

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Highlights of Vote Performance

V1: Summary of Issues in Budget Execution

Table V1.1: Overview of Vote Expenditures (US\$ Billion)

	Approved Budget	Released by End Q 4	Spent by End Q4	% Budget Released	% Budget Spent	% Releases Spent
Recurrent Wage	7.413	7.413	6.472	100.0%	87.3%	87.3%
Non Wage	5.148	4.093	3.781	79.5%	73.4%	92.4%
Dev't. GoU	14.202	6.596	6.596	46.4%	46.4%	100.0%
Ext. Fin.	0.000	0.000	0.000	0.0%	0.0%	0.0%
GoU Total	26.763	18.102	16.850	67.6%	63.0%	93.1%
Total GoU+Ext Fin (MTEF)	26.763	18.102	16.850	67.6%	63.0%	93.1%
Arrears	0.000	0.000	0.000	0.0%	0.0%	0.0%
Total Budget	26.763	18.102	16.850	67.6%	63.0%	93.1%
<i>A.I.A Total</i>	0.000	0.000	0.000	0.0%	0.0%	0.0%
Grand Total	26.763	18.102	16.850	67.6%	63.0%	93.1%
Total Vote Budget Excluding Arrears	26.763	18.102	16.850	67.6%	63.0%	93.1%

Table V1.2: Releases and Expenditure by Program*

<i>Billion Uganda Shillings</i>	Approved Budget	Released	Spent	% Budget Released	% Budget Spent	%Releases Spent
Program: 0953 National Meteorological Services	26.76	18.10	16.85	67.6%	63.0%	93.1%
Total for Vote	26.76	18.10	16.85	67.6%	63.0%	93.1%

Matters to note in budget execution

The procurement process for specialised machinery and equipment was suspended due to non-availability of funds to finalise the procurement process. These included 100 manual rain gauges, 60 digital thermometers, 30 evaporation pans, 30 soil augures, 30 digital barometers, 2 Stevenson screens, 30 sunshine recorders, 300 measuring cylinders, Real Time Verification System (RTVS), Automatic Weather Observation Systems, and air pollution monitoring equipment were suspended due to non-availability of funds to finalise the procurement process.

Following no developments funds release in the fourth quarter from Ministry of Finance, Planning and Economic Development, unspent balances from the previous quarter were utilised to implement Covid Standard Operating Procedures and pay community weather observers and security personnel who continued to work for continuity of weather data collection.

There was a shortfall of 3768 Terminal Aerodrome Forecasts and flight folders issued due to the Covid 19 pandemic which caused reduction on international flights.

Table V1.3: High Unspent Balances and Over-Expenditure in the Domestic Budget (Ushs Bn)

N/A

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Highlights of Vote Performance

(ii) Expenditures in excess of the original approved budget

V2: Performance Highlights

Table V2.1: Programme Outcome and Outcome Indicators*

Programme : 53 National Meteorological Services			
Responsible Officer: Executive Director			
Programme Outcome: Increased access to real-time meteorological information by the public including the disabled, youth, children and elderly			
Sector Outcomes contributed to by the Programme Outcome			
1 .Improved Weather, Climate and Climate Change Management, Protection and Restoration of Environment and Natural Resources			
Programme Outcome Indicators	Indicator Measure	Planned 2019/20	Actuals By END Q4
Level of Accuracy of Seasonal weather forecasts issued for all categories of people including the female, male, children, youth, and elderly per climatological zone	Percentage	80%	75%

Table V2.2: Key Vote Output Indicators*

Programme : 53 National Meteorological Services			
Sub Programme : 1371 Uganda National Meteorological Authority (UNMA)			
KeyOutPut : 01 Weather and Climate services			
Key Output Indicators	Indicator Measure	Planned 2019/20	Actuals By END Q4
Number of aviation forecasts, flight folders issued	Number	19664	15896
Number of seasonal forecasts issued	Number	4	4
KeyOutPut : 72 Government Buildings and Administrative Infrastructure			
Key Output Indicators	Indicator Measure	Planned 2019/20	Actuals By END Q4
Number of network stations rehabilitated	Number	93	69

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Highlights of Vote Performance

KeyOutPut : 77 Purchase of Specialised Machinery & Equipment			
Key Output Indicators	Indicator Measure	Planned 2019/20	Actuals By END Q4
Number of specialized weather equipment supplied and installed	Number	100	0
Number of weather and climate stations installed	Number	4	0
Number of weather and climate stations rehabilitated	Number	93	69

Performance highlights for the Quarter

The following was achieved in the reporting period:

UNMA support to the Aviation sector provided through issuance of 546 Terminal Aerodrome Forecasts and 468 flight folders to enable air navigation in and outside the country.

Released the March April May seasonal forecasts at media center with dissemination to media across the country undertaken to increase public awareness on weather and climate issues.

Accommodation of weather stations of Masindi and Ntusi was improved with 2 uni-ports installed.

V3: Details of Releases and Expenditure

Table V3.1: GoU Releases and Expenditure by Output*

<i>Billion Uganda Shillings</i>	Approved Budget	Released	Spent	% GoU Budget Released	% GoU Budget Spent	%GoU Releases Spent
Program 0953 National Meteorological Services	26.76	18.10	16.85	67.6%	63.0%	93.1%
Class: Outputs Provided	15.43	12.56	11.31	81.4%	73.3%	90.0%
095301 Weather and Climate services	2.15	0.80	0.81	37.4%	37.5%	100.1%
095302 Administration and management support	2.75	2.02	1.71	73.7%	62.4%	84.7%
095303 Strategic Management Services	0.34	0.24	0.24	72.9%	72.9%	100.0%
095319 Human Resource Management Services	10.15	9.46	8.52	93.2%	83.9%	90.0%
095320 Records Management Services	0.04	0.02	0.02	54.8%	54.8%	100.0%
Class: Outputs Funded	0.12	0.07	0.07	60.0%	60.0%	100.0%
095351 National Meteorological Training School (NMTS)	0.12	0.07	0.07	60.0%	60.0%	100.0%
Class: Capital Purchases	11.21	5.47	5.47	48.8%	48.8%	100.0%
095372 Government Buildings and Administrative Infrastructure	0.74	0.22	0.22	29.6%	29.6%	100.0%
095376 Purchase of Office and ICT Equipment, including Software	0.33	0.00	0.00	0.0%	0.0%	0.0%
095377 Purchase of Specialised Machinery & Equipment	9.93	5.25	5.25	52.9%	52.9%	100.0%
095378 Purchase of Office and Residential Furniture and Fittings	0.21	0.00	0.00	0.0%	0.0%	0.0%

