

# Digital Payments for Education in Uganda



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Digital Payments for Education in Uganda © Vital Wave

CEO: Brooke Partridge  
Vice President: Brendan Smith  
Vice President: David Sessions  
Project Manager: Jennifer Potts  
Lead Analyst: Shivani Khanna  
Analyst: Leah Gatt

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We spent considerable time at many primary and secondary public schools in Uganda, operating under the Universal Primary Education (UPE) and Universal Secondary Education (USE) systems, and thank the head teachers, teachers, bursars, and staff members from the following institutions, listed alphabetically by district: Lira District: Agweng Secondary School, Amach Complex Secondary School, Ateri Primary School, Ireda Primary School, Lango College, Lira Secondary School, and Lira Town College Secondary School. Kampala City: Kitante Hill Secondary School and Kololo High Secondary School. Wakiso District: Entebbe Comprehensive Secondary School, Kiwafu Primary School, Kiziba Primary School, Masuliita Secondary School, and Sam-IGA Primary and Secondary Schools. At secondary schools, we were given permission to interview senior students, and their perspectives and insights were most valuable. In the surrounding area of most schools, and with introductions provided by local public officials, the Vital Wave team conducted focus group discussions and interviews with parents and caregivers. In so doing, we learned much about the conditions faced by those caregivers in meeting school fee payments.

Beyond visiting schools and adult caregivers of students, this report benefitted from interviews with bank managers of the Centenary Bank and Stanbic Bank in Lira Town, as well as at the headquarters of Centenary Bank in Kampala. Interviews with the leadership at the National Uganda Teachers Union, as well as with staff from non-governmental agencies, provided valuable insights. Those nongovernmental agencies included the following: the Africa Education Trust, Educate!, Promoting Equality in African Schools (PEAS), Research Triangle Institute (RTI), Literacy & Adult Basic Education (LABE), STIR Education, Innovations for Poverty Action (IPA), Impact Carbon, Development, Research and Training (DRT), and BRAC. Conversations with Aggregators such as Cellulant, Pegasus, and Yo! Uganda, as well as Mobile Network Operators Airtel and MTN, were very useful.

Thank you to all individuals and organizations who shared their knowledge and experiences to inform this report. The Vital Wave team greatly appreciates the generous assistance of the many schools, education stakeholders, and school payments facilitators who contributed to this project.

## Executive Summary

The objective of this report is to provide an overview of key challenges related to education payments experienced by caregivers,<sup>11</sup> teachers and head teachers in Uganda, and provide recommendations on designing digital payment solutions and potential interventions. It also provides an overview of some acute non-payment-related challenges that impede access to education, and it presents areas for further exploration.

In 1996, Uganda introduced Universal Primary Education (UPE), followed by Universal Secondary Education (USE) in 2007. UPE and USE programs were intended to shift the majority of education-related costs from caregivers and families to the government, which would fund UPE and USE schools via capitation grants. A central objective was to make primary and secondary education affordable for the majority of poor and low-income families. Although student enrollments surged after the introduction of UPE and USE, insufficient government funding has meant that caregivers are still responsible for numerous education-related expenses, including tuition and supplies, and other fees. Meeting education payments is particularly difficult for poor and rural families. Given that Uganda has the youngest population in the world, with 70% of the populace under the age of 25, an effective, affordable, and relevant education system is particularly important.

Vital Wave performed a landscape analysis of the public primary and secondary school payment ecosystem, conducting research across the education value chain. The research revealed several challenges that compromise access to and quality of education, particularly for poor and low-income students.

This report's priority goal is to identify and prioritize payment-related solution areas that offer the greatest value to families and the broader education and payments ecosystem. A synthesis framework and quantification potential of each solution is offered to inform future decision-making.

## List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
API	Application Programming Interface
ASISA	Association for Savings and Investment South Africa
ATM	Automated Teller Machine
BTC	Better Than Cash
BTVET	Training, Business, Technical, Vocational Education, and Training
DRT	Development, Research, and Training
ESSP	Education Sector Strategic Plan
FGDs	Focus Group Discussions
FSP	Financial Services for the Poor
FAWE	Forum for African Women Educationalists
HIV	Human Immunodeficiency Virus
K2C	Kindergarten to College
IPA	Innovations for Poverty Action
KYC	Know Your Customer
LABE	Literacy & Adult Basic Education
MOE&S	Ministry of Education and Sports
MMP	Mobile Money Provider
MNO	Mobile Network Operator
NGO	Non-governmental Organization
P2P	Person-to-Person
PEAS	Promoting Equality in African Schools
PIN	Personal Identification Number
RTI	Research Triangle Institute
SACCOS	Savings and Credit Co-Operatives
SMC	School Management Committee
SMS	Short Message Service
UGX	Ugandan Shillings
UPE	Universal Primary Education
USAID	United States Agency for International Development
USD	United States Dollar
USE	Universal Secondary Education
USSD	Unstructured Supplementary Service Data
VAS	Value Added Services
VSLA	Village Savings and Loan Association

## Introduction

With 70% of the population younger than 25 years and a median age of 15.5 years, Uganda has the world's youngest population.<sup>2</sup> A critical need exists for an effective, comprehensive education system to meet the needs of all students. There are also significant challenges in providing affordable, high-quality education that can reach low-income families and students.

Within this context, Vital Wave performed a landscape analysis of the public primary and secondary school payment ecosystem in Uganda, conducting interviews with stakeholders across the education value chain. Research revealed key education payment-related challenges faced by households and caregivers, as well as by teachers and head teachers.

The challenges and solutions presented were analyzed within a framework of impact on caregivers' ability to send children to school. As well, solutions were assessed alongside the framework of Gates Foundation objectives, focusing on Financial Services for the Poor (FSP) and Better than Cash (BTC) mandates. The identified challenges and the digital payment ecosystem development in Uganda indicate potential for digital payment solutions to ease challenges faced by caregivers and key education stakeholders.

The solutions covered in this report represent two types of use cases: many-to-one and one-to-many. Caregivers or students paying for school fees via mobile phones, putting aside funds in savings accounts, and making insurance payments each leverage the ability to digitally aggregate payments from multiple sources to a single recipient. Lending, scholarships, and development grants each represent bulk payments from a single source for multiple beneficiaries.

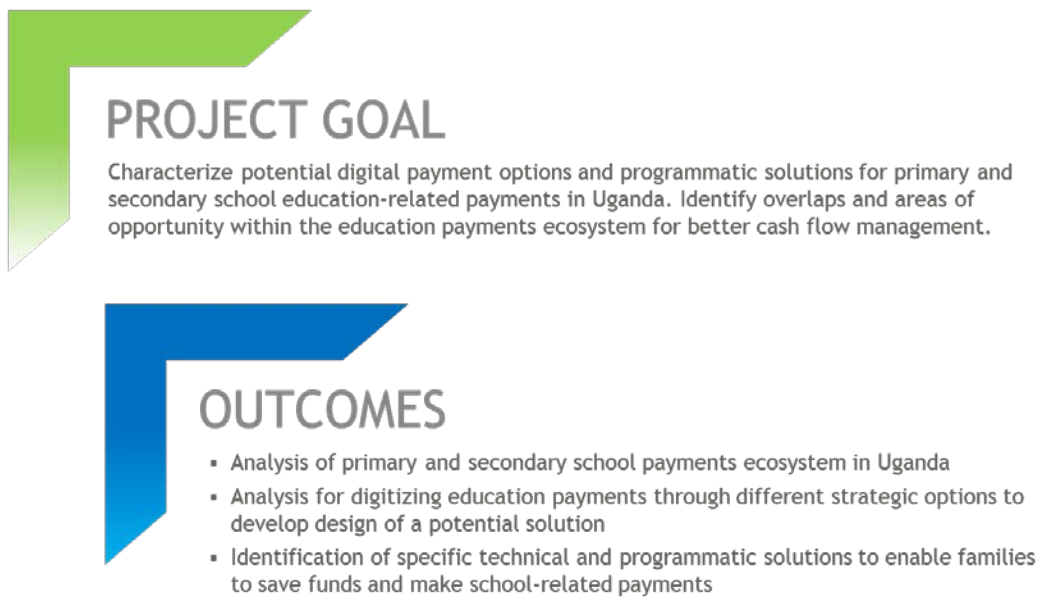
## Approach and Process

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The goal and outcomes of this project (Figure A) yielded a phased process as shown in Figure B. In-country research and observations were central to synthesizing findings and creating recommendations. The project focused on identifying the pain points experienced by caregivers and other stakeholders in paying for primary and secondary school education.



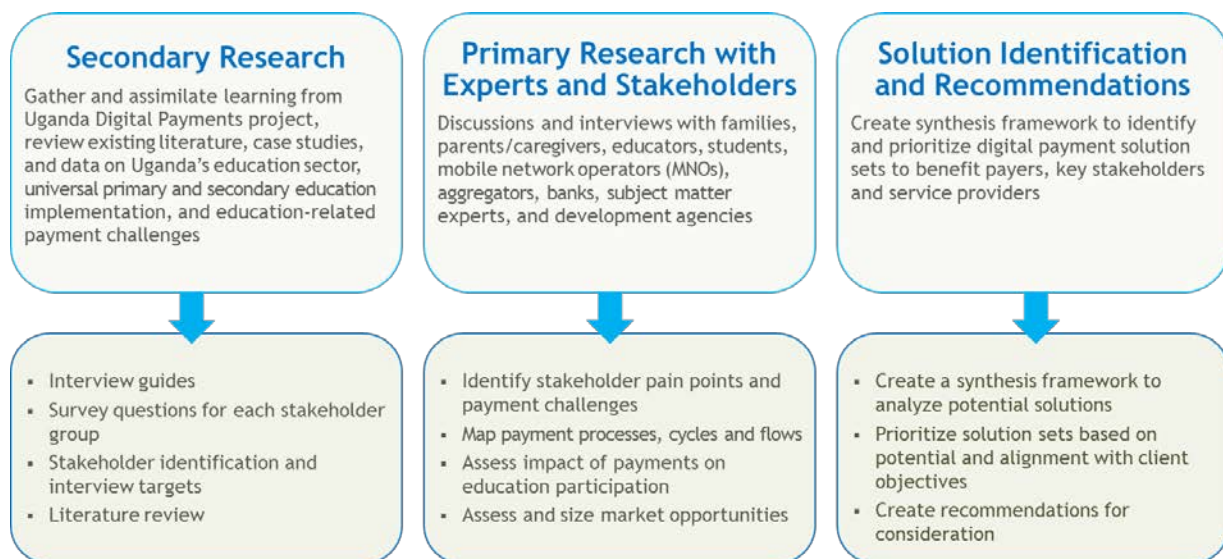
Figure A --Project Goal and Outcomes



Building upon secondary research findings, the team combined in-depth interviews, focus group discussions, school site visits, and field observations to generate key insights about the education ecosystem, payment processes, challenges, and gaps. The two districts of Lira in the Northeast region and Wakiso in the Central region were selected for primary research, meeting the following criteria:

- Ability to extrapolate findings countrywide
- High representation of rural areas, subsistence farmers and low-income families
- Opportunity for viable mobile payment interventions

Figure B -- Engagement Model and Process

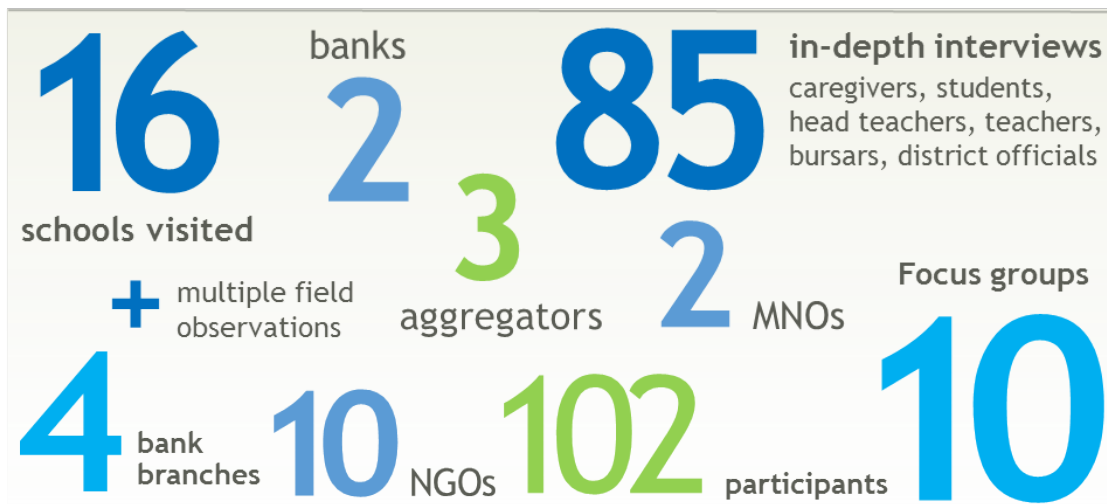




## Research Scope

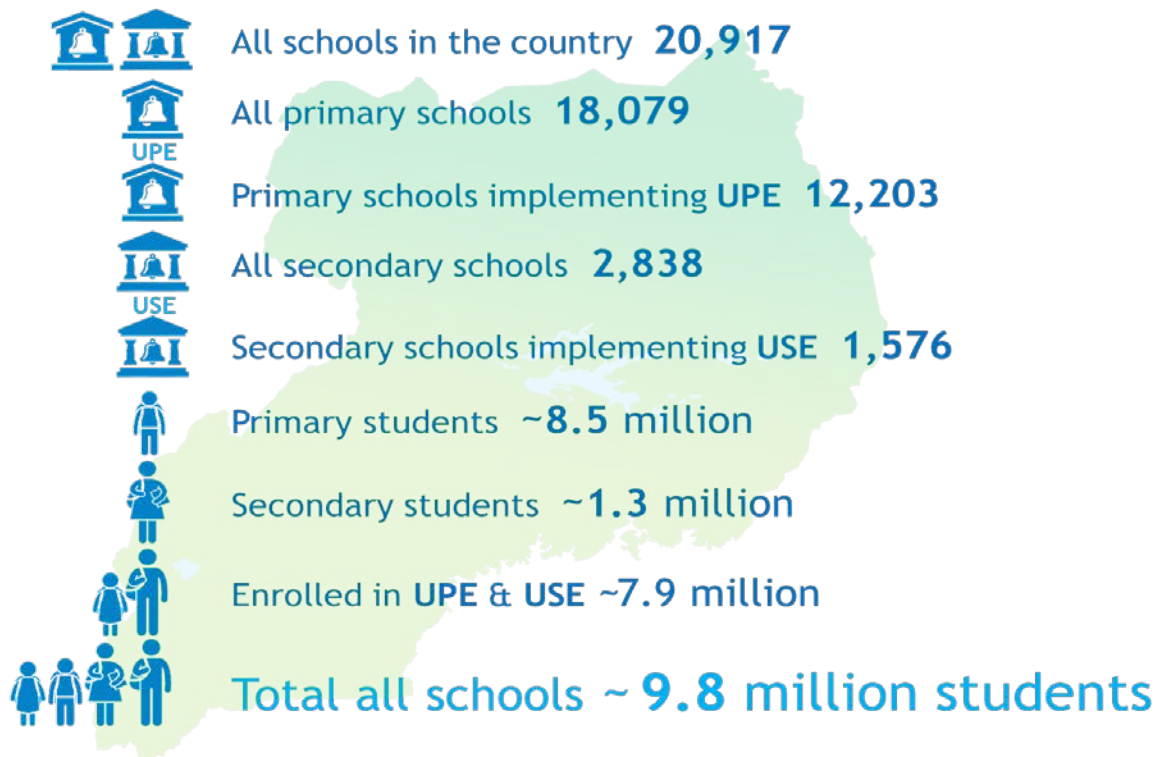
The Vital Wave team conducted primary research during the first two weeks of the third school term,<sup>3</sup> making first-hand observation of key processes such as fee payments at bank branches and schools, student enrollment processes, in-kind payments (in the form of maize and beans) and teacher and student class attendance. A total of 85 in-depth interviews were conducted (see Figure C). Observations and interviews at schools included bursars' offices, classrooms, food canteens, libraries, storerooms, toilets, dormitories, gardens, and entry gates/fences. Interviews with bank managers included discussion of the long queues for school fee payments.

Figure C – Primary Research Scope



The education system in Uganda is substantial in reach and enrollments will continue to rise dramatically, largely to the expected population growth rates. Figure D below provides an overview of the numbers of primary and secondary institutions, and students in the country.

