

DBT in Education:

A study on delivery of in-kind benefits to elementary school students in Uttar Pradesh

August 2018



MicroSave

Market-led solutions for financial services

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Our vision is to live in a world where everyone has access to high-quality, affordable, market-led financial services and support. For 20 years, we have worked with our clients as a locally based, international consulting firm. We have guided policy and facilitated partnerships to develop enabling ecosystems.

We welcome your feedback on this report. Please write to us with your comments or questions to

Aishwarya Singh: aishwarya@microsave.net

Vijay Ravi: vijay.ravi@microsave.net

Authors:

Aishwarya Singh
Neha Parakh
Nishant Saindane
Mitul Thapliyal
Vijay Ravi

Other Contributors:

Avantika Kushwaha
Aparna Shukla
Saborni Poddar



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1. Executive Summary

The meaning of the term Direct Benefits Transfer (DBT) in India has evolved over the years. Initially, DBT only referred to cash transfers into the bank account of beneficiaries under different government schemes. At present, it refers to cash as well as in-kind transfers to beneficiaries, as well as wage payments to government intermediaries¹. In order for a government programme to be considered **DBT**²:

- The benefits should reach identifiable individuals
- The scheme should make use of modern technology and Information and Communications Technology (ICT) tools for implementation

In terms of actual changes, due to DBT, cash-transfer schemes have moved from dispensing physical currency to transferring money directly into the bank account of beneficiaries. Meanwhile, in-kind transfers have begun using ICT tools for multiple functions.

Current figures show that **487 schemes from 64**³ different central government departments are under the purview of

DBT. In the financial year 2017–18, the central government transferred benefits worth **INR 2,02,224 crores (USD 30.58 billion) to 12.4 billion beneficiaries**⁴ under different DBT programmes. Popular **programmes like the Public Distribution System (PDS)**⁵, **PAHAL**⁶, and the Mahatma Gandhi National Rural Employment Guarantee Scheme (**MGNREGS**)⁷ have the highest number of beneficiaries receiving DBT.

These figures only depict the DBT initiatives of the central government. State governments have also moved multiple schemes under DBT. Most states have constituted dedicated **DBT cells**⁸ that coordinate with the central **DBT Mission**⁹. These cells are nodal agencies for all DBT programmes in their respective states.

Part of the popularity of DBT is because of the digital technology that it employs is considered to increase efficiency through a number of activities. These include de-duplication of beneficiaries, elimination of ghost beneficiaries, and improvement of the delivery process.

1. Government intermediaries are people engaged in implementing government programmes, for example, ASHA workers

2. <https://dbtbharat.gov.in/data/circulars/cir31mar16.pdf>

3. <https://dbtbharat.gov.in/scheme/getallschemeservicelist> as of 25th April, 2018

4. <https://dbtbharat.gov.in/>

5. <https://www.pdsportal.nic.in/main.aspx>

6. <http://petroleum.nic.in/dbt/whatisdbtl.html>

7. <http://www.nrega.nic.in/netnrega/home.aspx>

8. <http://pmsky.gov.in/pdflinks/DBTCellGuidelinesforState.pdf>

9. <https://dbtbharat.gov.in/page/frontcontentview/?id=MTc=>

The government estimates that DBT programmes will cumulatively save the central government [~INR 82,985 crore](#)¹⁰ (USD 15 billion) by the year-end, 2018.

With respect to education, scholarship programmes have seamlessly moved into the fold of DBT. Money is being transferred into the bank accounts of beneficiaries rather than being handed over as cheques. In-kind transfers have begun using MIS platforms for multiple functions and are now being termed DBT.

The Department of Basic Education (DoBE) distributes unconditional, universal, in-kind benefits annually to school children¹¹ between classes I–VIII.

MicroSave conducted a study in Uttar Pradesh on DBT in education. We specifically looked at in-kind benefits transfers to school children.

The objectives of the study were to:

- 1 Understand the processes for the distribution of benefits;
- 2 Understand the allied systems that the processes make use of;
- 3 Identify gaps in the processes and suggest opportunities for improvement.

We conducted the study based on primary qualitative research and affiliated techniques. We covered the districts of Gorakhpur, Lalitpur, Lucknow, and Meerut to ensure a representative sample for the study.

The following table highlights our observations and recommendation of our study:

| 1. Management Information System ● ● ● High priority | | |
|---|--|--|
| <p>Observation 1.1</p> <p>The existing platforms capture details on the complete education ecosystem. However, the department only makes use of a small portion of the available data.</p> | <p>Recommendation 1.1</p> <p>The MIS must be used to its full potential. If the MIS reflects real-time data it can be used for monitoring and evaluation at every level.</p> | <p>Expected outcome 1.1</p> <p>Improved functioning of stakeholders due to ready access to updated data.</p> |
| Dependencies: Software modification | | |
| <p>Observation 1.2</p> <p>The current system adds to the workload of multiple stakeholders without giving them benefits in return.</p> | <p>Recommendation 1.2</p> <p>The MIS must be modified to meet the requirements of all stakeholders. All stakeholders should have partial access to the MIS to view data and generate reports as per their requirements.</p> | <p>Expected outcome 1.2</p> <p>Better quality of data and reduction in duplicate admission due to stakeholders having access to updated data.</p> |
| Dependencies: Capacity-building and infrastructure development | | |
| <p>Observation 1.3</p> <p>The same data is being collected multiple times to populate different platforms.</p> | <p>Recommendation 1.3</p> <p>Data must only be collected once. The platforms can be designed to cross-populate one another.</p> | <p>Expected outcome 1.3</p> <p>Reduction of workload and time spent on doing repetitive activities.</p> |
| Dependencies: Software modification | | |

10. <https://dbtbharat.gov.in/>

11. Benefits are only distributed to students who study in government and government-aided schools

2. Awareness ● Low priority

Observation 2.1

The awareness level of school staff and beneficiaries is limited to the things they have observed.

Recommendation 2.1

The department should invest in a detailed communication plan for all stakeholders.

Expected outcome 2.1

Increased participation of stakeholders in the process.

Dependencies: None

3. Grievance resolution mechanism ●● Medium priority

Observation 3.1

The department does not have a dedicated GRM in place.

Recommendation 3.1

The department should consider developing a dedicated GRM.

Expected outcome 3.1

Increased stakeholder satisfaction and process improvements through stakeholder feedback.

Dependencies: Communication to beneficiaries

4. Processes ●●● High priority

Observation 4.1

For the academic year 2017–18, the department distributed textbooks, uniforms, sweaters, bags, shoes, and socks. The benefits reach students long after the academic session has started.

Recommendation 4.1

Digitising a few steps in the processes could help reduce the time taken for distribution. The planning process should be completed by December of the previous year to give vendors sufficient time for delivery.

Expected outcome 4.1

Benefits reach beneficiaries at the beginning of the academic year.

Dependencies: Fully functional MIS

5. Authentication ●● Medium priority

Observation 5.1

There are leakages in the system due to duplication.

Recommendation 5.1

The department should introduce digital non-Aadhaar based OTP authentication.

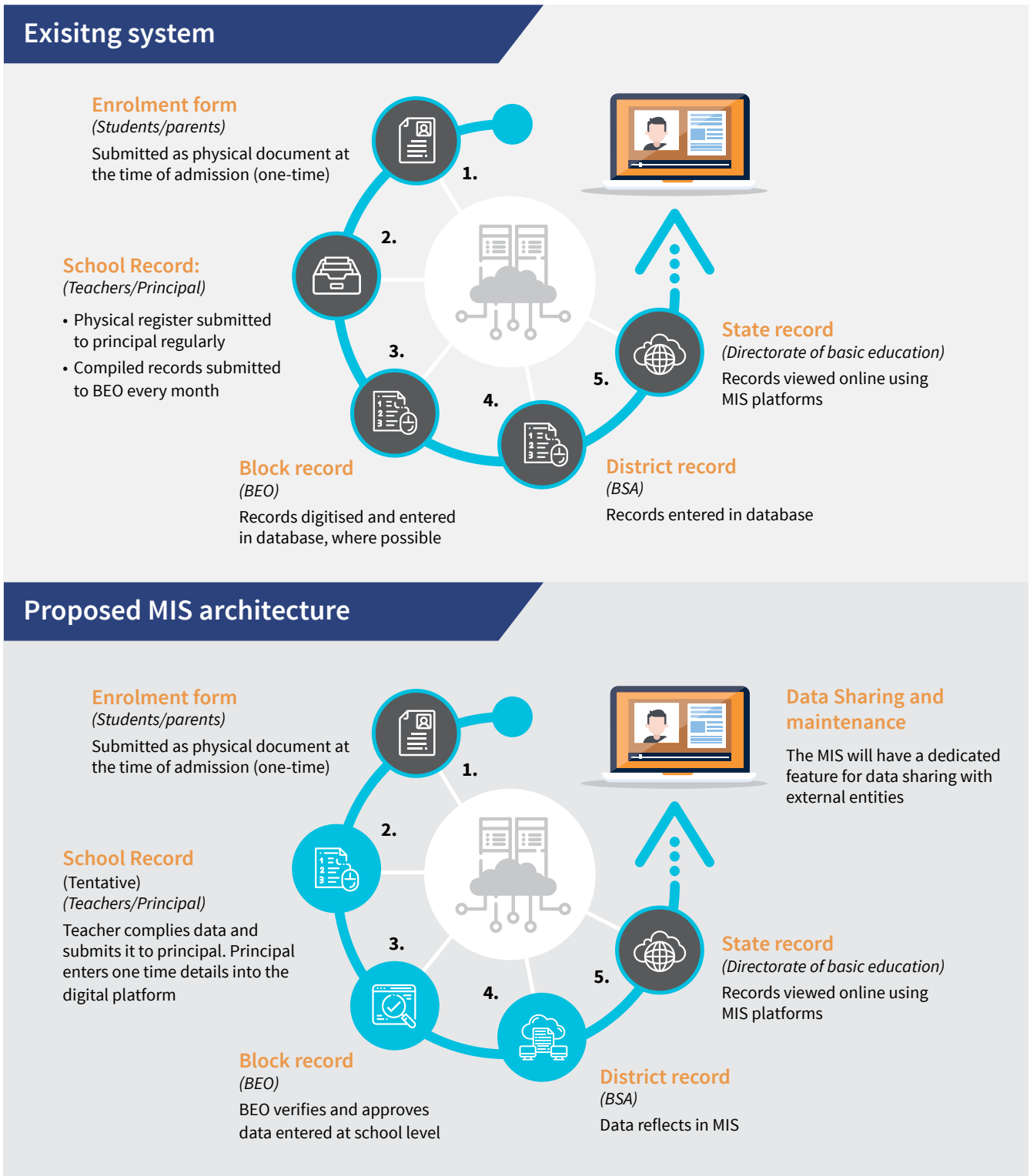
Expected outcome 5.1

Reduction in leakages.
Reduction in time taken to confirm successful distribution.
Reduced delay in vendor payments.

Dependencies: Fully functional MIS

The following diagrams are simple depictions of the suggested change in the MIS. At present, the digitisation of data takes place high up in the information hierarchy, which needs to change. Data should be digitised at the school level. To maintain the sanctity of the database, the data entered at the school will not immediately reflect in the database. Government officials would verify and approve the data, after which it will appear in the database.

Data entry in such a system will be continuous and not an annual activity. This will reduce the burden of compiling huge volumes of data annually. Such an MIS will be the backbone of other systems like digital authentication. All of these changes would reduce the time taken for the process of in-kind transfers. It would help ensure that benefits reach beneficiaries at the beginning of every academic year.





2. Acronyms

| | |
|-------|---|
| APL | Above Poverty Line |
| BEO | Block Education Officer |
| BPL | Below Poverty Line |
| BRC | Block Resource Centre |
| BSA | Basic <i>Shiksha Adhikari</i> (District Education officer) |
| CWSN | Children With Special Needs |
| DBT | Direct Benefits Transfer |
| DCF | Data Capture Format |
| DM | District Magistrate |
| DoBE | Department of Basic Education |
| EWS | Economically Weaker Section |
| GoUP | Government of Uttar Pradesh |
| G2P | Government to Person |
| HDI | Human Development Index |
| ID | Identity |
| IGRS | Integrated Grievance Redressal Mechanism |
| INR | Indian Rupee |
| MHRD | Ministry of Human Resource Development |
| MIS | Management Information System |
| NGO | Non-Governmental Organisation |
| NPRC | Nyaya Panchayat Resource Centre |
| NUEPA | National University for Education Planning and Administration |
| OTP | One-time Password |
| PC | Purchase Committee |
| PoS | Point of Sale Device |
| RTE | Right to Education Act |
| SC | Scheduled Caste |
| SDMIS | Student Database Management Information System |
| SMC | School Management Committee |
| SMS | Short Messaging Service |
| SQL | Structured Query Language |
| SSA | <i>Sarva Shiksha Abhiyan</i> |
| ST | Scheduled Tribe |
| TC | Transfer Certificate |
| UC | Utilisation Certificate |
| UDISE | Unified District Information System for Education |
| UIDAI | Unique Identification Authority of India |
| UN | United Nations |
| USD | United States Dollar |



3. Background

We can ascertain the importance of education in today's world from the fact that it is a metric by which we judge the development status of a nation. The Government of India made free and compulsory education a fundamental right of every child in the age group of 6-14 years through the [Right to Education \(RTE\) act](#)¹² in 2009.

The [Ministry of Human Resources Development](#) (MHRD)¹³ is responsible for formulating national level policies on education. The state education departments manage government schools¹⁴. They also implement and monitor education-related schemes.

The Department of Basic Education (DoBE), Uttar Pradesh, is responsible for the management of [16 million students studying in 160,000 elementary schools](#)¹⁵ across the state. As a part of its duties, DoBE oversees the annual distribution of in-kind benefits to students. Goods distributed in the academic year 2017-18 are: Books, Uniforms, Bags, Sweaters, Shoes and socks.

These benefits are universal and given to every child who studies in government and government-aided schools. Government schools are institutions that DoBE manage and government-aided schools are institutions where DoBE formally approves the management committee.

The advent of technology has given DoBE an opportunity to improve efficiency through digitisation. The department is using digital technology in communication, data transfer, and information exchange.

This study endeavours to:

- Understand the current MIS operation in DoBE, highlight existing gaps, and suggest plausible improvements.
- Map the process related to the distribution of in-kind benefits, identify bottlenecks, and suggest corrective action to enhance efficiency.

Refer to Appendix I for detailed background information.

12. <http://mhrd.gov.in/rte>

13. <http://mhrd.gov.in/about-mhrd>

14. Schools managed by the government. For details see Appendix II

15. <http://udise.in/Downloads/Elementary-STRC-2015-16/09.pdf>



4. Methodology

The approach followed during the course of the study included:






- Secondary research to understand the current ecosystem and global practices;
- Qualitative primary research to understand the existing processes that are related to the delivery of benefits;
- Gap analysis based on process-mapping of on-the-ground practices, as detailed in Appendix VI.

In our primary qualitative survey, we met stakeholders in 35 elementary schools and multiple government offices across the area of study¹⁶.

Appendix II provides details of the research and the framework of the study.

We gathered stakeholder perception through Focus Group Discussions¹⁷ (FGD¹⁸) and Personal Interviews¹⁹ (PI). Every interview refined our understanding of the processes and corroborated previous findings.

In the report, we have analysed each component that affects the transfer of benefits based on multiple parameters. Many of the processes we observed were fragmented and we noticed considerable variations across districts. Based on these differences in practice, we have introduced a measure – “level of standardisation” – in this report. This measure shows the extent of similarity in responses across districts. Scoring has been undertaken as follows:

- | | | | |
|-------------|---|---------|---|
| 1. Very low |  | 2. Low |  |
| 3. Medium |  | 4. High |  |
| 5. Uniform |  | | |

The standardisation scores appears on the right-hand side of a section heading wherever it is applicable.

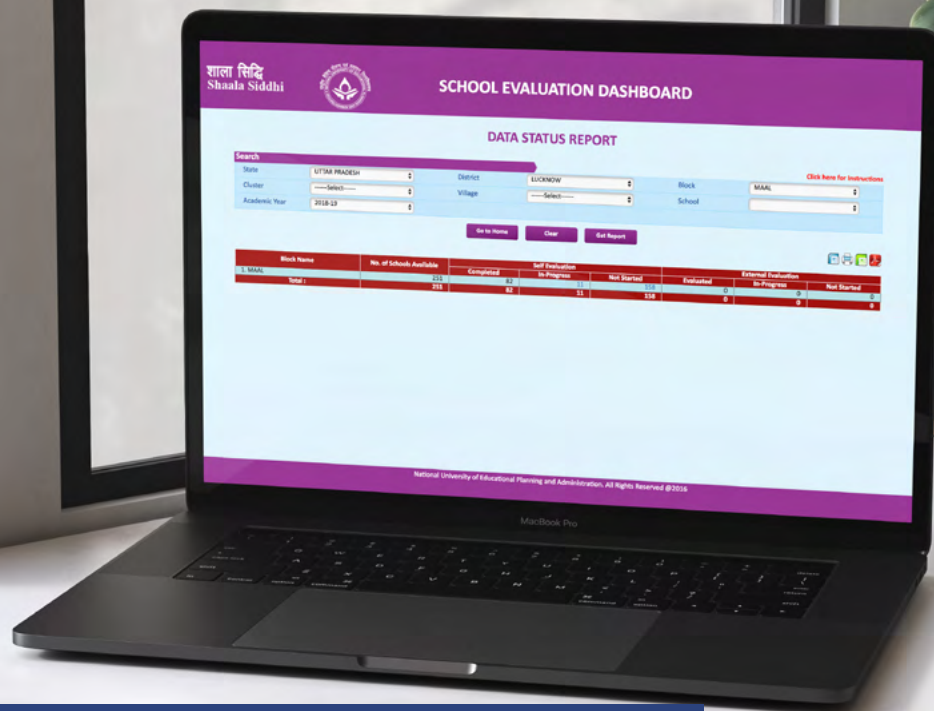
The orange boxes provide case studies that illustrate best practices from India and the world alongside recommendations in each section.

16. Districts selected in UP were Gorakhpur, Lalitpur, Lucknow, and Meerut.

17. We conducted FGDs for students of class VI and above, parents, and teachers. FGD is a qualitative research technique that encourages participants to come to a consensus on their perception. It is normally used to explain factors that cannot be understood statistically.

18. We conducted FGDs for girls and boys above class VI separately to appreciate the differences of opinion between genders.

19. We conducted PIs for all types of stakeholders. PI is used in qualitative research to gain a deeper understanding of perceptions around the research topic. PI also helps the researcher observe non-verbal behaviour of the respondent for better understanding.



5. Management Information System

Key findings

1. The existing platforms capture detailed data on the entire education ecosystem in the state.
2. The current system adds to the workload of many stakeholders without providing many benefits in return.

Suggestions

1. The MIS should be utilised to its full potential. The system should be modified so that all stakeholders up to the level of principal can utilise the MIS for their everyday work.
2. The MIS should be modified to reflect real-time data. Only then would ground-level government officials and schools staff be able to utilise it for everyday monitoring and evaluation.
3. Data should be collected only once and data entry should be limited to incremental additions to reduce the burden on stakeholders. The existing platforms should be integrated inter alia to eliminate multiple data entry.

At present, DoBE has two systems for data entry and generating reports. The National Institute of Education Planning and Administration ([NUEPA](http://www.nuepa.org))²⁰ has designed and owns both systems – [UDISE](http://udise.in)²¹ and [Shaala Siddhi](http://shaalasiddhi.nuepa.org)²². Both platforms collect data from every school in the state, that is, information available is not limited to schools managed by the government. The following table depicts the general details of these platforms.

| Platform | UDISE | Shaala Siddhi |
|-----------------------|---|--|
| Description | A comprehensive platform that captures data on the entire education ecosystem | School evaluation tool used for both internal as well as external assessment of an institution |
| Method of filling | Form available offline; details have to be uploaded online | Online |
| Point of digitisation | District | Block |
| Frequency of update | Annual | Annual |
| Month of completion | December | February |

Figure 1: Details of MIS platforms

Besides gathering information for these two platforms, teachers conduct another annual survey called the household survey (HHS). The HHS is a mandatory process as per the adoption of Right to Education by the Uttar Pradesh government. Government school teachers visit all houses in the vicinity of their schools to collect data on the education status of children in each household.

