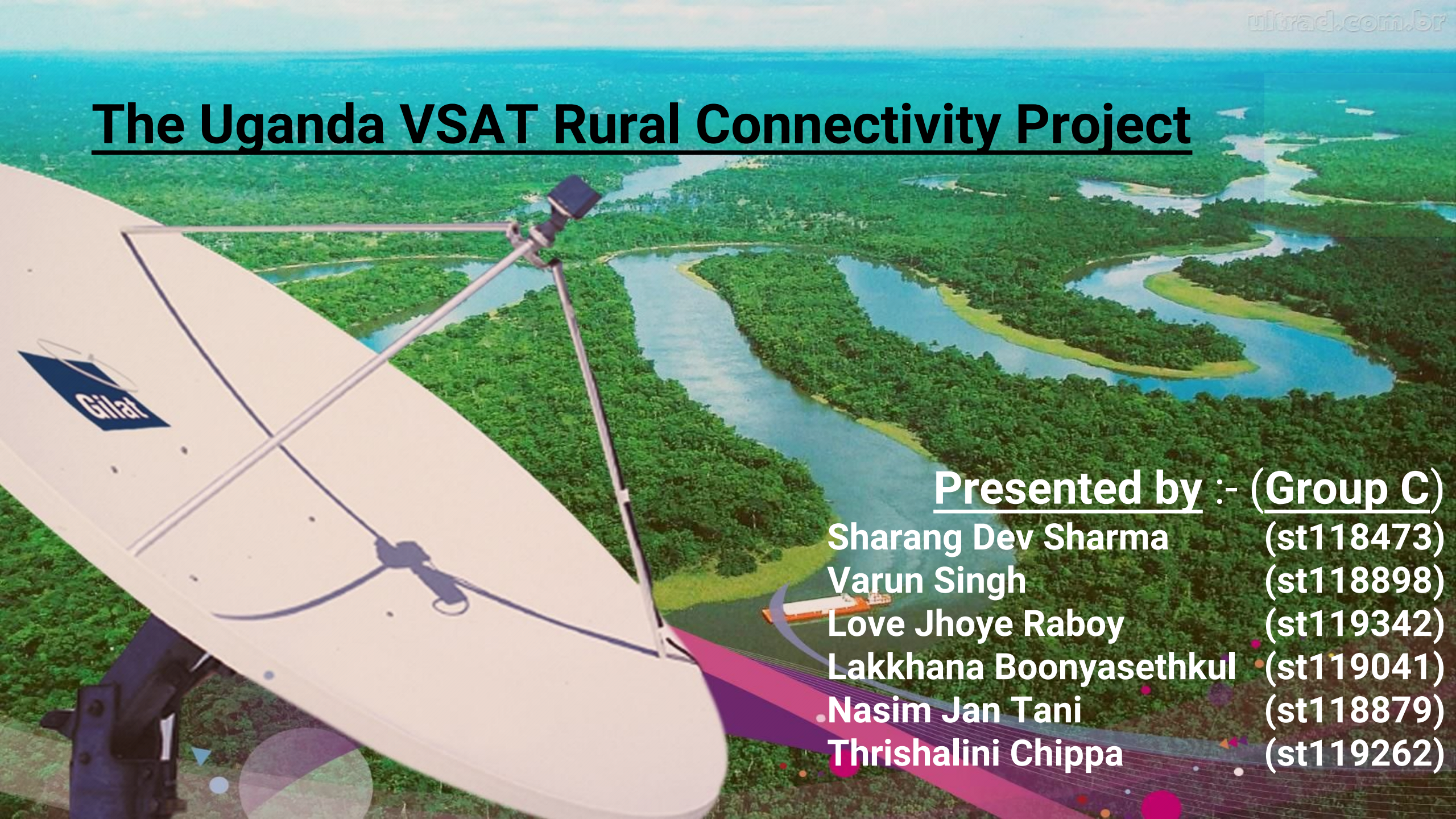
The Uganda VSAT Rural Connectivity Project



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Introduction

- The Uganda VSAT Rural Connectivity Project was part of an ongoing international initiative by the World Bank Institute's 'ICT for Education' Program and its partner NGO World Links organization to pilot new concepts in technology and to integrate Information and Communication Technology (ICT) in education in developing countries.

- Uganda was the first World Links country program, established in 1997, and was the first of the now twenty-seven World Link countries in Africa, Latin America, the Middle East and Asia to pilot the use of this technology as part of its country program.

Background History

- All of the Internet connectivity under the World Links project prior to the VSAT project had been via traditional dial-up links to a local Internet Service Provider (ISP). Based on the evaluation conducted by SRI, the lack of adequate and reliable connectivity had impacted the growth in ICT usage amongst students – specifically in rural communities.

- In order to address some of these issues, the World Links project recognized the need to expand access to more rural areas.

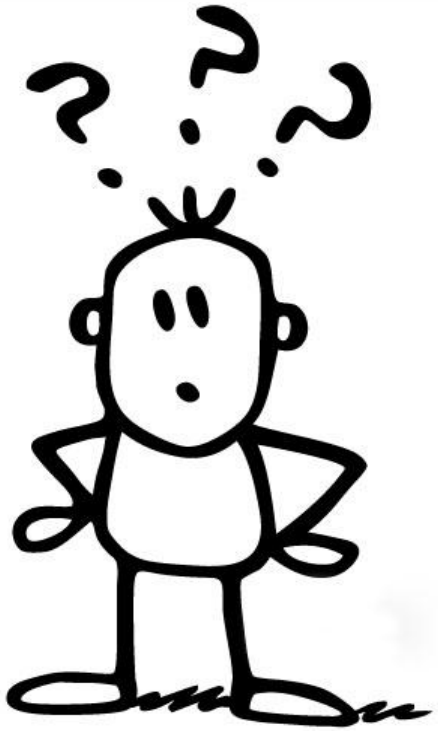
- However, rural areas lacked telephone Infrastructure and an alternative solution of using VSAT was found with connections to the Internet made by GS Satellites and a backhaul to high speed link to U.S or Europe.

What is this Project?

Objective :The Uganda VSAT Rural Connectivity project is to provide 15 rural secondary schools in Uganda with high-speed satellite connections to the Internet, testing the viability of VSAT technology and the pedagogical impact of Internet access on teaching and learning.

Time and Budget : The two-year project was completed in August 2004, at a total project cost of US $919,540. Initial installations cost US$13,222 per school.

Current Status : All 15 schools are online and are paying monthly connectivity fees of US $305. An additional, 29 schools now use VSAT technologies to connect to the Internet. The VSAT project can be seen as a rare and exemplary pilot project that has sparked the transition to a longer-term, larger-scale implementation.



Stakeholders

- The project received generous financial support for the satellite equipment from the Bill and Melinda Gates Foundation.
- **Schools Online** : It provided 10 of the participating schools with computer labs with networked PCs and Printers.
- **SchoolNet-Uganda** played the lead role on the ground.
- **Vrestar** : It provided the Internet bandwidth and teleport services for the first year.
- **AFSAT Uganda Limited** : It provided the Internet bandwidth and teleport services in second year.
- **MoES** : It paid for the duty clearance of the satellite equipment.
- Students and Teachers of Participating Institutes.

Key Findings

- VSAT-based Internet service is both financially and technically feasible.
- Computers and the Internet as implemented in the project increase the likelihood that students will engage in active-learning assignments, such as report writing, independent research, presentations, and collaborative projects.
- These findings are extremely important in relation to enhanced educational quality and to the development of a 21st century workforce in Uganda.