Figure D-- Primary and Secondary Schools



## Data Outputs

Research yielded insights (Figure E, below) into the following areas:

- Public school governance structures
- Fiscal relationships among schools, banks and local merchants
- Details and timing of grants, fees and disbursements
- Payment-related challenges and pain points for different stakeholders
- Rates of awareness and use of mobile financial services by caregivers, teachers and head teachers, including openness to paying school fees via mobile phones

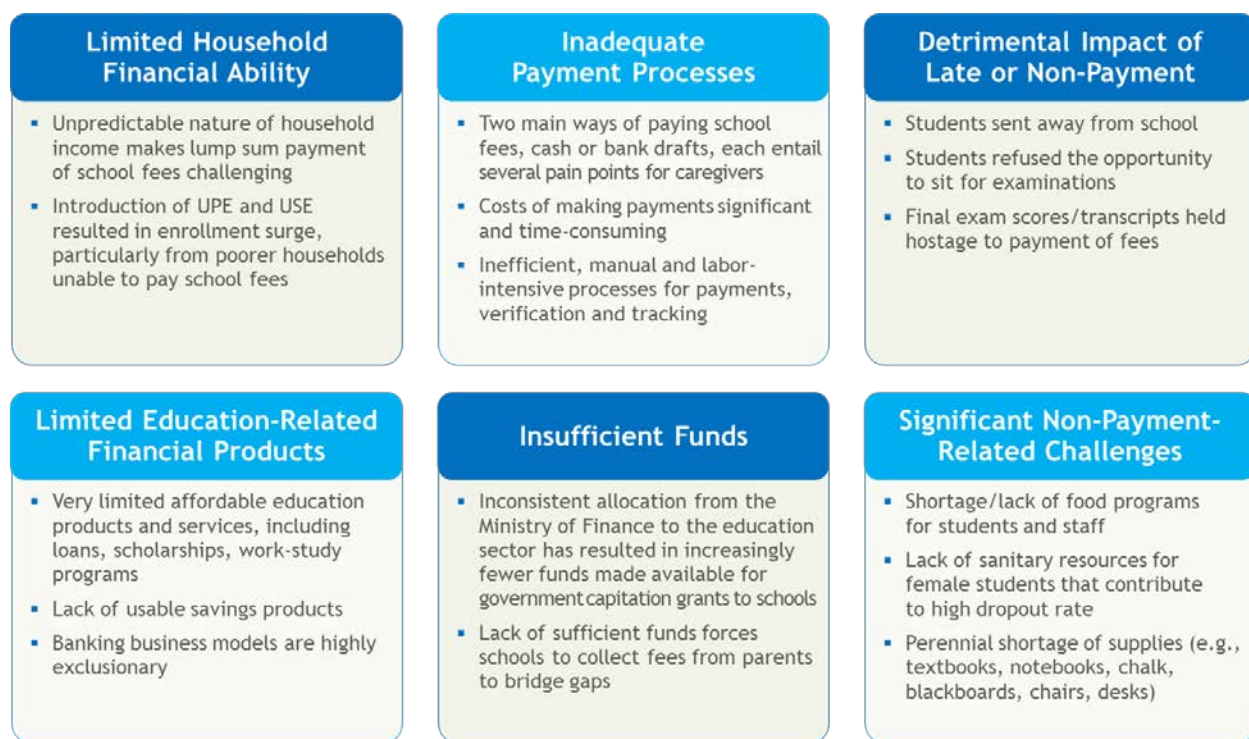
Synthesized data identified areas of opportunity and suggested priorities for potential solutions, with special attention given to solutions that would be particularly valuable to poor rural students and their families. Some solutions offered are informed by models and programs from other countries and innovative organizations.

## Key Insights

In 1996, Uganda introduced Universal Primary Education (UPE), which led to a surge in primary school enrollment from 2.2 million students in 1996 to 7.9 million in 2014. Government allocations to schools could not meet demand, and even though the UPE and USE programs were presented to the populace as “free,” caregivers are faced with the need to pay tuition and other fees. Payment

processes are cumbersome, and insufficient financial products exist in the marketplace to help alleviate the pain points experienced by caregivers, students, and schools.

Figure E -- Key Insights



## Education Landscape and Ecosystem

### Market Overview

Uganda has a population of 36 million; 49% of the population is under the age of 15, and 57% is under the age of 18.

Uganda’s education system is divided into seven years of primary-level (P1-P7) and six years of secondary-level schooling, further divided into lower secondary (S1-S4) and upper secondary (S5S6). Primary 7 is the ‘candidate class,’ where students sit for national exams that determine entry into secondary school. Students sit for O-Level exams in S4, and A-Level exams at the end of S6.

Without adequate financial resources to support continued high enrollments, public schools continue to suffer from overcrowding and associated challenges. These challenges include large class sizes (averaging 90 students per class in many of the schools visited), a shortage of qualified and motivated teachers, poor physical infrastructure, and shortage of basic supplies such as desks, chairs, chalk, blackboards, and textbooks.

### Enrollment and Dropout Rates

There are approximately 12.7 million children between the ages of five and 17 in Uganda and 9.8 million are enrolled in school. Approximately 7.9 million are enrolled in UPE and USE schools, while 2.2 million are enrolled in private schools. This would suggest that approximately 2.9 million children are not in school.<sup>4</sup>

UPE enrollment stands at 7.1 million children and secondary school enrollment is 806,992,<sup>5</sup> indicating that the majority of children attending primary school do not go on to secondary-level education. This is true for both boys and girls. Government data for primary and secondary does not make a distinction between UPE and USE students and other primary and secondary students.

Dropout rates are high, especially at the secondary level, officially reported as 32.6% in 2012. According to a report by the Uganda Ministry of Education and Sports,<sup>6</sup> discontinuation includes actual dropouts, transfers to other USE schools (students unable to meet school fees at one USE school may transfer to a less-expensive USE school), and transfers to non-USE schools. In the report, students listed various and multiple reasons for dropping out. For those who transfer out of school and/or drop out, 42% reported a lack of school fees as their main reason, and 41% reported leaving because of long commutes to school. The list below includes other major reasons cited:

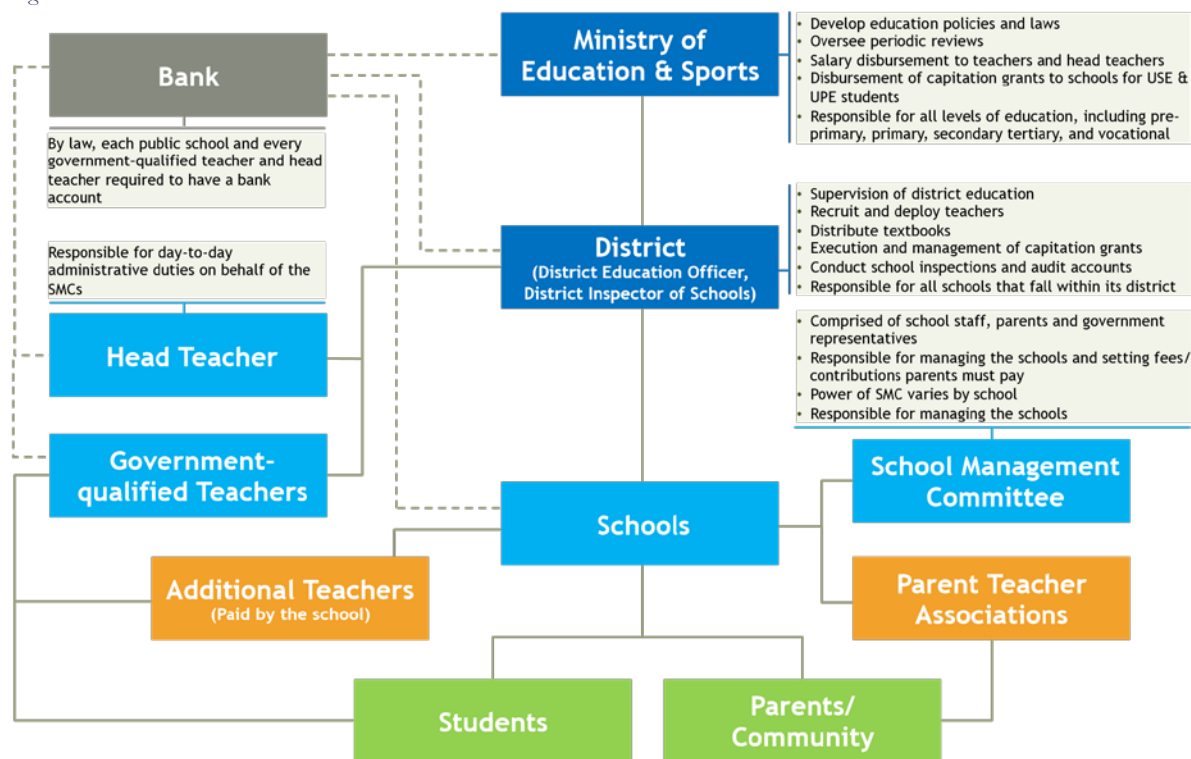
- Early pregnancies and marriage
- Help with farming or to sell goods in the market
- ‘Chased away’ for nonpayment of fees
- Lack of school materials
- Pursue independent job opportunities (particularly true for boys)
- Lack of interest in education by parents or caregivers
- Consolidation of family resources for one or two high-performing children

## Government School Structure and Governance

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A number of stakeholders are involved in the governance of public schools. Figure F provides an overview of the governance structure.

Figure F -- Public School Structure and Governance



## Key Payment Types

Schools receive payments from two main sources: 1) from the government in the form of capitation grants; and 2) from caregivers in the form of tuition payments and other fees.

- Capitation Grants** fund public schools, but there is confusion regarding capitation grant allocation and disbursement processes. From 1997 to 2006 capitation grants were calculated based solely on a per-pupil basis, depending on the grade level. In 2007, new allocation criteria split grants into two components, a fixed amount and a variable amount (based on the annual national education budget allocation and school enrollment figures).<sup>7</sup> However, all head teachers interviewed thought that capitation grants were still allocated purely on an enrollment basis.
- There is widespread confusion among stakeholders about the actual criteria for capitation grant distribution.*
- Fee payments by caregivers** fall into two main categories: term fees (tuition) and a variety of other fees paid throughout the term. A comprehensive list of education-related payments can be seen in Table 1 below. Caregivers also must purchase school uniforms and school supplies. According to the Education Act of 2008,<sup>8</sup> schools are not supposed to charge fees for school building development, teachers' housing, toilets, uniforms, text books, furniture, or examinations. However, this is common practice due to severe underfunding.

Table 1- Key Education-related Payments and Fees

	Payment Type	Description	Due/Incurred
Government	Capitation Grant	Funds disbursed by the government to schools for Universal Primary and Secondary Education. Objective is to support school operational expenses.	Should be provided quarterly
	Salary Disbursements	Monthly salary disbursements by the Ministry to teachers and head teachers	Should be disbursed monthly
Parents / Caregivers	School Fees	Term fees (tuition)	Due at the beginning of the term
	Other Fees	Vary by school but typically include: examination registration fees, mock examination fees, building administration/development fees, lunch fees (when lunch offered by schools)	Examination fees are due before exams are printed by the school; lunch fees may be part of the school fee or in-kind, or an additional fee
	Additional Costs	Uniform, school supplies (notebooks, pens, etc.)	Usually at the beginning of first term
	One-time Costs	Field trips, sports participation, special course fees (e.g., geography, lab sciences)	Majority are ad-hoc costs and unpredictable
	In-kind Costs & Contributions	Some secondary schools require quantities of maize and/or beans, reams of paper, bags of cement	Common in secondary boarding schools, due at the beginning of term



## UPE and USE Payments and Costs

As shown in Table 1 above, caregivers are subject to multiple direct and indirect costs when sending their children to school. Those average costs are detailed in Table 2, below.

Table 2 - Public Education-related Fees in UGX (USD)

Payments/Term	Primary	Secondary
School Fees	<ul style="list-style-type: none"> <li>UGX 10,000 to 16,000 (USD<sup>9</sup> 4-6.40)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 100,000-150,000 (USD 40-60) day school</li> <li>UGX 280,000-350,000 (USD 112-140) boarding</li> </ul>
P7 Candidate Class	<ul style="list-style-type: none"> <li>UGX 23,000 (USD 9.20) with exams</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
Mid-term Examination Fee	<ul style="list-style-type: none"> <li>UGX 5,000 (USD 2)</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>
Lunch - Maize and Beans	<ul style="list-style-type: none"> <li>UGX 40,000 (USD 16)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 40,000-60,000 (USD 16 -24)</li> <li>30kg maize - UGX 15,000 (USD 6)</li> <li>20kg beans - UGX 24,000 (USD 9.60)</li> </ul>
Ream of Paper	<ul style="list-style-type: none"> <li>UGX 10,000 (USD 4)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 10,000 (USD 4)</li> </ul>
Cement Bag	<ul style="list-style-type: none"> <li>UGX 30,000 (USD 12)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 30,000 (USD 12)</li> </ul>
Science Fee	<ul style="list-style-type: none"> <li>NA</li> </ul>	<ul style="list-style-type: none"> <li>UGX 3,000 - 5,000 (USD 1.20-2.00)</li> </ul>
Teacher Contribution	<ul style="list-style-type: none"> <li>UGX 2,000-5,000 (USD 0.80-2.00)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 10,000 (USD 4)</li> </ul>
Computer Lab Maintenance	<ul style="list-style-type: none"> <li>NA</li> </ul>	<ul style="list-style-type: none"> <li>UGX 10,000 (USD 4)</li> </ul>
Uniform/year	<ul style="list-style-type: none"> <li>UGX 15,000 (USD 6)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 15,000 (USD 6)</li> </ul>
Shoes/year	<ul style="list-style-type: none"> <li>UGX 25,000 (USD 10)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 25,000 (USD 10)</li> </ul>
School Bag/year	<ul style="list-style-type: none"> <li>UGX 20,000 (USD 8)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 20,000 (USD 8)</li> </ul>
Notebook	<ul style="list-style-type: none"> <li>UGX 700 (USD 0.28) poor quality</li> <li>UGX 8,000 (USD 3.20) hardback</li> </ul>	<ul style="list-style-type: none"> <li>UGX 700 (USD 0.28) poor quality</li> <li>UGX 8,000 (USD 3.20) hardback</li> </ul>
Bic Pen	<ul style="list-style-type: none"> <li>UGX 500 (USD 0.20)</li> </ul>	<ul style="list-style-type: none"> <li>UGX 500 (USD 0.20)</li> </ul>

In total, annual fees incurred by caregivers to send one child to a UPE school can range from UGX 277,800 to UGX 460,500 (USD 111 - 184) a year. The cost of education increases significantly at Primary 7, with candidate classes being particularly expensive. This is a major contributor to the high dropout rate observed at P7 and the low enrollment at secondary level compared to primary school. Annual fees to send one child to a USE school can range from UGX 517,800 to UGX 1.5M (USD 207 to 600) (see Figure G).

Focus group participants reported two to five school-going children per household. The average annual household income in the two lowest economic quintiles is UGX 542,500 and 1,462,500 (USD 217 and 585), respectively. Both are considered to be below the poverty line. The two middle quintiles have UGX 2,175,000 and 4,075,000 (USD 817 and 1,630) annual incomes, respectively.

Figure G -- Fees Incurred by Caregivers

Primary Education Cost (in Uganda Shillings)	
-38,000 to 44,000	Tuition & Examination Fees +
~40,000	Food costs +
-12,000 to 45,000	Additional fees +
-2,600 to 24,500	School supplies
= 92,600 to 153,500 per term (excluding uniform, shoes and bag)	
<b>= 277,800 to 460,500 per year (-USD 111 to ~184)</b>	
Secondary Education Cost (in Uganda Shillings)	
100,000 to 350,000	Tuition +
-40,000 to 60,000	Food costs +
-30,000 to 65,000	Additional fees +
-2,600 to 24,500	School supplies
= 172,600 to 499,500 per term (excluding uniform, shoes and bag)	
<b>= 517,800 to 1.5m per year (-USD 207 to ~600)</b>	



## Capitation Grant Amounts

Actual amounts that are disbursed to schools by government are reported to be less than the funds allocated. Head teachers reported that schools are supposed to receive UGX 7,000 (USD 2.80) per student, per term in UPE and UGX 41,000 (USD 16.40) per student, per term in USE. This figure was determined when the revised criteria were implemented in 2007, based on the allocation that was available that year.<sup>10</sup>

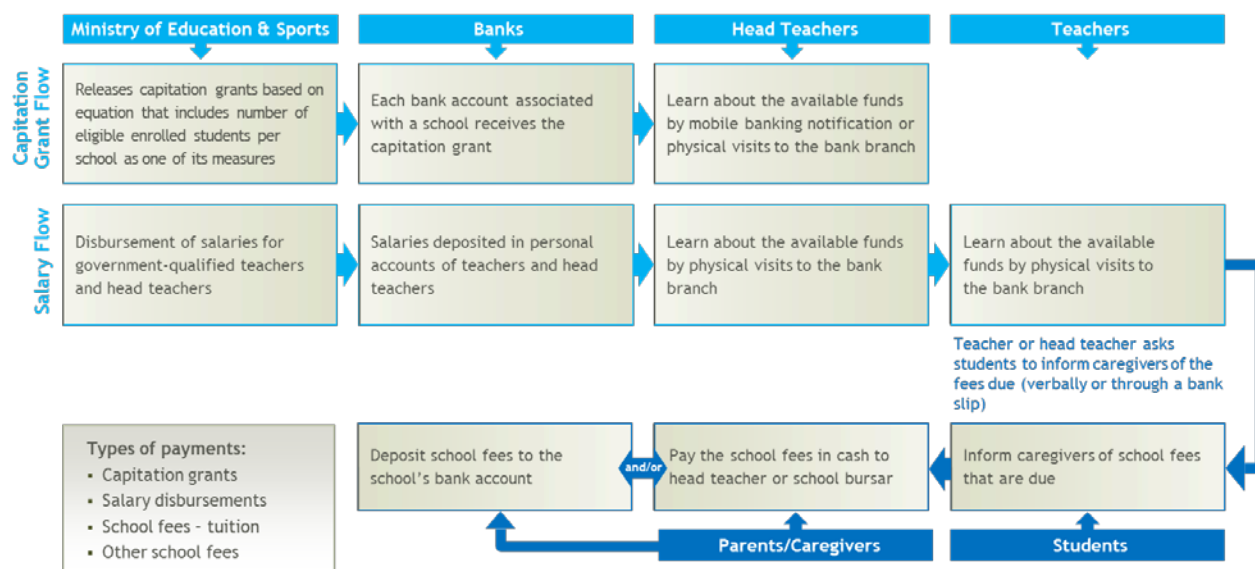
## Teacher Salaries

There is a significant shortage of government-qualified teachers. Many teachers interviewed described the teaching profession as unappealing due to low and irregular salary payments. Government-qualified teachers working in public schools earn between UGX 500,000 - 800,000 (USD 200 - 320) per month, while those that are not government-qualified earn less, between UGX 200,000 – 350,000 (USD 80 - 140) per month.<sup>11</sup> The average monthly income in the fourth socioeconomic quintile is UGX 340,000 (USD 136).