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Highlights of Vote Performance

Total for Vote	26.76	18.10	16.85	67.6%	63.0%	93.1%
----------------	-------	-------	-------	-------	-------	-------

Table V3.2: 2019/20 GoU Expenditure by Item

Billion Uganda Shillings	Approved Budget	Released	Spent	% GoU Budget Released	% GoU Budget Spent	%GoU Releases Spent
Class: Outputs Provided	15.43	12.56	11.31	81.4%	73.3%	90.0%
211102 Contract Staff Salaries	7.41	7.41	6.47	100.0%	87.3%	87.3%
211103 Allowances (Inc. Casuals, Temporary)	0.55	0.38	0.38	68.7%	68.7%	100.0%
212101 Social Security Contributions	0.70	0.40	0.40	56.2%	56.2%	100.0%
213001 Medical expenses (To employees)	0.52	0.32	0.32	61.2%	61.2%	100.0%
213002 Incapacity, death benefits and funeral expenses	0.03	0.02	0.02	66.7%	66.7%	100.0%
213004 Gratuity Expenses	2.22	2.22	1.91	100.0%	86.0%	86.0%
221001 Advertising and Public Relations	0.12	0.04	0.04	33.0%	33.0%	100.0%
221002 Workshops and Seminars	0.33	0.16	0.16	49.4%	49.0%	99.3%
221003 Staff Training	0.10	0.05	0.05	46.5%	46.5%	100.0%
221007 Books, Periodicals & Newspapers	0.03	0.02	0.02	56.3%	56.2%	100.0%
221008 Computer supplies and Information Technology (IT)	0.08	0.05	0.05	57.7%	57.7%	100.0%
221009 Welfare and Entertainment	0.07	0.05	0.05	74.2%	74.2%	100.0%
221011 Printing, Stationery, Photocopying and Binding	0.13	0.05	0.05	36.4%	36.4%	100.0%
221012 Small Office Equipment	0.01	0.00	0.00	62.5%	62.5%	100.0%
221016 IFMS Recurrent costs	0.04	0.00	0.00	0.0%	0.0%	0.0%
221017 Subscriptions	0.12	0.10	0.10	90.8%	90.8%	100.0%
222001 Telecommunications	0.18	0.00	0.00	1.8%	1.8%	100.0%
222002 Postage and Courier	0.05	0.00	0.00	0.9%	0.9%	100.0%
222003 Information and communications technology (ICT)	0.19	0.10	0.10	52.3%	52.3%	100.0%
223004 Guard and Security services	0.16	0.05	0.05	30.6%	30.6%	100.0%
223005 Electricity	0.05	0.02	0.02	51.7%	51.7%	100.0%
223006 Water	0.03	0.02	0.02	51.7%	51.7%	100.0%
224004 Cleaning and Sanitation	0.18	0.15	0.15	82.9%	83.1%	100.4%
224005 Uniforms, Beddings and Protective Gear	0.07	0.04	0.04	63.2%	63.2%	100.0%
225001 Consultancy Services- Short term	0.12	0.03	0.03	21.7%	21.7%	100.0%
225002 Consultancy Services- Long-term	0.23	0.01	0.01	5.2%	5.2%	100.0%
226001 Insurances	0.00	0.00	0.00	100.0%	100.0%	100.0%
226002 Licenses	0.03	0.00	0.00	11.9%	11.9%	100.0%
227001 Travel inland	0.92	0.45	0.45	48.9%	48.9%	100.0%
227002 Travel abroad	0.21	0.16	0.16	72.8%	72.8%	100.0%
227003 Carriage, Haulage, Freight and transport hire	0.01	0.00	0.00	25.0%	25.0%	100.0%
227004 Fuel, Lubricants and Oils	0.35	0.16	0.16	45.0%	45.0%	100.0%
228001 Maintenance - Civil	0.06	0.02	0.02	44.8%	44.8%	100.0%
228002 Maintenance - Vehicles	0.11	0.06	0.06	53.6%	53.6%	100.0%
228003 Maintenance – Machinery, Equipment & Furniture	0.01	0.01	0.01	75.0%	75.0%	100.0%

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Highlights of Vote Performance

<i>Class: Outputs Funded</i>	0.12	0.07	0.07	60.0%	60.0%	100.0%
263106 Other Current grants (Current)	0.12	0.07	0.07	60.0%	60.0%	100.0%
<i>Class: Capital Purchases</i>	11.21	5.47	5.47	48.8%	48.8%	100.0%
311101 Land	0.20	0.20	0.20	100.0%	100.0%	100.0%
312101 Non-Residential Buildings	0.54	0.02	0.02	3.7%	3.7%	100.0%
312202 Machinery and Equipment	10.26	5.25	5.25	51.2%	51.2%	100.0%
312203 Furniture & Fixtures	0.21	0.00	0.00	0.0%	0.0%	0.0%
Total for Vote	26.76	18.10	16.85	67.6%	63.0%	93.1%