Impact

Educational Impact

1.) Internet connectivity increased the level of computer use and levels of active learning.
2.) Students in schools with Internet connections used their computer labs 1.8 hours per week more than students in other schools; these students are 7.8 times more likely to use computers to write reports and make presentations.
3.) Eighty-one percent of teachers in VSAT Project schools reported that they used their school's computer lab.

Impact on Community Development

Donor-supported community-focused programs increased involvement of VSAT Project schools at-risk and out-of- school youth, entrepreneurs, and local primary teachers,as well as HIV/AIDS education.

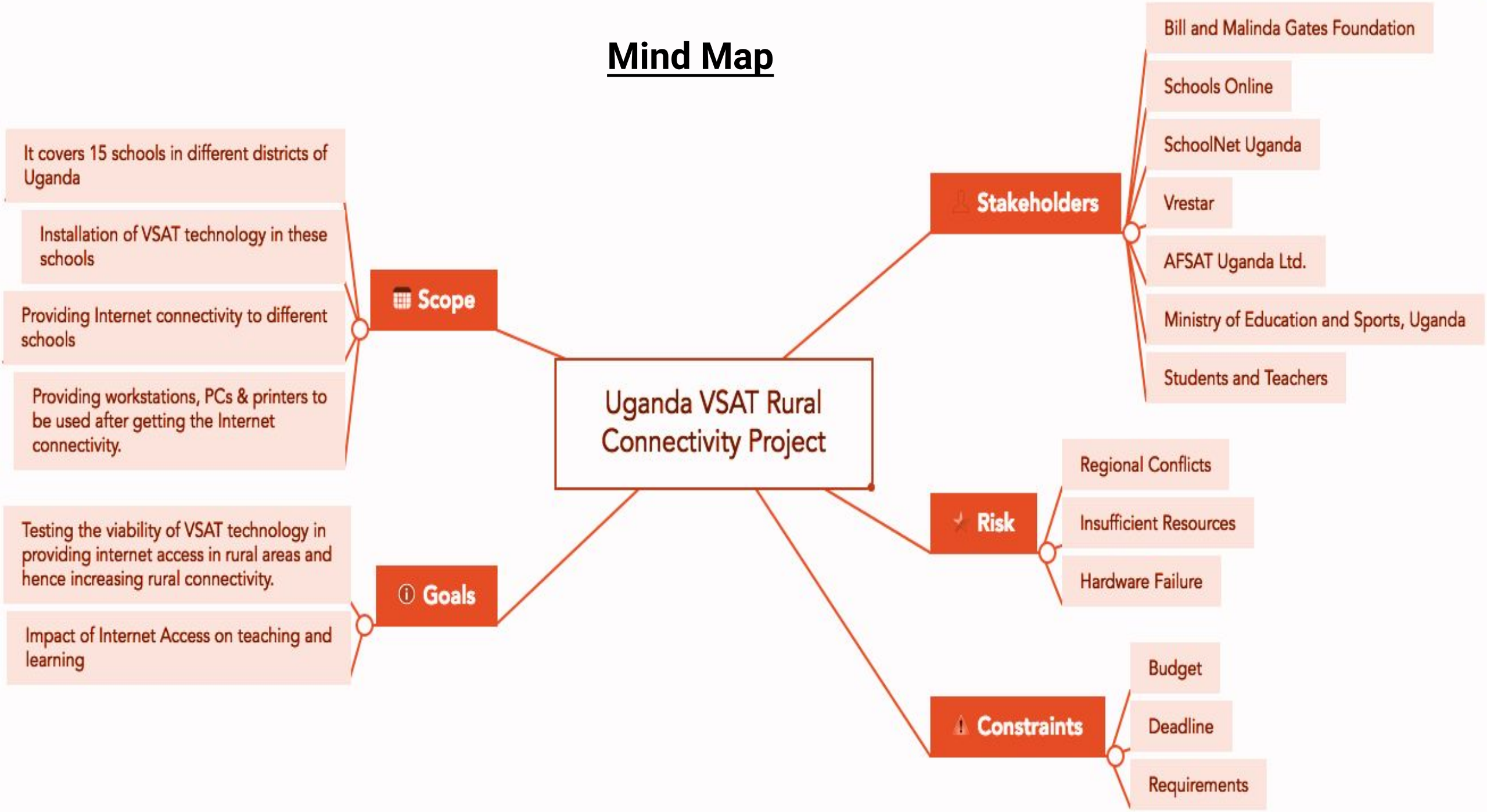
Challenges

- The choice of the service provider had a significant impact on what became one of the main issues in project i.e.downtime.
- It was vital to select adequate, sturdy equipment and include at least a minimal level of technological support when choosing a service provider.
- ICT finances within the telecenters had to be clearly separated from the school's budget so as to ensure the SBTs independence and continuation.
- Demand for the SBTs had to be encouraged, for instance through active outreach efforts.