## Conceptual Payment Flows across the Education Value Chain

Each of the four school payment types (capitation grants, salary disbursements, tuition, and other fees) goes through a unique process before reaching school coffers. Figure H illustrates each of these payment flows across the value chain.

Figure H -- Conceptual Payment Flows across the Value Chain

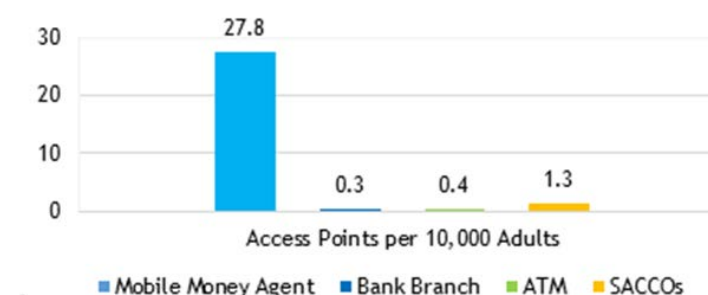


## Mobile Penetration vs. Bank Branches

Banks play an important role in multiple education payment flows. Capitation grants and teacher salaries are deposited automatically. Most schools also require caregivers to pay school fees via bank drafts. Therefore, it is useful to compare how bank branch penetration and access compare to other financial access points, including mobile penetration and mobile money agents.

Currently, only 20% of Uganda's population is banked. Forty-one percent of districts in Uganda lack access to any bank branch.<sup>12</sup> In contrast, SIM penetration is 51% and there are 17.6M mobile money subscribers.<sup>13</sup> Mobile money agents are the most accessible financial access points for the majority of people (see Figure I).

Figure I -- Financial Access Points per 10,000 Adults in Uganda, March 2014



Three thousand households surveyed in 2012 about mobile phone ownership and mobile money use showed 64% with at least one working mobile phone, with an additional 6% having access to a mobile phone outside their household. Sixty-two percent reported having at least one active SIM card.<sup>14</sup>

## Key Challenges, Stakeholder Pain Points and Basic Data

Both payment-related and non-payment-related obstacles, as well as ecosystem challenges, have an impact on education access and quality.

### 5.1 Payment-related Challenges

- **Insufficient capitation grants:** Because capitation grant amounts are insufficient to support schools, they must find alternative ways to meet expenses. While grants are supposed to be deposited automatically into a school bank account on a quarterly basis, schools reported receiving grants just twice a year. All 16 schools visited were indebted to their suppliers, often paying a premium for basic materials and supplies because of unfavorable credit terms.
- **Arduous capitation grant notification process:** There is no standard process for notifying head teachers of a capitation grant deposit. Head teachers often make multiple costly and time consuming visits to their bank branch to check on the grant status, and then make another visit with a co-signer to actually withdraw the funds.

- Delayed teacher salary payments:** Automatic monthly salary deposits to teachers' accounts are frequently delayed and there is no notification process to inform teachers when funds are available, necessitating multiple visits to the bank branch. (Non-government-certified teachers are paid in cash by the school administration.) Almost all the teachers interviewed had single or multiple salary loans with banks at interest rates of 22-26%.
- Unaffordable education costs:** Education-related payments conservatively range from USD 150 per year for primary schools to USD 270 per year for secondary schools. This is a heavy financial burden, particularly for families in rural and more impoverished regions. The average income of a rural family in Lira district is about USD 1.50 per day, compared to a national average of about USD 4.00 per day.<sup>15</sup> Many poor families cannot afford education-related costs, having to make trade-offs that can undermine access to and quality of education, such as sending a child to school but not paying for or providing meals or choosing which children will go to school .
- Required lump-sum tuition payments:** Term tuitions range from UGX 41,000 (USD 16.40) for primary schools to UGX 380,000 (USD 152) for secondary schools. The majority of schools require tuition payment in a lump sum at the beginning of each term. Almost all caregivers interviewed were unable to raise the full payment amount for students, and flexible payment options are scarce. Consequences of non-payment include students being turned away from school or missing multiple weeks of classes while caregivers attempt to accumulate enough money to make payments.
- Unpredictable and inconsistent school fees:** Both the tuition amount and additional fees levied per term vary between schools and by year. Some schools also require in-kind payments in the form of food contributions (maize and beans), reams of paper and construction materials. Inability to plan for school fees make it hard for caregivers to make school payments, often resulting in students dropping out of school or missing an entire term.
- Pressure to purchase school uniforms:** School uniforms cost approximately UGX 15,000 (USD 6) per year, and shoes cost approximately UGX 25,000 (USD 10) per year, making these the most expensive education-related items purchased by families after school fees. In 2006, school uniforms accounted for 28% of total primary education expenditure per child among the poorest 20% of households. Although Uganda officially removed requirements for school uniforms in 2003, all schools in this study required or encouraged school uniforms, citing two main reasons: 1) uniforms are a means to equalize social status; and 2) uniforms serve to identify students' schools, allowing teachers and authorities to identify students in case of accidents or mishaps. The lack of school uniforms was observed to be a common reason for nonattendance.<sup>16</sup>

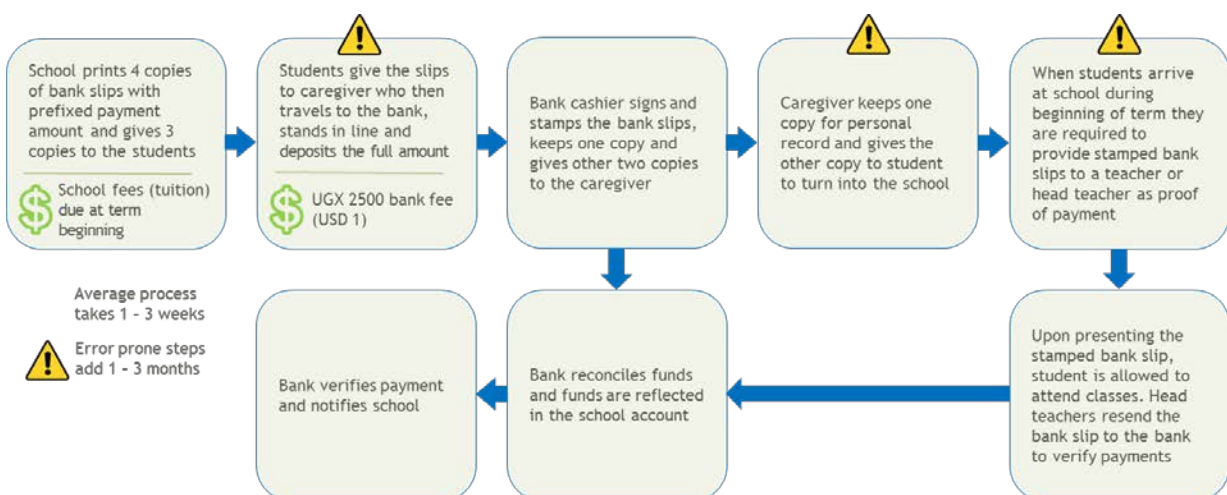
**How do some poor families manage unaffordable education costs?**

- Extended family members outside the household pay school fees for relatives
- Loans are taken from Savings and Credit Co-operatives (SACCOs) and microfinance institutions
- Students spend only part of the term/year actually in school
- Head Teachers sometimes forgive full payment requirement (Head Teachers reported that if 80% of caregivers pay school fees in full, it is a good year)

- **Primary 7 examination fees:** Primary 7 candidates are required to take a national examination to graduate and qualify for secondary school. The examination fee is approximately UGX 24,000 (USD 9.60). Students may not take the examination unless they have paid the fees before the examinations are sent for printing by the school. The inability of caregivers to pay on time can result in students repeating the entire term due to missing the examination.
- **Lack of transparency on fee usage and tracking:** There is no clear and transparent accounting for how schools spend education payments. Every year, newspapers report exam registration fees being embezzled, resulting in some P7 and S4 students being unable to sit for their critical final-year examinations.
- **Few or non-existent affordable payment options:** Options for partial payment plans (such as installments or tiered payments) and alternative payment types (such as micropayments) are conspicuously absent.
- **Lack of appropriate education financing, loans, and savings products:** There are few system-wide products and services that enable families to pay for education. Ad-hoc practices include some families participating in local Savings and Credit Cooperatives (SACCOs) and using these funds to cover education costs. Some schools have an ad hoc practice of “standing in,” where teachers personally vouch for students unable to pay fees on time and in full. The teacher/guarantor would be responsible for fee payment in case the student defaulted.
- **Time-consuming, expensive fee payment processes:** Currently, there are two main methods of making tuition payments: via bank draft or in cash. The majority of secondary schools required bank drafts, while many primary schools accepted cash. Both payment processes pose significant challenges for caregivers. See Figures I above, and J, below.

Figure J provides an overview of the process of paying school fees by bank drafts, and highlights error-prone steps in the process.

Figure J -- Bank Payment Process



## Bank Payment Challenges: Inflexible, expensive, and time-consuming processes

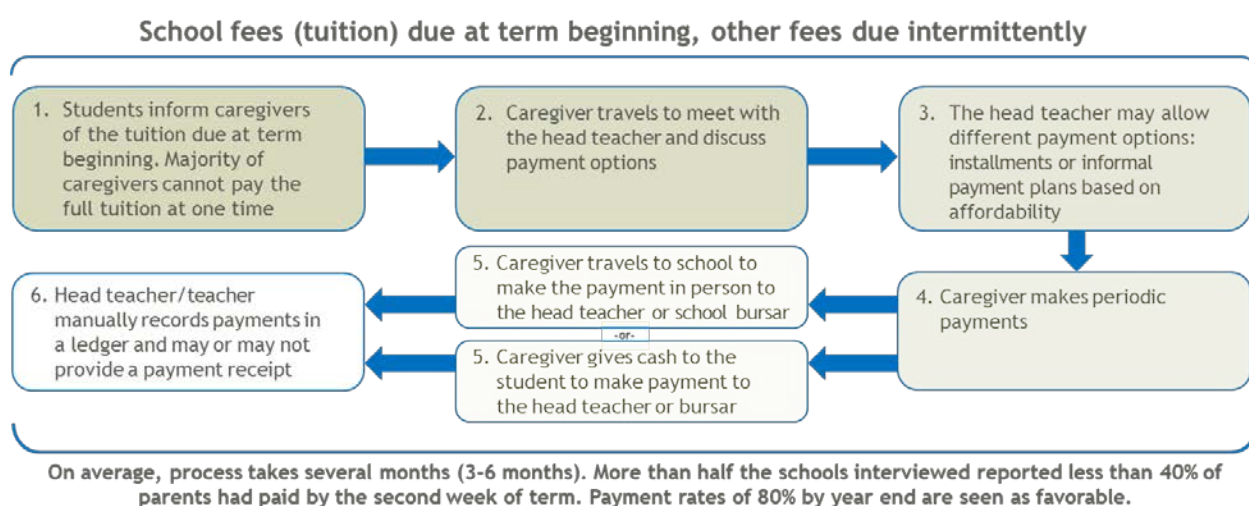
Following are key issues found in the requirements for paying school fees at the banks.

- **High opportunity cost:** Bank branches are only open during business hours. Caregivers may need to miss work to make payments.
- **Error-prone process:** Banks provide a stamped copy of the bank slip as proof of payment. The caregiver usually gives this copy to the student, who then provides it to the teacher. Often the school then asks the bank to separately verify payment by a student. If the bank slip is lost at any stage, it can take months to reconcile payments. Cases also have been reported where students forged the amount on bank slips.
- **Costly process:** Each school fee payment at the bank costs approximately UGX 2,500 (USD 1) as a bank charge. Travel to the nearest bank branch from remote rural areas can take as long as a full day and cost UGX 20,000 (USD 8) for transportation.
- **Partial payments increase fees:** If caregivers want to make partial payments, the school needs to issue a special bank slip. Caregivers will be charged the bank fee every time they make a bank payment, making partial payments incrementally more expensive.
- **Time-consuming process:** Apart from the travel time, bank queues can be 200 people long during the first two weeks of term.

## Cash Payment Challenges: Manual process with risk of leakage

Figure K, provides an overview of the process of paying school fees by cash.

Figure K -- Cash Payment Processes



Cash Payment Process Issues:

- **Ad-hoc cash handling and leakage:** Very few clear cash handling procedures are in place. Most parents reported giving cash to head teachers or to students to give to a teacher. Cash collection and tracking processes varied widely across schools and were largely manual

(handwritten notes by the head teacher or bursar). Few schools had systematic processes in place for cash collection, storage, and tracking, allowing room for leakage.

- **Lack of standardized proof-of-payment:** Very few clear and uniform methods are in place to provide caregivers proof-of-payment receipts. Caregivers may or may not get a receipt. Some interviewees reported making payments and being asked to pay again.
- **Few partial payment options:** There are no clear guidelines or policies to govern methods of allowing, clarifying the terms of, or enforcing alternative payment options. Such decisions are made at the discretion of the head teacher on a case-by-case basis.

## 5.2 Ecosystem Challenges

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The following contextual factors contribute to creating an environment of mistrust between key stakeholders and exacerbate education-related challenges.

- **Widespread confusion about UPE and USE:** Interviews with head teachers and teachers revealed that many schools are attempting to sensitize parents about their responsibilities in covering part of education-related costs so that caregivers understand school financing dynamics.
- **Environment of mistrust between schools and caregivers:** According to school officials, schools were struggling to provide the best education under severe constraints, with little or no help from caregivers. Conversely, caregivers claimed that schools enforced draconian policies, charged exorbitant fees, and had no transparency about the use of those fees.
- **Automatic promotion policy:** Uganda has a policy of automatic promotion at the UPE level.<sup>17</sup> Therefore, many children in primary school lack the required grade-level competency in literacy and numeracy,<sup>18</sup> and caregivers expressed concern that the schools are not teaching their children well.

## Solutions

### Solution Development

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An analysis of needs and solution effects across socioeconomic quintiles led to segmenting the quintiles into three groups, and prompted an analysis of school institutional needs and solutions with an across-the-board effect, impacting the broadest number of households. Three household segments emerged as most useful for focusing the solution sets, along with an institutional economics category. Groupings are the bottom two quintiles (bottom 40), the middle two quintiles (middle 40), and the top quintile (20), as shown below in Figure L. Solutions for the middle 40 segment will also have a positive effect on the bottom 40 segment.



Figure L -- Socioeconomic Quintiles Challenges and Needs

	Bottom-40 Segment	Middle-40 Segment	Top-20 Segment
Challenge	HHs are at or below poverty level and have insufficient funds for education costs	Vulnerable HHs are able to manage basic expenses, but lack products and services to help assist with education costs and weather financial shocks	Households able to incur education costs yet face high opportunity costs
Financial Needs	Income boosting programs or tuition forgiveness to bolster household income and enable education (e.g., cash transfers, needs-based scholarships)	Financial products & services to enable savings, reduce transaction & opportunity costs and mitigate financial shocks	Streamlined, efficient school fee payment products

The primary approach for each segment is:

- **Bottom 40%:** income augmentation, financial services, and protection of the vulnerable
- **Middle 40%:** savings account, payment tools, pay-in-installment capability, insurance against financial shocks
- **Top 20%:** digitized financial services

The focus for institutions is more efficient financial processes and notifications at the school level.

Figure M, below, provides detail on the segmenting of quintiles and household ability to meet education expenses. Average household income is shown (in parentheses) for each quintile, and displayed are the range of percentages of household income needed to send three children to school (two in primary school and one in secondary school) per year.