Table V3.3: GoU Releases and Expenditure by Project and Programme*

<i>Billion Uganda Shillings</i>	Approved Budget	Released	Spent	% GoU Budget Released	% GoU Budget Spent	%GoU Releases Spent
Program 0953 National Meteorological Services	26.76	18.10	16.85	67.6%	63.0%	93.1%
<i>Recurrent SubProgrammes</i>						
01 Headquarters	0.66	0.50	0.50	75.6%	75.6%	100.0%
02 Finance and Administration	10.38	9.65	8.71	92.9%	83.9%	90.2%
03 Training and Research	1.52	1.36	1.05	89.4%	69.1%	77.2%
<i>Development Projects</i>						
1371 Uganda National Meteorological Authority (UNMA)	14.20	6.60	6.60	46.4%	46.4%	100.0%
Total for Vote	26.76	18.10	16.85	67.6%	63.0%	93.1%

Table V3.4: External Financing Releases and Expenditure by Sub Programme

<i>Billion Uganda Shillings</i>	Approved Budget	Released	Spent	% Budget Released	% Budget Spent	%Releases Spent
---------------------------------	------------------------	-----------------	--------------	--------------------------	-----------------------	------------------------

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	US\$ Thousand
------------------------	---	--	---------------

Program: 53 National Meteorological Services

Recurrent Programmes

Subprogram: 01 Headquarters

Outputs Provided

Output: 02 Administration and management support

		Item	Spent
25th Session UNFCCC Conference of Parties (COP/MoP23) and Climate Change Conference 2019 attended.	COP meeting attended in Spain.	221017 Subscriptions	100,000
East African Real Data Monitoring, Sectoral committee on transport, communications and meteorology, Operations and Heads of Meteorological Services Meetings attended.	Attended East African Committee and ICPAC steering committee meeting.	227001 Travel inland	7,875
		227002 Travel abroad	42,000
		227004 Fuel, Lubricants and Oils	18,877
		228002 Maintenance - Vehicles	10,552

Reasons for Variation in performance

No variation from the plan

Total	179,304
Wage Recurrent	0
Non Wage Recurrent	179,304
<i>AIA</i>	0

Output: 03 Strategic Management Services

		Item	Spent
Board and board committee meetings conducted	10 board meetings and 21 board committee meetings conducted with approval of the board manual, charter and rules of procedures.	211103 Allowances (Inc. Casuals, Temporary)	211,377
		221009 Welfare and Entertainment	11,250
	In addition, 3 disciplinary cases were disposed off for the 3 terminated staff.	221011 Printing, Stationery, Photocopying and Binding	750
		227001 Travel inland	7,500
	Initiated the recruitment process for the 23 vacant posts.	227004 Fuel, Lubricants and Oils	14,000
	Approved the work plan and budget for FY 2020/21.		

Reasons for Variation in performance

No variation from the plan

Total	244,877
Wage Recurrent	0
Non Wage Recurrent	244,877
<i>AIA</i>	0

Outputs Funded

Output: 51 National Meteorological Training School (NMTS)

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	US\$ Thousand
conducive educational facilities and personnel provided for male and female students of National Meteorological Training School from all regions of the country including hard to reach areas.	conducive educational facilities and personnel provided for male and female students of National Meteorological Training School from all regions of the country including hard to reach areas.	Item 263106 Other Current grants (Current)	Spent 72,000

Reasons for Variation in performance

The students had broken off due to the lock-down that required closing of education institutions.

Total	72,000
Wage Recurrent	0
Non Wage Recurrent	72,000
AIA	0
Total For SubProgramme	496,182
Wage Recurrent	0
Non Wage Recurrent	496,182
AIA	0

Recurrent Programmes

Subprogram: 02 Finance and Administration

Outputs Provided

Output: 02 Administration and management support

		Item	Spent
Staff re-trained in procurement procedures	Disseminated the December January, February and March April May seasonal forecasts at media center to increase public awareness on weather and climate issues.	211103 Allowances (Inc. Casuals, Temporary)	27,495
Public awareness on weather and climate issues raised		221001 Advertising and Public Relations	27,550
Internal Audit Charter developed for UNMA		221002 Workshops and Seminars	40,000
Internal audit manual developed for UNMA		221003 Staff Training	12,500
Capacity of Internal Audit staff enhanced to help management to improve the internal control system and reduce risks associated with achievement UNMA objectives	1 outreach activity held at Ntungamo Health Center III during the launch of National Health days to raise awareness on weather and climate issues	221008 Computer supplies and Information Technology (IT)	1,125
National and International days commemorated		221011 Printing, Stationery, Photocopying and Binding	7,100
Re-branding and visibility improved	One publication in the new vision on UNMA service delivery done to improve visibility.	221017 Subscriptions	4,500
		224005 Uniforms, Beddings and Protective Gear	14,996
		227001 Travel inland	40,276
		227002 Travel abroad	23,332
		227004 Fuel, Lubricants and Oils	5,000
	1 media training undertaken for Masaka, Isingiro, Mbarara, and Sembabule.		
	Re-branding and visibility improved through 8 TV talk shows held on NTV, Delta, BBS, Spark and NBS and 9 Radio talk shows on Bukedde, Star Pearl and UBC.		

Reasons for Variation in performance

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	UShs Thousand
------------------------	---	--	---------------

No physical participation in labour and heroes day celebrations as there was a lock-down in the reporting period.
No staff were re-trained in procurement procedures due to absence of funds to undertake the prior planned training.