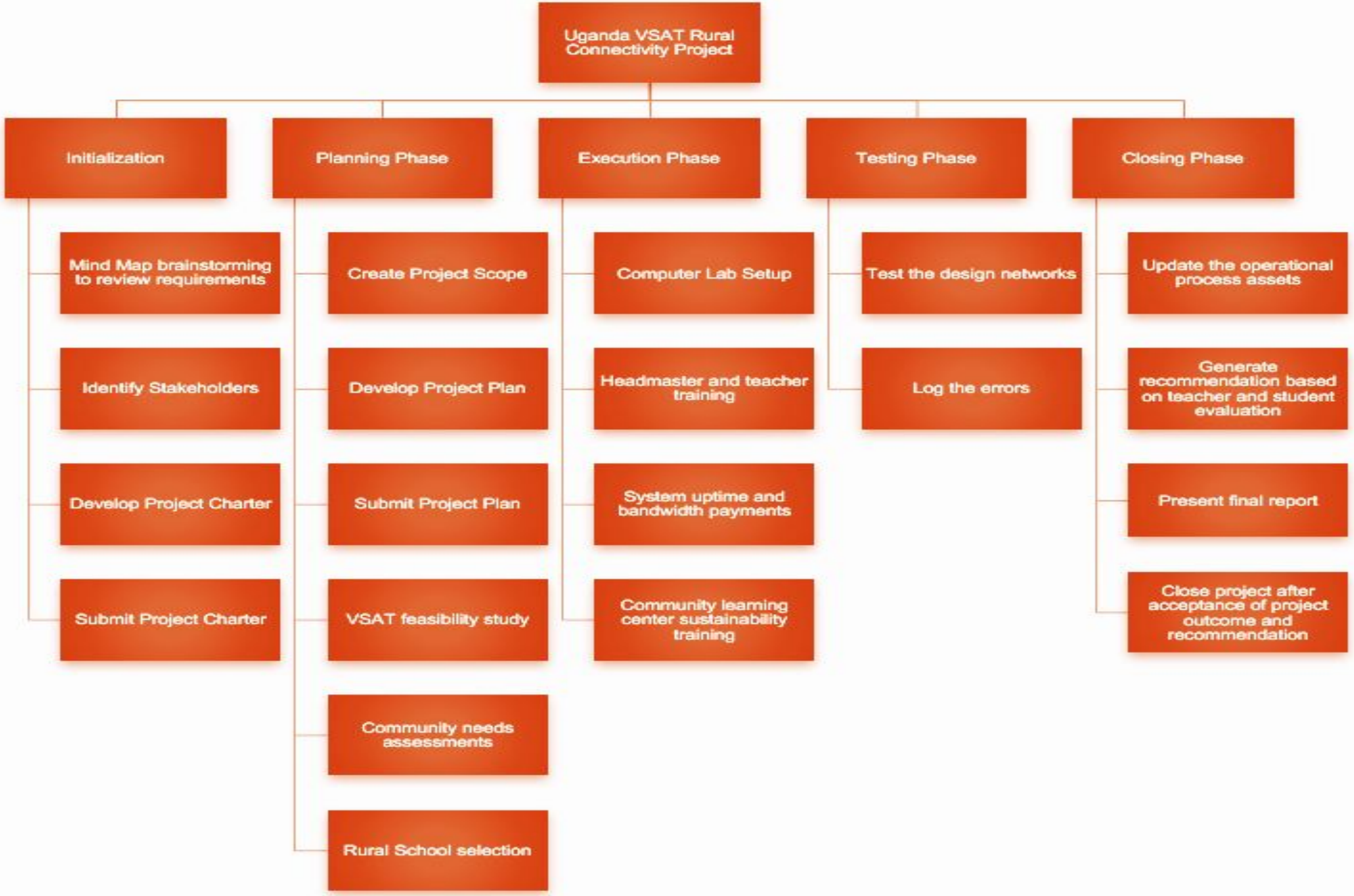
Recommendation

- Clarify MoES policy with regard to integration of ICTs into the curriculum.
- Develop policies, tools, and resources to support integration.
- Expand access beyond computer labs by establishing wireless LANs, teacher resource centers, and mobile computer workstations.
- Base all community-focused initiatives on revenue-positive models.
- Provide schools with training and other resources for community members.
- Keep project timelines and timelines for organizational growth and sustainability distinct.
- Use funding and deliverables to guide organizations toward sustainability.

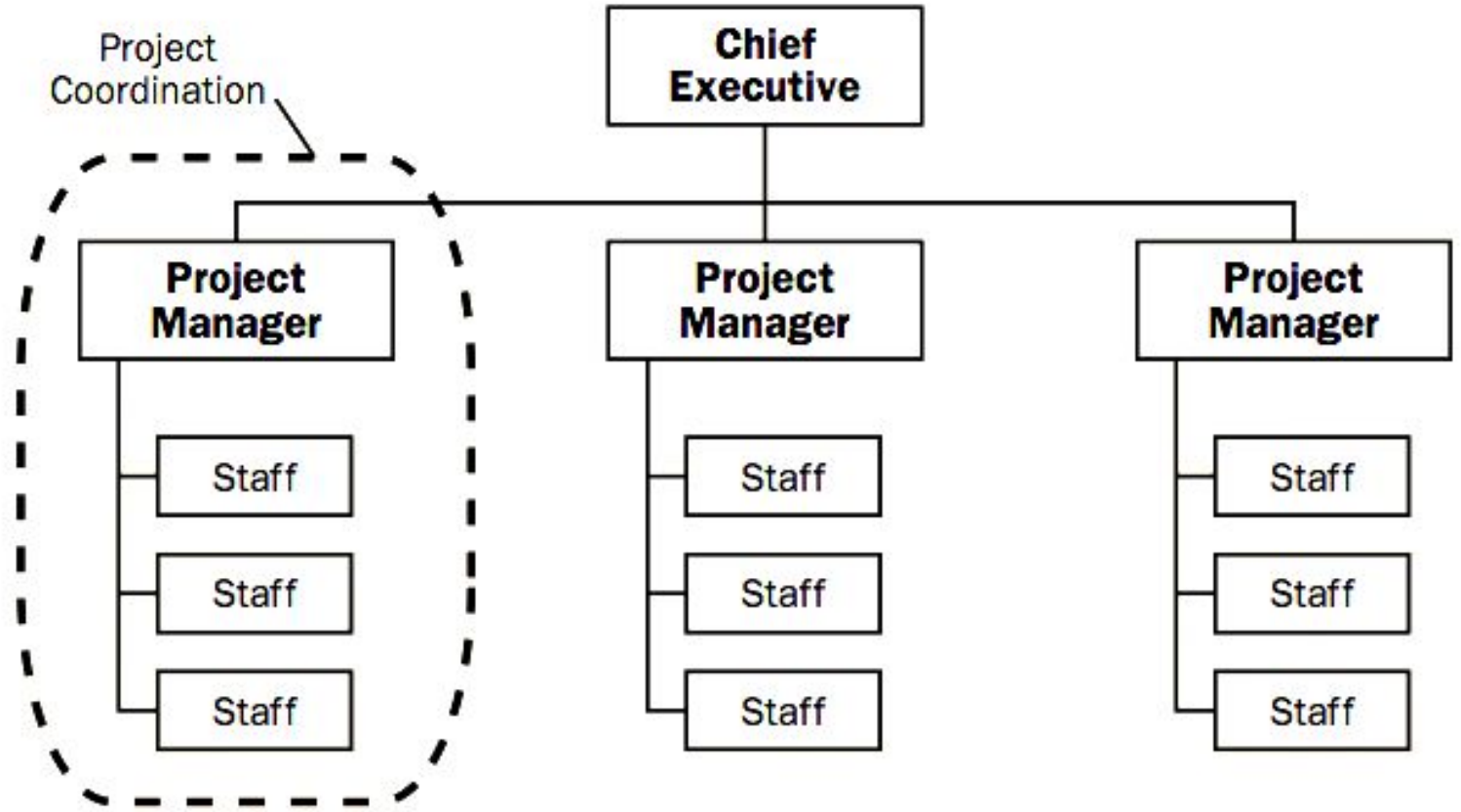
Mind Map


Uganda VSAT Rural Connectivity Project
Scope
It covers 15 schools in different districts of Uganda
Installation of VSAT technology in these schools
Providing Internet connectivity to different schools
Providing workstations, PCs & printers to be used after getting the Internet connectivity.
Goals
Testing the viability of VSAT technology in providing internet access in rural areas and hence increasing rural connectivity.
Impact of Internet Access on teaching and learning
Stakeholders
Bill and Malinda Gates Foundation
Schools Online
SchoolNet Uganda
Vrestar
AFSAT Uganda Ltd.
Ministry of Education and Sports, Uganda
Students and Teachers
Risk
Regional Conflicts
Insufficient Resources
Hardware Failure
Constraints
Budget
Deadline
Requirements

WBS


Uganda VSAT Rural Connectivity Project
Initialization
Planning Phase
Execution Phase
Testing Phase
Closing Phase
Mind Map brainstorming to review requirements
Identify Stakeholders
Develop Project Charter
Submit Project Charter
Create Project Scope
Develop Project Plan
Submit Project Plan
VSAT feasibility study
Community needs assessments
Rural School selection
Computer Lab Setup
Headmaster and teacher training
System uptime and bandwidth payments
Community learning center sustainability training
Test the design networks
Log the errors
Update the operational process assets
Generate recommendation based on teacher and student evaluation
Present final report
Close project after acceptance of project outcome and recommendation

Organizational Structure: Projectized



(Gray boxes represent staff engaged in project activities.)