20. <http://www.nuepa.org/New/>

21. <http://udise.in/>

22. <http://shaalasiddhi.nuepa.org/>

The following table provides details on a comparison of these platforms on data capture and utility:

| Platform | UDISE | Shala Siddhi | Household survey |
|---|---|--|---|
| Responsibility of digitisation | District MIS officer | Block computer operator | N/A |
| Responsibility of data storage and security | Basic <i>Shiksha Adhikari</i> | Block Education Officer | Block MIS Officer |
| Thematic areas of data collected | <ul style="list-style-type: none"> Infrastructure School demographics Performance Finance | <ul style="list-style-type: none"> Performance Extra-curricular student activities | Locality demographics |
| Submission deadline | Schools submit data by the end of September. District MIS officer uploads data by 30 th December. | Online data entry for every school is done in the month of February. | Schools submit records in the month of May. |
| Use | Budgeting | School evaluation | Status of literacy in the state |

Figure 2: Comparison of UDISE, *Shala Siddhi* and household survey

5.1 Process of data collection and compilation under UDISE

Medium

Among the described platforms, UDISE is the database that has a direct bearing on in-kind transfers. UDISE is, at present, being used by DoBE for budgeting. Appendix VI depicts the process map that provides details on the method of data collection under UDISE. Figure 3 shows our observations and recommendations based on a detailed study of the process being followed.

| Gap identified #1 | Gap identified #2 | Gap identified #3 |
|--|---|---|
| Data is first filled out on paper and then digitised. This doubles the workload of data entry. | Data is shared using manual channels and the process is time-consuming. | Data is updated annually and does not always reflect the current scenario. |
| <p>Suggested improvement</p> <p>The data should be entered online at the school level. Limited access should be given to stakeholders' up to the level of principals.</p> | <p>Suggested improvement</p> <p>Data should be shared digitally; this will drastically reduce the time taken for data transfer.</p> | <p>Suggested improvement</p> <p>The MIS should be modified to accept and reflect real-time data.</p> |
| Gap identified #4 | Gap identified #5 | Gap identified #6 |
| There is a shortage of staff in the MIS department. | There is high attrition of block computer officers. The low remuneration and contractual nature of the job do not attract good talent. | Data-sharing with other departments appears to burden MIS officials. The relevant data is identified and retrieved, a physical copy of the data is printed, and signatures and permissions are obtained before the data is sent as a physical copy. |
| <p>Suggested improvement</p> <p>The department should increase manpower in the department in consultation with MIS officials.</p> | <p>Suggested improvement</p> <p>The department must modify the requirements of the position to attract and retain acceptable talent.</p> | <p>Suggested improvement</p> <p>External data sharing must be made a feature of the MIS software. Data can be shared easily and quickly using digital means.</p> |

Figure 3: Analysis of the UDISE process

Other observation: For all of the above improvements, extensive capacity-building of government officials and school staff is required.

5.2 Data security

Data security, especially with respect to data that the government collects, has become the topic of heated debate recently. We believe that the department should follow two guiding principles.

| Guiding principle #1 | Guiding principle #2 |
|--|--|
| Employ dedicated professionals to monitor security measures on a regular basis to protect the integrity of the data and the MIS platforms. | Ensure that the department has consent for all data collected. They should have all relevant details on how they would use sensitive information, such as biometrics. This would ensure that core consumer protection norms are respected. |

Figure 4: Principles for data security

5.3. Evaluation of the MIS

We evaluated the MIS using a set of relevant parameters based on the purpose of the system for DoBE.

| Parameter | Score | Reason | Suggestions |
|---|--------|--|---|
| Efficiency Workload minimised by the MIS | Low | Records are expected to be maintained both manually and digitally. Many stakeholders report increased workload due to the requirement of entering data into the MIS. Similar data is collected multiple times to populate different platforms. | Data entry should be digital from the very first stage. Manual record maintenance should be discontinued. Only incremental data should be entered. The MIS can be designed to auto-populate certain data points like age, standard, etc. One data point should only be collected once. The platforms can be designed to communicate with each other and populate similar data points. |
| Access at different levels The ability for multiple stakeholders to utilise the MIS | Low | While most stakeholders (teachers, BEO, BSA) are involved in the process of data collection, the system is not set up to meet the information requirement of all these stakeholders. | The MIS system should be customised to give all stakeholders defined rights to modify and extended access to view multiple reports. |
| Reliability Degree to which different stakeholders can rely on the system to serve their needs. | Medium | The MIS data is updated annually and may be up to 12 months old at the time of access. Such data cannot be used for operational purposes including status checks on benefit distribution and verification at the time of enrolment | The MIS should be modified to reflect real-time data. Data should be updated continuously rather than be limited to an annual exercise. |
| Flexibility Ability of the system to be relevant which was not inherent in the initial design | Low | While the system holds much data and is capable of generating informative reports for a wide range of purposes, there is no evidence this capability is being utilised. | Data sharing should be a built-in feature of the system. Other government departments or relevant entities should be given partial access to information as deemed fit by DoBE to share. |

| Parameter | Score | Reason | Suggestions |
|---|--------|--|---|
| Portability Ability of the system to be used in multiple systems and accessed through different devices | Medium | Being online makes the system portable to an extent, but information can only be accessed properly where there is a computer with connectivity to the Internet. | The system needs to have dedicated interfaces in other devices like mobile phones and tablet computers with options for operability when there is limited or slow connectivity to the Internet. |
| Visibility The degree to which stakeholders are aware of MIS and how they can make use of information to improve their efficiency | Low | Most stakeholders enter data into the system as a compliance. They are not aware of how they may use the system to improve efficiency. | Conduct training sessions, as explained in the next row. |
| Capacity-building The level or extent of training required to work on the system | Low | New staff require a lot of training to operate the MIS. Even after training, they are only capable of handling operations. They are unable to troubleshoot problems. | All department staff should undergo extensive training on basic computing and use of the MIS so that they understand how to utilise the MIS for better functioning. The system should also be redesigned using a human-centric approach to make working on it simple and intuitive for the target audience. |
| Organisational impact Impact of MIS on the organisation as a whole | Medium | The existing system is a powerful tool for strategic decision makers but most stakeholders do not derive benefit from it | Increase the usability of the MIS for lower levels of management and external stakeholders by providing adequate hand-holding support |

Figure 5: Evaluation of the existing MIS

The following are some observations from stakeholders on the MIS.

“UDISE main hai, par fir bhi roz- roz kuch na kuch maanga jata hai, kabhi toilet kabhi furniture... latest dijiye”

(UDISE is the main work we need to do, but still we are asked for different data points, again and again, they ask for “latest” data all the time).

- Government official, Lalitpur

“Clerical job reh gayi hai humari, headmaster toh mentally handicap hi samjho”

(Our job has become clerical – in fact, as a headmaster, the repetitive nature of this work makes me feel useless).

- School staff, Meerut

“The quality of training quality is adequate but training is conducted only for two days. Handling Oracle and SQL queries is not possible after a two-day training.”

- Government official, Lalitpur

5.4. The suggested architecture of MIS

Based on the above analysis the following diagram illustrates our proposed MIS architecture.

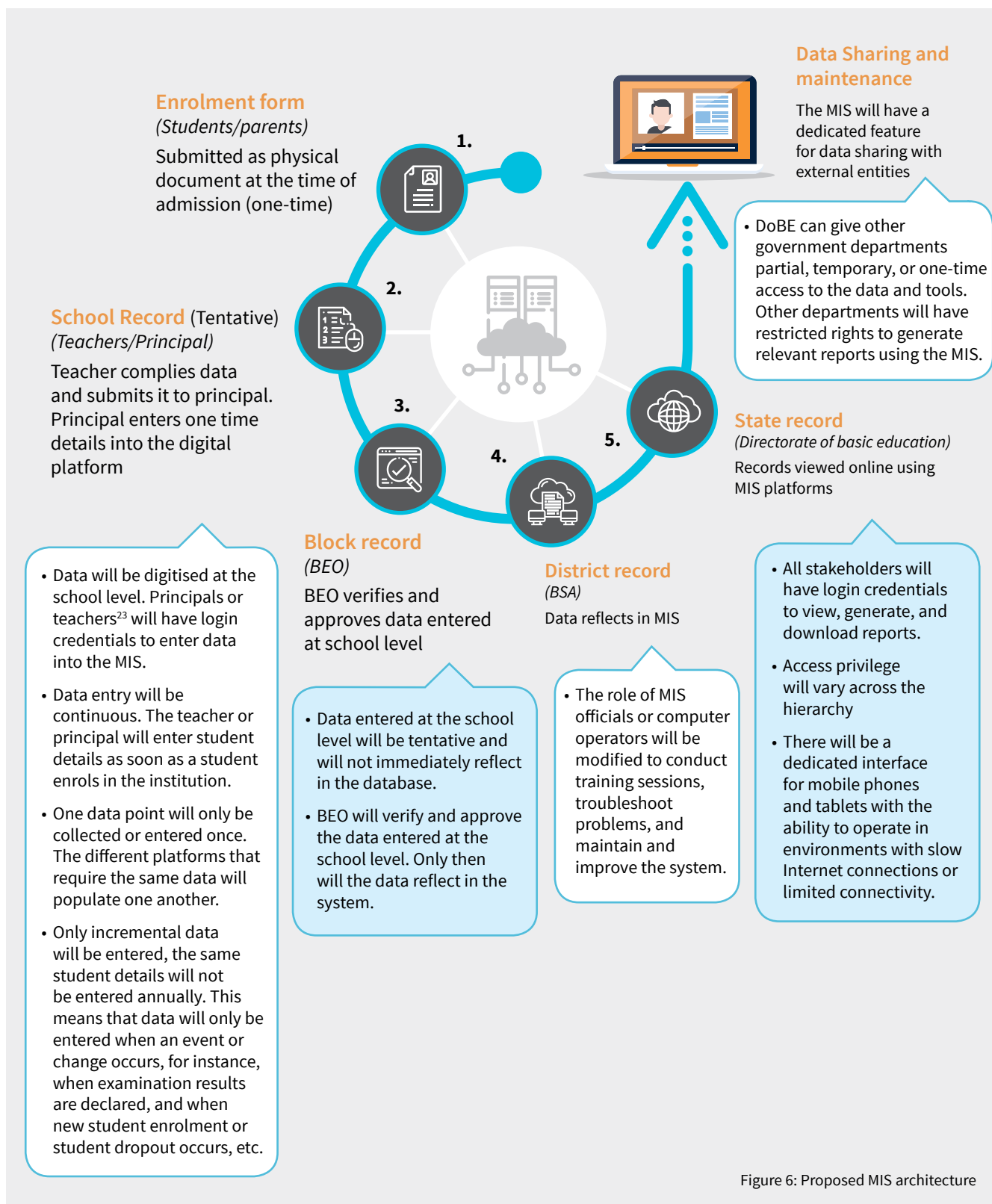


Figure 6: Proposed MIS architecture

23. Since the report refers to in-kind transfers, we've only considered the situation for government and government-aided schools. We do not elaborate on how the department can ensure that private schools, madrassas (a type of religious school for the study of the Islamic religion, though this may not be the only subject studied), among others, may comply with populating data in the MIS because their non-compliance does not affect the in-kind transfer programme.

The following is a broad, step-by-step guide on the how we can move towards the system described above:



Case 1: Nicaragua, Central America: Efficiency in Data Collection, Processing, and Reporting²⁶

The ED*ASSIST data collection tool developed by FHI 360 (formerly the Academy for Education Development, or AED) is being adapted from paper form for use on a tablet. The tablet application will collect information for budget development and effective resource allocation in the education sector. In Nicaragua and Benin, ED*ASSIST increased the efficiency in their respective EMISs by reducing the “cycle of collecting, processing, and reporting national education data from years to months”. The tool has currently found use in Djibouti, Equatorial Guinea, Liberia, Malawi, South Sudan, Uganda, and Zambia, with both the data and tool made available online at strategia.cc/ed-assist. As part of FHI 360’s Liberia Teacher Training Program II, which aims to address the shortage of qualified teachers and the capacity to produce new teachers, ED*ASSIST was also introduced for biometric teacher attendance monitoring.

24. http://www.microsave.net/resource/behavioural_economics_and_user_centred_design_opening_up_new_vistas_in_research_processes

25. <http://www.bbnl.nic.in/index1.aspx?lsid=18&lev=1&lid=18&langid=1>

26. <https://books.google.co.in/books?id=snM5DwAAQBAJ>



6. Communication

Low

Key findings

Awareness of stakeholders is a limited to what they have observed. Awareness level decreases as we move down the information hierarchy.

Suggestions

The department should invest in a detailed communication plan for all beneficiaries.

“Ghar baithe kya jaanu ki kya aur kaise mil raha hai samaan”
(As a homemaker, how am I supposed to know anything about in-kind transfers?).

- Beneficiary, Gorakhpur

The Department of Basic Education (DoBE) has established a formal communication system with standard procedures and protocols. Appendix V provides detailed information on government communication.

Internal communication within the department is conducted primarily through e-mails followed by a physical copy of the document. Ground-level stakeholders (Basic *Shiksha Adhikaris*, Block Education Officers, and teachers) report that WhatsApp messages are often precursors to these formal channels of communication. People prefer WhatsApp because they can send files and instant messages to a group of people at virtually zero-cost.

We can gauge the effectiveness of the department’s communication with respect to in-kind transfers by looking at the awareness level of stakeholders. The following were our observations based on stakeholder interactions:

| Government officials | School staff | Beneficiaries |
|--|---|--|
| Aware of all operational details of the scheme and partially aware of the rationale and other strategic objectives | Aware of the process that needs to be carried out but unaware of many things like the utility of MIS and the need for data collection | Awareness limited to the goods they have received, unaware of even the complete list of goods they are entitled to receive |

Figure 8: Awareness level of stakeholders

Awareness levels are low among the majority of the stakeholders. However, this does not have an impact on the operation of the programme. The department should consider investing in a detailed communication plan for all the stakeholders. With higher awareness levels, stakeholders will become active participants in the process, rather than limiting themselves to what is being ordered or given. Active participation of stakeholders will help improve the processes continuously.



Case 2: Philippines: Improving the delivery of service²⁷

The Affiliated Network for Social Accountability in East Asia and the Pacific (ANSATEAP) Foundation, Inc., and the Department of Education (DepEd) for basic education in the Philippines established the website <http://checkmyschool.org> as a participatory initiative to promote social accountability and transparency. The initiative, which aims to improve the delivery of information about public education, combines digital media via websites, social media, and mobile technology with community mobilisation via partnerships with education stakeholders. The designers of the website are aware that Internet penetration in the country is only at 25%. They have thus added an SMS reporting tool and created a network of “infomediaries” (information intermediaries) — volunteers from the community who could help parents and teachers use the platform to find solutions to their problems. Overall, the initiative allows communities to be involved in the monitoring of data collection and take ownership of the data

27. <http://www.ansa-eap.net/about-us/who-we-are/>



7. Grievance Resolution Mechanism

Low

Key findings

The department does not have a formal, dedicated GRM in place

Suggestions

The department should consider developing a dedicated GRM and may utilise existing generic mechanisms to develop their own system

“Sarkaar itna kar rahi hai humare liye usi se hum khush hain, isko leke nahi karenge shikayat.”

(The government is doing this much for us, we will not raise any complaints against these schemes).

- Beneficiary, Lucknow

“Zyada ladai karenge to school waale bolenge kabin aur admission karwa lo, phir kahan jayenge?”

(If we fight too much, the school staff would ask us to cancel our children’s admission, where will we go then?)

The Department of Basic Education follows an informal system of GRM. At present, the most common method of registering a grievance is verbal.

A grievance of any magnitude is communicated verbally to the authority at the next level, that is, from parents or students to teachers, teachers to principals, principals to BEO, and so on. In the case of a longer-standing grievance or a grievance of a higher magnitude, the complaint may take a written form.

This process varies when a stakeholder decides to escalate the issue to a higher, easily accessible authority, that is, when parents talk to BEO, BEO talks to state authorities, etc. We did not come across such instances whereby a stakeholder mentioned taking a firm stance with regard to a problem, or where a stakeholder escalated a grievance to someone who was not easily accessible.

The reasons for this could be:

- | | | |
|---|--|---|
| <p>1</p> <p>Beneficiaries cannot afford the time and effort required to rigorously follow up on complaints</p> | <p>2</p> <p>Parents view benefits given for education as luxury products and are happy with whatever they receive</p> | <p>3</p> <p>Beneficiaries fear losing what they receive if they raise their voices</p> |
|---|--|---|

Figure 9: Reasons for low reporting of grievances

While there is no dedicated formal GRM in place for the Department of Basic Education, common platforms of formal GRM do exist in the state of Uttar Pradesh. One such platform is the Tehsil Diwas, which is a block-level public hearing where individuals may submit oral or written complaints to a committee. The committee comprises district heads of all government departments and is chaired by the District Magistrate (DM). Instances of Tehsil Diwas take place on the first and third Tuesdays of every month and are conducted in different tehsils (districts) on rotation. Another public hearing initiative, Jan Sunwai has been merged into a newly introduced platform called the Integrated Grievance Redressal System (IGRS).

“I have attended every Tehsil Diwas for the past two years in my current posting. There has not been one complaint on education.”

(The government is doing this much for us, we will not raise any complaints against these schemes).

- Government Official, Lalitpur

[Integrated Grievance Redressal System](#) (IGRS)²⁸ is available to all residents of the state to voice their concerns. The complaints are directed to district departments but the

Chief Minister’s office may view them. Since the IGRS is an online system, it is available round the clock. Complaints are only considered settled once the complainant gives feedback on the resolution.

If the feedback rating is low, the complaint reopens automatically. This, however, does create a minor problem when the complainant has low awareness. Often, complainants do not know or understand the protocol, and consequently, do not provide feedback. As a result, many complaints that have been resolved satisfactorily open up again, creating infinite loops that clog the system.

The IGRS is a good initiative, but it is not a dedicated system for the Department of Basic Education.

DoBE needs to work on creating a dedicated platform for grievance resolution. This platform may leverage existing systems like IGRS. DoBE must refer to international guidelines on GRM, like the one from [UNDP](#)²⁹, to ensure an unbiased, usable system is created. Apart from developing a GRM, the department also needs to run a communication campaign to highlight the availability of such a platform and explain its features. This will allay the fears of stakeholders and encourage them to use the GRM. A working GRM will create a positive ecosystem of feedback and resolution thereby benefiting the entire process of DBT.

28. <http://jansunwai.up.nic.in/HomeE.html>

29. https://info.undp.org/sites/bpps/SES_Toolkit/SES%20Document%20Library/Uploaded%20October%202016/Supplemental%20Guidance_Grievance%20Redress%20Mechanisms.pdf

Case 3: BTC pipeline – ensuring transparency in the grievance mechanism³⁰

The Baku-Tbilisi-Ceyhan (BTC) Pipeline Project, operated by British Petroleum, entailed the construction of a 1,768-kilometer oil pipeline that traverses Azerbaijan, Georgia, and Turkey. The construction of this pipeline had an impact on over 500 villages along the route.

In each country, (Community Liaison Officers) CLOs – who are knowledgeable about their assigned regions and speak local languages – visit the surrounding villages regularly and are prepared to document each complaint on the spot. They record oral complaints on a standardised intake form. The officer then explains what they have written, and the complainant provides a signature to confirm that it is correct. A copy of the complaint form, signed by the complainant and the project staff, is also provided to the complainant.

BTC also engaged a nongovernmental organisation to support the grievance mechanism and gave the NGO's contact details to the communities. The NGO visits the communities to verify effective closeout of the complaints, inform affected people about their rights, and play a bridging role between complainants and the BTC team.

Disclosure for Greater Transparency: Liaison officers receive support through detailed grievance management procedures and a complaint tracker system where CLOs are able to keep track of the types of complaints filed, who has complained, and the status of each complaint. A grievance database (including records of closed cases) and a clear internal line of reporting help maintain transparency and disclosure. The information regarding grievances is also available on a website and the villagers can check this information at computer stations in the villages. The only exception was in Georgia, where an NGO that monitored the closeout of complaints provided information regularly.

The project discloses the implementation of each country's grievance mechanism in its Environmental and Social Reports. For example, the 2007 report stated that, in Georgia, 99 of 110 complaints received were resolved and 11 were pending. It also provides a breakdown of the number of complaints by category (land compensation, household and community infrastructure, employment, and so on). In addition, the independent Social and Resettlement Action Plan Panel has undertaken a biannual review of social issues on behalf of the lenders, including verification of effective operation of the grievance mechanism through direct interviews with CLOs and complainants.

30. <http://www.thecornerhouse.org.uk/sites/thecornerhouse.org.uk/files/BTCSUM1.pdf>



8. Process observations and recommendations

Key findings

Benefits reach students long after the academic session commences

Suggestions

Digitising a few stages in the process could result in a reduction in time and ensure that benefits reach students on the first day of the academic session.

This section provides details on our observations and suggestions on the processes. These observations draw from our study of the actual processes being followed. Appendix VII provides detailed MS Visio process maps, which are the basis of the following observations. Processes that are similar for all benefits are discussed once, while processes that employ divergent practices are described as many times as warranted.

8.1 Process of demand estimation for in-kind benefits

Uniform

| Gap identified #1 | Gap identified #2 | Gap identified #3 |
|--|---|--|
| <p>There is no mechanism to eliminate duplicate entries of data; this could result in faulty budget estimates.</p> <p>Suggested improvement The department should introduce digital authentication as a means of reducing leakages.</p> | <p>Despite the availability of UDISE data, field staff are being asked to collect and send data for budget planning.</p> <p>Suggested improvement The department should utilise UDISE instead of repeatedly asking the field staff for data.</p> | <p>In-kind benefits are not planned simultaneously, hence the budgeting exercise is not a one-time activity.</p> <p>Suggested improvement Distribution of all in-kind benefits should be planned concurrently. Planning should conclude by the end of January. This will ensure timely distribution of benefits before the beginning of the new session in April.</p> |

Figure 10: Process analysis of demand estimation

8.2. The process of student enrolment for in-kind benefits

Uniform

| Gap identified #1 | Gap identified #2 | Gap identified #3 |
|--|--|--|
| <p>Even though schools share manual reports on a monthly basis, UDISE data is updated annually.</p> <p>Suggested improvement School principals should be given access to the MIS so that they can enter data directly in real-time.</p> | <p>As a result of this annual update of UDISE data, schools are required to provide the latest figures each time a new benefit is planned. There are always minor mismatches between the actual number of students and the numbers reflected in UDISE.</p> <p>Suggested improvement MIS should reflect real-time data and one data point should only be collected once.</p> | <p>No mechanism exists to track or cross-verify if a student is enrolled in multiple schools.</p> <p>Suggested improvement A simple verification of the real-time data can eliminate duplication.</p> |

Figure 11: Process analysis of student enrolment

Note 1: No specific enrolment protocol is required to receive benefits. Once a student enrolls successfully into a government or government-aided school they are automatically eligible to receive benefits.