Total	203,874
Wage Recurrent	0
Non Wage Recurrent	203,874
<i>AIA</i>	0

Output: 19 Human Resource Management Services

	Item	Spent
Cascading Performance management tool and guidelines to all staff	211102 Contract Staff Salaries	5,642,706
UNMA Staff sensitised on the UNMA HIV/AIDS Policy	211103 Allowances (Inc. Casuals, Temporary)	27,975
Statutory obligation for staff paid	212101 Social Security Contributions	396,200
Healthy work force maintained	213001 Medical expenses (To employees)	318,181
conducive working environment for employees created	213002 Incapacity, death benefits and funeral expenses	20,000
	213004 Gratuity Expenses	1,913,027
	221002 Workshops and Seminars	13,844
	221009 Welfare and Entertainment	37,500
	223004 Guard and Security services	9,000
	223005 Electricity	22,000
	223006 Water	13,000
	224004 Cleaning and Sanitation	30,793
	227001 Travel inland	4,000
	227004 Fuel, Lubricants and Oils	30,200

Reasons for Variation in performance

Cascading performance management tools and guidelines to all staff and sensitisation of staff on the HIV/AIDS policy not delivered due to absence of funds allocated to the outputs in the course of the Financial Year.

Total	8,478,425
Wage Recurrent	5,642,706
Non Wage Recurrent	2,835,719
<i>AIA</i>	0

Output: 20 Records Management Services

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	UShs Thousand
Records effectively managed	Records effectively managed at headquarters	Item	Spent
		221003 Staff Training	1,000
		221008 Computer supplies and Information Technology (IT)	15,900
		222001 Telecommunications	1,875
		227001 Travel inland	3,000
		227004 Fuel, Lubricants and Oils	2,500

Reasons for Variation in performance

No variation from the plan.

Total	24,275
Wage Recurrent	0
Non Wage Recurrent	24,275
AIA	0
Total For SubProgramme	8,706,575
Wage Recurrent	5,642,706
Non Wage Recurrent	3,063,869
AIA	0

Recurrent Programmes

Subprogram: 03 Training and Research

Outputs Provided

Output: 02 Administration and management support

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	UShs Thousand
A gender strategy for UNMA developed to improve gender in all activities	A draft gender strategy for UNMA has been developed.	Item	Spent
	Customer feedback in provision	211102 Contract Staff Salaries	829,715
	Aeronautical Meteorological Services has been undertaken in Entebbe, Kajansi, Gulu and Soroti.	211103 Allowances (Inc. Casuals, Temporary)	25,558
		221002 Workshops and Seminars	41,750
Customer feedback in provision	Awareness programs on importance of meteorology undertaken through the	221007 Books, Periodicals & Newspapers	13,000
Aeronautical Meteorological Services	Popularisation of meteorology in schools undertaken in 10 secondary and 10	221008 Computer supplies and Information Technology (IT)	29,050
awareness programs on the importance and use of meteorological services	primary schools in Jinja, Kayunga, and	221009 Welfare and Entertainment	2,400
Developed and implemented	Mukono districts.	221012 Small Office Equipment	2,499
Improved Staff competence and skills in the provision of aeronautical meteorological services to all aerodrome	Improved 82 Staff competence and skills in the provision of aeronautical meteorological services at aerodromes of Kasese, Mbarara, ,Gulu,Soroti,Arua,Tororo and Jinja.	224005 Uniforms, Beddings and Protective Gear	18,000
		227001 Travel inland	72,935
		227004 Fuel, Lubricants and Oils	16,000
Process Procedures and Work Instructions for data archieving and climate services developed	QMS awareness down-scaled to Soroti,Gulu,Arua,Jinja,and central region		
QMS Awareness Down scaled to all UNMA stations	Aeronautical meteorology stations. In addition, inspection,evaluation and calibration verification of equipment and assets in 4 aeronautical meteorology stations of Gulu,Soroti, Arua, and Jinja was also undertaken.		
Research studies undertaken to strengthen research on future climate trends and its impacts to produce an annual state of the climate report for Uganda	State of the climate report for Uganda for 2019 completed.		
Training Users in interpreting and applying weather information in Farming in Teso and Albertine sub regions	Trained Users in interpreting and applying weather information in Farming in Kacumbala, Akworo,Kawo, Kamutsya, Akera, Kidongole and Okirilira in Bukedea and Teso region through the setup village weather clinics		

Reasons for Variation in performance

The negative expenditure on workshops and seminars is an end of year system adjustment arising from a cancelled Local Purchase Order for domestic arrears.

Safety,occupational and health equipment were procured to address the QMS non-conformities Meetings that were meant to review and finalise the draft gender strategy were not held due to the Covid pandemic.

Total	1,050,906
Wage Recurrent	829,715
Non Wage Recurrent	221,191
AIA	0
Total For SubProgramme	1,050,906
Wage Recurrent	829,715
Non Wage Recurrent	221,191
AIA	0

Development Projects

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	<i>UShs Thousand</i>
------------------------	--	--	--------------------------

Project: 1371 Uganda National Meteorological Authority (UNMA)