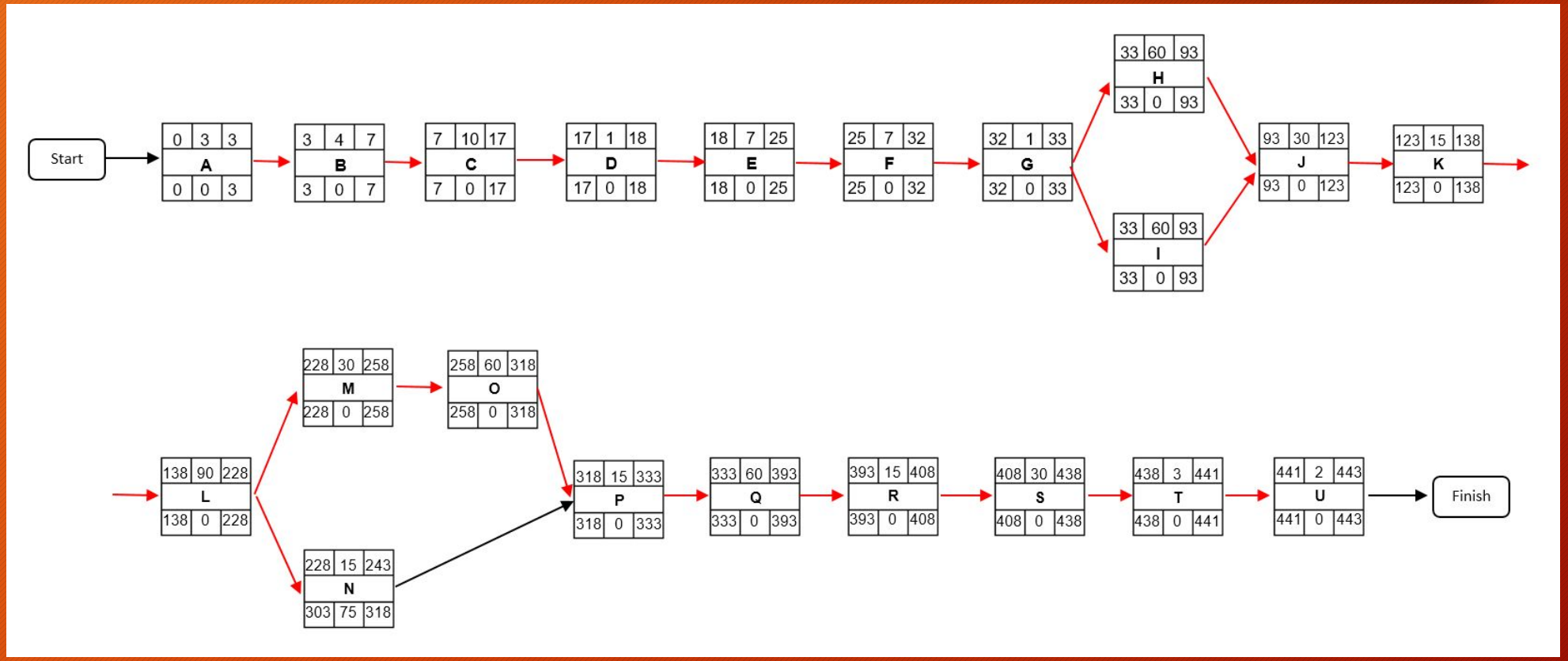
Project Time Management

The project task list

Activity	Activity details	Duration (Days)	Predecessor	Float	Free Float
	Initialization	**18**			
A	Mind Map brain storming to review requirements	3	-	0	0
B	Identify stakeholders	4	A	0	0
C	Develop project charter	10	B	0	0
D	Submit project charter	1	C	0	0
	Planning Phase	**120**			
E	Create project scope	7	D	0	0
F	Develop project plan	7	E	0	0
G	Submit project plan	1	F	0	0
H	VSAT feasibility study	60	G	0	0
I	Community needs assessment	60	G	0	0
J	Rural school selection	30	H,I	0	0
K	Selection of vendors	15	J	0	0

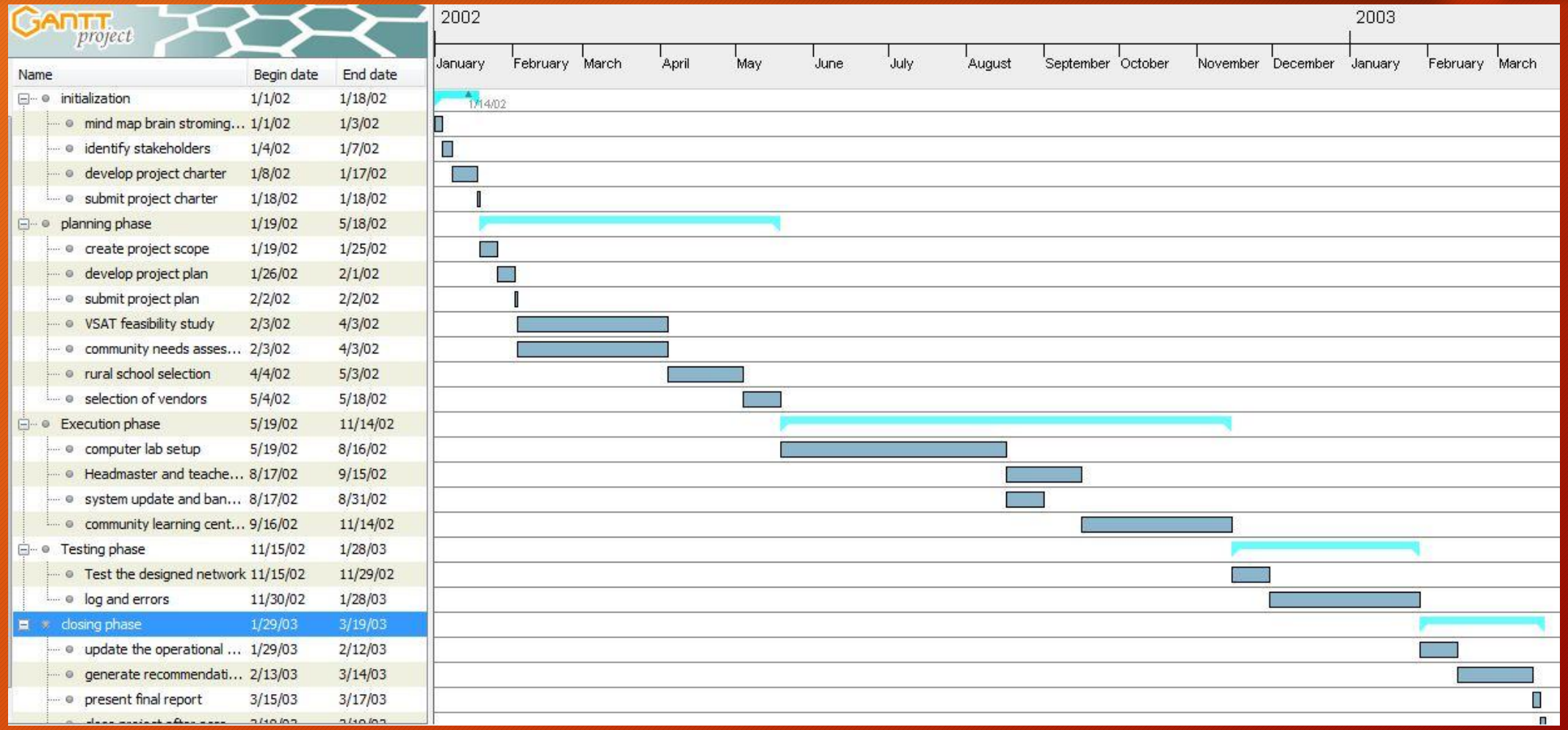
Activity	Activity details	Duration (Days)	Predecessor	Float	Free Float
	Execution Phase	**180**			
L	Computer lab setup	90	K	0	0
M	Headmaster and teacher training	30	L	0	0
N	System uptime and bandwidth payments	15	L	75	75
O	Community learning center sustainability training	60	M	0	0
	Testing Phase	**75**			
P	Test the designed network	15	N,O	0	0
Q	Log the errors	60	P	0	0
	Closing Phase	**50**			
R	Update the operational process asset	15	Q	0	0
S	Generate recommendation base on teacher and student evaluation	30	R	0	0
T	Present final report	3	S	0	0
U	Close project after acceptance of project outcome and recommendation	2	T	0	0