Note 2: Approval from BEO is taken in the absence of requisite documentation for admission.

8.3. The process of vendor selection and payment for uniforms and sweaters

Medium

The distribution of uniforms and sweaters is a decentralised process. Most of the powers related to this process rest with the School Management Committees³¹. Processes like vendor selection and procurement are carried out at the school level.

| Gap identified #1 | Gap identified #2 |
|--|--|
| <p>Final payment to the vendor (25% of the total amount) takes one to three months.</p> <p>Suggested improvement The MIS should have provisions for sharing of UCs by schools. Any type of electronic channel (e-mail) for sharing UCs will reduce the time taken for the entire process.</p> | <p>A big part of the delay in payment is due to the time consumed in manually preparing and sending Utilisation Certificates (UCs).</p> <p>Suggested improvement Digital verification upon receipt of benefits could eliminate the UC process and make the process of tracking utilisation instantaneous.</p> |

Figure 12: Process analysis of decentralised vendor selection

Other observations:

- Most stakeholders consider the INR 200 (~USD 3) provisioned for one uniform set insufficient.
- Vendors find this amount unviable especially for students in class VI–VIII (upper primary) because more material is required for their uniforms.
- Female students find their uniform skirts uncomfortable due to their pleat-less design. Vendors manufacture such designs primarily to save the cost of cloth per piece.
- Some school staff mentioned that they are often unable to find good vendors with the stipulated budget, and the principal has to bear the additional cost (INR 20–30 per piece).

31. A School Management Committee (SMC) is an elected body for every government school. The committee is a 15-member body that comprised parents, principal, and local authorities.

8.4. The process of vendor selection and payment for bags, books, shoes, and socks

 Uniform

Distribution of the school supplies is a centralised process. While the decentralised process shows better satisfaction among beneficiaries, they are not able to procure all goods locally at competitive prices. Hence, DoBE procures these goods centrally and distributes them to the schools.

| Gap identified #1 | Gap identified #2 |
|---|--|
| <p>Vendors claim that the beginning of the tendering process is delayed, which cascades into subsequent stages.</p> <p>Suggested improvement</p> <p>Tendering process of books should begin in the third quarter of the previous financial year (Oct – Nov) to ensure that printing completes by March and distribution is completed at schools by April (beginning of the new session).</p> | <p>As per the tender, vendors have to deliver textbooks 120 days after winning the bid. Vendors mention that government officials ask them to deliver in 75–90 days.</p> <p>Suggested improvement</p> <p>The department should give vendors the mandated time to ensure that goods are of acceptable quality.</p> |

Figure 13: Process analysis of centralised vendor selection

8.5. The process of distribution of uniforms and sweaters

 Medium

| Gap identified #1 | Other observations: |
|---|--|
| <p>Signatures in a register by students do not ensure that genuine beneficiary has received the benefit.</p> <p>Suggested improvement</p> <p>A robust digital authentication system should be devised.</p> | <ul style="list-style-type: none"> The existing process of distribution of uniforms and sweaters seems well planned. The process is decentralised and the entire distribution is most often completed in 7 to 15 days. Few schools reported instances of the vendor bypassing measurements and delivering readymade uniforms. Few schools reported instances of APL boys not receiving benefits or receiving them late. |

Figure 14: Process analysis of decentralised distribution

8.6 The process of distribution of bags, shoes, and socks

 Medium

| Gap identified #1 | Gap identified #2 |
|---|---|
| <p>Signatures in a register by students do not ensure that a genuine beneficiary has received the benefit.</p> <p>Suggested improvement</p> <p>A robust digital authentication system needs to be devised.</p> | <p>The method of calculating shoe size requirement for beneficiaries is inefficient. School staff had to visit NPRC multiple times to obtain the correct sizes.</p> <p>Suggested improvement</p> <p>Samples should be sent to schools to determine the order size. The order should be placed accordingly.</p> |

Figure 15: Process analysis of centralised distribution

Other observations: Quality issues were reported for bags in some locations, especially for bags given to students in upper primary classes (VI–VIII) that were not able to bear the load of heavier textbooks.

8.7 The process of distribution of books

 Medium

| Gap identified #1 | Gap identified #2 |
|---|--|
| <p>The school session commences in April. Distribution of books begins in July and continues until September. There is a delay of three to six months before students have all the textbooks they require</p> <hr style="border: 0.5px solid #00AEEF; margin-top: 10px;"/> <p>Suggested improvement</p> <p>The tendering process should begin in the month of October to ensure that vendors have sufficient time to deliver books before the new session commences in April the following year.</p> | <p>Students' signatures in a register do not ensure that a genuine beneficiary has received the benefit.</p> <hr style="border: 0.5px solid #00AEEF; margin-top: 10px;"/> <p>Suggested improvement</p> <p>A robust digital authentication system should be devised.</p> |

Figure 16: Process analysis of distribution of books

Other observations:

- Teachers manage with old books collected from students at the end of every academic year.
- Vendors mentioned that government officials demand that books of a particular subject be delivered in a priority manner. This jeopardises the assembly line and results in books being delivered in batches.

The above process studies confirm that introducing digital means of communication in stages such as delivery of planning and UCs will reduce the time taken and ensure that benefits reach students at the beginning of each academic year. Benefits that are delivered in time will serve to fulfil their purpose.



9. Cash versus in-kind

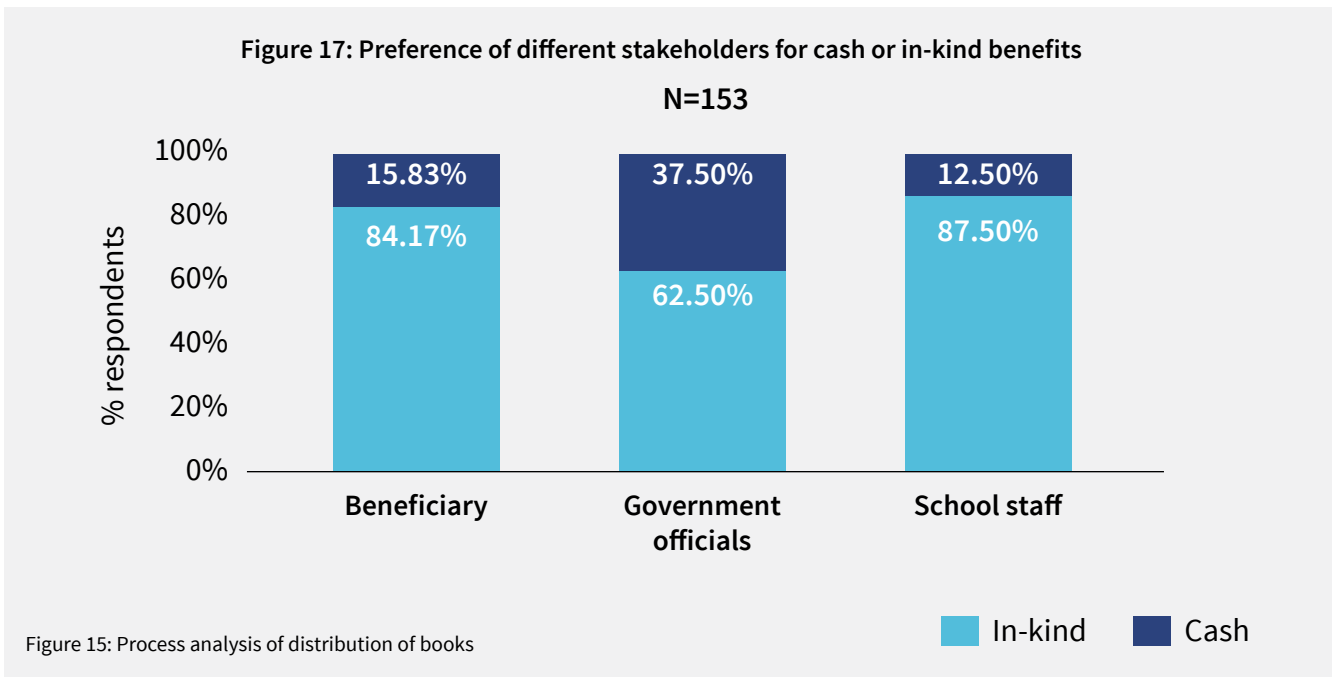
Key findings

There is a strong preference for in-kind transfers among all stakeholders.

Suggestions

Continue with in-kind transfers; the time has not come for cash transfers in lieu of in-kind benefits.

Cash transfer is a potential alternative to the distribution of in-kind benefits. The major advantage of cash transfers is the reduction in the administrative cost of the programme. Proponents of cash transfers argue that this cost reduction can be used to increase the percentage in the welfare budget that reaches intended beneficiaries. Cash transfers will also reduce the workload of government functionaries in monitoring distribution of benefits. The following graph shows the preference of different stakeholders for cash or in-kind benefits.



There is an overwhelming preference for in-kind benefits across stakeholders. Cited reasons for this preference are:

- Beneficiaries will not be able to purchase goods of the same quality with the money provided by the government.
- The goods being provided are not easily obtainable in rural areas. Beneficiaries will have to travel long distances to purchase them, which would further add to the cost.
- Beneficiaries will have to travel and incur time to withdraw money from banks.
- If money is transferred, households may use it for other purposes because many of them may not consider education as a priority.

All these factors favour the continuation of in-kind transfers in education. Additionally, beneficiaries face the problem of fungibility³² when asked about their preference for cash transfers. Bulk purchases allow the government to procure goods at a price that retailers will

“Log to 50-100 bhi kahin kharch nai karna chahte, soch hi upar nahi hai”

(Parents are not ready to spend even INR 50–100 on their child’s education, they do not consider it important.)

- Government Official, Lalitpur

likely not be able to match. Even if the government passes off the savings in administrative costs to beneficiaries, the money received may not be sufficient to purchase all the goods currently being provided.

Improving market access and bank penetration across the state should serve as a long-term goal. Cash transfers reduce administrative costs and improve efficiency considerably only when the government does not monitor how beneficiaries spend the money. In a scenario where cash is unlikely to find use for its intended purpose and monitoring is therefore essential, cash transfers do not make sense.

32. Fungibility the ability of a good or asset to be interchangeable with other individual goods or assets of the same type.



10. Aadhaar for authentication

Medium

Key findings

DoBE appears to contemplate utilising the *Aadhaar* database to authenticate beneficiaries.

Suggestions

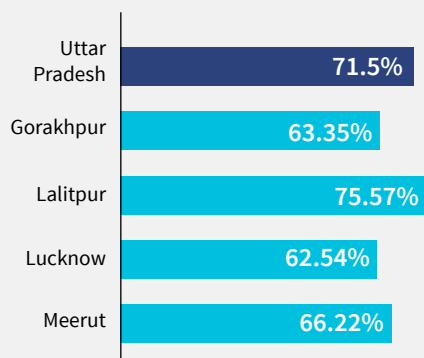
There are other alternatives for authenticating in-kind benefits transfers that may be easier to manage when compared to an *Aadhaar*-based authentication.

Department of Basic Education appears to be [considering](#)³³ the idea of leveraging *Aadhaar*³⁴ to monitor in-kind benefits. The department has encouraged students to enrol in *Aadhaar* and has recorded *Aadhaar* numbers of those who have successfully enrolled. *Aadhaar* can be used to establish the identity of beneficiaries who receive goods.

BEOs invite mobile *Aadhaar* agencies to visit schools in their block to register students. This is carried out to ensure that students are not disadvantaged if the government makes *Aadhaar* mandatory for receipt of benefits.

The total population in the graph depicted [reflects](#)³⁵ all citizens aged 5-18 years. This includes children in private schools and children who are not enrolled in formal education.

Figure 18: Aadhaar enrolment status (5-18 year olds)³⁶



In our interviews, heads of institutions reported *Aadhaar* enrolment as 60-90% which is in line with the graph given alongside. Enrolment is largely due to the efforts of the department. In the case of areas with low enrolment, the reason cited was that BEO was struggling to identify a mobile *Aadhaar* enrolment agency that was willing to take up the task in these villages.

However, *Aadhaar* may not be necessary. Besides covering authentication techniques using *Aadhaar*, in the next section we suggest techniques that do not require the use of *Aadhaar*.

33. [https://student.udise.in/D.O.No-11-432017Sch-5-Part\(1\).pdf](https://student.udise.in/D.O.No-11-432017Sch-5-Part(1).pdf)

34. *Aadhaar* is a proof of identity for both citizens and residents of India. Each *Aadhaar* cardholder receives a unique 12 digit number after submitting their general information, photograph, along with biometric details in the form of fingerprints and iris scan. What was envisioned as a voluntary identify proof for a large section of society, who did not have any other means of identifying themselves, has in recent times transformed into a necessary document for all citizens and residents in the country.

35. https://uidai.gov.in/aadhaar_dashboard/india.php?map_state=Uttar%20Pradesh

36. Derived from figures given in https://uidai.gov.in/aadhaar_dashboard/india.php?map_state=Uttar%20Pradesh



11. Authentication of benefits received

Key findings
 There are leakages in the system due to duplicate beneficiaries

Suggestions
 Digital authentication can plug leakages and reduce the time taken to confirm successful distribution

“There is duplication. Some students study in private schools but enroll in government schools only to avail benefits. In other cases, the school staff do not report students who have left for another school and such students are counted twice.”
 - Government official, Gorakhpur

Authenticating the receipt of benefits should ensure that only legitimate, eligible beneficiaries receive the benefits, and as a result, plug leakages by eliminating duplicate beneficiaries.

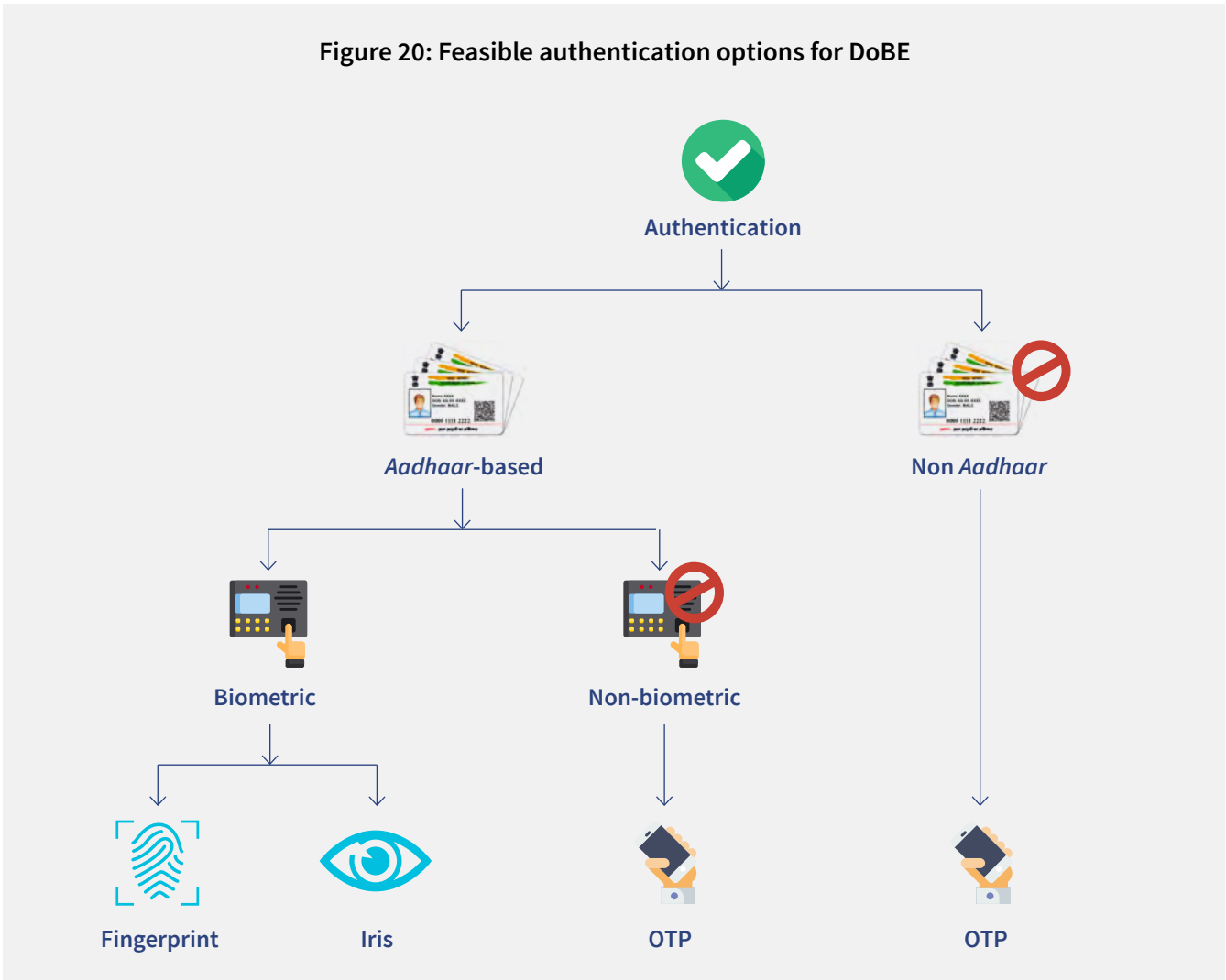
With respect to in-kind transfers of DoBE, a digitised authentication mechanism may also improve the efficiency of the processes. Digital authentication could eliminate steps that delay the release of funds like the requirement for a signature for receipt of goods, compiling registers, forwarding a summary of delivery statuses, and utilisation certificates. Available authentication methods are based on:

| Factors | Basis | Example |
|-------------------|--|-------------------------|
| Knowledge factors | Based on something an individual knows | Password |
| Ownership factors | Based on something an individual has | Mobile connection (OTP) |
| Inherence factors | Based on something an individual is | Biometrics |

Figure 19: Authentication factors

There are several possible methods of digital authentication. We explored many alternatives that range from simple ones like SMS authentication to nascent techniques like facial recognition. Based on our research, authentication techniques that are feasible for DoBE under the present circumstances are depicted in the diagram below.

Figure 20: Feasible authentication options for DoBE



A pre-requisite for the suggested authentication mechanisms is a robust MIS. DoBE may leverage the *Aadhaar* database to establish identity, however, **a system that relies completely on the in-house MIS will be easier to manage**. Relying on the in-house MIS should improve the time needed to address server downtime and other technical issues. If DoBE decides to use the in-house MIS for authentication, the initiative for *Aadhaar* enrolment will be unnecessary. Security concerns around sharing biometric data and authentication failures will also be avoided. We have compared the alternatives with this understanding.

We have allocated relative terms for the suggested alternatives based on the level of security they provide and their ease of use for the target segment. Tables 20 and 21 describe the meaning of these terms.

| Level of security | Meaning |
|-------------------|---|
| Low | Can be misused without the knowledge of the beneficiary |
| Medium | Can be misused by manipulating the beneficiary |
| High | Hard to misuse without the knowledge of the beneficiary |

Figure 21: Authentication security

| Ease of use | Meaning |
|-------------|--|
| Easy | Can be used by the target segment without help from a third party |
| Moderate | The target segment can learn to use the system in a few attempts |
| Difficult | Cannot be used by the target segment without help from a third party |

Figure 22: Authentication ease

Appendix VII provides detailed cost sheets for the suggested options. The costs provided also cover the infrastructure cost associated with modifying the MIS as per recommendations.