Outputs Provided

Output: 01 Weather and Climate services

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	US\$ Thousand
200 Rain gauges maintained functional across Uganda	Increased functionality of 3	Item	Spent
36 Manual Weather Stations functionality improved	manual weather Stations of Bududa , Bulindi and Rakai DFI.	211103 Allowances (Inc. Casuals, Temporary)	87,450
Climate change and vulnerability mapping conducted in all the 4 regions of the country	36 Manual Weather Stations functionality improved	221001 Advertising and Public Relations	10,500
Regional talk shows conducted to disseminate and get feedback on the seasonal forecasts issued. (0.068Bn)	Climate change and vulnerability mapping conducted in Isingiro and Sembabule districts.	221002 Workshops and Seminars	6,500
Collection of secondary weather & climate information strengthened to enhance production of bulletins	12 DAVIS Community Automatic Weather Stations' functionality improved.	221003 Staff Training	18,750
Seasonal rainfall performance evaluations and impacts in four regions of the country.	Zonal Office operations facilitated in Lira, Mbarara, Tororo and Headquarters	221009 Welfare and Entertainment	1,200
20 DAVIS Community Automatic Weather Stations' functionality improved.	Metars of Weather Stations in the East, North, West and Central regions of Uganda Updated.	221011 Printing, Stationery, Photocopying and Binding	36,750
4 Zonal Offices maintained countrywide (0.1089 Bn)	UNMA support to the Aviation sector provided through issuance of 2196 Terminal Aerodrome Forecasts and 13700 flight folders to enable air navigation in and outside the country	221012 Small Office Equipment	625
43 ADCON Automatic Weather Stations (AWS) functionality improved countrywide (0.05698Bn)	31 ADCON Automatic Weather Stations functionality improved countrywide	222002 Postage and Courier	460
Four seasonal climate outlooks issued on quarterly basis for regions of Uganda (0.098Bn)	Four seasonal climate outlooks of July 2019-May 2020 issued for regions of Uganda	222003 Information and communications technology (ICT)	98,835
50 Barometers, 100 Air Thermometers, 50 Anemometers, 50 Sunshine recorders, 100 Rain gauges, 50 Evaporation pans, and 100 Soil thermometers calibrated		223005 Electricity	1,250
Seasonal forecasts published in local newspapers		223006 Water	2,500
Increased functionality of 6 manual weather Stations of Pachwa, Bulindi Namalu, Bududa, Rakai DFI and Mityana (0.04Bn)		224004 Cleaning and Sanitation	120,540
		224005 Uniforms, Beddings and Protective Gear	10,000
		225001 Consultancy Services- Short term	26,000
		226002 Licenses	3,250
		227001 Travel inland	242,750
		227002 Travel abroad	45,000
		227003 Carriage, Haulage, Freight and transport hire	3,000
		227004 Fuel, Lubricants and Oils	63,625
		228001 Maintenance - Civil	24,950
		228003 Maintenance – Machinery, Equipment & Furniture	1,500

Reasons for Variation in performance

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	UShs Thousand
------------------------	---	--	---------------

Coverage of rainfall stations not increased by 100 Stations in different Regions of the Country since no rain gauges were procured in the course of the financial year because the procurement process was cancelled due to non-availability of funds in the financial year.
No seasonal forecasts were published in newspapers .

50 Barometers, 100 Air Thermometers, 50 Anemometers, 50 Sunshine recorders, 100 Rain gauges, 50 Evaporation pans, and 100 Soil thermometers were not calibrated due to insufficient receipt of funds received in the course of the financial year.

Total	805,435
GoU Development	805,435
External Financing	0
AIA	0

Output: 02 Administration and management support

Item	Spent
Law firm established at UNMA Land ownership formalised in Buku and Jinja	
Membership to Law society maintained	
Staff professional development and training partnerships enhanced	
UNMA fixed asset register updated and unma assets engraved	
For land ownership formalisation in Jinja, a draft agreement has been forwarded to the farmers Association for their input.	
For formalisation of land in Buku, the process of acquiring a title has been initiated with a contract signed with a consultant to process UNMA titles	
Membership to Law society maintained through payment of membership fees and attendance of Continuous Professional Development training.	
221002 Workshops and Seminars	60,000
221003 Staff Training	15,000
221007 Books, Periodicals & Newspapers	5,000
221011 Printing, Stationery, Photocopying and Binding	3,499
221017 Subscriptions	200
222001 Telecommunications	1,500
225002 Consultancy Services- Long-term	12,000
226001 Insurances	2,000
227001 Travel inland	70,000
227002 Travel abroad	45,000
227004 Fuel, Lubricants and Oils	9,158
228002 Maintenance - Vehicles	50,625
228003 Maintenance – Machinery, Equipment & Furniture	6,000

Reasons for Variation in performance

No asset engraving was undertaken since this output is delivered in the fourth quarter when all assets procured in the course of the financial year. This output was however hindered by the Covid pandemic which caused a lockdown.
Funds for travel inland were utilised for safari day and transport facilitation for security personnel.

Total	279,982
GoU Development	279,982
External Financing	0
AIA	0

Output: 19 Human Resource Management Services

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	UShs Thousand
Security at Headquarters improved	Security at Headquarters improved through payment for guard and security services.	Item 223004 Guard and Security services	Spent 39,000

Reasons for Variation in performance

No variation from the plan.

Total	39,000
GoU Development	39,000
External Financing	0
AIA	0

Capital Purchases

Output: 72 Government Buildings and Administrative Infrastructure

Aviation Weather Observation stations established at 4 Airfileds of Kisoro, Mbarara, Pakuba, Kidepo (0.064Bn)	Headquarter offices security improved.Land for the second weather radar procured in Mbarara	Item 311101 Land 312101 Non-Residential Buildings	Spent 200,000 20,000
Headquarter offices fenced off to improve securityLand for the second weather radar procured in MbararaExhibition Stall at Agriculture show reconstructed.Office Accomodation for 10 Weather Stations of Ntusi, Kibanda, Mubende, Mityana, Gulu, Wadelai, Pachwa, Namalu, Bududa, Ivukula improvedSanitation Facilities for 10 Weather Stations of Kibanda, Ntusi, Mityana, Pachwa, Wadelai, Bududa, Namalu, Kiige, Kotido, Ivukula improvedCountrywide, 15 Weather Station sites secured with fences	MbararaAccommodation of weather stations of Masindi and Ntusi was improved with 2 uni-ports installed.		

Reasons for Variation in performance

No Sanitation Facilities for 10 Weather Stations of Kibanda, Ntusi, Mityana, Pachwa, Wadelai, Bududa, Namalu, Kiige, Kotido, Ivukula were constructed due to insufficient funds received in the course of the financial year.

Office Accomodation for 8 Weather Stations of Ntusi, Kibanda, Mubende, Mityana, Gulu, Wadelai, Pachwa, Namalu, Bududa, Ivukula not improved due to insufficient funds received.

In addition, no weather station sites were fenced due to absence of funds allocated in the course of the financial year.