Figure M -- Range in Percent of Household Income Needed to Send Three Children to School, by Quintile

% of household income required to...	1 <sup>st</sup> Quintile (\$197/year)	2 <sup>nd</sup> Quintile (\$395/year)	3 <sup>rd</sup> Quintile (\$789/year)	4 <sup>th</sup> Quintile (\$1,480/year)	5 <sup>th</sup> Quintile (\$7,004/year)
Send 2 children to LPE & one child to USE (incl. transportation and transaction costs at \$24.50)	197-448%	99-229%	49-114%	26-61%	6-13%
Buy school supplies per student	14% girls; 12% boys	7% girls; 6% boys	4% girls; 3% boys	2% girls; 2% boys	2% girls; 2% boys
Income shortfall for sending 3 students to school (after subsistence needs)	\$638 to \$1,177	\$441 to \$980	\$46 to \$585	\$0	\$0



## Summary of Solutions and Issues

The three charts below summarize the matrix of issues considered in developing and grading each solution. Each chart focuses on the relevant socioeconomic segment of the population. Light blue signifies solutions for the bottom 40% segment (the two lower quintiles). Dark blue signifies solutions targeted to the middle 40% segment and applicable in part to the bottom 40% segment (the middle two quintiles). The institutional solutions (in green) will affect all socioeconomic strata. Check marks in the boxes signify issues (horizontal axis) that each solution along the vertical axis addresses.

Figure N -- Comparative Evaluation of Solutions for the Bottom 40% Segment

Solution	Comparative Evaluation: Bottom 40% Segment							
	Insufficient Household Income	Unaffordable Supplies	Inability to Save	Financial Shocks	Hunger	High transaction, transportation & opportunity costs to pay fees	Late, insufficient capitation grants	Teacher absenteeism and shortage of qualified teachers
Measures of Impact	38% of the population is below the poverty line	Supplies can be up to 14% of HH income for poor families	75% of the population lacks access to formal savings	In 2012, 62% of HH experienced a financial shock over a 6 month period	Research suggests that 90% of low-income, public school children have one meal a day	Costs can be up to 50% of a HH's monthly income for low-income, rural HH	Field observations reveal 100% of capitation grants are late	Teacher absenteeism is 27%, one of the highest in the world
Automatic savings account opened for child upon enrolment and funded by external agency	✓	✓	✓	✓	✓	✓		
Provision of low-interest, forgivable loans linked to caregivers' mobile money account	✓	✓	✓	✓	✓	✓		
Conditional cash transfers to caregivers mobile money account	✓	✓	✓	✓	✓	✓		

Shaded cells indicate need for cash infusions for grants or subsidies.

Figure O -- Comparative Evaluation of Solutions for the Middle 40% Segment

Solution	Comparative Evaluation							
	Insufficient HH Income	Unaffordable Supplies	Inability to Save	Financial Shocks	Hunger	High transaction, transportation & opportunity costs to pay fees	Late, insufficient capitation grants	Teacher absenteeism and lack of qualified teachers
Measures of Impact	38% of the population is below the poverty line	Supplies can be up to 14% of HH income for poor families	75% of the population lacks access to formal savings	In 2012, 62% of HH experienced a financial shock over a 6 month period	Research suggests that 90% of low-income, public school children have one meal a day	Costs can be up to 50% of a HH's monthly income for low-income, rural HH	Field observations reveal 100% of capitation grants are late	Teacher absenteeism is 27%, one of the highest in the world
Mobile savings account for caregivers			✓	✓		✓		
Mobile insurance products (health, crop, life, funeral)				✓	✓			
Emergency account funds created across schools	✓	✓	✓	✓				

Shaded cells indicate need for cash infusions for grants or subsidies.

Figure P -- Comparative Evaluation of Institutional Solutions Affecting All Segments

Solution	Comparative Evaluation							
	Insufficient HH Income	Unaffordable Supplies	Inability to Save	Financial Shocks	Hunger	High transaction, transportation & opportunity costs to pay fees	Late, insufficient capitation grants	Teacher absenteeism and lack of qualified teachers
Measures of Impact	38% of the population is below the poverty line	Supplies can be up to 14% of HH income for poor families	75% of the population lacks access to formal savings	In 2012, 62% of HH experienced a financial shock over a 6 month period	Research suggests that 90% of low-income, public school children have one meal a day	Costs can be up to 50% of a HH's monthly income for low-income, rural HH	Field observations reveal 100% of capitation grants are late	Teacher absenteeism is 27%, one of the highest in the world
Digitized school fee payments			✓			✓		
Bank-to-wallet integration with automatic deposit notification to teachers						✓		✓
Automated and digitized capitation grant payments							✓	
Development grants and loans to schools							✓	

Shaded cells indicate need for cash infusions for grants or subsidies.

## Comparative Evaluation

Comparing all solutions against issues and measures of impact helps to identify and prioritize the most appropriate solutions for each segment. Focusing on the bottom 40% segment would have the greatest effect on the ability of households to send their children to school. The fundamental issue for this segment of the population is insufficient income, and there is a need to augment household income. These solutions address a variety of household economic issues. However, the solutions will require partners with funding to augment household income or provide tuition forgiveness. This requirement increases risk of successful implementation and programmatic sustainability.

Solutions targeted at the middle 40% segment could also have a positive effect on the lower quintiles by amplifying the education payments ecosystem and bringing new products to the market that could eventually be used by lower-income households. The institutional solutions would address fewer specific challenges than the other solutions. However, these solutions stand to have positive impact on students from all three segments. The chart below (Figure Q) summarizes all solutions by segment and indicates the solutions that emerged as priorities (circled in red).

The solutions not prioritized did not address as many of the issues (listed across the horizontal axis) for focus at this time. Those additional solutions include the following and are detailed in Appendix A for possible future consideration.

- Mobile insurance products to protect household from financial shocks' effect on the ability to pay school fees
- Emergency funds for schools for particular student's school fees according to criteria
- Products to address students' hunger needs during the school day
- Mobile-enabled and digitized notification for capitation grants to schools
- Development grants and loans to schools for physical plant improvements

Figure Q -- Combined comparative evaluation of solutions, all segments

Solution	Comparative Evaluation							
	Insufficient Household Income	Unaffordable Supplies	Inability to Save	Financial Shocks	Hunger	High transaction, transportation & opportunity costs to pay fees	Late, insufficient capitation grants	Teacher absenteeism and lack of qualified teachers
Automatic savings account opened for child upon enrolment and funded by external agency	✓	✓	✓	✓	✓	✓		
Provision of low-interest, forgivable loans linked to caregivers' mobile money account	✓	✓	✓	✓	✓	✓		
Conditional cash transfers to caregivers mobile money account	✓	✓	✓	✓	✓	✓		
Mobile savings account for caregivers			✓	✓		✓		
Mobile insurance products (health, crop, life, funeral)				✓	✓	✓		
Emergency account funds created across schools	✓	✓	✓	✓		✓		
Digitized school fee payments			✓			✓		
Bank-to-wallet integration with automatic deposit notification to teachers						✓		✓
Automated and digitized capitation grant payments							✓	
Development grants and loans to schools							✓	

Shaded cells indicate need for cash infusions for grants or subsidies.

■ Bottom-40 Segment   
 ■ Bottom and Middle-40 Segment   
 ■ All Segments

Recommended Solutions

## Solutions Focused on the Bottom 40 Segment

Caregivers in the two lowest quintiles have insufficient income to afford school fees and supplies, and an inability to save. Solutions for this segment therefore focus on income augmentation and ways to reduce school fees, combined with digital financial services products that could be adopted by some part of the segment. A sizable portion of the third quintile is also vulnerable enough to need income augmentation solutions. Most of the poor live in rural areas.

Three solutions focus on the bottom 40% segment:

- Automatic mobile savings account opened for child upon enrollment, funded by an external agency
- Provision of low-interest, forgivable loans or bridge loans linked to caregivers' mobile money account
- Conditional cash transfers deposited into the household mobile account

### Automatic savings account

An automatic mobile savings account would be linked to the caregiver's mobile money account. Incentives could be included, such as matching deposits. Withdrawals would only be released to a particular school's account. The solution, described in Figure x below, targets primarily Quintiles 1 and 2, with additional beneficiaries in Quintile 3.

#### Savings Build Educational Aspirations

Students aged 12 to 18 with a college savings account had higher math scores and were twice as likely to expect to go to college than students without a college savings account.

*From Elliott (2008) At-Risk Children's college aspirations and expectations:*

*The potential role of children's savings accounts*



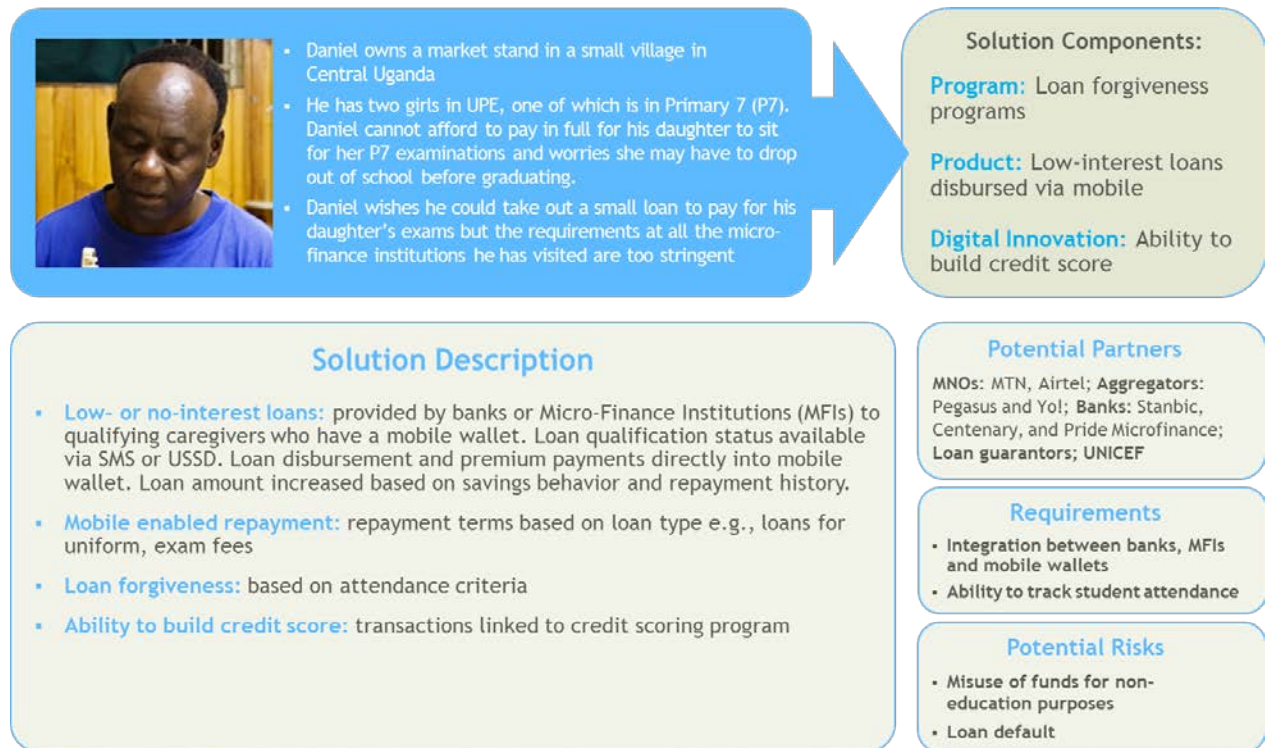
Figure R -- Automatic Savings Account



### Low-interest forgivable loans

Low-interest, forgivable loans with flexible repayments enabled via mobile phones would help to augment household income specifically for education costs. Loan forgiveness would be based on student attendance criteria. Transactions would be linked to a credit scoring program to facilitate future loans and access to money. The solution, described in Figure S below, targets upper Quintile 2 and Quintile 3.

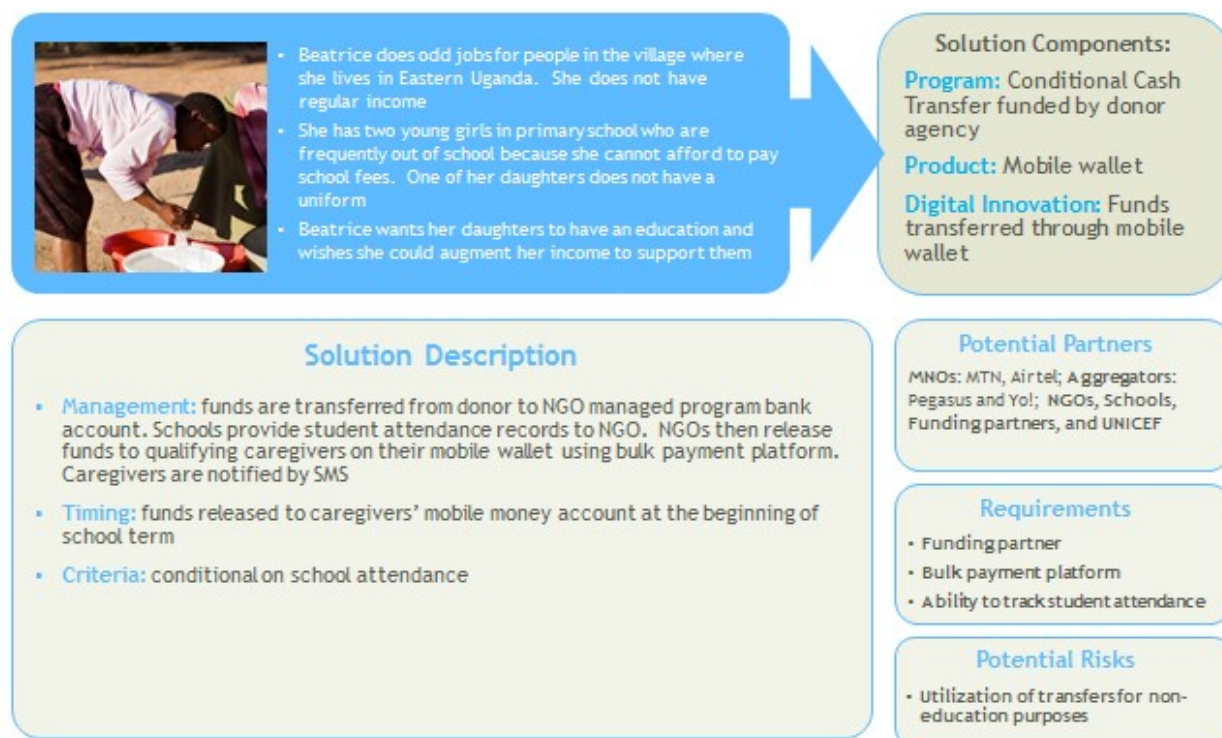
Figure S -- Low-Interest Forgivable Loans



## Conditional cash transfers

Conditional cash transfers would be based on a student's previous attendance record and would help to augment household income. Funds would be released to the caregiver's mobile money account at the beginning of the school term. The solution targets Quintile 1, and is described below in Figure T.

Figure T -- Conditional Cash Transfers



## Solution Focused on the Middle 40 Segment

While the barriers to educational access for the bottom 40% of Ugandan households stem from a fundamental lack of income, the problems faced by the middle 40% segment is the households' inability to save enough to make lump-sum school fee payments and their vulnerability to financial shocks. The objective of the solution targeted to this segment is to provide financial products and services to enable saving, reduce transaction and opportunity costs, and mitigate financial shocks.

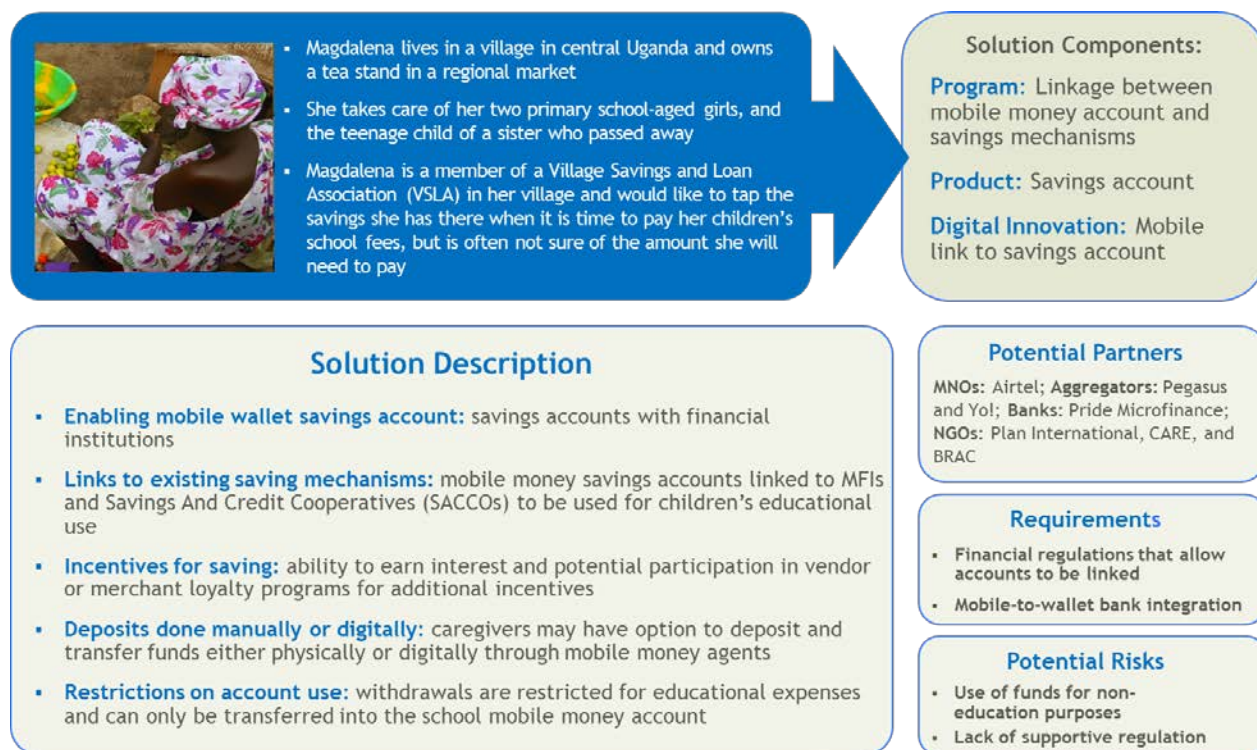
The solution designed to help solve caregivers' problems in this segment is a mobile savings account for caregivers linked with current savings mechanisms, such as those provided by Micro Finance Institutions (MFIs), Village Savings and Loan Associations (VSLAs), and Savings and Credit Cooperatives (SACCOs).