PDM for the project



Critical Path: A->B->C->D->E->F->G->H->I->J->K->L->M->O->P->Q->R->S->T->U

Gantt chart for the Project



Name	Begin date	End date
initialization	1/1/02	1/18/02
mind map brain stroming...	1/1/02	1/3/02
identify stakeholders	1/4/02	1/7/02
develop project charter	1/8/02	1/17/02
submit project charter	1/18/02	1/18/02
planning phase	1/19/02	5/18/02
create project scope	1/19/02	1/25/02
develop project plan	1/26/02	2/1/02
submit project plan	2/2/02	2/2/02
VSAT feasibility study	2/3/02	4/3/02
community needs asses...	2/3/02	4/3/02
rural school selection	4/4/02	5/3/02
selection of vendors	5/4/02	5/18/02
Execution phase	5/19/02	11/14/02
computer lab setup	5/19/02	8/16/02
Headmaster and teache...	8/17/02	9/15/02
system update and ban...	8/17/02	8/31/02
community learning cent...	9/16/02	11/14/02
Testing phase	11/15/02	1/28/03
Test the designed network	11/15/02	11/29/02
log and errors	11/30/02	1/28/03
closing phase	1/29/03	3/19/03
update the operational ...	1/29/03	2/12/03
generate recommendati...	2/13/03	3/14/03
present final report	3/15/03	3/17/03

Project Cost and EVM Analysis

Project Costs Discussion Topics

I. Introduction
II. Installation costs
    a) Year 1
    b) Year 2
III. Collection of payments
IV. Earned Value Management Computation
V. Overall Project Cost

I. Introduction (cont…)

- Sources of funds and partner organization
  - The Bill and Melinda Gates Foundation
  - The ICT for Education Program, World Bank Institute
  - The Ministry of Education and Sport, Uganda
  - SchoolNet Uganda
  - Schools Online
  - The World Links Organization

I. Introduction

- Project planning and development began on **2000**
- Internet service began on January 2002 – installation of Very Small Aperture Terminal satellite transceivers
- 15 Ugandan Secondary schools in rural areas – respondents of the project
- Project was completed in July 2004

I. Introduction (cont…)

- Sources of funds and partner organization
  - The Bill and Melinda Gates Foundation, World Bank Institute(WBI), World Links and Schools Online
    - provide $300,000.00 to cover the costs of the VSAT wireless installation, plus the 50% subsidy of the recurrent Internet connectivity costs.
    - Funded software for 11 of the computer labs
  - The Ministry of Education and Sport, Uganda
    - Provided support at the level of policy, ensuring that school heads, school boards of directors, teachers and parent-teacher association would commit personnel and fiscal resources to the project

II. Installation Costs (Year 1)

Description	Cost / unit	Units	Total
Installation			
Gilat Skystar terminals	$6,708	11	$73,788
Airfreight from South Africa (11 terminals)	$444	11	$4,884
Installation (11 terminals)	$3,100	11	$34,100
Site Survey (11 sites)	$450	11	$4,950
Wireless Equipment (4 sites, costs shared by all 15 schools)	$2,228	One hub, four sites	$33,415
Extra cables for Arua and Moroto Installations	$292	2	$585
Total:	**$13,222**		**$140,712**

II. Installation Costs (Year 1)

Description	Cost / unit	Units	Total
Monthly connectivity costs			
Space segment and internet connectivity from US Hub	~$407	15	$6,100
VSAT License (Annual license is $7,722)	~$43	15	~$644
Total per month:	**~$450**	15	**~$6744**

II. Installation Costs (Year 2)

Description	Cost / unit	Units	Total
Installation			
Terminals	$4,212	15	$63,180
Wireless Equipment	Not applicable		$0
Airfreight from South Africa	Not applicable		$0
Installation and Site Survey	$910	15	$13,650
Total:			**$76,830**

II. Installation Costs (Year 2)

Description	Cost / mo	Units	Total
Monthly connectivity costs			
Space segment and internet connectivity from US Hub	$281	15	$4,212
VSAT License:	$24	15	$366
Total per month:	**$305**		**$4,578**

III. Collection of Payments (Year 1)

Uptime and Bandwidth Payments

Bandwidth payments by VSAT pilot schools for January - December 20

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	Effective Payments (%)	Comm
Lira	200	200	200	200	200	200	200	200	-	-	-	-	1,600	**67%**	*Not yet p by rebels*
Soroti	200	200	200	200	200	200	200	200	200	200	200	200	2,400	**100%**	*Sept-Dec cheque v and took bank acc*
Mbale	200	200	200	200	200	200	200	200	200	200	200	200	2,400	**100%**	*Sept-Dec cheque v and took bank acc*
Iganga	200	200	200	200	-	-	-	200	200	200	200	200	1,800	**75%**	*IDU was*
Arua	200	200	-	-	-	-	-		-	-	-		400	**17%**	*IDU faul still faulty*
Kabaale	200	200	200	200	200	200	200	200	200	200	200	200	2,400	**100%**	*Sept-Dec cheque v and took bank acc*
Hoima	200	200	200	200	200	200	200	200	200	200	200	200	2,400	**100%**	*Sept-Dec cheque v and took bank acc*

III. Collection of Payments (Year 1)

200	200	200	200	200	200	200	200	200	200	2,400	**100%**	*Sept-Dec payment was an upcountry cheque which was banked 17th Oct and took 4 weeks to be credited on the bank account*
200	200	-	-	-	200	200	200	200	200	1,800	**75%**	*IDU was faulty May-Jul*
200	200	200	200	200	200	200	200	200	200	2,400	**100%**	
200	200	200	200	200	200	200	200	200	200	2,400	**100%**	
200	200	200	200	200	200	200	200	200	200	2,400	**100%**	
-	-	-	-	-	200	200	200	200	200	1,000	**42%**	*Jan-Jun spread spectrum link not yet installed and Jul had been paid for in 2001. Sept-Dec payment was an upcountry cheque which was banked 17th Oct and took 4 weeks to be credited on the bank account*
-	-	-	-	200	200	200	200	200	200	1,200	**50%**	*Jan-Jun: spread spectrum link not yet installed*
-	-	-	-	200	200	-	-	-	-	400	**17%**	*Jan-Jun: spread spectrum link not yet installed. They took time in delivering the final cheque*
-	-	-	-	200	200	-	-	-	-	400	**17%**	*Jan -Jun spread spectrum link not yet installed, School had internal admin problems even when SchoolNet was ready to install the wireless link, school was told to show interest in participating in the pilot by paying Jul-August unused bandwidth. School lost direct line-of-site and mast was installed by Nov1st,2002. Link not yet installed by Nov 2002*
									Total	**25,400**	**71%**	