Aviation Weather Observation stations were not established at 4 Airfileds of Kisoro, Mbarara, Pakuba, Kidepo since they were not procured due to insufficient funds received.

Total	220,000
GoU Development	220,000
External Financing	0
AIA	0

Output: 77 Purchase of Specialised Machinery & Equipment

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Cumulative Outputs and Expenditure by End of Quarter

Annual Planned Outputs	Cumulative Outputs Achieved by End of Quarter	Cumulative Expenditures made by the End of the Quarter to Deliver Cumulative Outputs	UShs Thousand
Purchase of new standby generator 100 Manual Rain gauges, 60 Digital thermometers, 30 Anemometers, 30 Evaporation Pans, 30 Soil thermometers, 10 Soil augures, 30 Digital Barometers, 2 Stevenson Screen, 30 Sunshine recorders, 300 Measuring cylinders procured and installed countrywide (3.106Bn) Verification techniques of Aviation weather Forecasts improved through procurement Real Time Verification System (RTVS) to enhance forecast accuracy issued across the country (0.555Bn) 4 Air pollution Monitoring Stations established in 4 Divisions in Kampala	The funds were utilised to top up the Letters of credit for the third weather radar and windshear.	Item 312202 Machinery and Equipment	Spent 5,251,721

Reasons for Variation in performance

The procurement process for Real Time Verification System (RTVS), Automatic Weather Observation Systems, and air pollution monitoring equipment were suspended due to non-availability of funds to finalise the procurement process.

No air pollution monitoring stations were procured and established in the 4 divisions of Kampala due to insufficient funds received hence procurement process cancelled.

100 Manual Rain gauges, 60 Digital thermometers, 30 Anemometers, 30 Evaporation Pans, 30 Soil thermometers, 10 Soil augures, 30 Digital Barometers, 2 Stevenson Screen, 30 Sunshine recorders, 300 Measuring cylinders were not procured due to non-availability of funds to finalise the procurement process.

Total	5,251,721
GoU Development	5,251,721
External Financing	0
AIA	0
Total For SubProgramme	6,596,138
GoU Development	6,596,138
External Financing	0
AIA	0
GRAND TOTAL	16,849,800
Wage Recurrent	6,472,421
Non Wage Recurrent	3,781,241
GoU Development	6,596,138
External Financing	0
AIA	0

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	US\$ Thousand
----------------------------	------------------------------------	---	---------------

Program: 53 National Meteorological Services

Recurrent Programmes

Subprogram: 01 Headquarters

Outputs Provided

Output: 02 Administration and management support

East African Real Data Monitoring, Sectoral committee on transport, communications and meteorology, Operations and Heads of Meteorological Services Meetings attended.

Funds for travel abroad were utilised to top-up for travels that had earlier been undertaken in the previous quarters.

Item	Spent
227001 Travel inland	51
227002 Travel abroad	5,082
228002 Maintenance - Vehicles	935

Reasons for Variation in performance

No variation from the plan

Total	6,068
Wage Recurrent	0
Non Wage Recurrent	6,068
<i>AIA</i>	0

Output: 03 Strategic Management Services

Board and board committee meetings conducted

3 board meetings and 5 board committee meetings conducted with Initiation of the recruitment process for the 23 vacant posts and Approval of the work plan and budget for FY 2020/21.

Item	Spent
211103 Allowances (Inc. Casuals, Temporary)	102,631
221009 Welfare and Entertainment	3,013
221011 Printing, Stationery, Photocopying and Binding	750
227001 Travel inland	1,828

Reasons for Variation in performance

No variation from the plan

Total	108,222
Wage Recurrent	0
Non Wage Recurrent	108,222
<i>AIA</i>	0

Outputs Funded

Output: 51 National Meteorological Training School (NMTS)

conducive educational facilities and personnel provided for male and female students of National Meteorological Training School from all regions of the country including hard to reach areas.

Item	Spent
------	-------

Reasons for Variation in performance

The students had broken off due to the lock-down that required closing of education institutions.

Total	0
Wage Recurrent	0

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	US\$ Thousand
		Non Wage Recurrent	0
		AIA	0
		Total For SubProgramme	114,290
		Wage Recurrent	0
		Non Wage Recurrent	114,290
		AIA	0

Recurrent Programmes

Subprogram: 02 Finance and Administration

Outputs Provided

Output: 02 Administration and management support

	Item	Spent
Public awareness on weather and climate issues raised	Released the March April May seasonal forecasts at media center with dissemination to media across the country undertaken to increase public awareness on weather and climate issues.	
Internal Audit Charter developed for UNMA	211103 Allowances (Inc. Casuals, Temporary)	53
Internal audit manual developed for UNMA	221001 Advertising and Public Relations	10,709
Capacity of Internal Audit staff enhanced to help management to improve the internal control system and reduce risks associated with achievement UNMA objectives	221002 Workshops and Seminars	21,441
National and International days commemorated	221008 Computer supplies and Information Technology (IT)	1,125
Re-branding and visibility improved	221011 Printing, Stationery, Photocopying and Binding	2,143
	224005 Uniforms, Beddings and Protective Gear	14,996
	227001 Travel inland	24

Reasons for Variation in performance

No physical participation in labour and heroes day celebrations as there was a lock-down in the reporting period.

No staff were re-trained in procurement procedures due to absence of funds to undertake the prior planned training.

