.435</b>	<b>184.266</b>	<b>16.223</b>	<b>119.258</b>	<b>151.294</b>	<b>155.057</b>	<b>117.041</b>	<b>108.808</b>	

#### (ii) Sector Contributions to the National Development Plan

The Sector contributes meaningfully in the attainment of the NDP II Objectives as stated on Page 197 and 198. These objectives include;

1. To Enhance the integration of STI into the national development process
2. To Increase transfer and adaptation of technologies
3. To Enhance Research and Development in Uganda and
4. To improve the Science Technology and Innovation legal and regulatory framework

#### (iii) Medium Term Sector Policy Objectives

Scientifically proficient and technologically advanced innovative society for inclusive development

#### (iv) Sector Investment Plans

1. Establishment of regional science and technology parks
2. Transport and assorted ICT equipment

Table S1.2 SECTOR OUTCOMES AND OUTCOME INDICATORS

Sector Outcome : Effective STI regulatory framework

Sector Objectives contributed to by the Sector Outcome

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1. Improve the STI legal and regulatory framework							
Sector Outcome Indicators	Q4 Actual 2017/18	Performance Targets					
		2018/19	Base year	Baseline	2019/20	2020/21	2021/22
Proportion of STI products recommended for patent and copy rights		12%	2017	14%	18%	22%	25%
<b>Sector Outcome : Increased level of technology and innovation</b>							
<b>Sector Objectives contributed to by the Sector Outcome</b>							
1. Enhance the integration of science and technology into the National development process							
Sector Outcome Indicators	Q4 Actual 2017/18	Performance Targets					
		2018/19	Base year	Baseline	2019/20	2020/21	2021/22
Proportion of sectors embracing innovations		15%	2017	14%	20%	22%	25%
Proportion of safe technologies adopted			2017	4%	7%	10%	12%
<b>Sector Outcome : More technologies adopted</b>							
<b>Sector Objectives contributed to by the Sector Outcome</b>							
1. Increase transfer and adoption of technologies							
Sector Outcome Indicators	Q4 Actual 2017/18	Performance Targets					
		2018/19	Base year	Baseline	2019/20	2020/21	2021/22
Proportion of prototypes implemented		15%	2017	12%	17%	20%	25%
<b>Sector Outcome : Increased technological and science uptake in development</b>							
<b>Sector Objectives contributed to by the Sector Outcome</b>							
1. Enhance R & D in Uganda							
Sector Outcome Indicators	Q4 Actual 2017/18	Performance Targets					
		2018/19	Base year	Baseline	2019/20	2020/21	2021/22
Proportion of new products attributed to research		15%	2017	14%	17%	20%	24%

### S2: PROGRAMME OUTCOMES, OUTCOME INDICATORS AND PROPOSED BUDGET ALLOCATIONS ALIGNED TO THE NDP

**Table S2.1: Programme Outcomes and Outcome Indicators Aligned to the NDP**

Vote 110 :Uganda Industrial Research Institute	
Programme :	04 Industrial Research

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<b>Programme Objective :</b>	<p>1. To undertake applied research for the development of products and optimal production processes, for Uganda's nascent industry.</p> <p>2. To develop and /or acquire appreciate technology, in order to create a strong, effective and competitive industrial sector.</p> <p>3. Act as a bridge between academia, government, and the private sector with respect to commercialization of innovation and research results.</p> <p>4. Spearhead value addition activities in conjunction with national development priorities.</p> <p>5. Lead the national effort in technology transfer and technology diffusion, to assure the development of appropriate technologies.</p>
<b>Responsible Officer:</b>	Prof. Charles Kwesiga
<b>Programme Outcome:</b>	<b>Industrial Product Development and Technological Advancement</b>

### Sector Outcomes contributed to by the Programme Outcome

1. More technologies adopted
2. Increased technological and science uptake in development

Programme Performance Indicators	Performance Targets				
	2017/18 Actual	2018/19 Q1 Actual	2019/20 Target	2020/21 Target	2021/22 Target
• Number of Research Innovations developed		3	5	7	9
• Number of developed and transfered Technologies utilized		2	8	10	12
• Cumulative Number of Sustainable Model Value Addition Centers and Technical Business Incubation Enterprises		2	4	4	4

**Table S2.2: Past Expenditure Outturns and Medium Term Projections by Programme**

Billion Uganda shillings Programme Service	2017/18	2018/19		2019/20	Medium Term Projections			
	Outturn	Approved Budget	Releases by end Q1	Proposed Budget	2020/21	2021/22	2022/23	2023/24
Vote : 023 Ministry of Science, Technology and Innovation								
01 Regulation	1.244	4.009	0.321	5.067	4.509	8.109	8.190	8.190
02 Research and Innovation	1.416	143.845	0.267	80.067	102.082	99.591	52.170	29.780
03 Science Entrepreneurship	1.210	4.562	0.207	4.962	5.612	6.887	6.717	6.717
49 General Administration and Planning	53.509	17.878	12.839	15.137	22.882	23.533	32.187	45.353
<b>Total for the Vote</b>	<b>57.379</b>	<b>170.295</b>	<b>13.634</b>	<b>105.233</b>	<b>135.085</b>	<b>138.120</b>	<b>99.263</b>	<b>90.040</b>

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Vote : 110 Uganda Industrial Research Institute								
04 Industrial Research	13.856	13.715	2.546	13.715	15.799	16.457	17.217	18.099
<b>Total for the Vote</b>	<b>13.856</b>	<b>13.715</b>	<b>2.546</b>	<b>13.715</b>	<b>15.799</b>	<b>16.457</b>	<b>17.217</b>	<b>18.099</b>
<b>Total for the Sector</b>	<b>71.235</b>	<b>184.010</b>	<b>16.179</b>	<b>118.948</b>	<b>150.884</b>	<b>154.577</b>	<b>116.481</b>	<b>108.138</b>

### *S3:Sector Challenges in addressing Gender and equity issues for FY 2019/20*

- Absence of institutional mechanisms for advancing gender and equity in the sector
- Limited capacity to mainstream G&E in STI plans and budgets
- Limited representation of women in the advanced STI careers
- Limited representation of women in leadership and decision making
- Lack gender and equity dis-aggregated data to guide planning and budgeting
- Limited support to different innovation projects under small, medium and large enterprises
- Limited initiative in designing, developing and adapt technology suitable for small-scale enterprises, women, youth, disabled and hardtop reach areas.
- Dissemination of the research findings to entrepreneurs and different categories of people in different locations i.e. schools and higher Institutions of learning and the private Sector
- The trainings for entrepreneurs, small scale innovators, and technologists carried out are not comprehensive to cover all regions in Uganda