### Mobile savings account for caregivers

A mobile savings account for caregivers would enable micro savings and include a savings incentive program. Restrictions on withdrawals would be built into the mobile account. The creation for an interest-bearing account could also be considered as part of this solution. The solution benefits families in Quintiles 3 and 4, and is described in Figure U.



Figure U -- Mobile Savings Account for Caregivers



## Institutional Solutions

Addressing institutional challenges will impact all socioeconomic segments and improve the financial efficiency and effectiveness of schools. Caregivers' inability to pay lump-sum fees and the high transaction and opportunity costs to make payments, alongside insufficient school funding and inefficient direct-deposit notification processes, restrict schools' ability to plan for and finance operations.

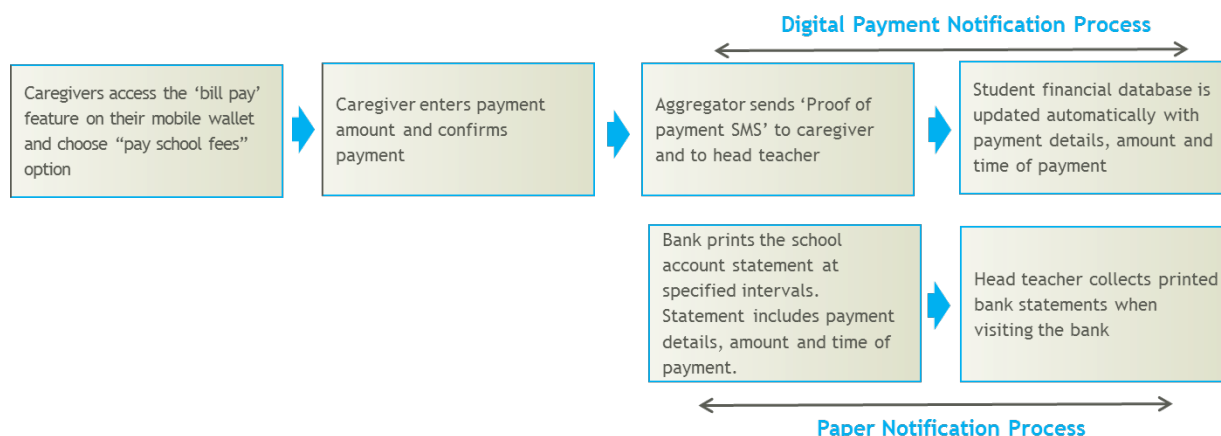
Solutions designed to help solve institutional problems spread positive payment effects across all quintiles and categories of those making school payments. Two solutions are recommended: 1) Digitizing school fee payments; and 2) Bank-to-wallet integration with automated notification of salary deposits to teachers.

### Digitizing School Fee Payments

Digitizing the process of making school fee payments, and providing notification to schools for funds received, will reduce friction in the payment ecosystem, and mitigate the need for multiple trips to banks, and the associated opportunity and transactional costs for each trip. Figure V below provides an illustrative comparison of digital and paper (manual) processes.



Figure V -- Digital vs. Paper Comparison



The solution, described in Figure W below, targets primarily Quintiles 3 & 4, with additional beneficiaries in Quintiles 1, 2 and 5.

Figure W -- Digitizing School Fee Payments



### Bank-to-wallet integration with direct-deposit notification

This solution mitigates the need for bank visits and offers the potential of becoming a building block for additional value-added financial services. The primary users are teachers (all of whom are required to have a bank account to receive salary payments) and households in quintiles three and four, though the solution could also benefit those in the other three quintiles. Students are also primary beneficiaries as they would experience fewer days of teacher absenteeism. The solution is presented below in Figure X.

Figure X -- Bank-To-Wallet Integration with Direct Deposit Notification



**Note: Corruption and the Benefits of Digital Payments**

To reduce corruption and improve financial efficiency, the government created systems for automatic salary deposits to the bank accounts of government-qualified teachers and the direct deposit of capitation grants to UPE and USE school bank accounts. Digital payments can take anti-corruption measures one step further. Transitioning to digital payment mechanisms has been shown to reduce cash leakage and corruption, along with offering more transparency and accountability. The ability to track funds in real-time and the benefits of a more secure method for transferring cash throughout the education ecosystem will reduce corruption, though its impact on rent-seeking ability may also incur political opposition from impacted parties.

Also, the aggregator model proposed in this report can increase accountability and transparency while reducing the risk of fraud. Having another player, besides the Ministry of Education & Sports, to double-check the teacher rolls, locations, and mobile reference/account numbers, may help to reduce the numbers of "ghost" teachers being paid salaries, a problem reported regularly in the Ugandan press.

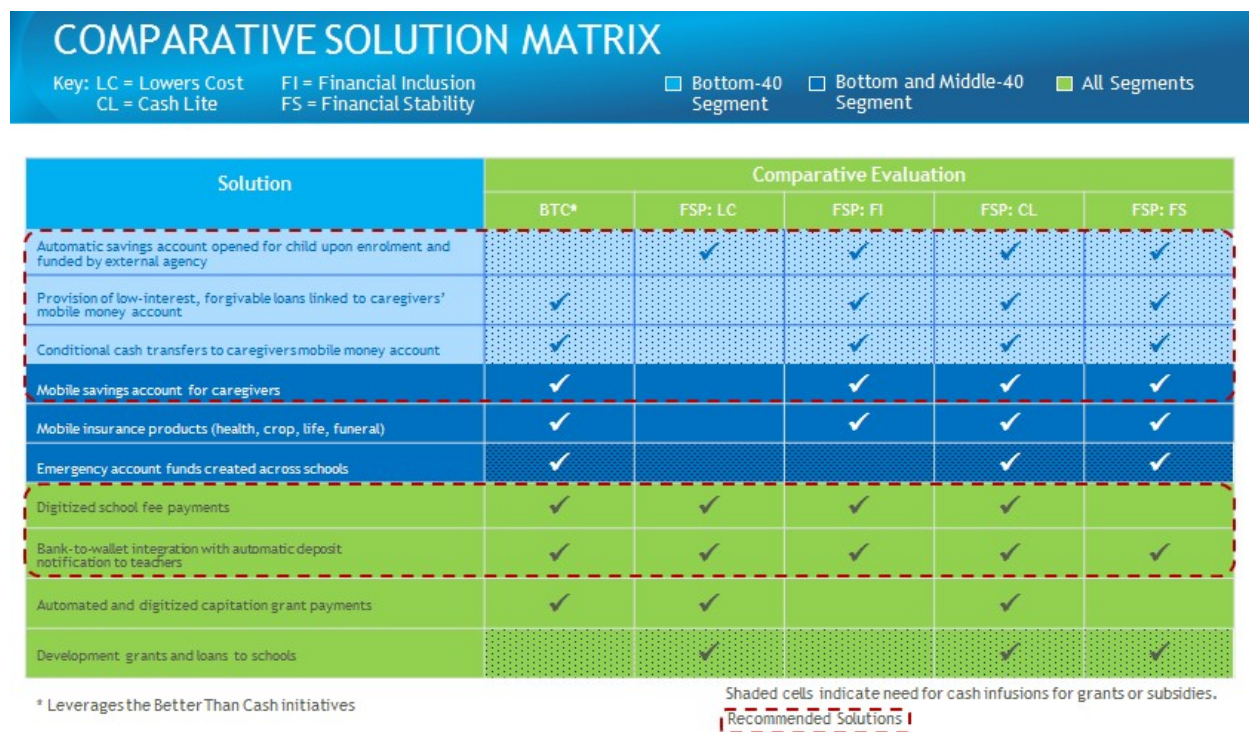
**Solutions Alignment with Gates Foundation Objectives (BTC & FSP)**

The solutions described above align closely with Gates Foundation objectives pursued by the Financial Services for the Poor (FSP) team, including specific mandates for lower cost, "cash-lite" solutions that promote financial inclusion and stability. The foundation is also supporting the Better than Cash (BTC) initiative in Uganda which is a desired point of leverage for any education payment solutions to be implemented in the country. An illustration of the consistencies between Gates Foundation mandates and the proposed solutions is presented in Figure Y, below. Check marks in the matrix indicate that the stated solution supports the indicated mandate or initiative.

The solutions highlighted by red-dashed lines in Figure Y are recommended over other opportunities in part because they have the greatest potential to improve access to education for the highest number of poor households in Uganda and advance the FSP initiatives of deepening

financial inclusion, lowering cost throughout the value chain, promoting financial stability, and lowering the use of cash (BTC). Though the potential for substantially improving the lives of children through access to better education is high, some of the solutions will require systemic change, potential policy and regulatory support, and deep partnerships to provide income augmentation and creative ways of subsidizing the financial needs of the poorest families.

Figure Y -- Comparative Solution Matrix -- Gates Foundation FSP initiatives and BTCA alignment



## Magnitude of Impact on Households in Uganda

Recommended solutions have the potential to address a wide range of pervasive and costly issues in Uganda if fully adopted. Those solutions targeting the bottom 40 segment address a host of financial challenges that plague lowest-income households and prevent the poorest children from going to school. The other solutions, especially the institutional ones, while focusing on fewer specific challenges, would impact all households. Figure Z below summarizes the issues by segment and type of solution.



Figure Z -- Recommended solutions and needs addressed by each








Solution	Needs Addressed	% of HHs
Automatic savings account opened for child upon enrolment and funded by external agency	<ul style="list-style-type: none"> <li>Half the households in the country lack sufficient income to send all their children to school</li> <li>Supplies can be up to 14% of household income per student for poor families</li> <li>75% of the population lacks access to formal savings</li> <li>In 2012, 62% of households experienced a financial shock over a 6-month period</li> <li>Research suggests that 90% of low-income, public school children have one meal a day</li> <li>High transaction, transportation &amp; opportunity costs to pay fees</li> </ul>	~Bottom 50%
Provision of low-interest, forgivable loans linked to caregivers' mobile money account		
Conditional cash transfers to caregivers mobile money account		
Mobile savings account for caregivers	<ul style="list-style-type: none"> <li>75% of the population lacks access to formal savings</li> <li>In 2012, 62% of households experienced a financial shock over a 6-month period</li> <li>Transaction, transportation &amp; opportunity costs to pay fees cost up to 50% of low-income, rural HH monthly earnings</li> </ul>	~Bottom 80%
Digitized school fee payments	<ul style="list-style-type: none"> <li>75% of the population lacks access to formal savings</li> <li>Transaction, transportation &amp; opportunity costs to pay fees cost up to 50% of low-income, rural HH monthly earnings</li> </ul>	100%
Bank-to-wallet integration with automatic deposit notification to teachers	<ul style="list-style-type: none"> <li>An estimated 60 million student learning days are impacted by teachers going to the bank to withdraw salaries</li> <li>Transaction, transportation &amp; opportunity costs to pay fees cost up to 50% of low-income, rural HH monthly earnings</li> </ul>	







Recommended solutions have the potential to positively affect the vast majority of the 7 million households in Uganda, and to change the landscape of learning, monetary transactions, and public school efficiencies. It is important to note, however, that relatively few solutions involve simply improving the financial system and creating innovative financial services products; most require significant outside funding in order to have impact, and all require an intensive multi-sector partnership to achieve the desired outcomes.







## Potential Partnerships for Consideration

The implementation of recommended solutions will require engagement with a number of partner organizations operating in Uganda. Allying with the Ministry of Education and Sports and collaboration with the Ministry of Finance and the Bank of Uganda are also essential to achieving desired impact. To facilitate understanding of the broader school payments ecosystem, the table portrayed in Figure AA, presents an overview of the organizations active in the ecosystem, in four categories: 1) MNOs, 2) Banks/MFIs, 3) NGOs, and 4) Donors and Model Schools.



Figure AA -- Partner Activities and Potential for Solution Partnership in 2015

	Name	Activities	Solution & Partnership Emphasis 2015
MNOs	<b>Airtel Uganda</b> 	<ul style="list-style-type: none"> <li>Launched Village Savings and Loan Association (VSLA) product with Grameen Foundation and Plan International</li> <li>Product well-received and has encountered challenges to scale in rural areas due to strict KYC requirements</li> <li>Product is a generic savings product without an education saving component, making it a potential partner for education</li> </ul>	High emphasis
	<b>MTN Uganda</b> 	<ul style="list-style-type: none"> <li>Rolling out a savings product in partnership with Stanbic and Centenary bank</li> <li>Savings account will not include an interest rate or an education savings component</li> <li>Model and pricing structure still being determined</li> </ul>	High emphasis
Banks and MFIs	<b>Barclays Bank</b> 	<ul style="list-style-type: none"> <li>Partnered with CARE to launch Banking on Change; also working with Grameen App Lab to launch other financial services to the currently unbanked population</li> <li>No current education savings product and has interest in serving low- income groups</li> </ul>	Low emphasis
	<b>Stanbic</b> 	<ul style="list-style-type: none"> <li>Partner with Pegasus mobile university fee payment program</li> <li>MTN mobile-to-wallet integration</li> <li>Teacher salary automatic deposits</li> </ul>	High emphasis
	<b>Centenary Bank</b> 	<ul style="list-style-type: none"> <li>Part of Pegasus tertiary mobile school fee payment program</li> <li>MTN and Airtel mobile-to-wallet integration</li> <li>Teacher salary automatic deposits</li> </ul>	High emphasis
	<b>Pride Microfinance</b> 	<ul style="list-style-type: none"> <li>Offers children's savings accounts that can be opened by children under 18 years of age</li> <li>Account lacks flexibility, requiring minimum balance of 5,000 UGX (USD 2), official proof of ID, no saving incentives and no restrictions on use of funds</li> <li>Offers a restrictive School Fees Loan that requires applicants to reside within a 50km radius from a Pride branch, have adequate security like land, motor vehicles or business assets</li> <li>Flexible loan product offered by Pride would have potential</li> <li>Pride already integrated with Airtel for bank-to-wallet</li> </ul>	High emphasis
NGOs	<b>CARE</b> 	<ul style="list-style-type: none"> <li>Worked with VSLAs in Uganda since 1998</li> <li>In partnership with Barclay's Bank, recently launched the Banking on Change initiative to link 210 VSLAs to the bank in Uganda. Total of \$120,000 was saved in savings accounts at a 2.5% interest rate.</li> <li>Challenges remain for rural dwellers traveling long distances to the bank; mobile solution needed</li> </ul>	Medium emphasis

