



Innovation, Technology Development and Transfer Programme: What was the performance during FY2021/22?

Background

The Innovation, Technology Development and Transfer (ITDT) Programme is one of the 20 programmes under the third National Development Plan (NDP III). The programme goal is to increase the application of appropriate technology in the production and service delivery processes across the country through the development of a well-coordinated Science, Technology, Engineering and Innovation (STEI) eco-system. This policy brief discusses performance of the six funded and monitored interventions out of the 23 interventions under the ITDT Programme.

Introduction

The Innovation, Technology Development and Transfer (ITDT) Programme objectives are to develop requisite Science, Technology and Innovation (STI) infrastructure; build human resource capacity in STI; strengthen Research and Development (R&D) capacities and applications; increase development, transfer and adoption of appropriate technologies and innovations; and improve the legal and regulatory framework.

The objectives are to be achieved by three sub-programmes, namely: Research and Development; STI Ecosystem Development, and Industrial Value Chain Development. The programme activities for the FY2021/22 were coordinated by the Office of the President (OP) and the STI secretariat. The Uganda Industrial Research Institute (UIRI) and three subventions namely: Banana Industrial Research and Development Centre (BIRDC), Uganda National Council for Science and Technology (UNCST), and Kiira Motors Corporation (KMC) constitute the core implementation agencies.

The programme's key outcome targets to be achieved over the NDPIII period include: Increase in the Global

Key Issues

- The ITDT Programme performance was fair with most of the planned outputs not achieved during the FY2021/22. This is exacerbated by the poor information flow from UIRI on performance.
- Delayed transfer of work plans under the defunct Ministry of Science, Technology and Innovation (MoSTI) to Office of the President created cash flow constraints to the subventions and ongoing projects.
- The Sericulture Project had not been approved by the Development Committee of the Ministry of Finance, Planning and Economic Development (MFPED) in line with the Public Investment Management System (PIMS) guidelines. The assets acquired by the project using public funds are not captured in the asset register of the STI Secretariat. The project work plans were changed without strategic approval thus causing nugatory expenditures.
- The emergency innovative solutions for management of COVID-19 were yet to be realized after two years of funding.
- Road construction equipment acquired by the UNCST in FY2020/21 for the Technical Service Company had not been put to use in spite of the running warrants nearing expiry.

Innovation Index from 25.3 to 35.0; an Increase in Gross Expenditure on R&D as a percentage of Gross Domestic Product (GDP) from 0.4 percent to 1 percent; Increase business enterprise sector spending on R&D (percent of GDP) from 0.01 percent to 0.21 percent, and increase the number of Intellectual Property Rights registered per year from 2 to 50.

The planned outputs for FY2021/22 included: purchase of additional machinery, equipment, software and accessories for the Manufacturing, Machining and



Industrial Skills Development Centre-Namanve (MMISDC) and analytical laboratories at Nakawa campus; COVID-19 personal protective equipment (PPEs) manufactured; model value addition centres established, upgraded, repaired, and operationalized; banana pilot at BIRDC operationalized and ISO certification for products secured; COVID-19 research implemented under the Presidential Scientific Initiative on Epidemics (PRESIDE); targeted capacity building and trainings conducted; civil works for UNCST-Technology and Business Incubation Centre and National Science Technology Engineering Innovation-Skills Enhancement Centre executed; and technical service company established and operationalized; Phase 1 infrastructure development at KMC vehicle assembly plant completed and production system designed, delivered, installed and commissioned; silk factory and mulberry plantations established.

Performance

The programme budget for FY2021/22 was Ug shs 486.083billion (bn), of which Ug shs 464.078bn was released (95%) and Ug shs 395.169bn spent (85%) by 30th June 2022. The KMC, National Science, Technology, Engineering and Innovation Skills Enhancement Project (NSTEI-SEP) and Sericulture projects received 100% of the budget appropriations, whereas UNCST got 28% of its annual budget. The BIRDC and KMC had the least absorption performance at 52% and 76% respectively and this was attributed to late budget releases that affected the timely procurement and execution of contracts.

The overall programme performance was fair at 53.7%. The programme output and intermediate outcome performance were poor (46.5%) and very good (91.7%) respectively. The rather good intermediate outcome performance is a result of incremental performance over the years.

Table 1: Performance of ITDT Programme in FY2021/22

Sub-programme	Intervention	Output Performance (%)
STI Ecosystem Development	Design and conduct practical skills development programmes (UIRI, STI-OP)	65.3
	Develop strategies to domesticate and implement international conventions and treaties that facilitate STI	100
	Increase investment in R&D in key priority sectors like; agriculture, Oil & Gas, Energy, Health, Transport	54.6
	Support the establishment and operations of technology and business incubators and transfer centres	43.6
Industrial Value Chain Development	Support the establishment and operations of Science and Technology Parks to facilitate commercialization	68.8
	Strengthen the function of technology acquisition, promotion as well as transfer and adoption	28.7

Source: BMAU ITDT Programme Monitoring Report, FY2021/22

i. Design and conduct practical skills development programmes: The design works and software for Printed Circuit Boards (PCB) machines were installed and test run at the MMISC. A total of 35 trainees were undergoing training in Computer Aided Design (CAD), mechatronics, machining, welding and wood works at the MMISC. The UIRI supported six incubatees at its Nakawa campus and trained 360 students; and small and medium enterprises (SMEs) in fruits and vegetables, dairy, bakery processing, computer applications, paper, and briquette



processing. However, the level of graduation of incubates to become self-sustaining is still low.