11.1. Biometric authentication

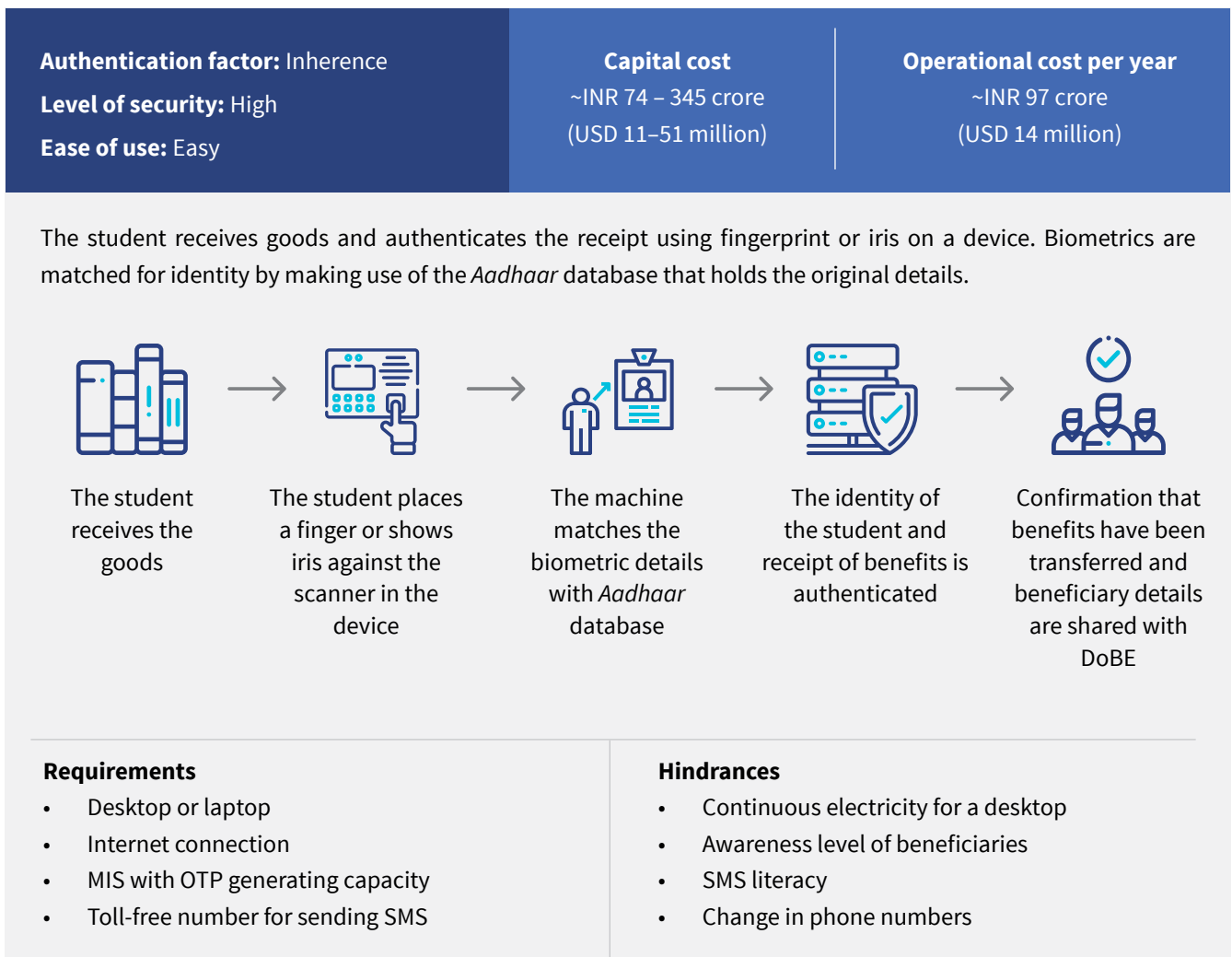


Figure 23: Details of biometric authentication for DoBE

Case 4 – Biometrically-authenticated physical uptake in PDS³⁷

Biometrically Authenticated Physical Uptake (BAPU) is one of the methods of food distribution mandated by the Government of India in the National Food Securities Act, 2013. Andhra Pradesh was the first state to adopt this model of public distribution in 2016. As of now, most states follow this method of public distribution. The system has done a great deal to reduce leakages in PDS through elimination of duplicate and ghost beneficiaries. Over a ten-month period the Government of India has saved INR 12,792 crore (USD 1.8 billion) because of the BAPU model in PDS.

37. http://www.microsave.net/resource/andhra_pradesh_s_public_distribution_system_a_trailblazer

11.2 OTP authentication

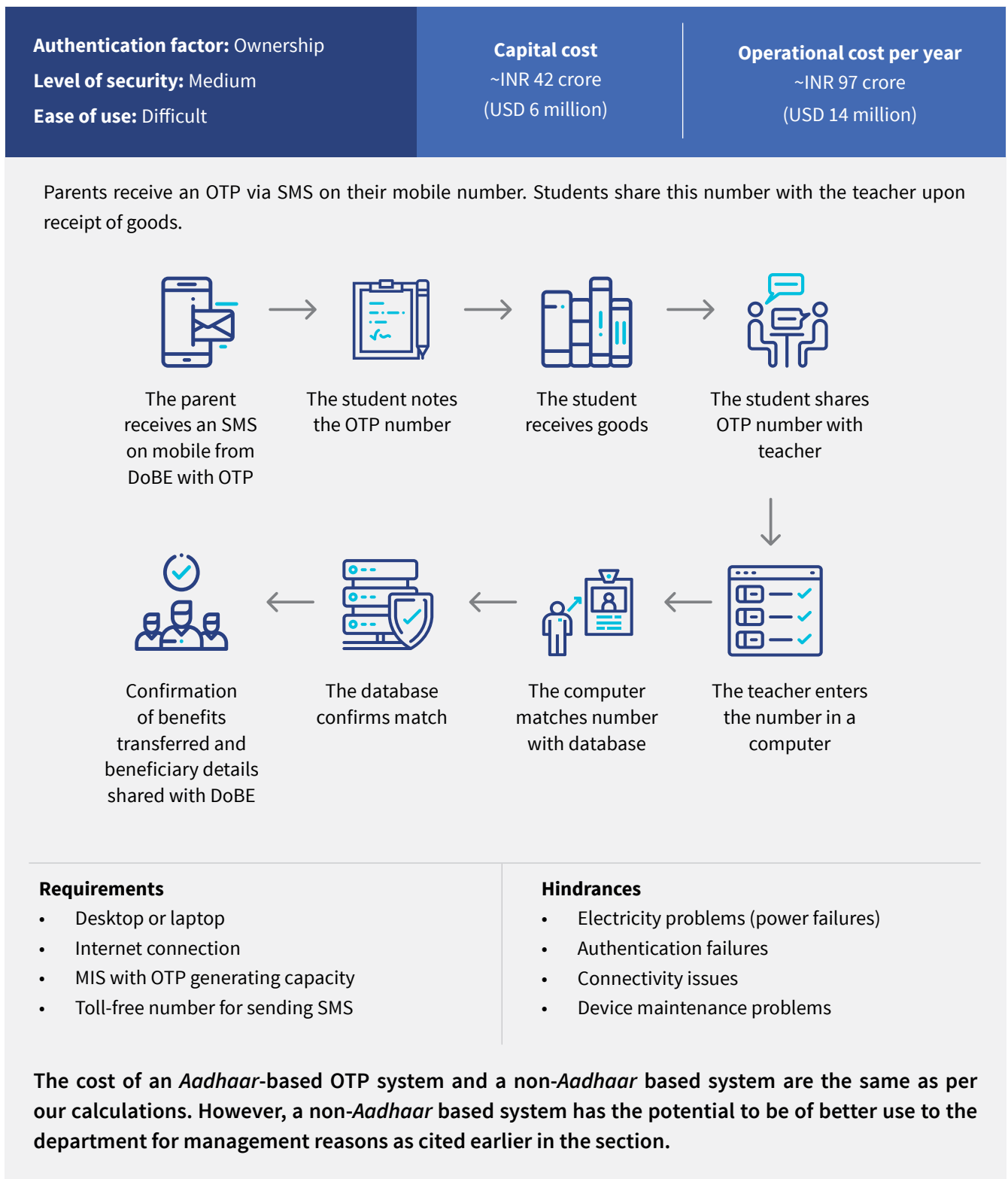


Figure 24: Details of Aadhaar and non-Aadhaar based OTP authentication for DoBE

Case 5 - E-verification of Income Tax Return³⁸

The Central Board of Direct Taxes (CBDT) launched e-verification service on 13th July, 2015 for e-filing Income Tax Returns. One of the options provided to residents is e-verification of Income Tax Returns using *Aadhaar* One-Time Password (OTP) authentication. To e-verify using *Aadhaar*, the *Aadhaar* card should be linked to the Permanent Account Number (PAN) database after which the tax payer can upload their Income Tax Return (ITR) documents. An OTP is sent to the *Aadhaar*-seeded mobile number. When the correct OTP is entered in the website a match is done and the details are considered verified. As on 31st December, 2017, over 64.6 million PAN holders have requested to link their *Aadhaar* with CBDT. Thus far, about 16.3 million income tax payees have used e-verification this year and nearly 25,000 people are e-filing their IT return daily using *Aadhaar*-based OTP authentication. This has made the process of filing tax returns easier by reducing the burden of paperwork.

These methods have the ability to digitally verify the identity of those who receive benefits by matching their details with existing data. The information can be used to record and track recipients. This will help weed-out duplicate beneficiaries. The systems will also simplify the administrative processes by eliminating paperwork and physical movement of records, which will, in turn, reduce the time taken for the transfer of benefits.

However, if the department considers implementing any technology-based solution it should ensure a number of steps are completed first. These include:

- A carefully planned and monitored pilot is attempted first;
- Implementation challenges noted;
- Corrections incorporated;
- The intervention is introduced in a phased manner.

38. <https://www.incometaxindia.gov.in/Pages/tax-services/file-income-tax-return.aspx>

12. Conclusion

The process of distributing benefits and affiliated systems are becoming increasingly reliant on technology. This is a step in the right direction as technology plays its part as an enabler of positive change. There is a need to focus on the people who operate the technology. Long-term training and improved communication efforts can help stakeholders reach a consensus as to how they view and operate technology.

The following diagram illustrates the roadmap to improve stakeholder experience with respect to in-kind transfers in education.

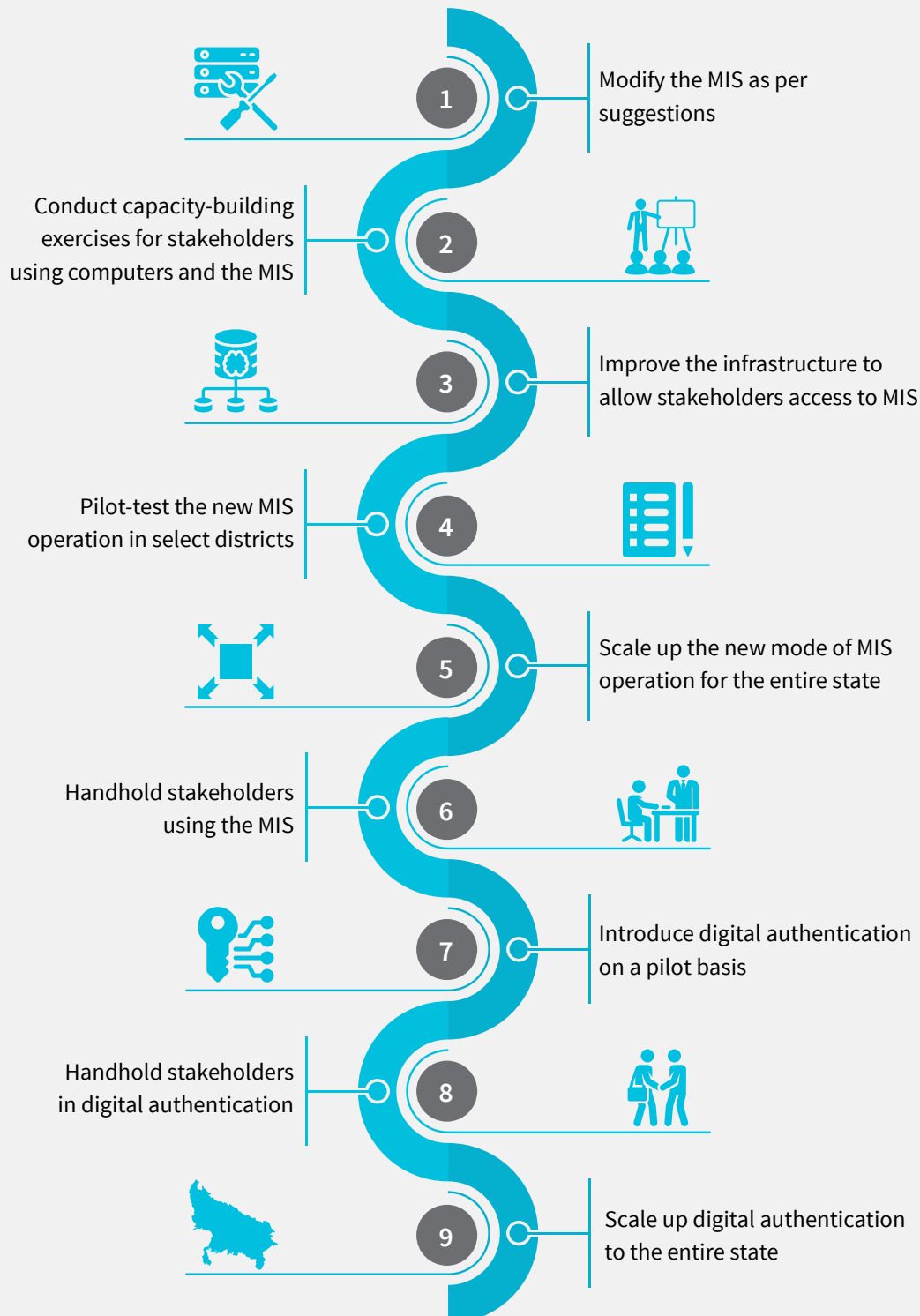


Figure 25: Step by step guideline for implementation of recommendations

Appendix I: Extended introduction

Popular indices like the [Human Development Index \(HDI\)](#)³⁹ place a high value on education as an indicator of human development and investment in human and social capital. Taking a strong stance on education, the Government of India passed the [Right to Education \(RTE\)](#) Act in 2009. Through this Act, the government made free and compulsory education a fundamental right of every child in the age group of 6-14 years. The obligation to ensure that every child is able to exercise this right rests with local government authorities.

At present, the [Sarva Shiksha Abhiyan \(SSA\)](#) is the government's core programme for driving universalisation of elementary education. Operational since the year 2000-01, SSA is a centrally sponsored scheme implemented in partnership with individual state governments. The government of India earmarked a budget of [INR 23,500 crore \(~3.6 billion USD\)](#)⁴⁰ for SSA in the financial year 2017-18. The scheme covers multiple aspects of elementary education like enrolment, retention, infrastructure, course support, etc. All these aspects have been conceptualised keeping in mind one single goal which is: **the removal of every obstacle that prevents any child in the country from attending school.**

Cost is the primary deterrent among low-income households in educating their child. Hence, the Right to Education Act specifically mandates the removal of any financial barrier that prevents a child from completing elementary education. This not only relieves parents from paying school fees to government schools but also provides a bouquet of goods⁴¹ deemed necessary, by the state, for a child to attend school.

Goods provided under SSA are disbursed as unconditional benefits to elementary school children and vary across states. Additionally, there are other schemes such as Mid-Day Meal (MDM), for students up to class VIII which supplement the efforts of SSA to ease the financial burden associated with educating a child.

The Department of Basic Education (DoBE), Government of Uttar Pradesh, is responsible for the management of [15 million students studying in 160,000 elementary schools](#)⁴² across the state. As a part of its duties, DoBE oversees the implementation of SSA in Uttar Pradesh. As with any centrally sponsored scheme, the budget for implementing SSA is shared between the Government of India and the Government of Uttar Pradesh (GoUP). For SSA, the cost sharing between the central and state governments is in the ratio of 60:40. The central government prescribes multiple criteria like caste, gender, and household income for SSA. However, GoUP delivers similar benefits to all children studying in specific⁴³ schools by further supplementing these funds from the state exchequer.

In the year 2017-18 Government of UP earmarked [INR 524 crore](#)⁴⁴ (~81 million USD) to purchase benefits for elementary school children. The benefits distributed in this academic year are books, uniforms, bags, sweaters, shoes, and socks.

The Government of India's digitisation drive has given DoSE an opportunity to improve the efficiency of their benefits delivery and reduce leakage by transforming their process of delivery, communication (internal and external), data transfer, and information sharing.

39. <http://hdr.undp.org/en/content/human-development-index-hdi>

40. <https://www.indiabudget.gov.in/budget2017-2018/ub2017-18/eb/stat4a.pdf>

41. [http://www.upefa.com/upefaweb/admin/myuploads/SSA_Frame_work_\(revised\)_9-6-2011.pdf](http://www.upefa.com/upefaweb/admin/myuploads/SSA_Frame_work_(revised)_9-6-2011.pdf)

42. http://udise.in/Downloads/Publications/Documents/District_Report_Cards-2015-16-Vol-II.pdf

43. Government school and government-aided schools; explained further in methodology.

44. http://budget.up.nic.in/budgetbhashan/budgetbhashan2017_2018.pdf

Appendix II: Research details

The sample size of the qualitative study was dispersed to capture a sample of stakeholders' perceptions and the challenges facing the study, that is, the state of Uttar Pradesh. The analysis was done based on reported experiences of stakeholders. Districts selected were Gorakhpur, Lalitpur, Lucknow, and Meerut. These districts cover the four regions of the state, that is, Purvanchal,

Bundelkhand, Awadh, and Western UP; and were selected in consultation with the department.

The government has numerous categories of schools. For the sake of simplicity (and because of the low impact on our study) we only distinguish using some of the categories broadly falling under two types of classification, that is, scope and management.

Based on the scope of the study, we can categorise schools as:

| Classes | Department | Schools covered in the research |
|---------|-----------------|---------------------------------|
| I-V | Basic Education | 18 |
| VI-VII | Basic Education | 17 |
| I-VIII | Basic Education | - |
| Total | | 35 |

Based on the management of the schools, some of the classifications⁴⁵ are

Government schools

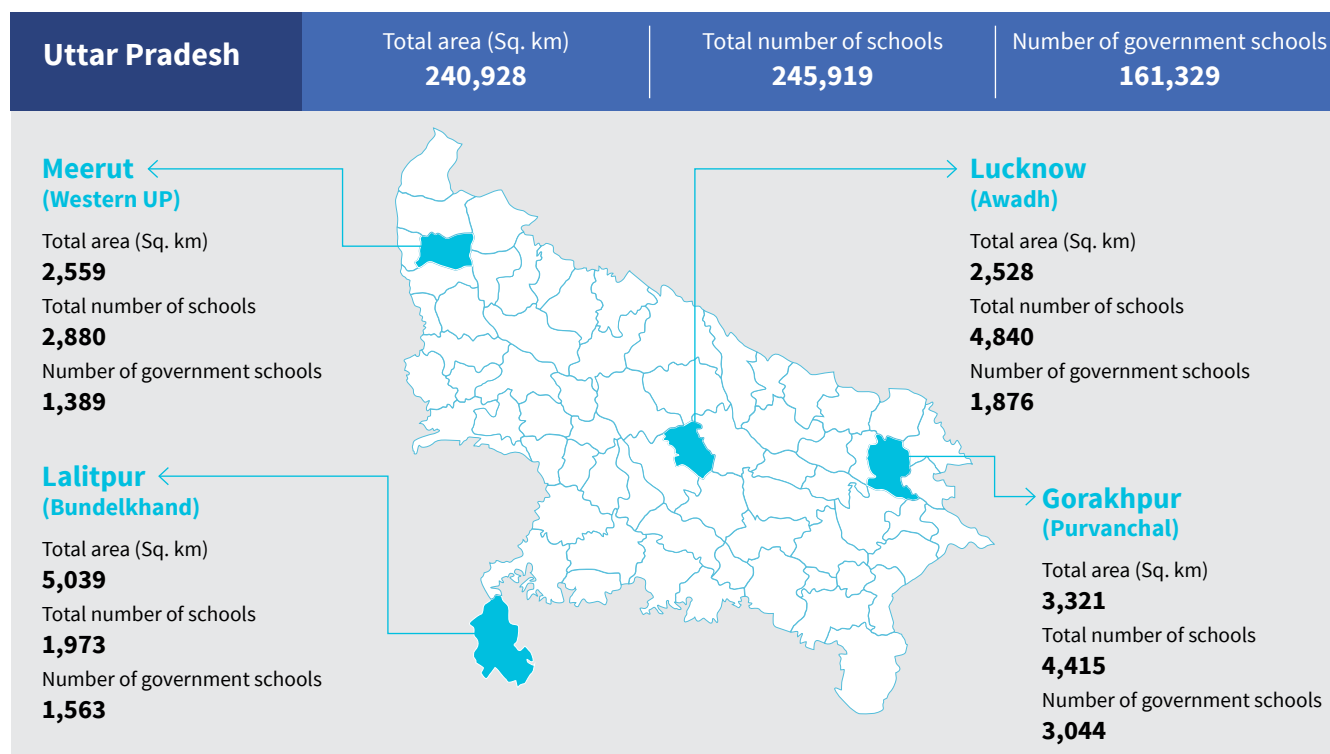
Schools managed by the government

Government-aided schools

Schools that receive government funds but are managed by an independent board which received approval of the government post-formation

Private schools

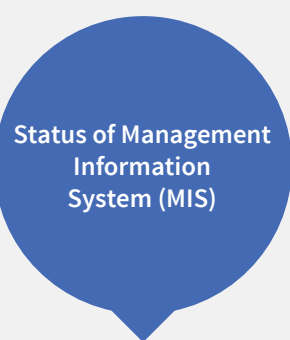
Schools that do not receive government funding and are run independent of government influence



45. Under SSA, the government provides benefits to all students in government schools as well as boys below the poverty line and all girls in government-aided schools. For boys who exist above the poverty line, in government-aided schools, the state allocates separate funds to provide the same benefits as received by others. Therefore, these benefits are universal to every student who attends government schools as well as government-aided schools in Uttar Pradesh.

| Stakeholder | Details | Number of respondents |
|----------------------|---|-----------------------|
| Beneficiary | Beneficiaries include students and, in the case of young children, parents. | 101 |
| School staff | Government officials include executives across the departments involved in programme execution, monitoring, and MIS | 50 |
| Government officials | School staff include principals, headmasters, teachers, and non-teaching staff | 19 |
| Others | Others refer to vendors or contractors supplying in-kind benefits | 1 |

Provided below is the framework that we used to conceptualise the study:



Type of record maintenance (digital or manual, storage, and number of formats).