Total	50,491
Wage Recurrent	0
Non Wage Recurrent	50,491
AIA	0

Output: 19 Human Resource Management Services

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	UShs Thousand
UNMA Staff sensitised on the UNMA HIV/AIDS Policy Statutory obligation for staff paid Healthy work force maintained conducive working environment for employees created	Statutory obligation of salaries, Gratuity and NSSF for staff paid Healthy work force maintained through payment for medical insurance for staff. conducive working environment for employees created through payment for welfare items, guard and security services and cleaning of office premises	Item 211102 Contract Staff Salaries 211103 Allowances (Inc. Casuals, Temporary) 212101 Social Security Contributions 213001 Medical expenses (To employees) 213002 Incapacity, death benefits and funeral expenses 213004 Gratuity Expenses 221002 Workshops and Seminars 221009 Welfare and Entertainment 223004 Guard and Security services 223005 Electricity 223006 Water 224004 Cleaning and Sanitation 227001 Travel inland	Spent 1,605,787 51 25,124 96,092 12,949 1,913,027 4,163 5,882 690 2,000 3,000 793 2,537

Reasons for Variation in performance

Cascading performance management tools and guidelines to all staff and sensitisation of staff on the HIV/AIDS policy not delivered due to absence of funds allocated to the outputs in the course of the Financial Year.

Total	3,672,094
Wage Recurrent	1,605,787
Non Wage Recurrent	2,066,307
AIA	0

Output: 20 Records Management Services

Records effectively managed	Records effectively managed at headquarters	Item 221003 Staff Training 221008 Computer supplies and Information Technology (IT) 222001 Telecommunications	Spent 1,000 6,500 1,527
-----------------------------	---	---	---

Reasons for Variation in performance

No variation from the plan.

Total	9,027
Wage Recurrent	0
Non Wage Recurrent	9,027
AIA	0
Total For SubProgramme	3,731,612
Wage Recurrent	1,605,787
Non Wage Recurrent	2,125,825
AIA	0

Recurrent Programmes

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	UShs Thousand
----------------------------	------------------------------------	---	---------------

Subprogram: 03 Training and Research

Outputs Provided

Output: 02 Administration and management support

A gender strategy for UNMA developed to improve gender in all activities Customer feedback in provision Aeronautical Meteorological Services awareness programs on the importance and use of meteorological services Developed and implemented Improved Staff competence and skills in the provision of aeronautical meteorological services to all aerodrome Process Procedures and Work Instructions for data archiving and climate services developed QMS Awareness Down scaled to all UNMA stations Research studies undertaken to strengthen research on future climate trends and its impacts to produce an annual state of the climate report for Uganda Training Users in interpreting and applying weather information in Farming in Teso and Albertine sub regions

Safety, occupational and health equipment were procured to address the QMS non-conformities

Item	Spent
211102 Contract Staff Salaries	207,829
211103 Allowances (Inc. Casuals, Temporary)	132
221002 Workshops and Seminars	-3,095
221007 Books, Periodicals & Newspapers	5,080
221008 Computer supplies and Information Technology (IT)	420
221009 Welfare and Entertainment	1,600
221012 Small Office Equipment	755
224005 Uniforms, Beddings and Protective Gear	18,000
227001 Travel inland	24

Reasons for Variation in performance

The negative expenditure on workshops and seminars is an end of year system adjustment arising from a cancelled Local Purchase Order for domestic arrears.

Safety, occupational and health equipment were procured to address the QMS non-conformities Meetings that were meant to review and finalise the draft gender strategy were not held due to the Covid pandemic.

Total	230,745
Wage Recurrent	207,829
Non Wage Recurrent	22,916
AIA	0
Total For SubProgramme	230,745
Wage Recurrent	207,829
Non Wage Recurrent	22,916
AIA	0

Development Projects

Project: 1371 Uganda National Meteorological Authority (UNMA)

Outputs Provided

Output: 01 Weather and Climate services

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	UShs Thousand
50 Rain gauges maintained functional across Uganda		Item	Spent
		211103 Allowances (Inc. Casuals, Temporary)	94
36 Manual Weather Stations functionality improved		221001 Advertising and Public Relations	960
		221003 Staff Training	2,224
		221009 Welfare and Entertainment	600
Regional talk shows conducted to disseminate and get feedback on the seasonal forecasts issued.(0.068Bn)	Metars of Weather Stations in the East, North, West and Central regions of Uganda Updated.	221011 Printing, Stationery, Photocopying and Binding	19,402
		221012 Small Office Equipment	625
		222002 Postage and Courier	285
4 Zonal Offices maintained countrywide (0.1089 Bn)	UNMA support to the Aviation sector provided through issuance of 546 Terminal Aerodrome Forecasts and 468 flight folders to enable air navigation in and outside the country	222003 Information and communications technology (ICT)	30,626
Metars of Weather Stations in the East, North, West and Central regions of Uganda Updated		223005 Electricity	91
		223006 Water	1,829
		224004 Cleaning and Sanitation	16,435
Coverage of rainfall stations increased by 25 Stations in different Regions of the Country	One seasonal outlook for March April May issued for all regions of the country.	224005 Uniforms, Beddings and Protective Gear	10,000
		227001 Travel inland	31,348
		227003 Carriage, Haulage, Freight and transport hire	931
43 ADCON Automatic Weather Stations (AWS) functionality improved countrywide (0.05698Bn)		227004 Fuel, Lubricants and Oils	1,497
Four seasonal climate outlooks issued on quarterly basis for regions of Uganda (0.098Bn)		228001 Maintenance - Civil	8,226
50 Barometers, 100 Air Thermometers, 50 Anemometers, 50 Sunshine recorders, 100 Rain gauges, 50 Evaporation pans, and 100 Soil thermometers calibrated		228003 Maintenance – Machinery, Equipment & Furniture	627
Seasonal forecasts published in local newspapers			
Increased functionality of 6 manual weather Stations of Pachwa, Bulindi Namalu, Bududa, RakaiDFI and Mityana			
Increase functionality of 2 DAVIS Automatic Weather Stations of Amuria, and Katakwi			
Seasonal climate forecasts translated into 30 local languages			

Reasons for Variation in performance

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	US\$ Thousand
----------------------------	------------------------------------	---	---------------

Coverage of rainfall stations not increased by 100 Stations in different Regions of the Country since no rain gauges were procured in the course of the financial year because the procurement process was cancelled due to non-availability of funds in the financial year.
No seasonal forecasts were published in newspapers .