ii. Develop strategies to domesticate and implement international conventions and treaties that facilitate STI:

The KMC completed two Kayoola diesel coach web frame and chassis; One Kayoola EVS web frame and chassis localization were at 65% in collaboration with Victoria Engineering and Pumps. The KMC received and verified over 600 files from M/s CHTC to Support Technology Transfer for the Kayoola EVS and Coach Platforms.

iii. Increase investment in R&D in key priority sectors like agriculture, oil & gas, energy, health, and transport:

The programme disbursed Ug shs 65.823bn to principal investigators to support 66 research projects under the following categories: health (29), agriculture (24), ICT (4), energy and mineral development (4) and environment and waste management (5). The research projects funded under the National Research and Innovation Programme (NRIP), Long-Term EU-Africa Research and Innovation Partnership on Food and Nutrition Security and Sustainable Agriculture (LEAP-Agri), and crop value chains received funding in the last month of the FY and had not substantially implemented the planned activities.

Projects funded under the PRESIDE frameworks received funding in the second quarter of the FY, and registered varying levels of progress with some registering prototypes and infrastructure-related achievements. However, none of the PRESIDE projects had an approved ready-for-use diagnostic, vaccine or therapeutics. It was also observed that NRIP-funded projects in FY2020/21 that received 65% of their annual budget did not receive the anticipated financing during the period under review.

Operationalisation of the pilot plant at the BIRDC was ongoing at a rather slow pace due to delayed budgetary releases during the first half of the financial year. The

BIRDC realized Ug shs 0.436bn in sales revenue against a target of Ug shs 1.4bn and Ug shs 33.509bn budgetary release to the institution. It was also observed that the BIRDC did not have an approved governance board and there is need to run the pilot plant on a commercial scale if returns on investment are to be realized. The UIRI developed several prototypes from research and innovation as reported in quarterly performance reports; however, their commercialization and uptake was still very low.

iv. Support the establishment and operations of technology & business incubators and technology transfer centres:

Civil works for the NSTEI-SEP at both sites of Namanve-Mukono and Rwebiteete in Kiruhura districts performed very well. However, construction of the agricultural, electro-pneumatic, and automotive hubs was still at the sub-structure level, due to delays in the clearance of steel frames by Uganda National Bureau of Standards (UNBS). The delivery of vehicular construction equipment for the Technical Service Company (TSC) was done ahead of schedule before the completion of the civil works as was planned. It was observed that despite the equipment laying idle, the client was meeting the costs for routine maintenance and servicing on top of parking charges.

v. Support the establishment and operations of Science and Technology Parks to facilitate commercialization:

Construction of the KMC manufacturing and assembly infrastructure (phase 1) at the Jinja Industrial and Business Park stood at 98% against a time progress of 100% as of 30th June, 2022. Completion of phase 1 works was behind schedule due to a lack of funding from July to December 2021. A no-cost extension was granted up to 31st December 2022 to enable the contractor complete the pending works. Phase II civil works were initiated and the progress was estimated at 2% by 30th June 2022. During the period under review,



the KMC built two electric buses, one diesel coach and five diesel buses under contract manufacturing for M/s *Tondeka* Bus Transport Company Limited.

vi. Strengthen the function of technology acquisition, promotion as well as transfer and adoption:

The Sericulture Project procured 870 acres of land in the districts of Kayunga, Bulambuli, Kween and Nwoya and was in the process of securing land titles in the names of Uganda Land Commission. The project opened up 500 acres of land for mulberry planting in the second season (2022B) in the districts of Nwoya, Iganga, Kayunga, Bulambuli, Kween and Bukedea. Installation of post-cocoon processing equipment at Sheema and Kween stations stalled due to cash flow constraints in the first half of FY 2021/22. The facility constructed at Namasumbi in Mukono District to house the post-cocoon processing was not put to use, instead equipment were installed at Sheema and Kween stations. The intervention performance was poor, despite the project receiving 100% of the approved budget and expenditure was over the Government of Uganda released funds.

Conclusion

Science, Technology and Innovation is a key drivers for the socioeconomic transformation of Uganda and the attainment of Vision 2040. The performance of the ITDT Programme was fair. The NSTEI-SEP and KMC registered substantial progress on the civil work's components though behind schedule. However, a number of the planned outputs across agencies were partially achieved by the end of the FY. Therefore, for Uganda to achieve the NDPIII outcome aspirations under the programme, the following policy recommendations are necessary for the efficient use of its resources.

Recommendations

- The STI secretariat in collaboration with the Sericulture Project management team should expedite the process of having the project approved

by the MFPED Development Committee and ensure that clear deliverables, indicators and timelines are followed. The MoU should be reviewed to register assets acquired using public funds by the secretariat.

- The STI secretariat should fast-track the approval of a governance and management framework for the BIRDC to improve the governance and decision-making process for the commercialization of the pilot plant.
- The STI secretariat should review the intervention goal of PRESIDE from addressing the COVID-19 pandemic to emergency preparedness for future epidemics through human resource capacity and infrastructure development.
- The NSTEI-SEP steering and technical committees should ensure that the planned activities are executed according to the work plan and ensure efficient deployment of received equipment.
- Project implementation under subventions should be regularly audited to ensure value for money.
- The UIRI should be compelled to provide information on physical performance and access to project sites.

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