III. Collection of Payments (Year 2)

KU-BAND VSAT Schools Bandwidth Payment - August 2003 to April 2004

Name of School	Location	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total	Effective Payments (%)	Comments
Busoga Collage	Jinja	281	281	281	-	-	281	281	281	281	1,967	**78%**	*Bandwidth for Aug/Sep/Oct was paid in Jan 04. Off-line in Nov and Dec because of late payments - NOT inability to pay. Paid for Jan to Apr 04 in Feb 04*
Duhaga Secondary School	Hoima	281	281	281	281	281	281	281	281	281	2,529	**100%**	
Iganga Secondary School	Iganga	281	281	281	281	281	281	281	281	281	2,529	**100%**	
Kigezi High School	Kabaale	-	-	-	-	-	-	-	-	-	-	**0%**	*Has remained offline because of administration problems around the arrival of a new headmaster*
Kiira College Butiki	Jinja	281	281	281	281	281	281	281	281	281	2,529	**100%**	*Small outstanding balance due to exchange rate variations between the date when the check was written and the date when it was cashed*
Mbale Senior School	Mbale	-	-	-	-	-	-	-	-	-	-	**0%**	*Off-line. Administration and management weakness to buy into and therefore prioritize the ICT department*
Moroto High School	Moroto	-	-	-	-	-	-	281	281	281	843	**33%**	*Paid in Feb 04 for months of Feb to Apr. Before then, did not pay, thus was off-line*

III. Collection of Payments (Year 2)

Mbale Senior School	Mbale	-	-	-	-	-	-	-	-	-	-	0%	*Off-line. Administration and management weakness to buy into and therefore prioritize the ICT department*
Moroto High School	Moroto	-	-	-	-	-	-	281	281	281	843	33%	*Paid in Feb 04 for months of Feb to Apr. Before then, did not pay, thus was off-line*
Ndejje SSS	Luweero	281	281	281	281	281	281	281	281	281	2,529	100%	*Balance of US$33.80 due to inflated US$ exchange rate*
PMM Girls Secondary School	Jinja	281	281	281	-	-	-	-	-	-	843	33%	*Stopped paying in Nov. Problem of prioritization in spending, NOT inability to pay. Off-line*
St Henry's College Kitovu	Masaka	281	281	281	281	281	281	281	281	281	2,529	100%	
Wanyange Girls School	Jinja	281	281	281	281	281	281	281	281	281	2,529	100%	
Muni NTC	Arua	281	281	281	281	281	-	-	-	-	1,405	56%	*Late payments. School is 100% government-aided and needs to wait for funding from government, which is often delayed. Afsat gave them a grace period and maintained them online Jan and Feb 04 despite non payment. Were disconnected in Mar 04*
Lango College	Lira	-	-	-	-	-	-	-	-	-	-	0%	*Off-line. Low student turn-up because of insecurity caused by rebel activity*
Teso College	Soroti	-	-	-	-	-	-	-	-	-	-	0%	*Off-line. Low student turn-up because of insecurity caused by rebel activity*
Jinja High School	Jinja	281	281	281	281	281	-	-	-	-	1,405	56%	*Arrival of new headmaster in Dec who has had to clear outstanding debt. Commitment to ICT remains. School remained online (Jan to Apr inc.) and is expected to pay soon.*
										Total	**21,637**	**57%**	

IV. Earned Value Management (Year 1)

Budget At Cost	**162,000.00**
Project Duration	**24 months**
Target collection/month	**6,750.00**

Earned Value(EV)					
	No. of Schools	School Payment 207	Subsidized @ 200	Total Monthly Collection	Accumulated Value
Jan-02	11	2,277.00	2,200.00	4,477.00	4,477.00
Feb-02	11	2,277.00	2,200.00	4,477.00	8,954.00
Mar-02	10	2,070.00	2,000.00	4,070.00	13,024.00
Apr-02	10	2,070.00	2,000.00	4,070.00	17,094.00
May-02	8	1,656.00	1,600.00	3,256.00	20,350.00
Jun-02	8	1,656.00	1,600.00	3,256.00	23,606.00
Jul-02	11	2,277.00	2,200.00	4,477.00	28,083.00
Aug-02	14	2,898.00	2,800.00	5,698.00	33,781.00
Sep-02	11	2,277.00	2,200.00	4,477.00	38,258.00
Oct-02	11	2,277.00	2,200.00	4,477.00	42,735.00
Nov-02	11	2,277.00	2,200.00	4,477.00	47,212.00
Dec-02	11	2,277.00	2,200.00	4,477.00	51,689.00

IV. Earned Value Management (Year 1)

Budget At Cost	**162,000.00**
Project Duration	**24 months**
Target collection/month	**6,750.00**

Planned Value (PV)				
	No. of Schools	Amount to be Collected	Total Monthly Collection	Accumulated Value
Jan-02	15	450.00	6,750.00	6,105.00
Feb-02	15	450.00	6,750.00	13,500.00
Mar-02	15	450.00	6,750.00	20,250.00
Apr-02	15	450.00	6,750.00	27,000.00
May-02	15	450.00	6,750.00	33,750.00
Jun-02	15	450.00	6,750.00	40,500.00
Jul-02	15	450.00	6,750.00	47,250.00
Aug-02	15	450.00	6,750.00	54,000.00
Sep-02	15	450.00	6,750.00	60,750.00
Oct-02	15	450.00	6,750.00	67,500.00
Nov-02	15	450.00	6,750.00	74,250.00
Dec-02	15	450.00	6,750.00	81,000.00

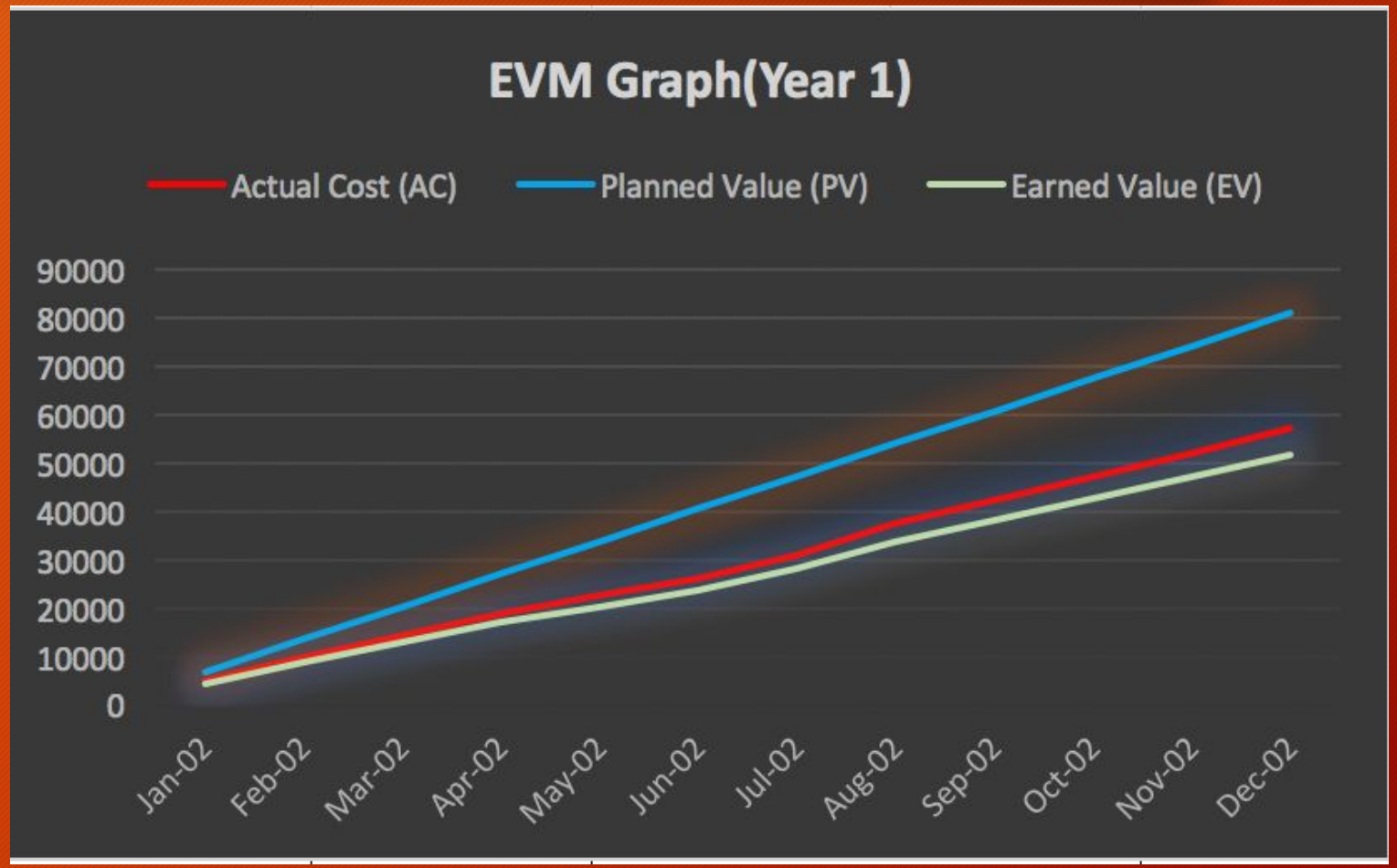
IV. Earned Value Management (Year 1)