Sharing of data or information (periodicity, mode of sharing – manual or electronic)



Enrolment or validation process for students

Distribution process of in-kind benefits

Awareness levels of stakeholders

Vendor Selection and payment process

Demand Estimation process

Grievance Resolution Mechanism



Best practices through secondary research

Existing authentication mechanisms

Suggestions on alternatives or options for distribution mechanisms through secondary research

Appendix III: Other important concepts

This section outlines some of the important terminology and their respective meanings.

| | |
|----------------|--|
| Poverty line | This is a classification of households in India, based on family income. Households are classified as Below Poverty Line (BPL) or Above Poverty Line (APL). Present limits are based on the recommendations of the Tendulkar Panel made in 2010-11. The panel recommended a minimum daily wage of INR 27 (USD 0.417) in rural areas and INR 33 (USD 0.509) in urban areas as the level of demarcation. If a household is classified as BPL, it is eligible to receive a host of government-sponsored benefits. |
| Girl education | The state gives special attention to educating a girl child as it recognises traditional barriers that prevent girls from availing opportunities that are similar to boys. The department manages a number of girls' schools and girls receive preference to avail certain state-sponsored benefits, regardless of other parameters. |
| Government Act | A bill which has passed through the legislative houses of parliament and becomes a law. State governments adopt Acts passed by the Government of India to make it a law in the state. |

Appendix IV: MIS details

Unified District Information for Education System (UDISE)

– UDISE is a comprehensive platform that captures data on the entire education ecosystem. It is the primary database for decision making, planning and allied activities. Data is collected from every school in the state and is not limited to government schools. Prior to the academic year 2017-18, in Uttar Pradesh, information for UDISE was collated at the back-end by merging a database called Student Database Management Information System (SDMIS) and the information captured through Data Capture Format⁴⁶ (DCF).

In academic year 2017–18, both these forms have been merged into a single format that every school has to complete. UDISE data can be completed offline via an application and uploaded online when connectivity is available.

Shaala Siddhi – *Shaala Siddhi* is a school evaluation tool used for internal as well as an external assessment of an institution. Schools receive grades based on multiple parameters. Like UDISE the grading is not limited to

government schools. The platform is used to help guide authorities on specific areas that require improvement. *Shaala Siddhi* focuses on the school as a unit and it covers individual student details. *Shaala Siddhi* is an online dashboard for data entry; only completed reports can be downloaded to be used offline.

Household Survey – Household surveys are mandated per the Government of Uttar Pradesh’s adoption of the Right to Education Act. Government school teachers conduct an annual survey of homes in the school’s vicinity. The survey captures the education status of all children between the ages of six and fourteen in each locality. The survey follows a rudimentary format⁴⁷ that includes a few basic questions regarding the household condition. The data captured by teachers from each school is transferred in hard copy form to the local Block Resource Centre. The information reflects the general education status in the state.

The following table illustrates that similar data is being collected over multiple platforms.

| S No | Field | UDISE | Shaala Siddhi | Household Survey |
|------|---|-------|---------------|------------------|
| 1 | Student demographics | ✓ | ✓ | ✓ |
| 2 | School UDISE ID | ✓ | ✓ | x |
| 3 | Infrastructure | ✓ | ✓ | x |
| 4 | Teacher profile | ✓ | ✓ | x |
| 5 | Exam results (all classes) | ✓ | ✓ | x |
| 6 | Vocational training | ✓ | ✓ | x |
| 7 | School Profile | ✓ | x | x |
| 8 | SMC details | ✓ | x | x |
| 9 | New admission, enrolment and repeaters | ✓ | x | x |
| 10 | Pedagogy capability | ✓ | x | x |
| 11 | Incentives and benefits (including SSA benefits provided) | ✓ | x | x |
| 12 | School accounts | ✓ | x | x |
| 13 | Placement details | ✓ | x | x |
| 14 | Student details (Through SDMIS) | ✓ | x | x |
| 15 | Parents, Teachers and Principal’s details | ✓ | x | x |

46. DCF is the terminology used by the NUEPA to refer to the format, which captures school-level information

47. Appendix V

| | | | | |
|----|--|---|---|---|
| 16 | Children with Special Needs (CWSN) details | ✓ | x | x |
| 17 | Receipts and Expenditures (Grants) | ✓ | x | x |
| 18 | Non-Teaching Staff details | ✓ | x | x |
| 19 | SMC performance | x | ✓ | x |
| 20 | Teacher competence | x | ✓ | x |
| 21 | Overall student performance of the school | x | ✓ | x |
| 22 | Subject-wise student performance of the school | x | ✓ | x |
| 23 | Teachers assessment | x | ✓ | x |
| 24 | School leadership | x | ✓ | x |
| 25 | Community partnership | x | ✓ | x |
| 26 | Locality demographics | x | x | ✓ |
| 27 | Household demographics | x | x | ✓ |

School staff, MIS officers, and other government officials report that they are asked for similar data two to six times each academic year as the government requires the most up to date data. Many times, information is collected through informal channels. This indicates that data is updated in intervals and the information available to the department, through MIS, is not reflective of real-time data.

The point at which data is digitised is not standardised across the state and depends on the availability of infrastructure and capability of the stakeholders. However, there are some informal norms followed, though these may not universally apply.

UDISE – Schools are requested to fill in hard copies of data. The hard copies collected and forwarded to the district office, where it is digitised.

Shaala Siddhi – Individual schools have login credentials and are expected to fill in the information. Due, in part, to infrastructure and capability issues, most schools rely on BEO and their computer operators for online data entry. Hence, most schools submit hard copies to the block.

Household Survey – Schools submit a hard copy to BEO. It is digitised in the form of an excel sheet at block level at BRC. It is shared in the same format, through e-mail, with BSA and directorate when requested.

At present, we were only able to discern one use of the MIS system by DoBE – budgeting. Every year, the central government allocates funds for SSA based on the previous year's UDISE reports. The state also estimates demand for

in-kind transfer goods based on the previous year's UDISE report. When the state announces tenders for the supply of goods, it mentions the expected size of order for each block. Any additional demand as a result of increases in enrolment is given to vendors after the initial orders have been placed and accepted. Vendors do factor for a 5% variance. However, in most instances, the variance is around 1%.

The Department of Basic Education schedules budgeting activities between 15- 20th February each year, but this sometimes extends to March.

An MIS system is capable of generating three kinds of reports:

- **Periodic** – Reports that are generated regularly. Reports may be produced daily, monthly, yearly, or on at any other time interval. They are useful for comparison purposes., for instance, the Annual report generated for budgeting.
- **On-demand** – Reports that are generated using existing data whenever a user request. They are used normally to answer questions on current status., for instance, Report generated to check the status of distributions when activities are ongoing.
- **Trigger** – Reports that are generated automatically when exceptions occur. They help alert users to situations where immediate action may be required., for instance, Report to indicate depleting stock during distribution.

Each kind of report finds an application for multiple purposes and is used often in combination with other reports to better understand a situation.

MIS reports may find use at different levels for different purposes. We can categorise the levels of decision-making as:

- **Strategic management** of MIS is used both at the state level and at the national level. Strategic management is the use of MIS for long-term planning factoring for things like change in the external environment using periodic and on-demand reports. Strategically, MIS is used to make projections based on current scenarios, identify areas of concern, plan interventions based on identified gaps, and allocate resources necessary for the interventions. MIS finds application in the strategic sphere it serves the purpose of presenting a macro picture and highlights specific areas of interest.

Potential users: Director of Basic Education, Ministry of Human Resources Development

- **Tactical management** at the district level. Tactical

management is the use of MIS for administering ongoing programmes and planning for impending ones using on-demand and trigger reports. Tactically, MIS finds application based on its ability to present comparative reports. Officials at the district level can look at specific thematic and geographical areas that require improvement in their districts so as to focus and plan their efforts accordingly.

Potential users: Basic Shiksha Adhikari, District Magistrate

- **Operational management** of MIS is done both at the block and school levels. Operational management is the use of MIS for tracking progress and taking immediate action using trigger and on-demand reports. Operationally, MIS finds application due to its ability to present real-time data. Officials responsible for day-to-day operations can use MIS to monitor implementation and check for compliance.

Potential users: Block Education Officer, Nyaya Panchayat Resource Coordinator, School principal

Appendix V: General information on government communication

We may classify government communication as:

- Internal and external communication
- Top-down and bottom-up communication.

Internal communication includes all information exchange within the department. Modes of communication used are government orders, memoranda, compliance notices, utilisation certificates, information requests, data, official letters, file management, etc. Channels of communication used are official letters issued (by post) and emails with scanned copies of letters.

External communication is the exchange of information between the department and entities outside the department. Outside entities include external stakeholders, central ministries, government agencies, private agencies, public agencies, vendors, service providers, media, etc. Government departments have increasingly become sensitive to the media's role in shaping public opinion and international discussions as it pertains to managing mainstream and social media are ongoing. Modes of communication used are official letters, notifications, brochures, data or reports, press releases, advertisements, tender invites, information provided on the official website, etc. Channels of communication used are print media, digital media, internet, and government publications.

Top-down communication is the communication that flows from a higher level to a lower level in the organisation's hierarchy. Top-down communication takes the form of

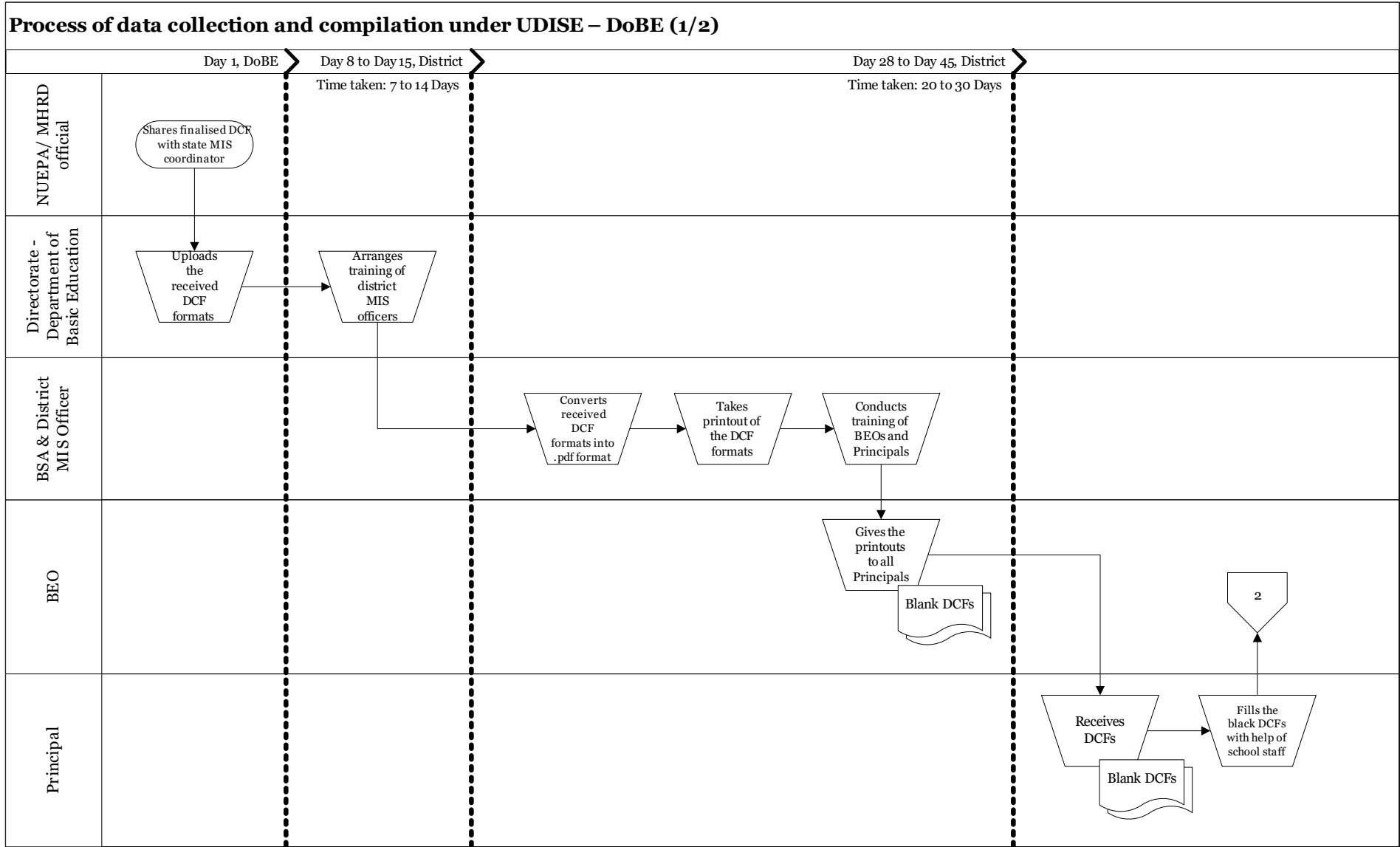
orders for compliance, requests for data, information on decisions taken in form of directives or government orders. Channels used are email, fax, telephone, and official letters.

Bottom-up communication is communication that flows from the lower level to a higher level in the organisational hierarchy. Bottom-up communication takes the form of order receipt confirmations, compliance notifications, data inputs, and utilisation certificates. Channels used are similar to top-down communication and include email, official letters, telephone, and fax.

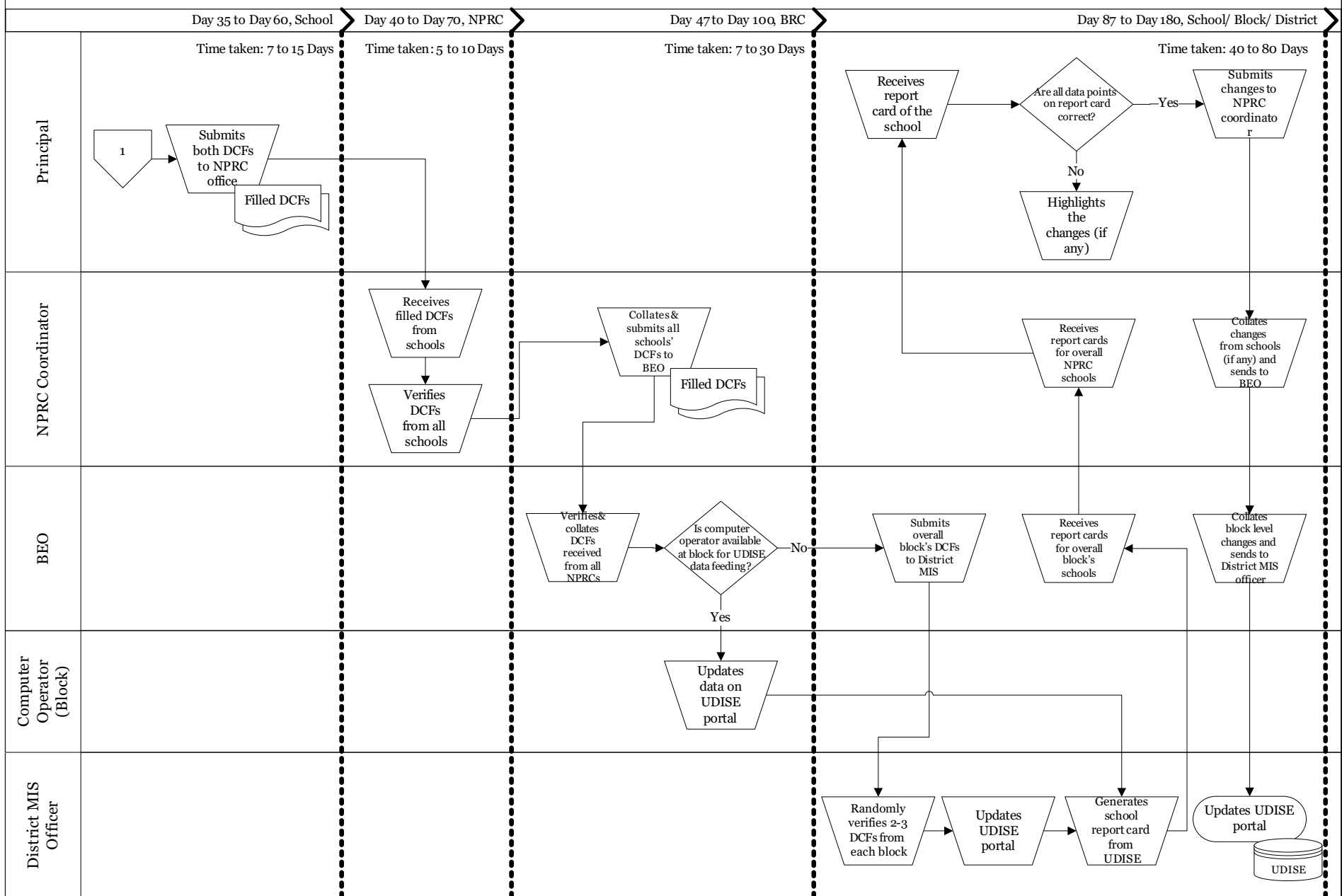
Failure to plan and execute each of these methods of communication has different impacts as described in the following list:

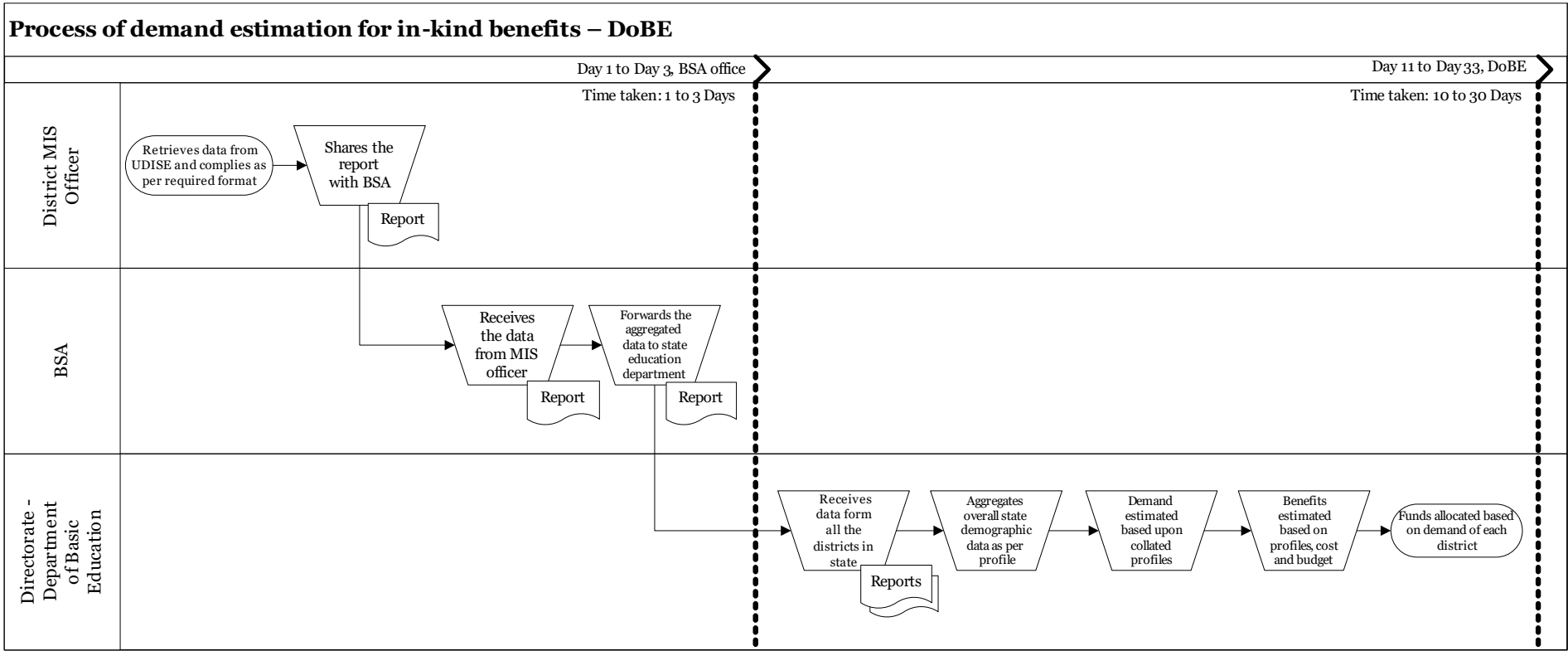
- Internal
 - » Top-down – Staff will not execute orders to the best of their capacity
 - » Bottom-up – Senior management will not have an accurate picture of the activities being conducted and will not be able to take correct decisions.
- External – Beneficiaries and other stakeholders will not be aware of work that the government is doing nor be in a position to comply if anything is expected of them. Also, failure on part of the government to communicate programmes effectively can lead to confusion among beneficiaries and stakeholders regarding the rationale behind the government's actions.