	Name	Activities	Solution & Partnership Emphasis 2015
	<b>Plan International</b> 	<ul style="list-style-type: none"> <li>Worked with 3,000+ savings groups to promote financial inclusion; partnered with Airtel to extend mobile banking to VSLAs</li> <li>Piloting a tool for improving governance and organization of schools through a partnership with Nokia, parents of 2,500 children in 5 Central regions UPE school now able to give feedback and ask questions to school administration via SMS</li> <li>Former partner of the 'Digitizing Payments for USAID Beneficiaries in Uganda' pilot, Plan is an advocate for mobile solutions and involved in education sector</li> </ul>	High emphasis
	<b>BRAC</b> 	<ul style="list-style-type: none"> <li>Seven year project in Uganda to increase the ability for low income individuals to take out loans to enhance their income</li> <li>110,000 borrowers have been given small business and agricultural input loans</li> </ul>	Medium emphasis
	<b>RTI</b> 	<ul style="list-style-type: none"> <li>Heavily active and well-connected in education</li> <li>Conducts trainings for thousands of teachers countrywide and works closely with government education officials</li> <li>Former partners of the 'Digitizing Payments for USAID Beneficiaries in Uganda' pilot; High advocates for the use of mobile money, encouraging all teachers attending their trainings to sign up for mobile money</li> </ul>	High emphasis
	<b>Forum for Education NGOs in Uganda - FENU</b> 	<ul style="list-style-type: none"> <li>Coalition of education focused NGOs in Uganda; recently announced receiving USD 100 million from Global Partnership for Education (GPE) to improve school and teacher effectiveness for primary education. Part of grant to strengthen school management and accountability systems, improve monitoring and evaluation and capacity-building</li> </ul>	
	<b>Model Schools</b>	<b>Bridge International Academy</b> 	<ul style="list-style-type: none"> <li>Implements an 'Academy-in-a-Box' model across its chain of 200 for-profit primary and secondary schools to provide "world-class education" to 102,644 poor and low-income students</li> <li>Model utilizes research, technology and data analysis to standardize and scale education delivery</li> <li>Partnered with M-PESA to enable school fee payments via mobile</li> <li>Plans expansion from Kenya to Uganda in 2015</li> </ul>
<b>PEAS</b> 		<ul style="list-style-type: none"> <li>UK charity working in Public-Private Partnership to build rural secondary schools; have opened 24</li> <li>Government views PEAS as a good partner; encouraging expansion of their network</li> <li>Report tuition costs at 72% of typical USE costs</li> </ul>	Low emphasis
<b>Donors</b>		<b>Global Partnership for Education (GPE)</b> 	<ul style="list-style-type: none"> <li>Multilateral partnership made up of 60 developing countries, donors, international organizations, the private sector, teachers, and NGOs</li> <li>Main focus is on early childhood education, children with disabilities, girls' education and out-of-school children</li> <li>Uganda joined the GPE in 2011 and has since been granted USD 100 million through FENU (see above)</li> </ul>

	Name	Activities	Solution & Partnership Emphasis 2015
	<b>MasterCard Foundation</b>  The MasterCard Foundation	<ul style="list-style-type: none"> <li>Funded implementation of national level scholarship for secondary education to enable 5,000 students access quality secondary schools</li> <li>Scholarship covers tuition fees, uniforms, scholastic materials, transportation, accommodation and stipends for those in need</li> </ul>	Low emphasis
	<b>The Children's Investment Fund Foundation (CIFF)</b> 	<ul style="list-style-type: none"> <li>Foundation seeks to expand access to quality and cost-effective education and improve literacy and numeracy for children</li> <li>Already supporting active organizations in Uganda such as BRAC and UWEZO</li> </ul>	Low emphasis
	<b>The Global Fund for Children</b> 	<ul style="list-style-type: none"> <li>Invests in grassroots organizations that serve vulnerable and marginalized children</li> <li>Funded 46 NGOs in Uganda, many involved in providing education access to orphans and children with disabilities, particularly in the Northern region</li> </ul>	Low emphasis
	<b>UNICEF</b> 	<ul style="list-style-type: none"> <li>In partnership with RapidSMS, UNICEF has launched EduTrac, an SMS school monitoring data-collection tool, being rolled out countrywide in Uganda</li> <li>EduTrac allows administrators to send data regularly to the system via SMS on student and teacher attendance, receipt of capitation grants and delivery of scholastic materials. Real-time data collected by Ministry of Education and Sports and Districts; helps to improve planning and supervision of schools</li> </ul>	High emphasis
	<b>USAID</b> 	<ul style="list-style-type: none"> <li>Seeks to expand access to quality education for children (particularly girls)</li> <li>Funds major organizations like RTI and Plan (discussed above)</li> </ul>	High emphasis
<b>Best Practice</b>	<b>M-Shwari</b> 	<ul style="list-style-type: none"> <li>Created a savings and loan tool for M-PESA customers in Kenya</li> <li>For savings: No minimum balance required and customers earn a daily interest (between 2-5%) paid at the end of each quarter</li> <li>For loans: flexible loan scheme allowing customers a micro-loan for minimum of KSH 100 (USD 1.10) at a time. Loans determined by savings and loan repayment history and last for 30 days at an interest rate of 7.5%. Customers can check their loan qualification status by calling or number or via USSD. Successful customers receive the loan instantly via M-PESA</li> </ul>	Model for exploration



	Name	Activities	Solution & Partnership Emphasis 2015
	<p><b>Fundisa</b></p> 	<ul style="list-style-type: none"> <li>Launched in South Africa in 2007 out of partnership between the government and members of the Association for Savings and Investment South Africa (ASISA), Fundisa is a Children’s Saving Account for children in low income households</li> <li>Accounts have minimum deposit requirement of R40 (USD 3.6) per month</li> <li>Incentives to save include an additional contribution of 25% per year of savings by Fundisa</li> <li>Contributions to savings account buy units in trusts which are invested in government bonds and bank deposits and earn an interest</li> </ul>	Model for exploration
	<p><b>Kindergarten to College (K2C)</b></p> 	<ul style="list-style-type: none"> <li>Launched by San Francisco City in 2010, the K2C automatically opens an account and seeds it with USD 50 for every new kindergartener enrolled in school</li> <li>Accounts have a number of incentives attached to them</li> <li>Incentives are funded by grants, donations and fund raising</li> <li>Funds in the savings account can only be used towards higher education (tuition for college, training programs, books and other education related expenses)</li> </ul>	Model for exploration

## Conclusion

The analysis and synthesis of data from the research performed by Vital Wave demonstrates that there is a critical need to implement well-designed interventions that address key challenges in school payments for Universal Primary and Universal Secondary Education in Uganda. This analysis provided insights into the payment pain points experienced by families and schools, and identified potential solutions for implementation consideration. The research revealed areas of opportunity where digital payment solutions and payment features could significantly ease pain points experienced by caregivers, students, teachers, and head teachers, particularly when combined with income augmentation and other financial tools to lessen the shock of unplanned financial events.

The scale of the barriers to educational access for the children of Uganda is enormous. Half the households in Uganda cannot afford to educate all of their children and education costs (tuition and supplies) can be 50% or more of a family's income for the bottom 40 segment. They are living below the poverty line as defined by the government of Uganda. 62% of households in a six month period in 2012 experienced some manner of financial shock, adversely affecting family finances. Inefficiencies due to use of cash, the lack of formal banking infrastructure - particularly in rural areas - and the lack of information systems for educators and schools all reduce access to, and quality of education in Uganda.

Reducing barriers that prevent children from access to quality education will require long-term commitment to implementing technical or digital tools combined with partnerships to shore up family finances where needed. Without income augmentation programs or tuition forgiveness components, other financial service solutions will have minimal impact on the bottom 40 segment. However, digitizing school fee payments is a straightforward solution that can immediately impact positively every Ugandan household in terms of cash flow and transaction costs, regardless of their socioeconomic status. A reduction in the estimated 60 million child-learning days lost per year due to teacher absenteeism can be achieved through bank-to-mobile wallet integration.

The described solutions would build on existing initiatives to digitize payments in Uganda and build the capacity of solution providers, including MNOs and aggregators. The opportunities for partnership to change the landscape of education payments, as well as push the future of mobile money in Uganda, cannot be underestimated. Well-designed interventions and attention to ongoing implementation issues will make a significant and positive impact on current and future students and their families in Uganda, and serve as a powerful model for countries throughout the region and across the globe.

## Appendix A: Lower-priority Solutions

A number of education payment solutions were considered for this project, but given lower priority for a variety of reasons. These solutions are presented here, and may become useful for consideration at a future time.

### Review of the Solution Framing and Setting Priorities

The framework used to set priorities focuses on the potential effect, by socioeconomic quintile groups and institutions, of each solution. To illustrate the reality faced by caregivers, it is estimated that half of Ugandans live below the poverty line, with an income of USD 456 per year or lower. However, the minimum annual cost to send one child to primary school is between USD 111 and. Secondary school can cost between USD 207 to 600. Field research conducted for this report revealed that most households have three children in school at any given time.

Three household segments emerged as most useful for consideration. Groupings are the bottom two quintiles (bottom 40%), the middle two quintiles (middle 40%), and the top quintile (20%), as shown below in Figure BB.

Figure BB -- Income and School

	Bottom-40 Segment	Middle-40 Segment	Top-20 Segment
Challenge	HHs are at or below poverty level and have insufficient funds for education costs	Vulnerable HHs are able to manage basic expenses, but lack products and services to help assist with education costs and weather financial shocks	Households able to incur education costs yet face high opportunity costs
Financial Needs	Income boosting programs or tuition forgiveness to bolster household income and enable education (e.g., cash transfers, needs-based scholarships)	Financial products & services to enable savings, reduce transaction & opportunity costs and mitigate financial shocks	Streamlined, efficient school fee payment products

Solution sets prioritized in the report focused on the lower-to-middle segments of the population, as well as institution-focused solutions that would improve the efficiency of school and government processes of disbursement, payment, and notification. The comparative assessment of solutions criteria included the following:

- Household income levels by quintile
- Affordability of school supplies relative to household income
- Households' ability/inability to save for school fee payments
- Households' ability to weather financial shocks
- Hunger and academic performance
- Transactional costs
- Opportunity costs to make payments in person
- Issues around late/insufficient capitation grants
- Teacher absenteeism
- Shortage of government-qualified teachers

The solutions that did not receive the highest prioritization are categorized as those solutions requiring infusions of cash to institutions (grants and low-interest loans) and those that, while potentially useful, would not have a direct effect on alleviating the payment pain points being felt by caregivers. Two institutional and two middle-40% quintile solutions received lower priority ratings.

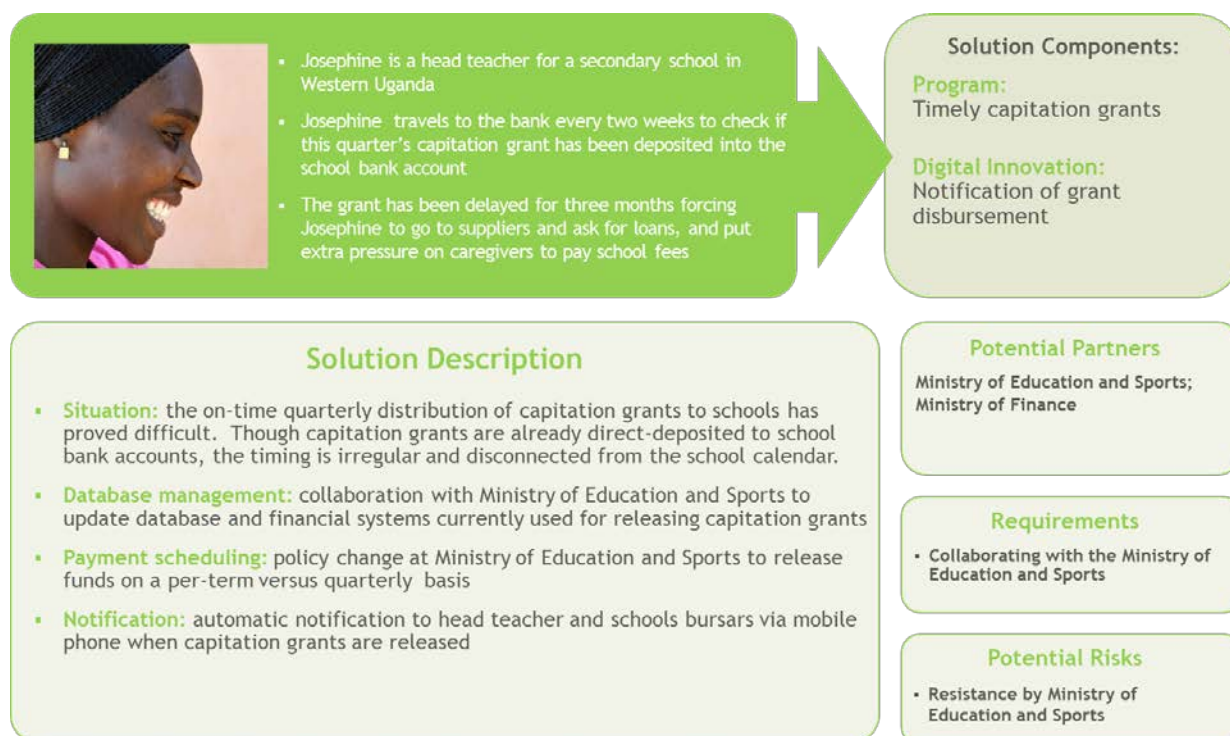
The institutional solutions are: 1) Automated, digitized, and on-time disbursements of capitation grants; and 2) Development grants and loans to schools. The middle-quintile solutions rated as lower in priority are: 1) Mobile insurance products (health, crop, life and funeral); and 2) Emergency account funds for schools. These four lower-priority solutions are presented below.

## Institutional Solutions Given Lower Priority

### Automated, digitized, and on-time disbursement of capitation grants

The on-time quarterly distribution of capitation grants to schools has proved difficult. Though capitation grants are already direct-deposited to school bank accounts, the timing is irregular and disconnected from the school calendar. The issues are summarized in Figure A2, below.

Figure CC -- Automated, Digitized, and On-Time Capitation Grant Disbursements



While digitizing the grant disbursements would be useful, such a solution would require close partnership with the Ministry of Education and Sports (MoES) at management and policy levels, such as:

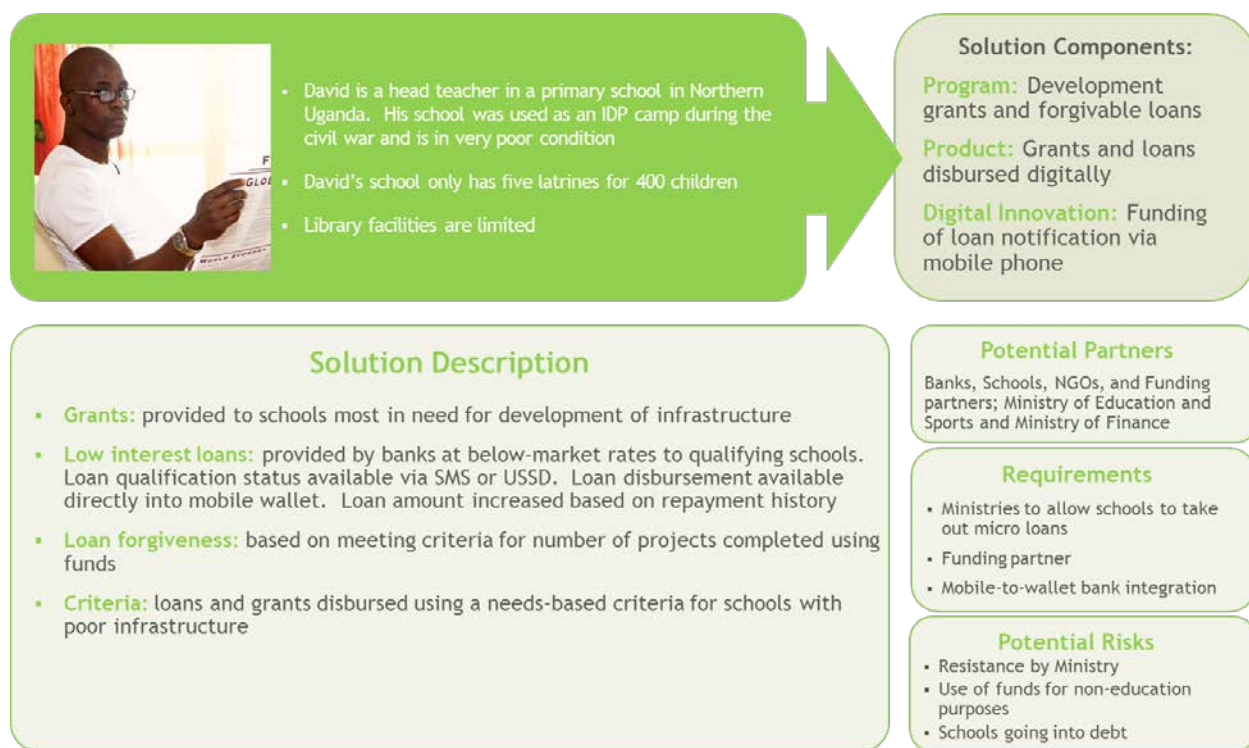
- **Database management:** collaboration with the MoES to update their database and the financial systems currently used for releasing capitation grants.
- **Payment scheduling:** policy change at MoES to release funds on a termly versus the legislated quarterly basis (payments are currently made twice-yearly).

One digital innovation that could be included in this solution, while still not a caregiver-focused payment solution, would be the automated notification to schools that capitation grants have been deposited into the school bank account. This would improve the efficiency of schools and reduce costs and friction with local merchants, who often supply schools on credit.

## Development grants and loans to schools

Most schools observed are in need of substantial infrastructure development, both from a physical and supplies perspective. And, there are many bi-lateral and non-governmental organizations involved in building new classroom blocks. This solution would provide infrastructure grants (outside funding) to schools most in need, which is especially important given the high rate of population growth and the resulting surge in the number of children of school age. The solution is summarized in Figure DD, below.