50 Barometers, 100 Air Thermometers, 50 Anemometers, 50 Sunshine recorders, 100 Rain gauges, 50 Evaporation pans, and 100 Soil thermometers were not calibrated due to insufficient receipt of funds received in the course of the financial year.

Total	125,800
GoU Development	125,800
External Financing	0
AIA	0

Output: 02 Administration and management support

	Item	Spent
Land ownership formalised in Buku and Jinja	221002 Workshops and Seminars	6,242
Funds for travel inland were utilised for safari day and transport facilitation for security personnel.	221003 Staff Training	7,400
Staff professional development and training partnerships enhanced	221007 Books, Periodicals & Newspapers	5,000
UNMA fixed asset register updated and unma assets engraved	221011 Printing, Stationery, Photocopying and Binding	1,149
	222001 Telecommunications	870
	227001 Travel inland	29,523
	227004 Fuel, Lubricants and Oils	4,825
	228002 Maintenance - Vehicles	11,146
	228003 Maintenance – Machinery, Equipment & Furniture	12

Reasons for Variation in performance

No asset engraving was undertaken since this output is delivered in the fourth quarter when all assets procured in the course of the financial year. This output was however hindered by the Covid pandemic which caused a lockdown.
Funds for travel inland were utilised for safari day and transport facilitation for security personnel.

Total	66,166
GoU Development	66,166
External Financing	0
AIA	0

Output: 19 Human Resource Management Services

Security at Headquarters improved	Security at Headquarters improved through payment for guard and security services.	Item	Spent
		223004 Guard and Security services	4,802

Reasons for Variation in performance

No variation from the plan.

Total	4,802
GoU Development	4,802

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	US\$ Thousand
		External Financing	0
		AIA	0

Capital Purchases

Output: 72 Government Buildings and Administrative Infrastructure

	Item	Spent
Aviation Weather Observation stations established at 4 Airfileds of Kisoro, Mbarara, Pakuba, Kidepo (0.064Bn)	Headquarter offices security improved.	312101 Non-Residential Buildings 20,000
Headquarter offices fenced off to improve security		
Exhibition Stall at Agriculture show reconstructed.	Accommodation of weather stations of Masindi and Ntusi was improved with 2 uni-ports installed.	
Office Accomodation for 10 Weather Stations of Ntusi, Kibanda, Mubende, Mityana, Gulu, Wadelai, Pachwa, Namalu, Bududa, Ivukula improved		
Sanitation Facilities for 10 Weather Stations of Kibanda, Ntusi, Mityana, Pachwa, Wadelai, Bududa, Namalu, Kiige, Kotido, Ivukula improved		
Countrywide, 15 Weather Station sites secured with fences		

Reasons for Variation in performance

No Sanitation Facilities for 10 Weather Stations of Kibanda, Ntusi, Mityana, Pachwa, Wadelai, Bududa, Namalu, Kiige, Kotido, Ivukula were constructed due to insufficient funds received in the course of the financial year.

Office Accomodation for 8 Weather Stations of Ntusi, Kibanda, Mubende, Mityana, Gulu, Wadelai, Pachwa, Namalu, Bududa, Ivukula not improved due to insufficient funds received.

In addition, no weather station sites were fenced due to absence of funds allocated in the course of the financial year.

Aviation Weather Observation stations were not established at 4 Airfileds of Kisoro, Mbarara, Pakuba, Kidepo since they were not procured due to insufficient funds received.

Total	20,000
GoU Development	20,000
External Financing	0
AIA	0

Output: 76 Purchase of Office and ICT Equipment, including Software

	Item	Spent
20 Weather Stations equipped with Communication Facilities		

Reasons for Variation in performance

2 High Processing Computers (HPC) and 1 Server were not procured due to insufficient funds received in the course of the financial year. No computers were delivered as there no funds available to enable contract signature hence the procurement process was suspended.

Vote:302 Uganda National Meteorological Authority

QUARTER 4: Outputs and Expenditure in Quarter

Outputs Planned in Quarter	Actual Outputs Achieved in Quarter	Expenditures incurred in the Quarter to deliver outputs	UShs Thousand
		Total	0
		GoU Development	0
		External Financing	0
		AIA	0

Output: 77 Purchase of Specialised Machinery & Equipment

Item	Spent
------	-------

Reasons for Variation in performance

The procurement process for Real Time Verification System (RTVS), Automatic Weather Observation Systems, and air pollution monitoring equipment were suspended due to non-availability of funds to finalise the procurement process.

No air pollution monitoring stations were procured and established in the 4 divisions of Kampala due to insufficient funds received hence procurement process cancelled.

100 Manual Rain gauges, 60 Digital thermometers, 30 Anemometers, 30 Evaporation Pans, 30 Soil thermometers, 10 Soil augures, 30 Digital Barometers, 2 Stevenson Screen, 30 Sunshine recorders, 300 Measuring cylinders were not procured due to non-availability of funds to finalise the procurement process.

Total	0
GoU Development	0
External Financing	0
AIA	0

Output: 78 Purchase of Office and Residential Furniture and Fittings

Item	Spent
------	-------

Reasons for Variation in performance

20 office desks, 100 office chairs, 26 filing cabinets, 10 executive desks, 4 mini conference tables were not procured due to insufficient funds received in the financial year.

Total	0
GoU Development	0
External Financing	0
AIA	0
Total For SubProgramme	216,769
GoU Development	216,769
External Financing	0
AIA	0

GRAND TOTAL	4,293,415
Wage Recurrent	1,813,616
Non Wage Recurrent	2,263,031
GoU Development	216,769
External Financing	0
AIA	0