Appendix VI – Process maps

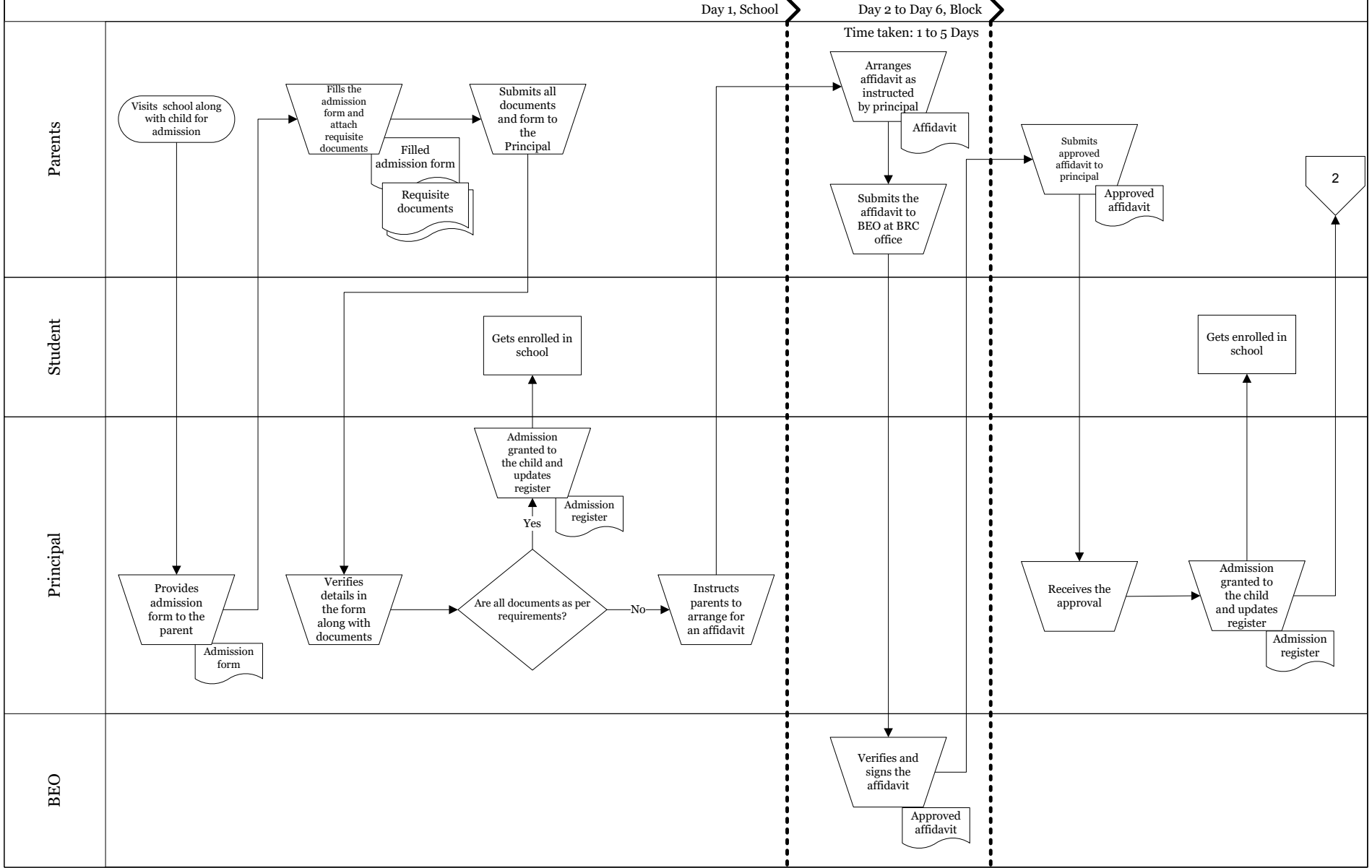


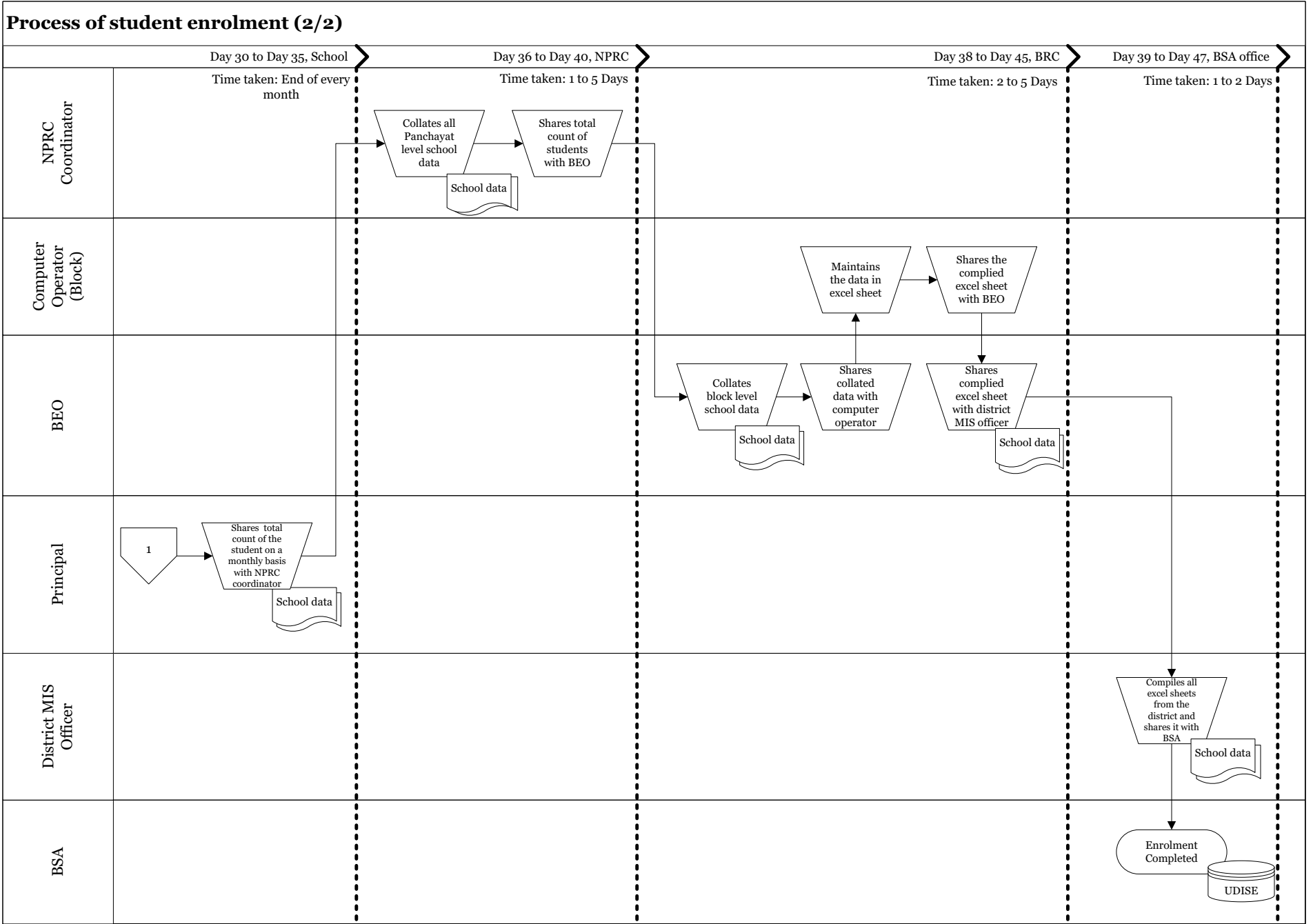
Process of data collection and compilation under UDISE – DoBE (2/2)

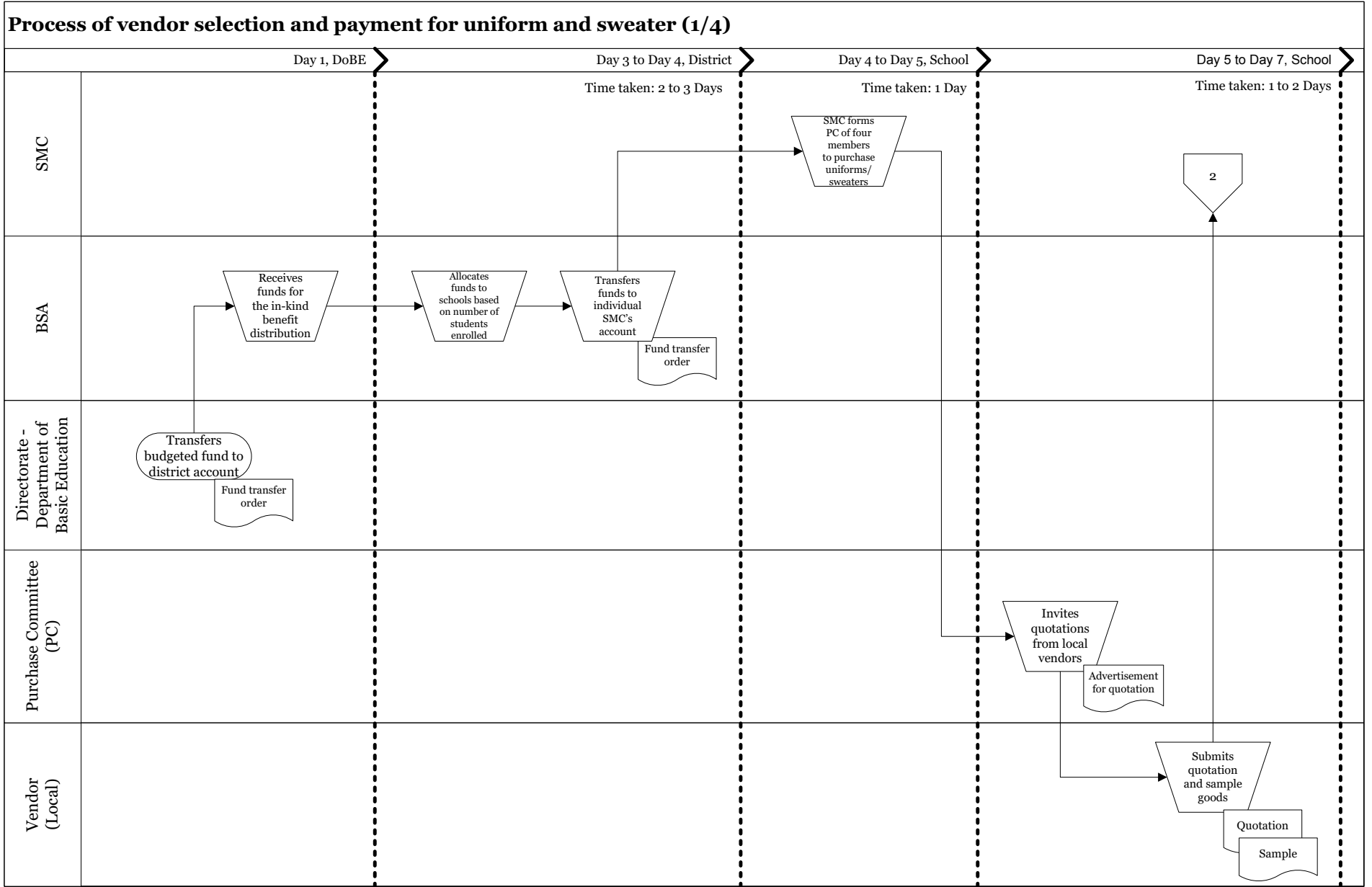


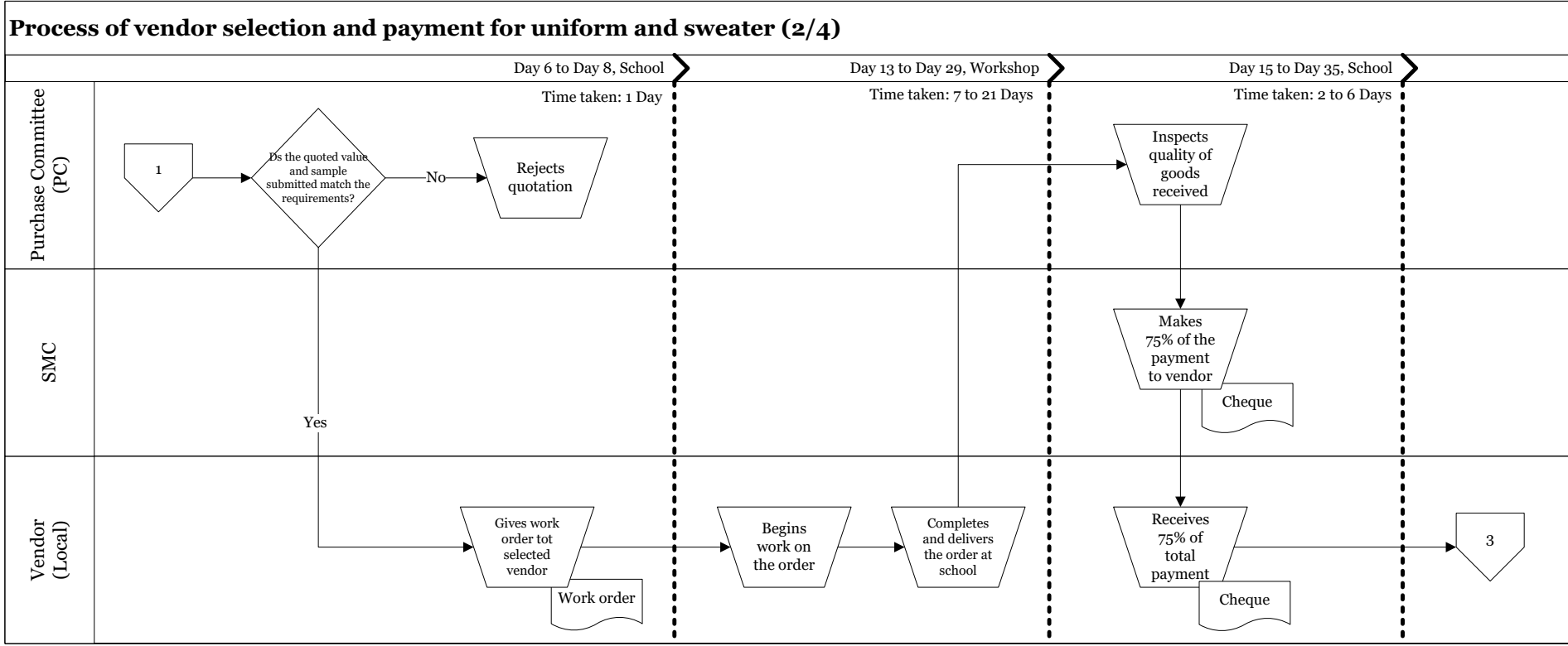


Process of student enrolment (1/2)