Figure DD -- Development Grants and Loans to Schools



Development grants and loans could require setting both strategic and qualification requirements, as well as necessitate a fairness selection process and infrastructure. Business considerations would include the following:

- **Setting criteria:** loans and grants would be determined using needs-based criteria for schools with poor infrastructure.
- **Low-interest loans:** would be provided to qualifying schools by banks at below-market interest rates. Loan qualification status would be made available via SMS or USSD and the loan disbursement would be deposited directly into the schools' account. Loan funding limits could be increased over time based on repayment history.
- **Loan forgiveness:** could be possible based on meeting pre-determined criteria for using funds as agreed and completing projects on time.



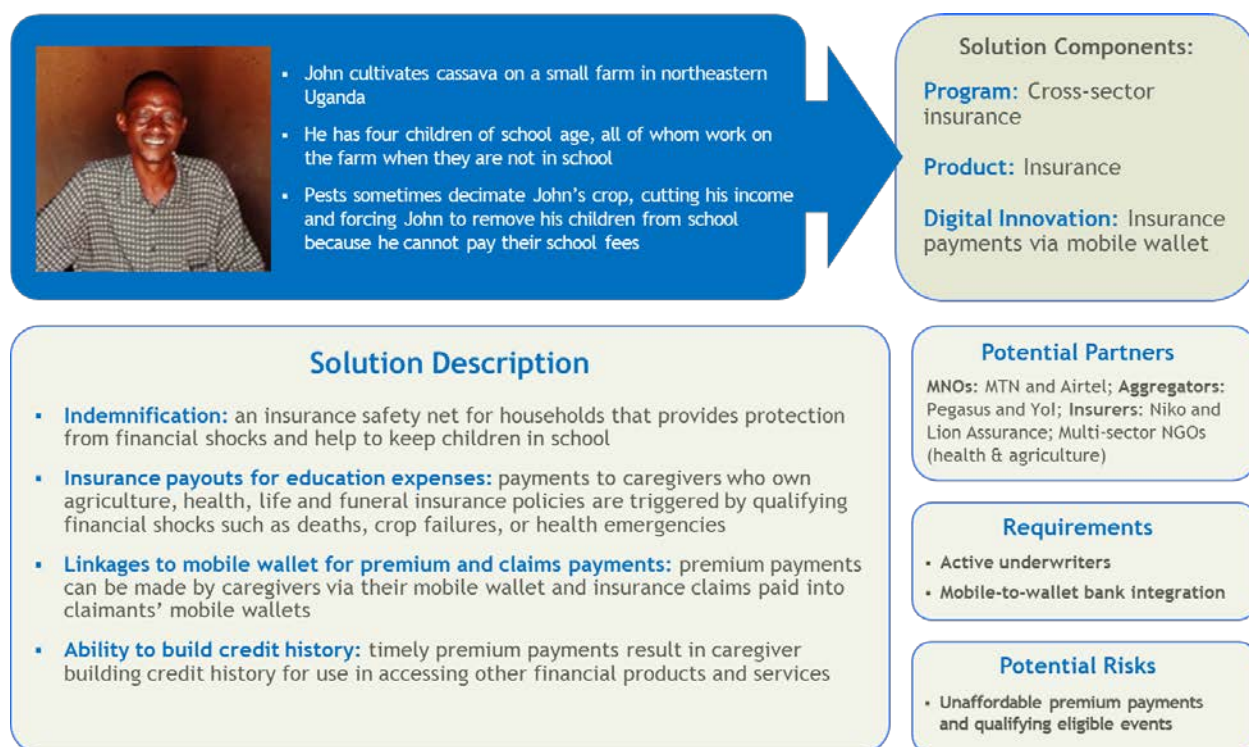
## Middle-Segment Solutions Given Lower Priority

### Creation of mobile insurance products to protect against financial shocks

In 2012, 62% of households experienced a financial shock within a six month period.<sup>19</sup> Financial shocks can adversely affect a family’s financial status, thereby negatively impacting children’s education, with some households responding by varying the quantity and quality of girls’ education in particular.<sup>20</sup> An insurance safety net for households could provide protection from financial shocks and help to keep children in school. The insurance “safety net” focused on meeting education expenses would have the following elements:

- **Insurance payouts for education expenses:** Payments to caregivers who own agriculture, health, life and funeral insurance policies would be triggered by qualifying financial shocks, such as death, crop failure, or health emergencies
- **Linkage to mobile wallet for premium and claims payments:** Premium payments can be made by caregivers via their mobile wallet and insurance claims paid into claimants’ mobile wallets
- **Restrictions on account use:** Claims payments tied to use of funds for educational payments for children
- **Ability to build credit history:** Timely premium payments result in caregiver building credit history for use in accessing other financial products and services

Figure EE -- Insurance Products to Mitigate Effects of Household Financial Shocks

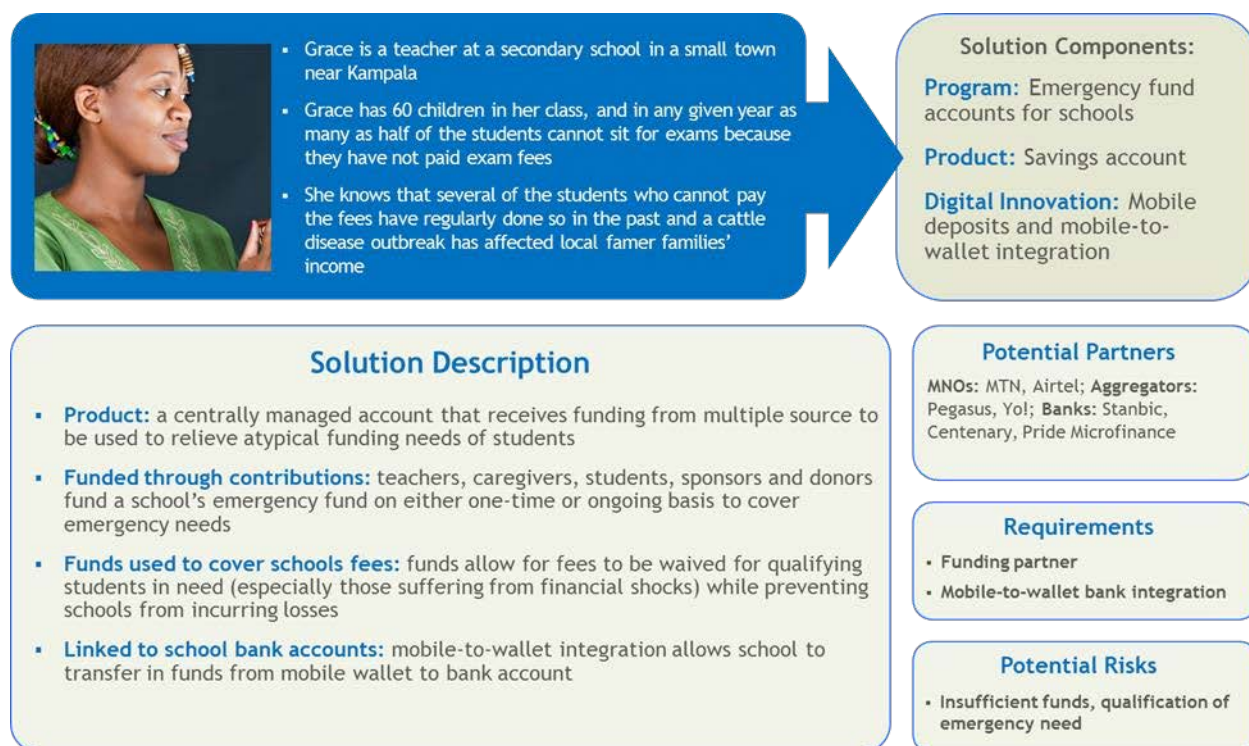


## Emergency account funds for schools

Occasionally, situations arise that do not fit into circumstances addressed by recommended solutions, but both the caregiver and concerned educator have a strong desire to enable a child to continue their education without interruption. Abnormal but temporary family or community financial conditions drive the need to compensate for a reduction in family financial resources. By creating an emergency fund that is slowly built up over time, a group of overseers could administer funds on an ad-hoc basis to relieve financial burden. Potential elements of this solution could include:

- **Governance by educators and caregivers:** emergency funds disbursement given following a formal or semi-formal application for financial relief. Decisions on amount and repayment terms, if any determined by committee of educators and caregivers.
- **Participation voluntary:** Contributions to the fund is voluntary, and possibly subsidized by donor funds. Ability to receive payment from the fund is not contingent on prior contribution history.
- **Disbursement:** Payments made on behalf of a child or family are made directly to the school.

Figure FF -- Emergency Accounts for Schools to Help with Students' School Fees



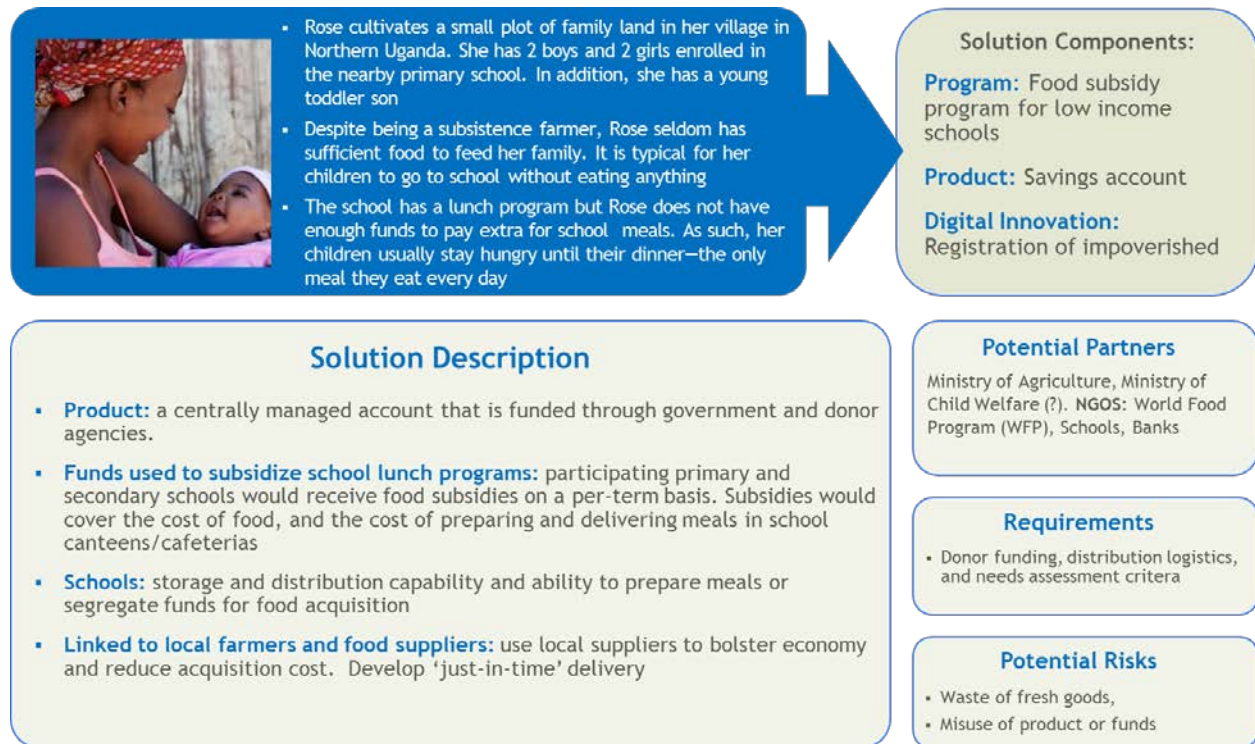
## Lunch Subsidies for low-income schools

Where all other programs fail to address the immediate needs of impoverished children, and hunger prevents them from attending school, it may be appropriate to establish a subsidized school lunch program. The program would need funding from outside donor agencies to establish and oversee



the program, but to also fund the supply chain while it is being developed by local vendors and agencies. Funding would also be needed, in some cases, to build necessary infrastructure for the distribution and storage of food. Program attributes are outlined in figure GG, below.

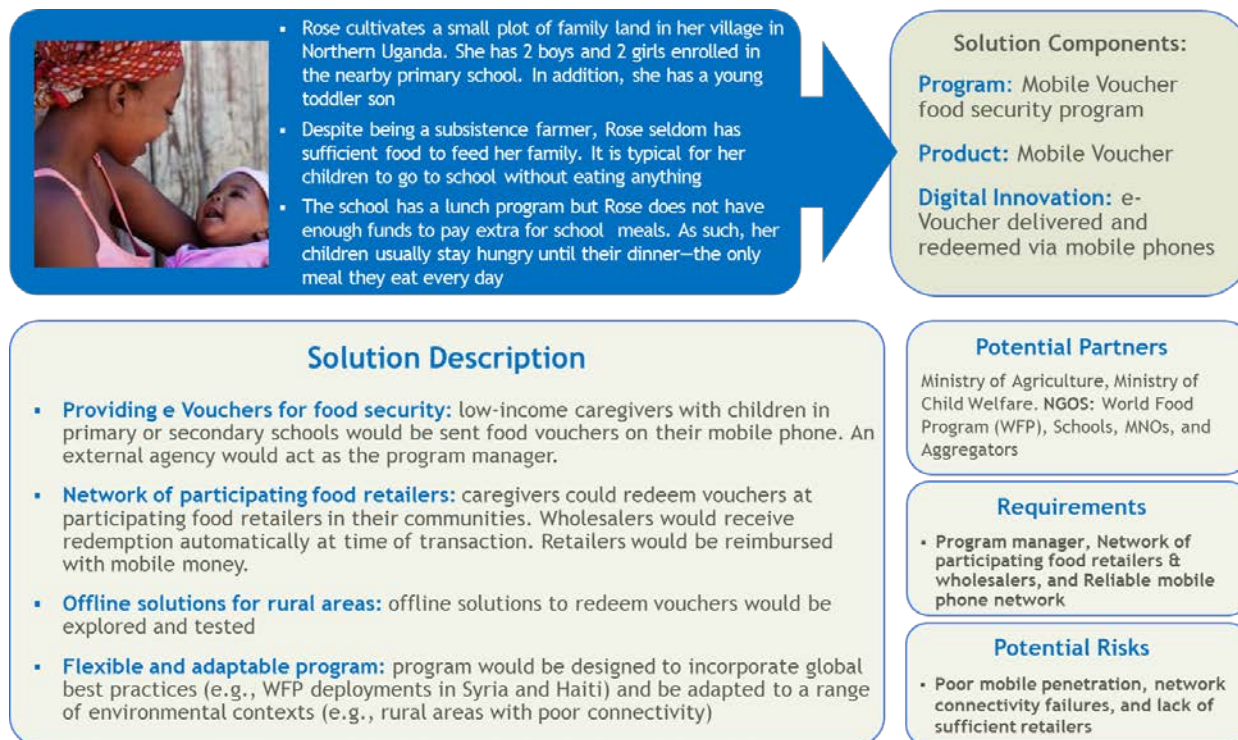
Figure GG -- Lunch subsidy program



## Food e-Vouchers for caregivers

An alternative to building national infrastructure to support a subsidized school lunch program would be to distribute e-vouchers to caregivers to enable them to purchase food for schoolchildren meals. This would obviate the need for third parties to establish and administer a separate program for food distribution, and have the effect of strengthening local food suppliers and merchants more quickly. The e-vouchers would still need funding support from donor agencies, and would likely benefit from programmatic oversight as well. Figure HH below, provides an overview of program components.

Figure HH -- e-Voucher program



## Appendix B: Quantification Methodologies

### School fees

Data on school fees was collected through primary research conducted in September 2014. Research revealed that there is an average of three school-age children per household. Accordingly, the average cost for a household to send all children to school includes the cost of sending one child to USE and two children to UPE.

Table 3 -- School Fees

PRIMARY RESEARCH FINDINGS: School Fees		
Education costs per child per year (incl. school fees, school supplies, excl. transportations and bank transaction costs)		
	UGX	USD
Cost of sending 1 child to UPE (low)	277,800	\$ 100.83
Cost of sending 1 child to UPE (high)	460,500	\$ 167.15
Cost of sending 1 child to USE (low)	517,800	\$ 187.95
Cost of sending 1 child to USE (high)	1,500,000	\$ 544.46
Education costs for 3 children per year (two UPE, one USE)		
	UGX	USD
Cost of sending 3 children to school (low) incl. school fees, school supplies, excl. transportations and bank transaction costs	1,073,400	\$389.62
Cost of sending 3 children to school (high) incl. school fees, school supplies, excl. transportations and bank transaction costs	2,421,000	\$ 879
Average cost of sending 3 children to school incl. school fees, school supplies, excl. transportations and bank transaction costs	1,747,200	\$ 634.19
Cost of sending 3 children to school for rural family incl. school fees, school supplies, transportation and bank transaction costs (low)	1,140,900	\$ 389.62
Cost of sending 3 children to school for rural family incl. school fees, school supplies, transportation and bank transaction costs (high)	2,488,500	\$ 903.27
Average cost of sending 3 children to school incl. school fees, school supplies, transportation and bank transaction costs (high)	1,769,700	\$ 642.36

\*Conversion rate USD 1 = UGX 2,755

## Quintile Data

### Average Monthly and Annual Household Income per Quintile

The monthly household income in each quintile was calculated by multiplying the percentage share of total income for each of the quintiles by the average total monthly income in all households and multiplying that figure by the number of households in each quintile (1,400,000). The monthly household income was then multiplied by 12 to reach the annual household income. Data was sourced from the using Uganda National Household Survey 2009/2010 and 2012/2013. National data for subsistence level in Uganda was not available.