Budget At Cost	**162,000.00**
Project Duration	**24 months**
Target collection/month	**6,750.00**

Actual Cost (AC)				
	No. of Schools	Amount	Total Monthly Collection	Accumulated Value
Jan-02	11	450.00	4,950.00	6,105.00
Feb-02	11	450.00	4,950.00	9,900.00
Mar-02	10	450.00	4,500.00	14,400.00
Apr-02	10	450.00	4,500.00	18,900.00
May-02	8	450.00	3,600.00	22,500.00
Jun-02	8	450.00	3,600.00	26,100.00
Jul-02	11	450.00	4,950.00	31,050.00
Aug-02	14	450.00	6,300.00	37,350.00
Sep-02	11	450.00	4,950.00	42,300.00
Oct-02	11	450.00	4,950.00	47,250.00
Nov-02	11	450.00	4,950.00	52,200.00
Dec-02	11	450.00	4,950.00	57,150.00

IV. Earned Value Management (Year 1)

Budget At Cost	**162,000.00**
Project Duration	**24 months**
Target collection/month	**6,750.00**



Variance and Performance Index (Year 1)

Budget At Cost	**162,000.00**
Project Duration	**24 months**
Target collection/month	**6,750.00**

Planned Value	**81,000.00**
Earned Value	**51,689.00**
Actual Cost	**57,150.00**
Schedule Variance (EV-PV)	**(29,311.00)**
Cost Variance(EV-AC)	**(5,461.00)**
Schedule Performance Index (EV/PV)	**64%**
Cost Performance Index (EV/AC)	**90%**

Optional Re-estimate(Year 1)

Budget At Cost	**162,000.00**
Project Duration	**24 months**
Target collection/month	**6,750.00**

Estimate At Completion (EAC)			
		VAC	**TCPI**
Independent EAC	**179,115.48**	**(17,115.48)**	**90%**
According to Budget	**167,461.00**	**(5,461.00)**	**100%**
According to Efficiency	**248,277.78**	**(86,277.78)**	**58%**

IV. Earned Value Management (Year 2)

Budget At Cost	**54,936.00**
Project Duration	**12 months**
Target collection/mo	**4,578.00**

Earned Value(EV)				
	No. of Schools	School Payment	Total Monthly Collection	Accumulated Value
Aug-03	10	281.00	2,810.00	2,810.00
Sep-03	10	281.00	2,810.00	5,620.00
Oct-03	10	281.00	2,810.00	8,430.00
Nov-03	8	281.00	2,248.00	10,678.00
Dec-03	8	281.00	2,248.00	12,926.00
Jan-04	7	281.00	1,967.00	14,893.00
Feb-04	8	281.00	2,248.00	17,141.00
Mar-04	8	281.00	2,248.00	19,389.00
Apr-04	8	281.00	2,248.00	21,637.00

IV. Earned Value Management (Year 2)

Budget At Cost	**54,936.00**
Project Duration	**12 months**
Target collection/mo	**4,578.00**

Planned Value (PV)				
	No. of Schools	Amount to be Collected	Total Monthly Collection	Accumulated Value
Aug-03	15	305.00	4,575.00	4,575.00
Sep-03	15	305.00	4,575.00	9,150.00
Oct-03	15	305.00	4,575.00	13,725.00
Nov-03	15	305.00	4,575.00	18,300.00
Dec-03	15	305.00	4,575.00	22,875.00
Jan-04	15	305.00	4,575.00	27,450.00
Feb-04	15	305.00	4,575.00	32,025.00
Mar-04	15	305.00	4,575.00	36,600.00
Apr-04	15	305.00	4,575.00	41,175.00

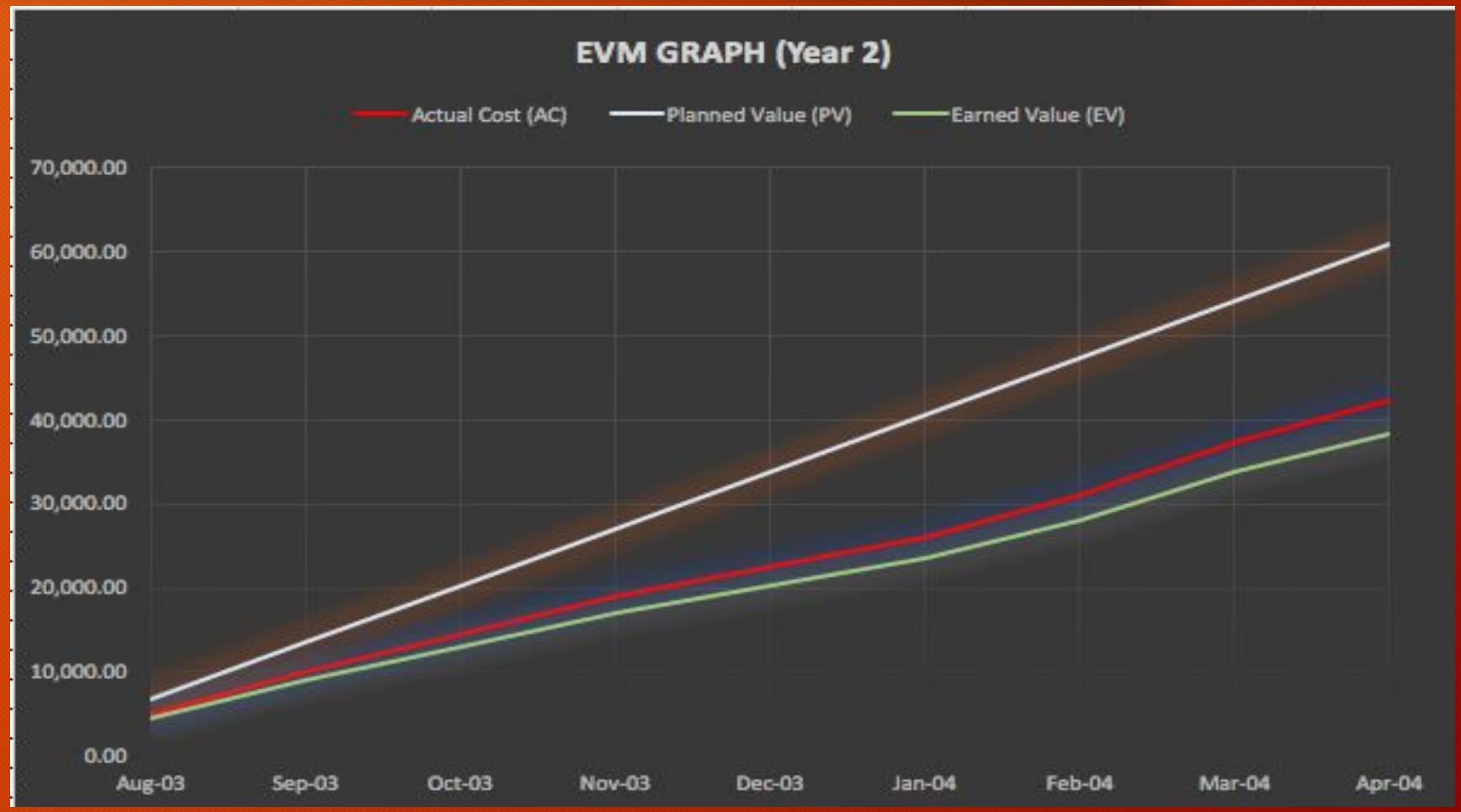
IV. Earned Value Management (Year 2)