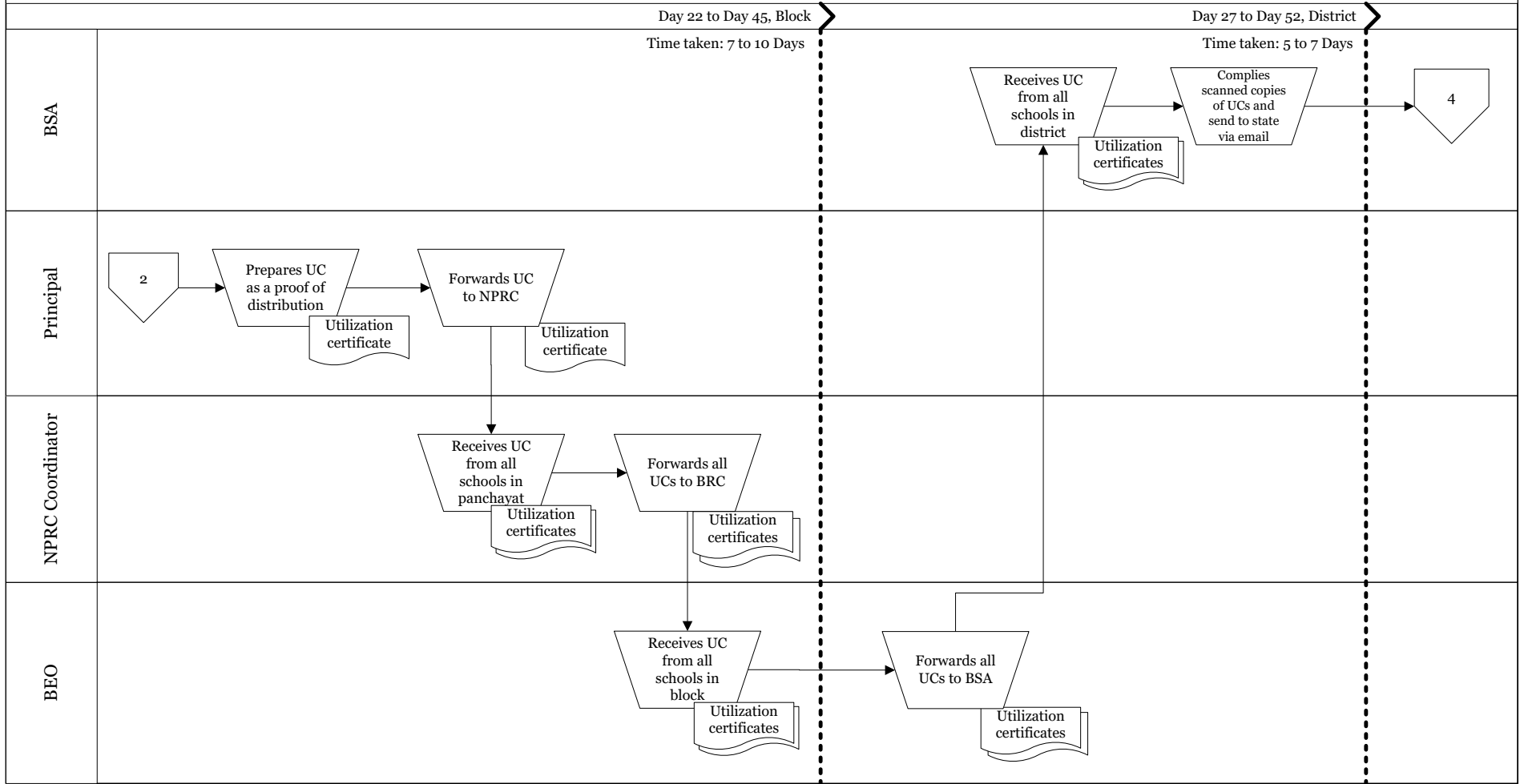




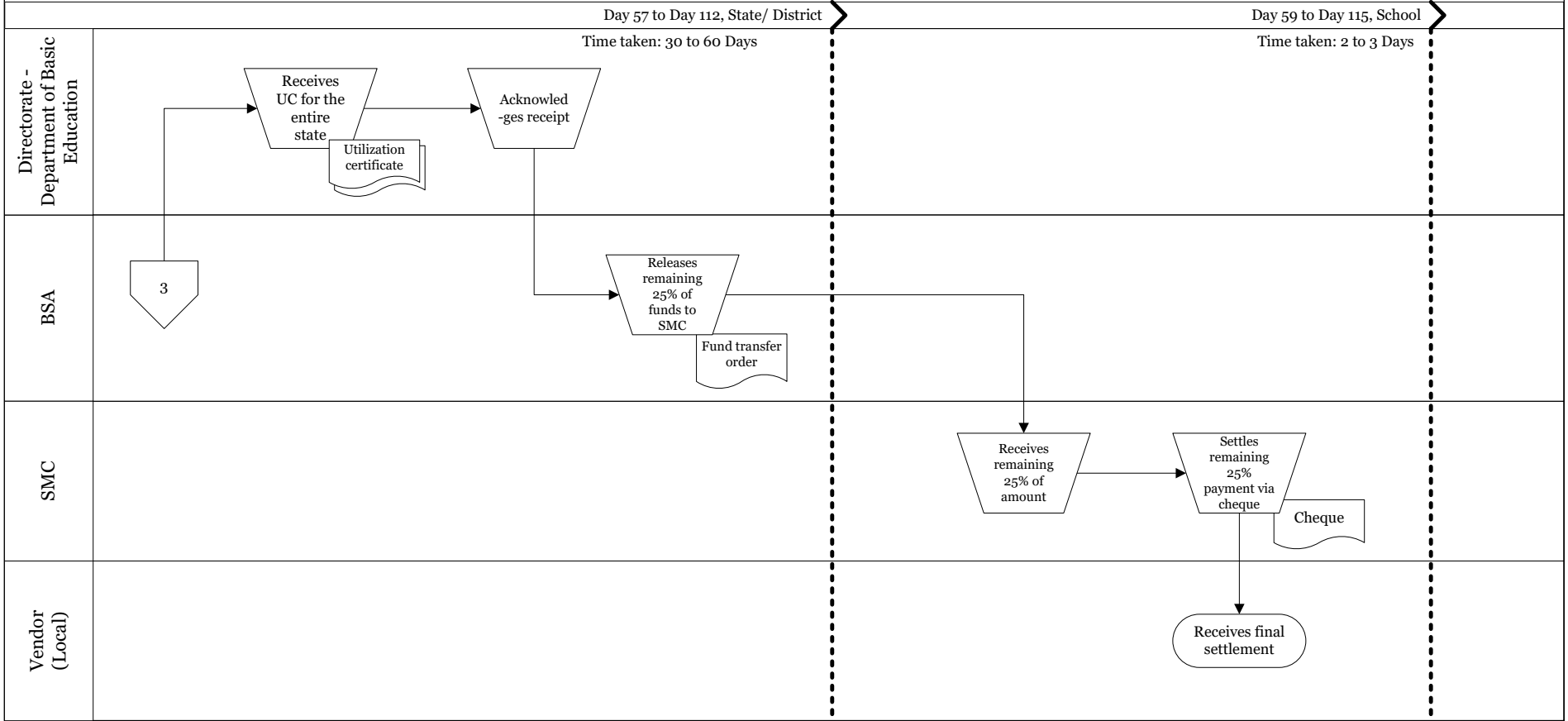




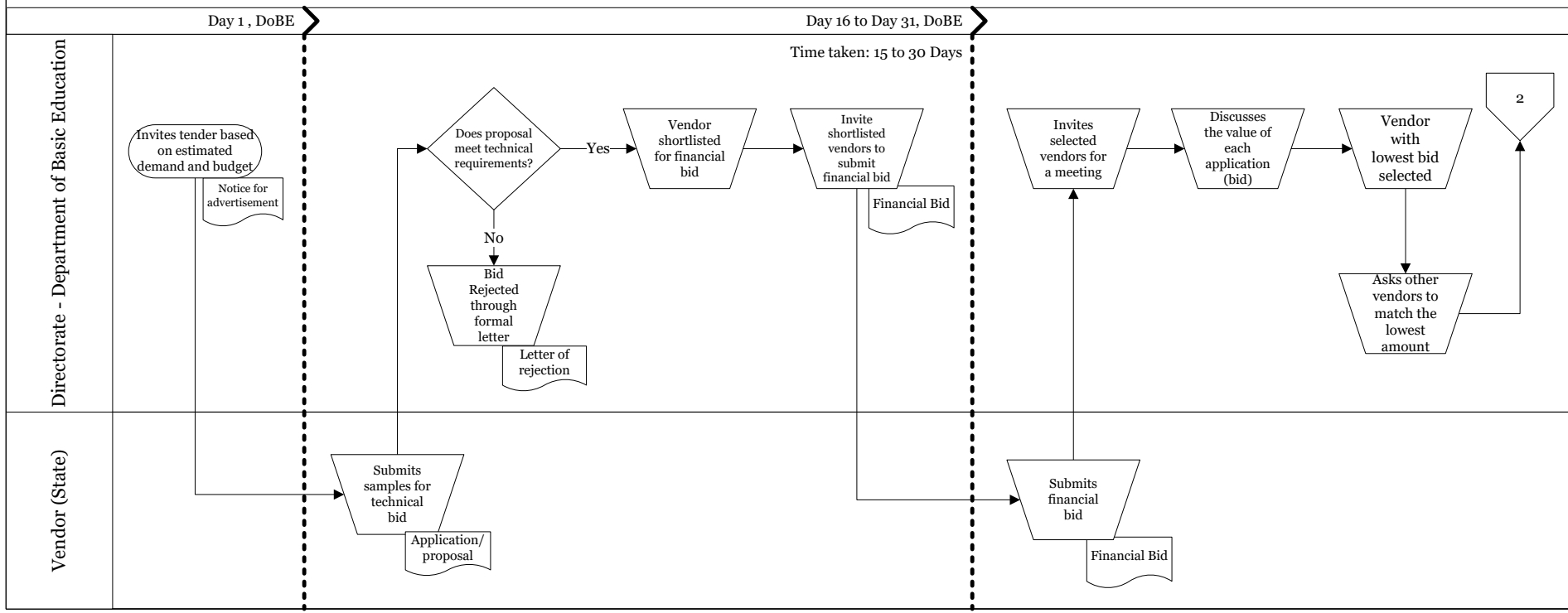
Process of vendor selection and payment for uniform and sweater (3/4)



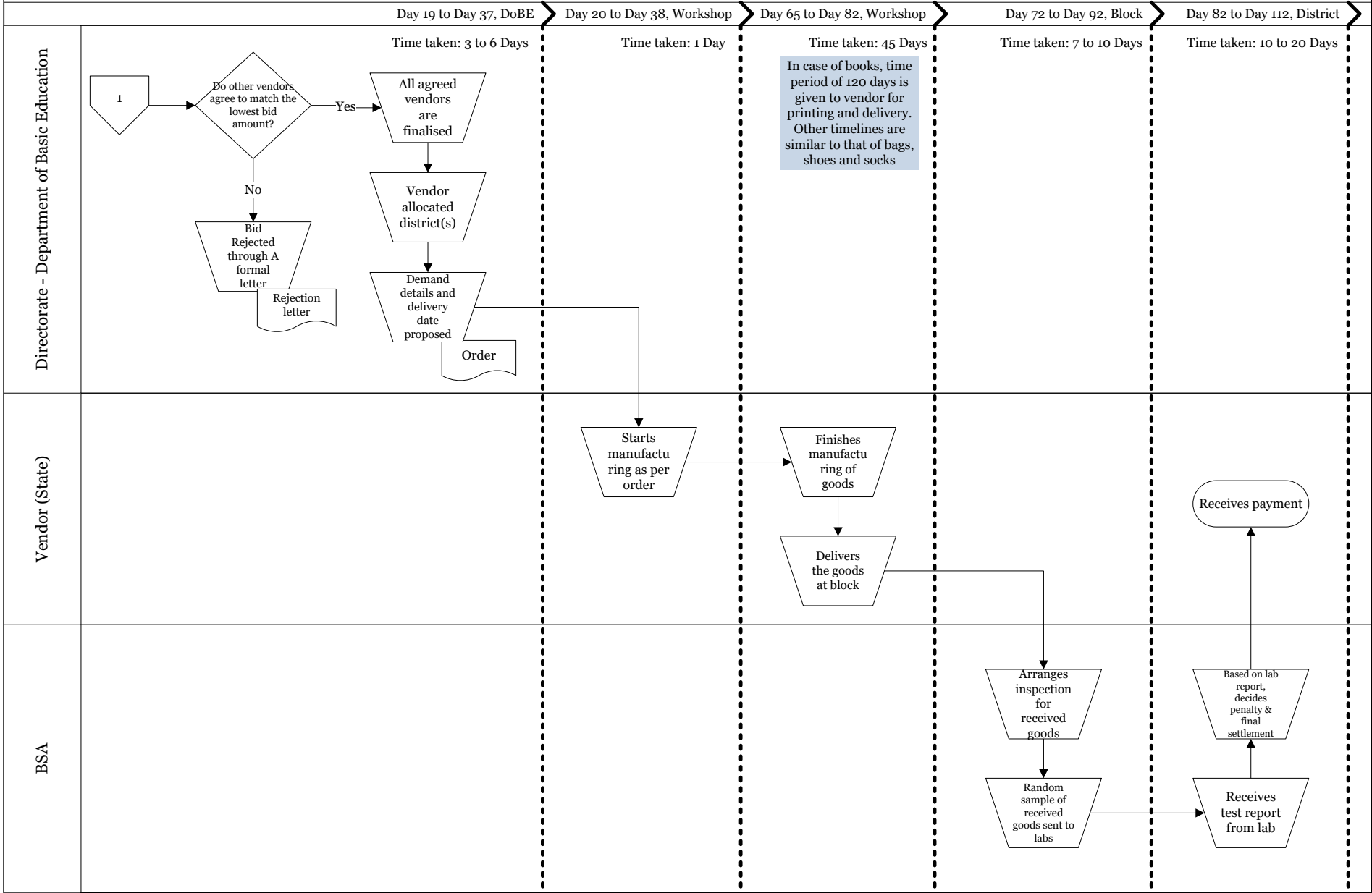
Process of vendor selection and payment for uniform and sweater (4/4)

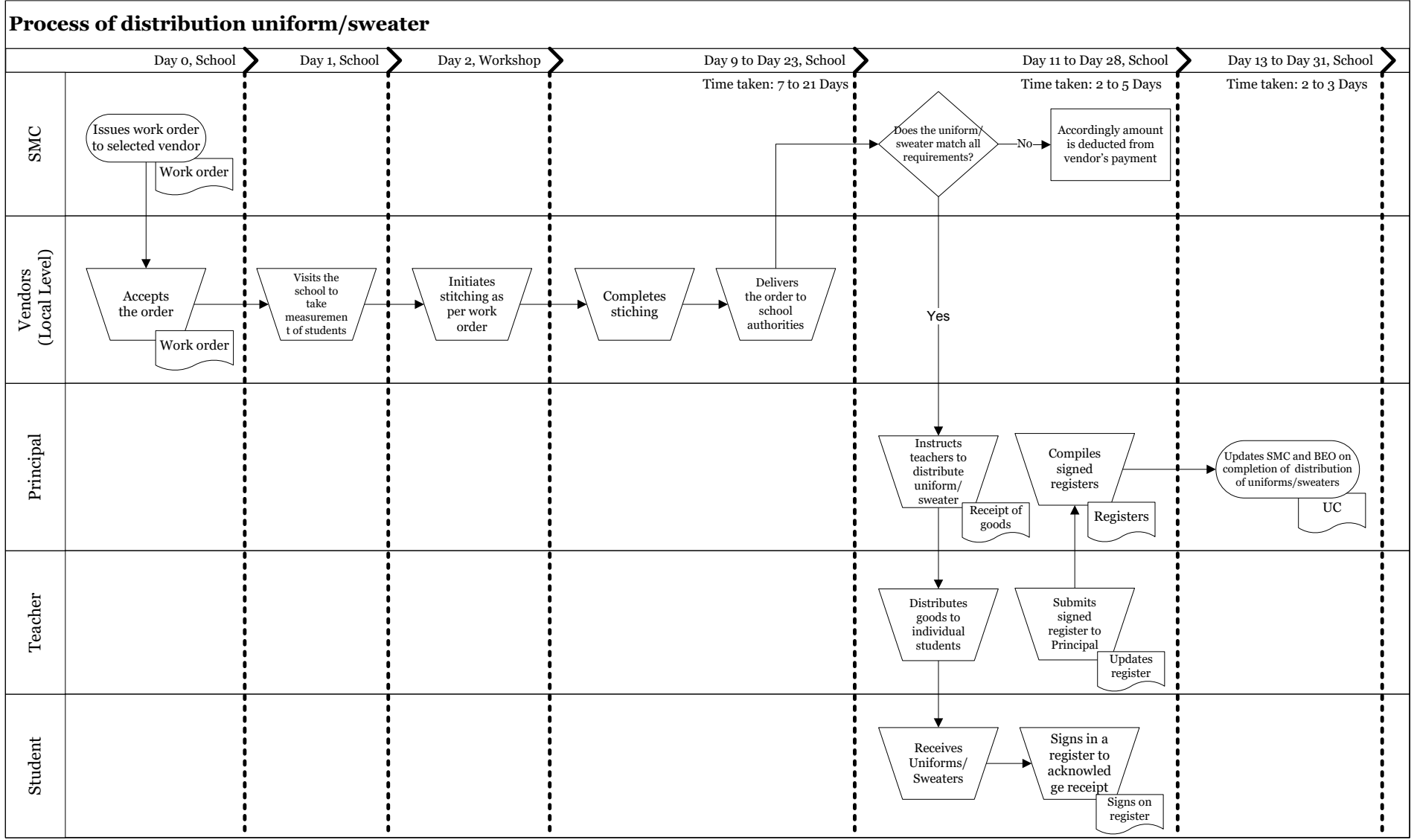


Process of vendor selection and payment for bags, books, shoes, socks (1/2)

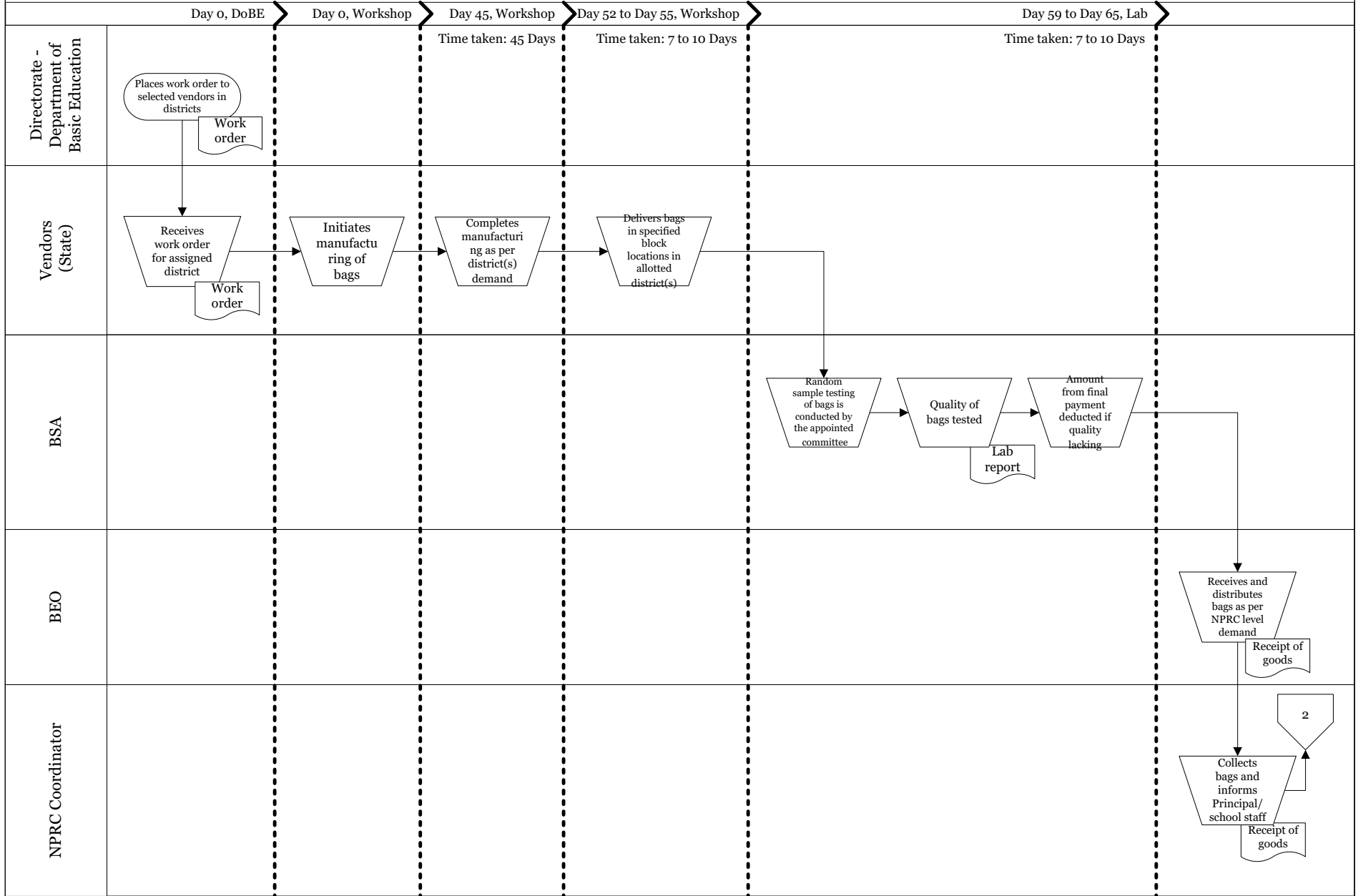


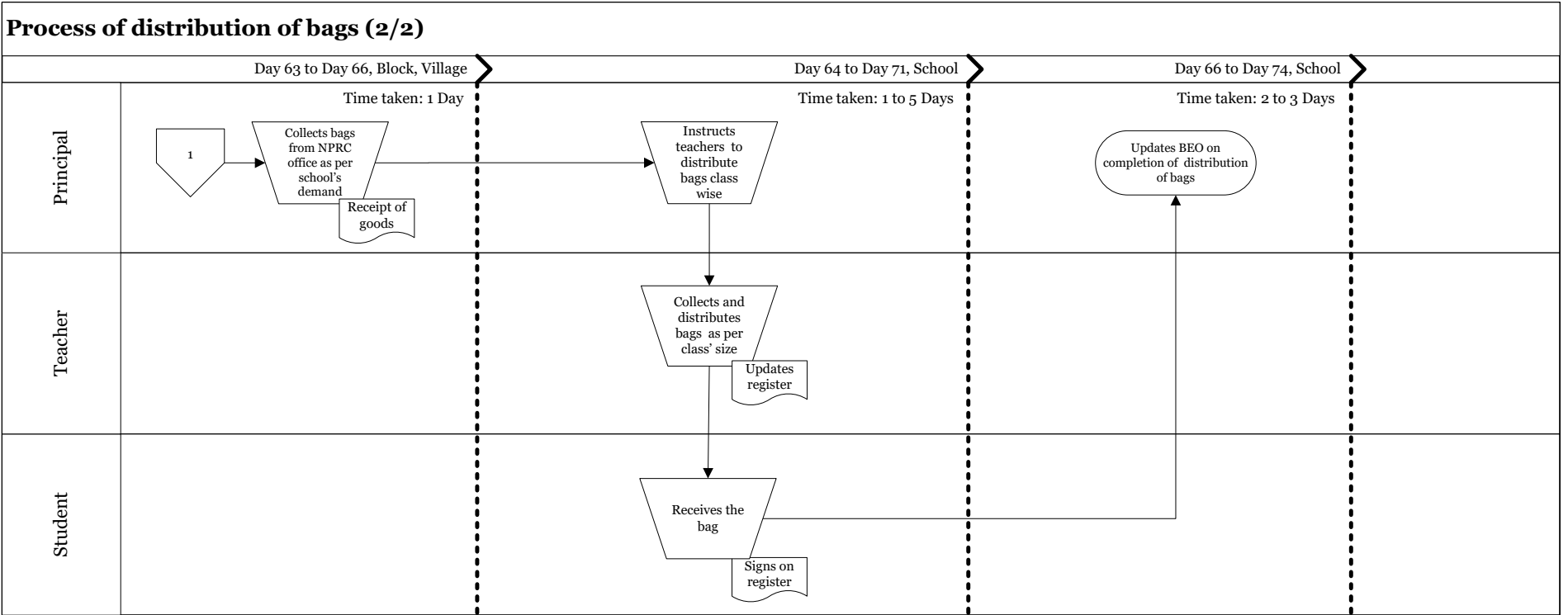
Process of vendor selection and payment for bags, books, shoes, socks (2/2)



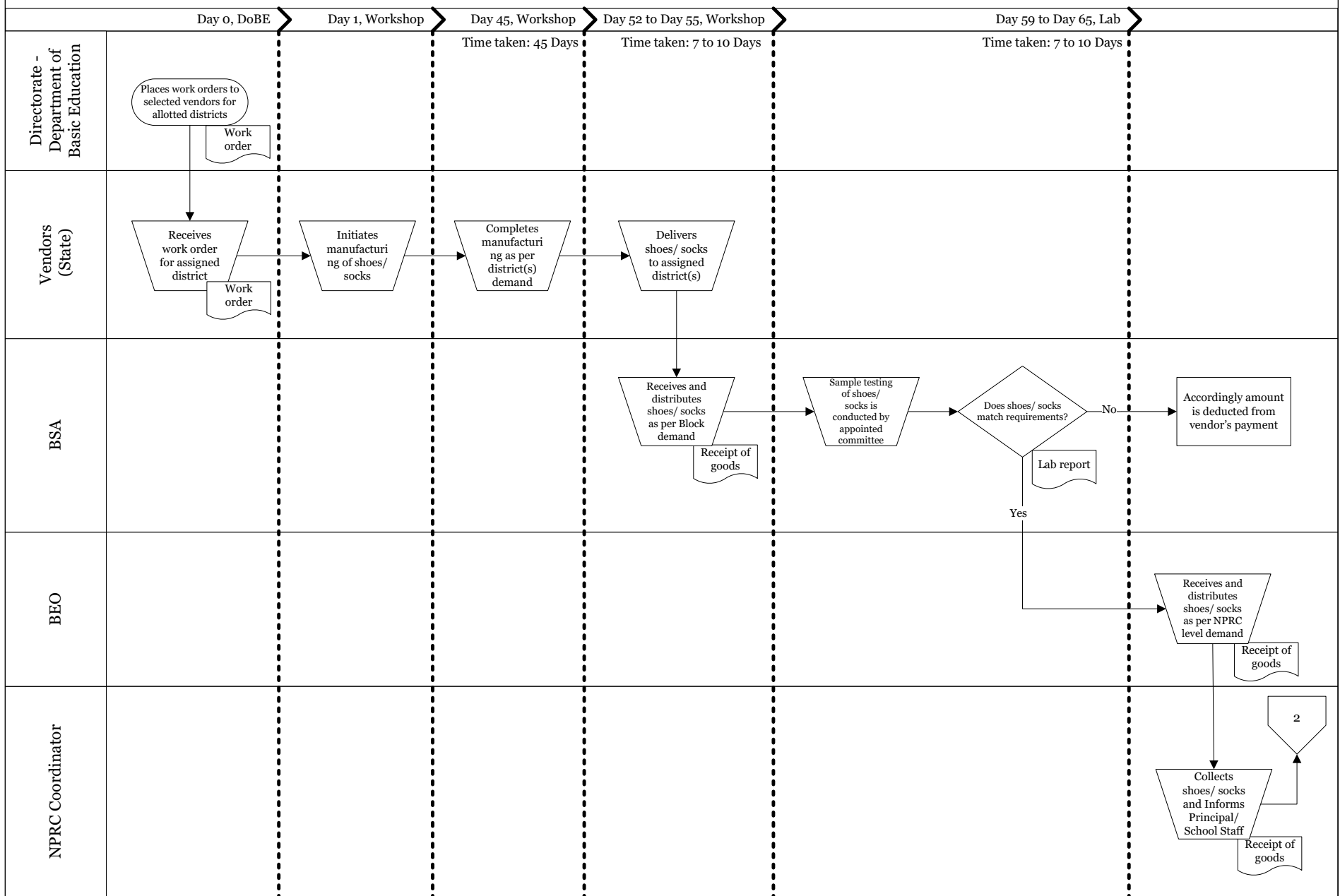


Process of distribution of bags (1/2)