Table 4 -- Income by Quintile

	% Share of total income by quintiles	Total monthly household income in quintile (UGX, in millions)	Total monthly household income in quintile (USD)	Number of households in quintile	Average monthly household income in quintile (UGX)	Average monthly household income in quintile (USD)	Average annual household income per year
1st quintile	2%	63,420	\$23,019,963	1,400,000	45,300	\$16.44	\$197.31
2nd quintile	4%	126,840	\$46,039,927	1,400,000	90,600	\$32.89	\$394.63
3rd quintile	8%	253,680	\$92,079,854	1,400,000	181,200	\$65.77	\$789.26
4th quintile	15%	475,650	\$172,649,727	1,400,000	339,750	\$123.32	\$1,479.85
5th quintile	71%	2,251,410	\$817,208,711	1,400,000	1,608,150	\$583.72	\$7,004.65

### Percent of Average Annual Household Income to send three children to school, per Quintile

The cost for each quintile to send three children to school (based on estimate in table 3) was calculated by dividing the cost by the average annual household income.

Table 5 -- Cost as a Percentage of Household Income

	% of average annual household income to pay for school supplies (mature girls)	% of average annual household income to pay for school supplies (boys and younger girls)
1st quintile	14%	12%
2nd quintile	7%	6%
3rd quintile	4%	3%
4th quintile	2%	2%
5th quintile	0%	0%

## Percent of Average Annual Household Income to pay for school supplies for mature girls and boys and young girls

The cost difference to send mature girls, and boys and young girls to school was the percentage of household income for each quintile needed to pay for all school supplies, including sanitary pads for mature girls.

Table 6 - Cost Differential by Gender

	% of average annual household income to pay for school supplies (mature girls)	% of average annual household income to pay for school supplies (boys and younger girls)
1st quintile	14%	12%
2nd quintile	7%	6%
3rd quintile	4%	3%
4th quintile	2%	2%
5th quintile	0%	0%

## Percent of Average Annual Household Income to pay for transportation and bank transaction costs, per quintile

The cost difference to send mature girls, and boys and young girls to school was the percentage of annual household income for each quintile needed to pay for all school supplies, including sanitary pads for mature girls.

	% of one month's average income spent on transportation and transaction costs to pay school fees	% of annual household income spent on transportation and transaction costs to pay school fees (incl. three trips to the bank, one per term)
1st quintile	50%	12%
2nd quintile	25%	6%
3rd quintile	12%	3%
4th quintile	7%	2%
5th quintile	1%	0%

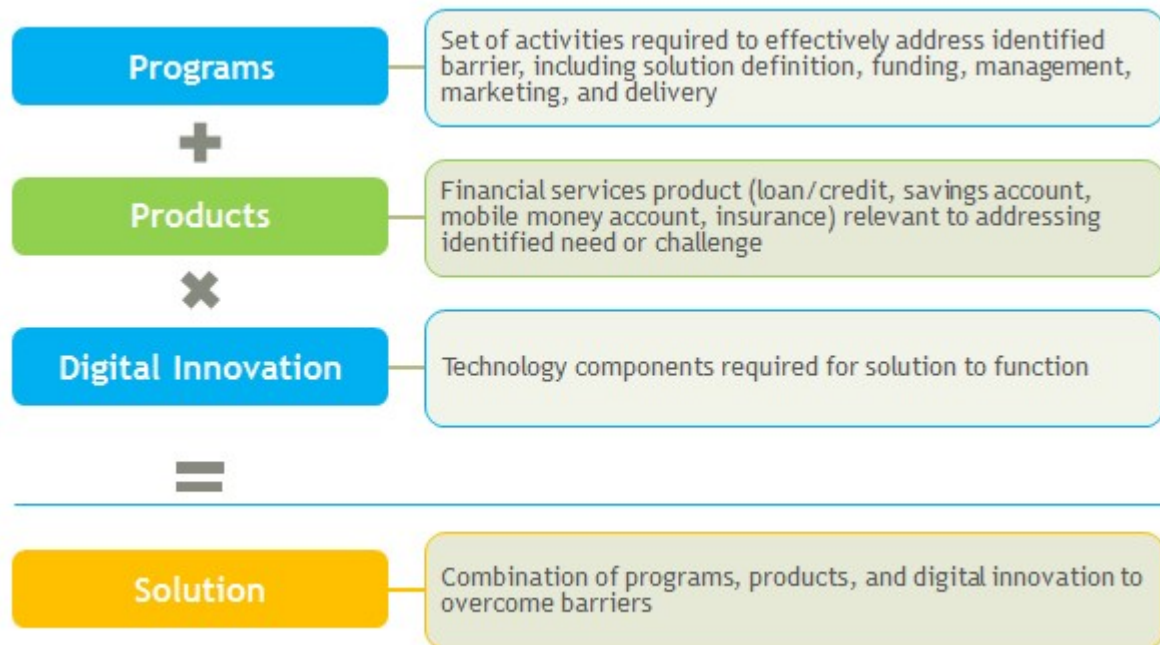


# Appendix C: Methodological Framework to Synthesize Data

## Introduction and Processes

Designed to process the myriad complexities of payment challenges and ecosystem realities, the synthesis framework allows both creativity and structure to analyze potential solutions. Figure GG displays the definition of solutions as used in the synthesis framework.

Figure II -- Solution Definition



In synthesizing the barriers and challenges to education payments and access, the following taxonomy proved useful (Figure HH)

Figure JJ -- Taxonomy of Synthesis Framework Elements

**Categories of educational access barriers**

- o Household economics
- o Institutional economics
- o Environmental issues
- o Technology or information limitations
- o Cultural and social issues

**Evaluation Criteria**

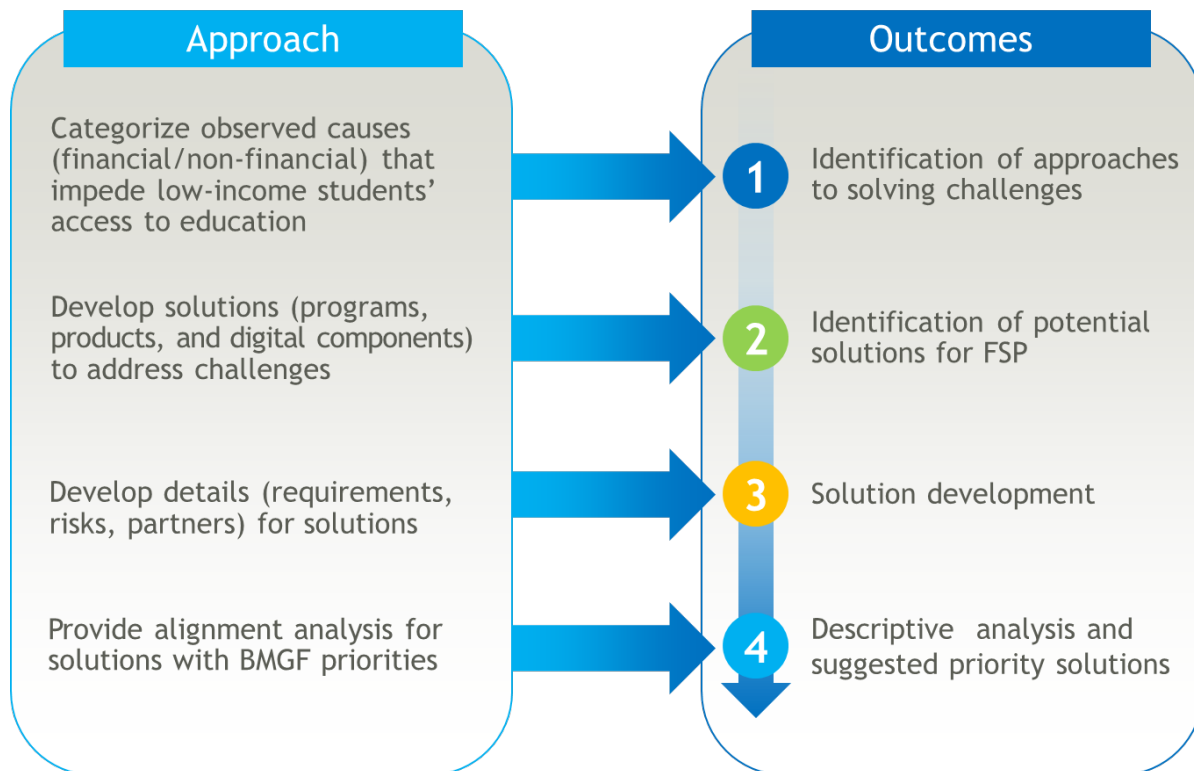
- o Severity of the Problem
- o Alignment with BMGF Strategies
  - Compliant with Better than Cash initiatives
  - Follows Financial Services for the Poor mandate
    - Lowers cost to caregivers in education ecosystem
    - Promotes financial inclusion
    - Reduces use of cash
    - Improves stability of financial ecosystem



## Synthesis Framework

Presented below is the process used to create the synthesis framework, followed by the framework itself. The purpose of the synthesis framework is to inform the identification and description of recommended solutions. A four-step process was followed to catalog research findings, develop solution sets and details, and provide an analysis of solutions' alignment with Financial Services for the Poor priorities. These are detailed in Figure II below.

Figure KK -- Synthesizing Data and Ecosystem Realities - Approach and Outcomes



The synthesis framework assesses challenges within the following four vectors of analysis: 1.) household economics, 2.) institutional economics, 3.) societal and cultural issues, 4.) environmental issues. Figure JJ provides detail within the four vectors of analysis. The green-highlighted section depicts areas most directly addressable through financial services interventions.

Figure LL -- Synthesis Framework: Vectors Of Analysis

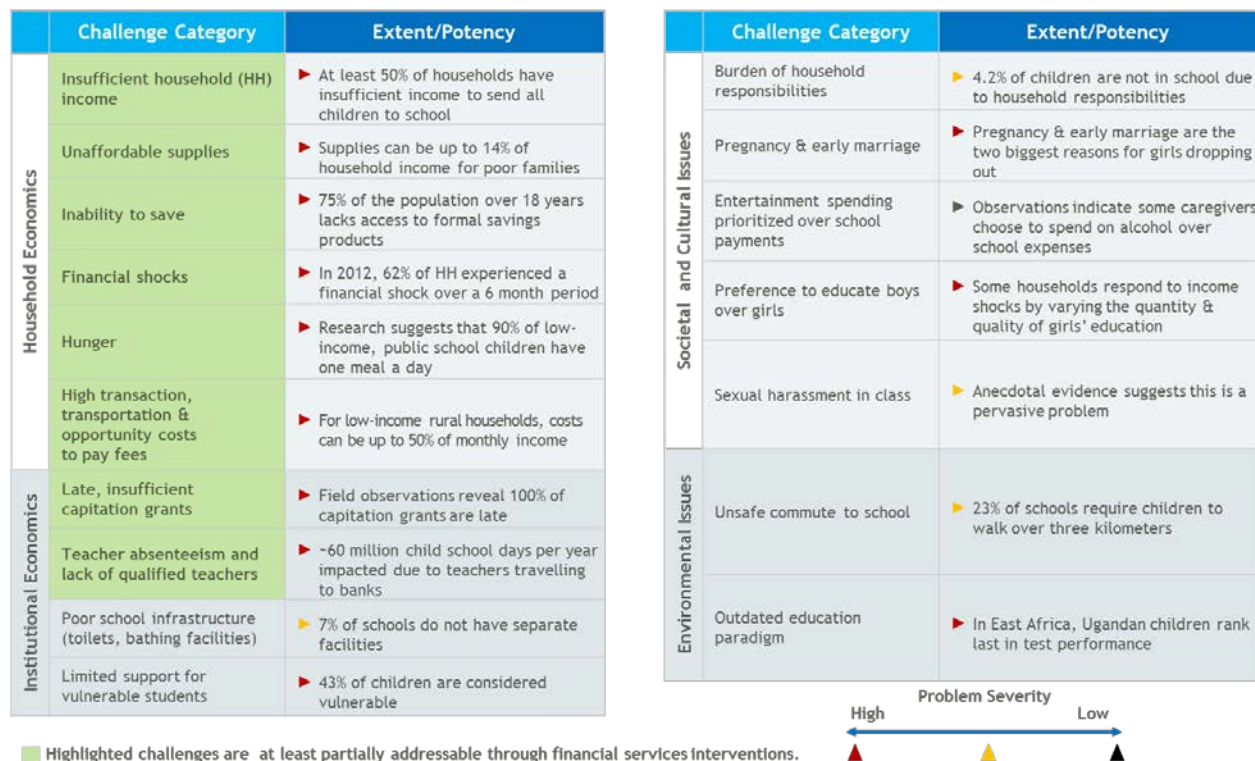
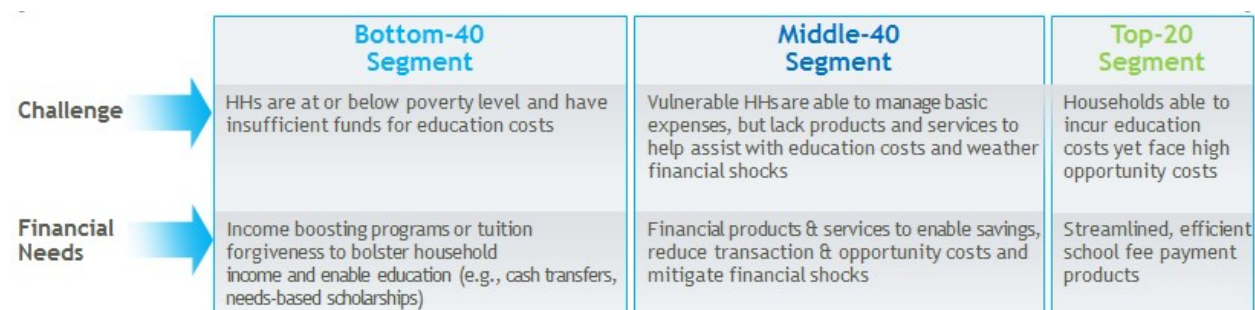


Figure KK provides a description of the three household segments based on income quintiles that emerged from the analysis, each with differing economic challenges and financial needs.

Figure MM -- Synthesis Framework: Household Quintile Segments



A framework of household income quintile is a useful tool to examine financial challenges faced by households at different economic levels. In this framework, all households in a country are divided into quintiles according to their gross income. Each quintile represents 20% of all households. When this framework was applied to households in Uganda, three clear segments were revealed:

- Bottom 40 Segment –households in the 1<sup>st</sup> and 2<sup>nd</sup> quintiles, representing the lowest income of up to USD395 per annum
- Middle 40 Segment – households in the 3<sup>rd</sup> and 4<sup>th</sup> quintiles, where the annual income ranges from USD789 to USD1480
- Top 20 Segment – households in the top quintiles, with annual income is approximately USD7,000 per year

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## Endnotes

<sup>1</sup> Throughout this document, the terms 'parents' and 'caregivers' are used interchangeably to reflect the common occurrence of children living with adults who are not their biological parents.

<sup>2</sup> CIA World Factbook (2013) Uganda Country Information accessed via <https://www.cia.gov/library/publications/the-world-factbook/geos/ug.html> Washington: USA Government

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<sup>7</sup> UNESCO International Institute for Educational Planning (2014) The Use and Usefulness of School Grants: Lessons from Uganda. Paris: UNESCO.

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<sup>9</sup> United States Dollars. Calculations are based on an exchange rate of approximately 2500 Ugandan Shillings to 1 US dollar.

<sup>10</sup> New Vision (2014) October 3) "The Mystery Shrouding UPE Capitation Grants" Retrieved from New Vision Newspaper Kampala, Uganda <http://www.newvision.co.ug/news/660365-the-mystery-shrouding-upe-capitation-grants.html>.

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<sup>12</sup> Bank of Uganda. (March 2014). Status of Financial Inclusion in Uganda. Bank of Uganda

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<sup>14</sup> Financial Information and Tracking System (FITS) (2012)

<sup>15</sup> Uganda Bureau of Statistics (2010) Uganda National Household Survey 2009/2010 Entebbe: Government of Uganda.

<sup>16</sup> UNESCO - International Institute for Educational Planning (2014) The Use and Usefulness of School Grants: Lessons from Uganda. Paris: UNESCO.

<sup>17</sup> Uganda Ministry of Education and Sports (2008) Revised Education Sector Strategic Plan 2007-2015, p. 42 Entebbe: Government of Uganda.

<sup>18</sup> UWEZO (2012) "Are Our Children Learning?" p. 13. Entebbe: UWEZO

<sup>19</sup> FITS, Mobile Money in Uganda: Use, Barriers and Opportunities page 30

<sup>20</sup> Björkman-Nyqvist, Martina (2013) Income shocks and gender gaps in education: Evidence from Uganda,