Budget At Cost	**54,936.00**
Project Duration	**12 months**
Target collection/mo	**4,578.00**

Actual Cost (AC)				
	No. of Schools	Amount	Total Monthly Collection	Accumulated Value
Aug-03	10	305.00	3,050.00	3,050.00
Sep-03	10	305.00	3,050.00	6,100.00
Oct-03	10	305.00	3,050.00	9,150.00
Nov-03	8	305.00	2,440.00	11,590.00
Dec-03	8	305.00	2,440.00	14,030.00
Jan-04	7	305.00	2,135.00	16,165.00
Feb-04	8	305.00	2,440.00	18,605.00
Mar-04	8	305.00	2,440.00	21,045.00
Apr-04	8	305.00	2,440.00	23,485.00

IV. Earned Value Management (Year 2)

Budget At Cost	**162,000.00**
Project Duration	**24 months**
Target collection/month	**6,750.00**



Variance and Performance Index (Year 2)

Budget At Cost	54,936.00
Project Duration	12 months
Target collection/mo	4,578.00

Planned Value	41,175.00
Earned Value	21,637.00
Actual Cost	23,485.00
Schedule Variance (EV-PV)	(19,538.00)
Cost Variance(EV-AC)	(1,848.00)
Schedule Performance Index (EV/PV)	53%
Cost Performance Index (EV/AC)	92%

Optional Re-estimate(Year 1)

Budget At Cost	54,936.00
Project Duration	12 months
Target collection/mo	4,578.00

Estimate At Completion (EAC)			
		VAC	TCPI
Independent EAC	59,628.04	(4,692.04)	92%
According to Budget	56,784.00	(1,848.00)	100%
According to Efficiency	92,264.86	(37,328.86)	48%

V. Total Project Costs

Description	Total Costs	Total costs per site (15 sites)	Monthly costs per site (15 sites)
Capital Equipment Costs			
VSAT – Year 1	**$147,998**	**$9,867**	
VSAT – Year 2 Replacement	**$76,830**	**$5,122**	
Computer Lab	**$263,250**	**$17,550**	
Subtotal :	**$488,078**	**$32,539**	
Non-recurrent costs			
Administration	**$29,341**	**$1,956**	
Professional Development Training (Start-up and year 1)	**$14,992**	**$999**	
Professional Development Training (Year 2 forecast)	**$4,997**	**$333**	
Subtotal :	**$49,330**	**$3,289**	

V. Total Project Costs

Description	Total Costs	Total costs per site (15 sites)	Monthly costs per site (15 sites)
Recurrent costs (Year 1)			
Management costs	$16,318	$1,088	$91
VSAT Connectivity	$80,922	$5,395	$450
VSAT Depreciation	$29,593	$1,973	$164
Computer lab monitoring & fun.	$105,600	$7,040	$587
Computer lab depreciation	$65,813	$4,388	$366
Subtotal :	$298,246	$19,883	$1,657
Recurrent costs (Year 2)			
Management Costs	$18,760	$1,251	$104
VSAT Connectivity	$54,932	$3,662	$305
VSAT Depreciation	$15,366	$1,024	$85
Computer lab monitoring & fun.	$105,600	$7,040	$587
Computer lab depreciation	$65,813	$4,388	$366
Subtotal :	$260,470	$17,365	$1,447
Minus depreciation expense:	($176,584)	($11,772)	
Total Cost of Pilot:	$919,540	$61,303	

Project Risk

RBS

Risk Register

ID	Cause	Event	Risk Effect	Likelihood	Response
R1	Untested Devices	Device Abnormality	Connection Failure	Rare	Devices should be tested first
R2	Rain, flood, Wind	No supply of electricity / frequent power interruption	Project Down	Likely	Backup power supply system
R3	Old devices	Slow Internet speed	Project limitation	Rare	Quality of Devices
R4	Project management	Team encounter lack of support	Lag of project dates	Rare	Ensure to remove communication gaps
R5	Wrong methods	Devices configuration problems	Device not working properly	Not likely	Expert people
R6	Lack of budget	Team doesn’t get funding on time	Insufficient project work	Likely	Arrange meeting and plan for new budget

SWOT

Strengths:
Well organized project management plan.

Weakness:
Frequent power interruptions ,Regional Conflicts, students refuse to participate ,Frequent change in School Administration.

Opportunity:
To provide facility for the development of education standard in rural schools.

Threats:
The other organization come up with same project providing high internet speed with low cost.
New internet technology come in the market, which is easily accessible.

Communication Plan

Communication Type	Communication Medium	Frequency	Audience	Owner
Kickoff Meeting	Face-Face	Once	•Project Team •Stakeholders	• Project Manager
Project Team Meetings	•Face to Face •Texting in Messenger	As needed	•Project Team	• Project Manager
Weekly Project Status Meetings	•Face to Face •Texting in Messenger	Weekly	•PMO	• Project Manager
Project Status Reports	•Face to Face presentation •Email / GDrive •Texting in Messenger	As needed	•Customer •Project Sponsor •Project Team •Stakeholders	• Project Manage

Enterprise Environmental Factors

- World Bank Regulations
- Infrastructure of the schools
- Socio-Economic Conditions
- Market Need
- Organizational Structure
- Teachers & Educators Skills
- Industry and Safety Standards

Organizational Process Assets

- Policies
- Procedures
- Standard template
- General guidelines
- Risk register
- Stakeholder register
- Past project files

Conclusion

- The main building blocks for expansion to other schools in both Uganda and the rest of Africa are in place, i.e. the service provider, the coordinating organization and the experience.
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References

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- Kakinda, D., Luyima, A., Mayanja, M., Gaible, E., Desai, A., & Trucano, M. (2004, June). An Overview of the Uganda Rural Connectivity VSAT Project – Project History & End of Pilot Examination of Sustainability (Rep.). Retrieved March 20, 2017, from ICT for Education Program World Bank Institute Human Development website: http://schoolnetuganda.sc.ug/wp-content/uploads/2007/12/worldlinks_uganda_vsat_final_report_web_jun04.pdf

List of Proposed Project

1) The Uganda VSAT Rural Connectivity Project
2) Department of Budget and Management Region 10 Digitization Project

THANK YOU FOR YOUR ATTENTION!

ANY QUESTIONS?