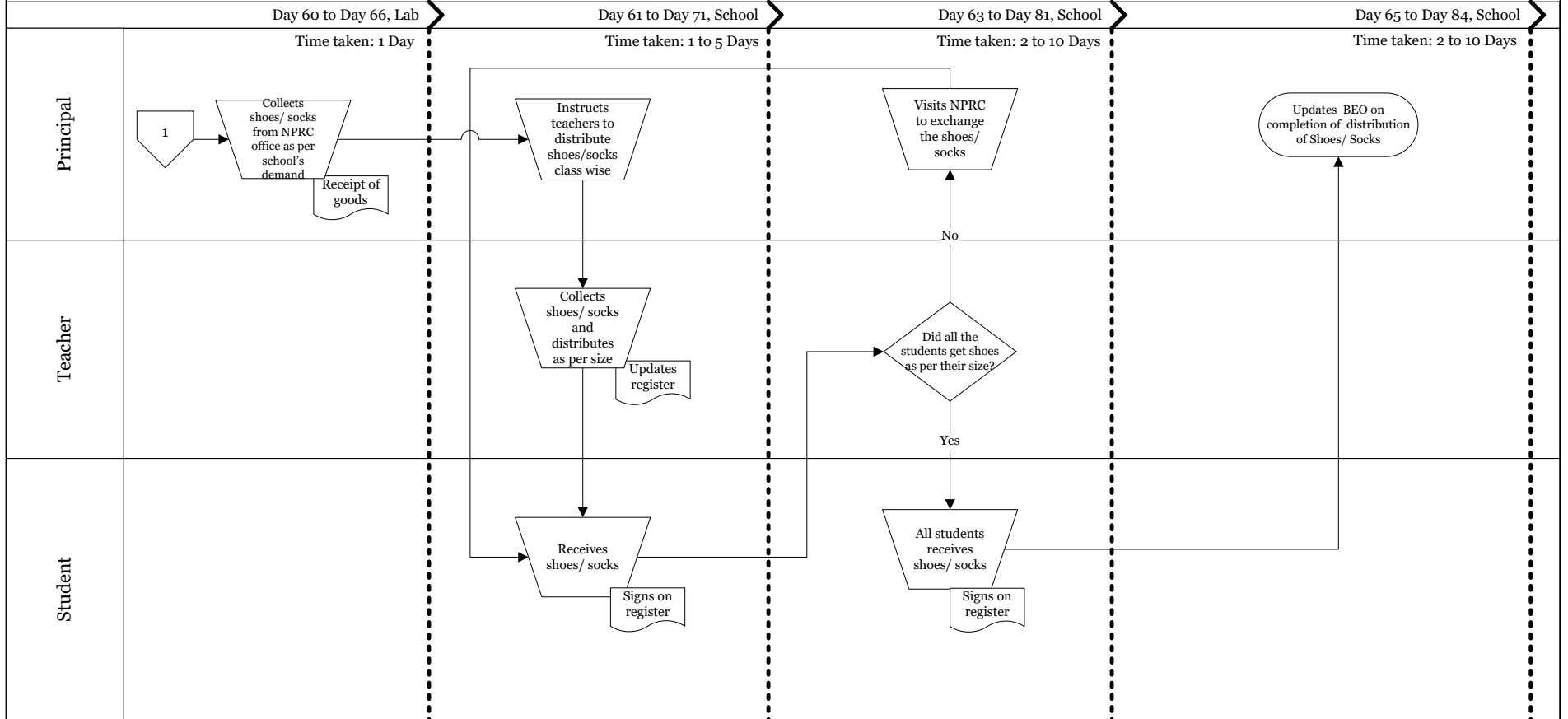


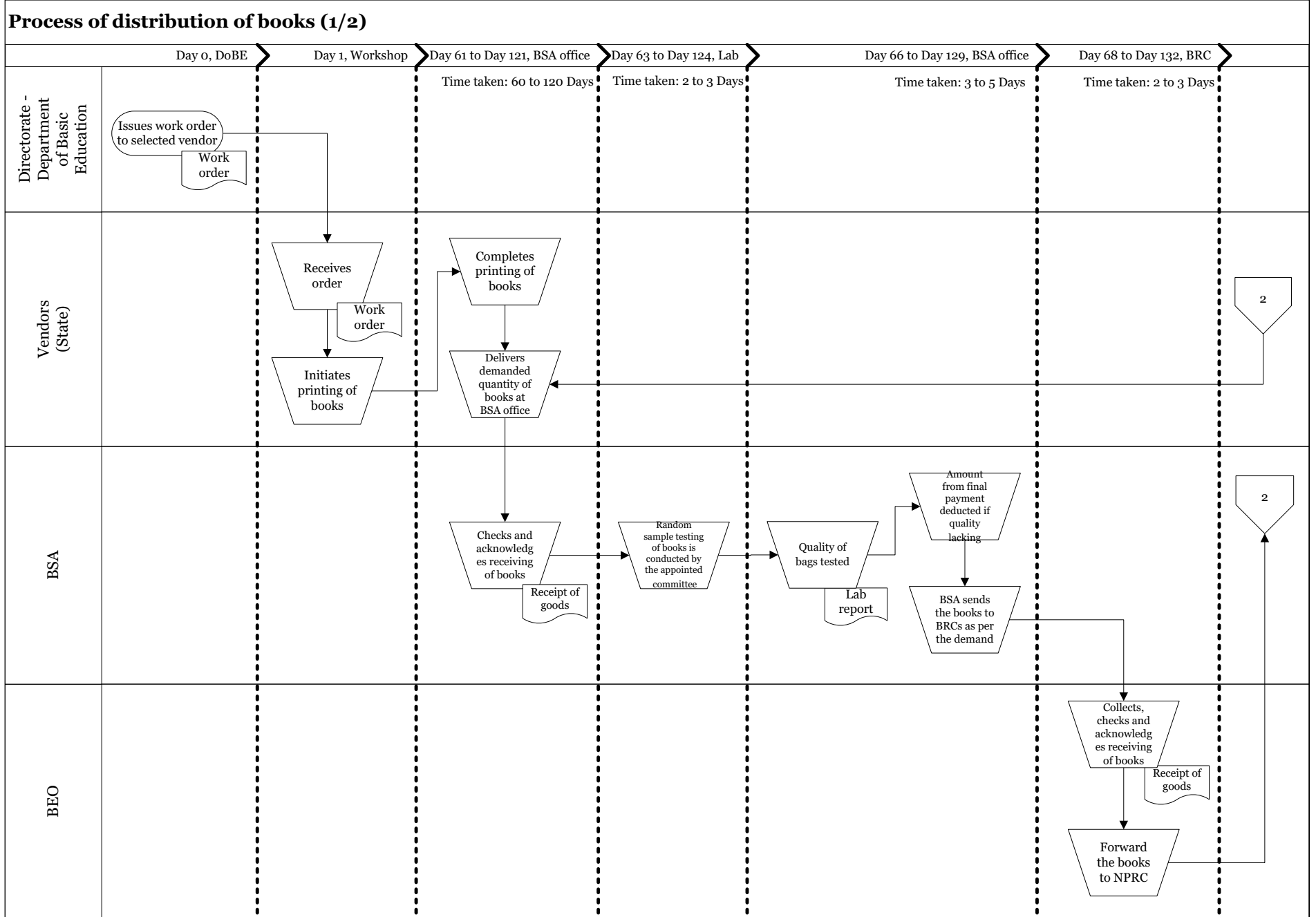


Process of distribution of shoes and socks (1/2)

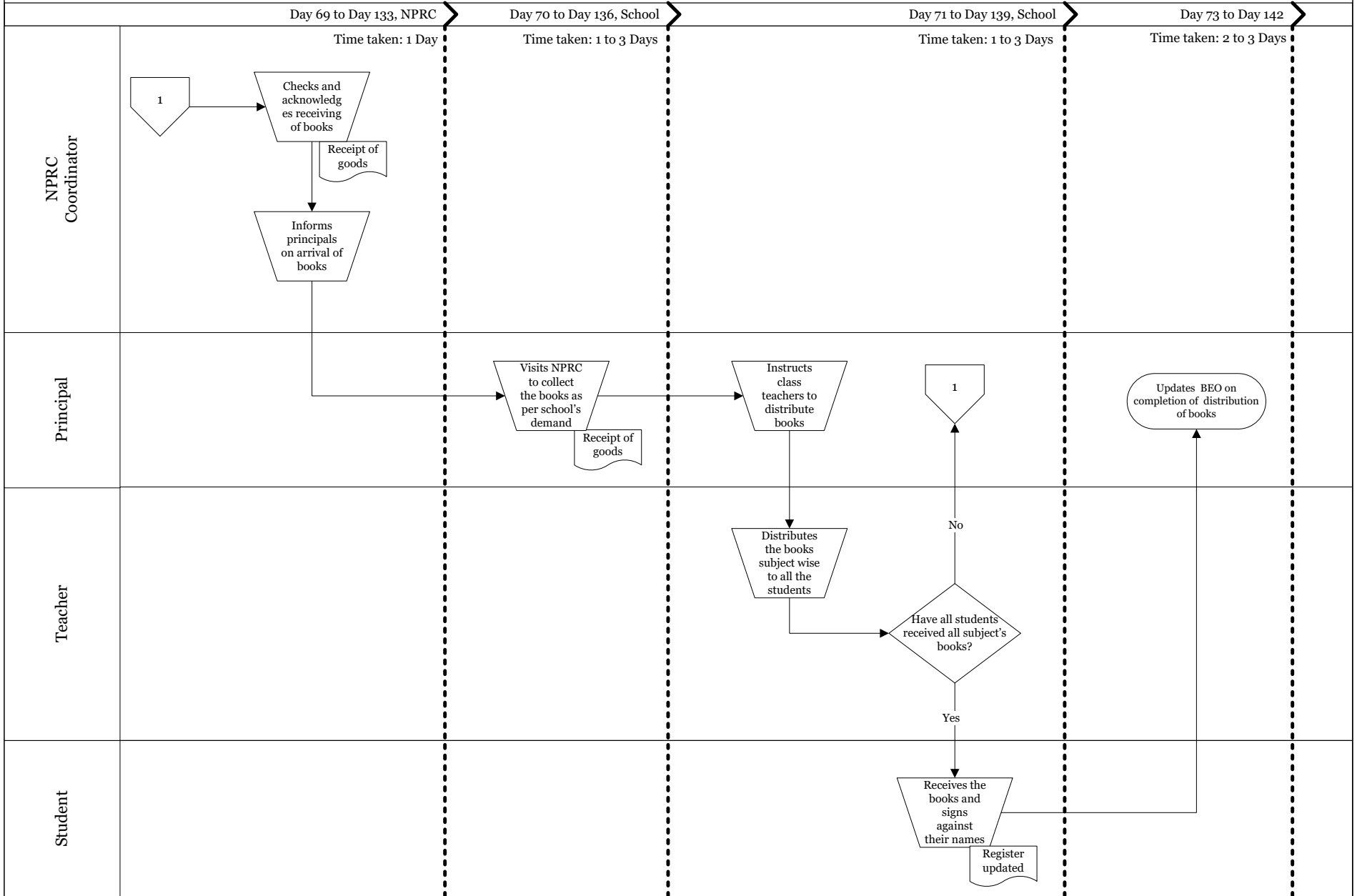


Process of distribution of shoes and socks (2/2)





Process of distribution of books (2/2)



Appendix VII – Costing sheet for authentication options

Note:

- Costs are calculated on the basis of average market rates for goods and services
- Costs of basic common infrastructure have not been taken into account for the calculation
- The total cost does not include the cost of hosting a distribution event
- Cost of the device includes the cost of delivery and installation. For computers, the cost has been taken on a pro-rata basis according to the calculation shown below
- Internet device refers to a modem or portable Wi-Fi device
- We calculate the cost of internet considering continuous internet subscription for the entire year. We have pegged expense per month at INR 500 (~USD 7).
- Software cost has been assumed to expense (as per market rates) for modifying the existing MIS to perform the authentication computations
- SMS gateway cost is for generating OTP using software available in the market. We have assumed the cost to be 0.20 rupees per student. Cost of re-sending an OTP or generating a new one for the same beneficiary is nil.

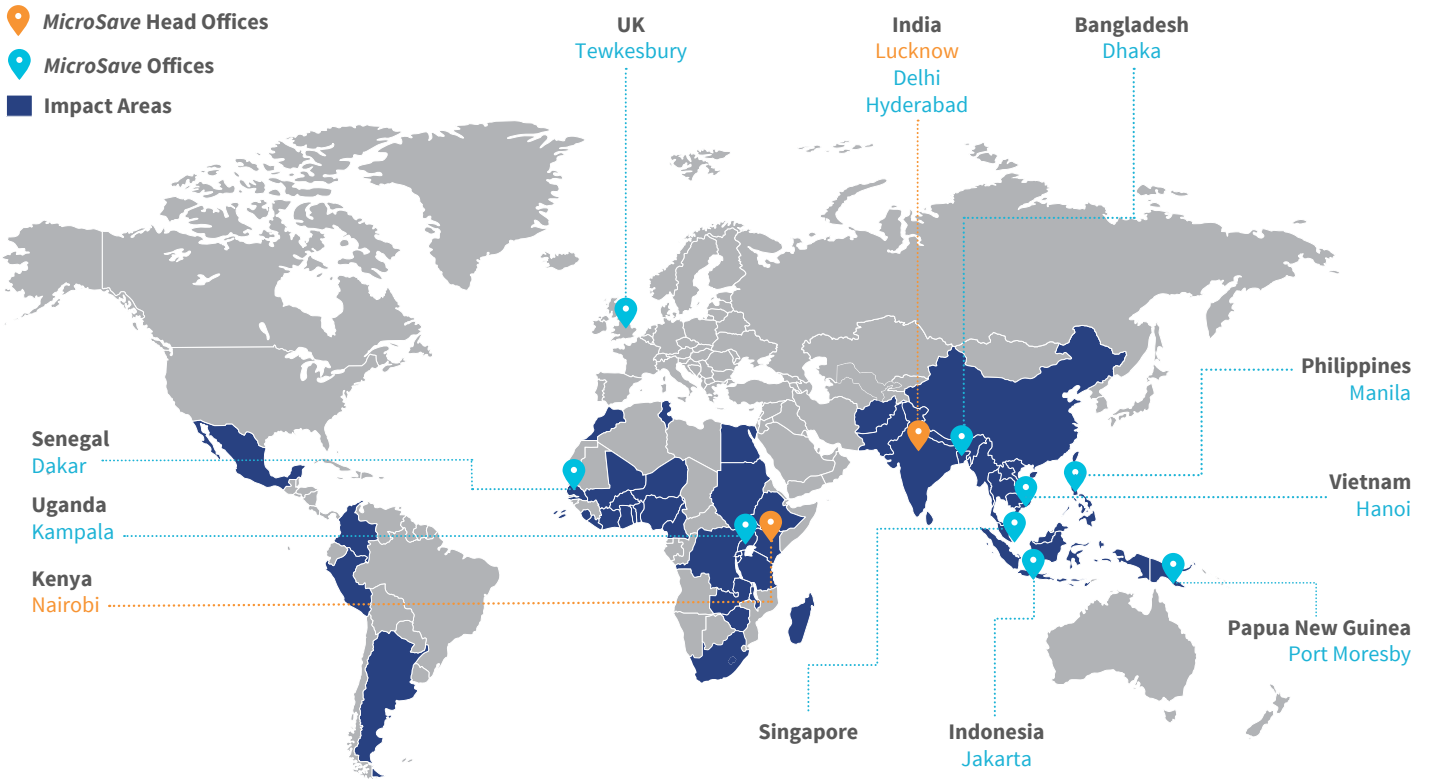
| Desktop with UPS cost - Prorata basis | |
|--|-------------|
| Actual | 30000 |
| Days of use for authentication in 1 year for 1 benefit | 10 |
| Holidays | 60 |
| Sundays | 52 |
| No. of working days in 1 year | 253 |
| Desktop cost used for Authentication | 1185.770751 |
| Approximate figure taken as INR 1200 | |

| Uttar Pradesh DoBE data | |
|---|-------------|
| Total govt. schools | 1,61,329 |
| Districts | 75 |
| Blocks | 822 |
| People in block level training (2 from each school) | 393 |
| Rounded off to | 400 |
| Total enrolment in govt. Schools | 1,66,02,729 |

| Capital expenses | | | | | | | | |
|--------------------------------------|----------------|--|--------------------------------|--|-------------------------|---------------------------------|-------------------------------------|---------------------------------|
| Mode of authentication | | | Aadhaar based | | | | Non-Aadhaar based | |
| | | | Biometric | | | | Non-biometric | OTP on registered mobile number |
| | | | Fingerprint through PoS device | Fingerprint reader attached to desktop | Iris through PoS device | Iris device attached to desktop | OTP on Aadhaar seeded mobile number | |
| Per-school | Infrastructure | Device | ₹ 15,000 | ₹ 2,000 | ₹ 20,000 | ₹ 2,500 | ₹ 0 | ₹ 0 |
| | | Internet device (router/Wi-Fi) | ₹ 1,200 | ₹ 1,200 | ₹ 1,200 | ₹ 1,200 | ₹ 1,200 | ₹ 1,200 |
| | | Desktop with UPS | ₹ 0 | ₹ 1,200 | ₹ 0 | ₹ 1,200 | ₹ 1,200 | ₹ 1,200 |
| State-level | | Demonstration and material | ₹ 3,28,80,000 | ₹ 3,28,80,000 | ₹ 3,28,80,000 | ₹ 3,28,80,000 | ₹ 3,28,80,000 | ₹ 3,28,80,000 |
| | | Software adjustment to manage authentication | ₹ 3,00,000 | ₹ 3,00,000 | ₹ 3,00,000 | ₹ 3,00,000 | ₹ 3,00,000 | ₹ 3,00,000 |
| Total of all schools | | | ₹ 2,61,35,29,800 | ₹ 70,98,47,600 | ₹ 3,42,01,74,800 | ₹ 79,05,12,100 | ₹ 38,71,89,600 | ₹ 38,71,89,600 |
| Total one-time cost | | | ₹ 2,64,67,09,800 | ₹ 74,30,27,600 | ₹ 3,45,33,54,800 | ₹ 82,36,92,100 | ₹ 42,03,69,600 | ₹ 42,03,69,600 |
| Total in Cr. | | | ₹ 264.67 | ₹ 74.30 | ₹ 345.34 | ₹ 82.37 | ₹ 42.04 | ₹ 42.04 |
| Operational expenses (annual) | | | | | | | | |
| Per-school | Infrastructure | Internet charges | ₹ 6,000 | ₹ 6,000 | ₹ 6,000 | ₹ 6,000 | ₹ 6,000 | ₹ 6,000 |
| State Level | | SMS gateway | ₹ 0 | ₹ 0 | ₹ 0 | ₹ 0 | ₹ 33,20,546 | ₹ 33,20,546 |
| | | Software maintenance (L/S) | ₹ 25,000 | ₹ 25,000 | ₹ 25,000 | ₹ 25,000 | ₹ 25,000 | ₹ 25,000 |
| Total for all schools | | | ₹ 96,79,74,000 | ₹ 96,79,74,000 | ₹ 96,79,74,000 | ₹ 96,79,74,000 | ₹ 96,79,74,000 | ₹ 96,79,74,000 |
| Total state-level | | | ₹ 25,000 | ₹ 25,000 | ₹ 25,000 | ₹ 25,000 | ₹ 33,45,546 | ₹ 33,45,546 |
| Total recurring cost per year | | | ₹ 96,79,99,000 | ₹ 96,79,99,000 | ₹ 96,79,99,000 | ₹ 96,79,99,000 | ₹ 97,13,19,546 | ₹ 97,13,19,546 |

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Asia Head Office

28/35, Ground Floor, Princeton Business Park, 16 Ashok Marg,
Lucknow, Uttar Pradesh, India 226001

Tel : +91-522-228-8783 | Fax : +91-522-406-3773

Email: Manoj@MicroSave.net

Africa Head Office

Shelter Afrique House, Mamlaka Road,
P.O. Box 76436, Yaya 00508, Nairobi, Kenya

Tel : +25-420-272-4801 | Fax : +25-420-272-0133

www.MicroSave.net