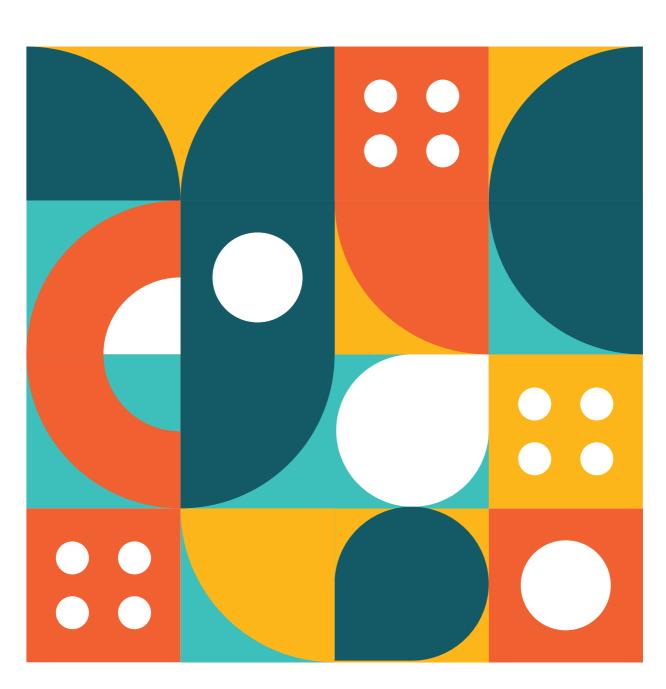
LIBROS-CAMBODIA

Learning to Improve Books
Resource Operational System
in Cambodia

BOOK BRIEF



This Book Brief

is a compilation of findings from studies in the LIBROS-Cambodia Project. While it can give you overall pictures of the primary-level book supply chain situation in Cambodia and Track and Trace (TnT) system, your exploration into the study full report is highly recommended for detailed insight and further learnings.



LIST OF ABBREVIATIONS

BSC Book Supply Chain
CSFs Critical Success Factors

DCD Department of Curriculum Development
DIT Department of Information Technology

DoE District Office of Education

EGRA Early Grade Reading Assessment

EMIS Education Management Information System

JSI John Snow, Inc

LIBROS Learning to Improve Books Resource Operational Systems

LMIC Low-and-Middle-Income Country
MEF Ministry of Economy and Finance

MENAP Multilingual Education National Action Plan MoEYS Ministry of Education, Youth and Sport

MoP Ministry of Planning

NGO Non-Governmental Organization

OPTD Office of Planning and Textbook Distribution

PED Primary Education Department
PDH Printing and Distribution House

PISA-D Program for International Student Assessment for Development

PoE Provincial Office of Education
RGC Royal Government of Cambodia
SSC School Supporting Committee
SMC School Management Committee

TnT Track and Trace

UNESCO United nations Educational, Scientific and Cultural Organization

USAID United States Agency for International Development

WEI World Education, Inc



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OVERVIEW OF BOOK SUPPLY CHAIN IN CAMBODIA



Generally, the book supply chain involves six steps or processes: (1) Forecasting and planning, (2) Title development, (3) Publishing and printing, (4) Procurement and purchasing, (5) Distribution management, and (6) Active use by students, teachers and even parents.

1. Forecasting and Planning

This is the starting point where we assess the need for textbooks and other reading material and plan related activities for the short, medium, and long term. In well-functioning supply chain, this recurs at predictable times and intervals.

2. Title Development

This involves creating book content to support teaching and learning. It also includes translating content for new languages and contexts to provide more contextualized and relevant content for learners.

3. Publishing and Printing

This includes the development, formatting, managing, licensing, rights, and marketing of titles as well as printing. This can be handled by the public or private sector, or through partnerships.

4. Procurement and Purchasing

This involves purchasing book content and finished books, and related services, regardless of source. Different types of procurement are used based on context.

5. Distribution Management

This refers to the process of moving books from their point of production to their point of use or intermediary locations.

6. Active Use

This means that books are distributed to children rather than stored, and teachers actively use the books for classroom instruction (particularly for textbooks) and reading practice (particularly supplemental reading material).

OVERVIEW OF BOOK SUPPLY CHAIN IN CAMBODIA

01

KEY ISSUES

Our preliminary diagnostic study discovered five main challenges in the primary-level book supply chain in Cambodia. They were also closely interrelated with their identified causes.

Forecasting and Planning:

Time taken to collect and prepare textbook demand data largely surpassed the set schedule or timeline which consequently drove the use of former years' data or guesstimation. This problem was further amplified by the wrong provision of data even though they were provided on time. While at the school level there was no systematic and official forecasting and planning for other reading material, there is also a lack of book demand data from the private sector.



There were reports of textbooks excess, shortage and loss. There were often cases where textbooks delivered were different from the numbers and titles ordered, resulting in a surplus or shortage.

Limited Operator Capacity:

There is a shortage of skilled book developers (authors, illustrators, editors, graphic designers), publishers, printers, and distributors. Relevant training programs about textbook forecasting and planning and management remain scarce.

Scarcity of Other Reading Materials:

Many of supplementary reading materials are largely under the support and production of NGOs and other development partners rather than the government or other private entities. The government's Free Books for School Policy also does not include other reading material in the budget.

Lack of Understanding and Value on Books and Reading :

While book developers and distributors have a limited understanding of the book market, the actual concern lies in the lack of reading culture and understanding of the importance and value of books and reading, especially among parents. Few of them are aware of how reading can help improve their children's learning, not to mention their misperception of the value of picture books and other reading materials.



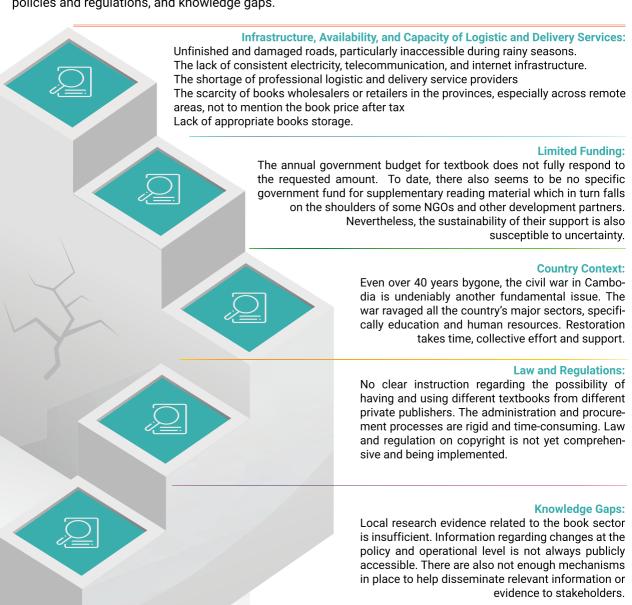




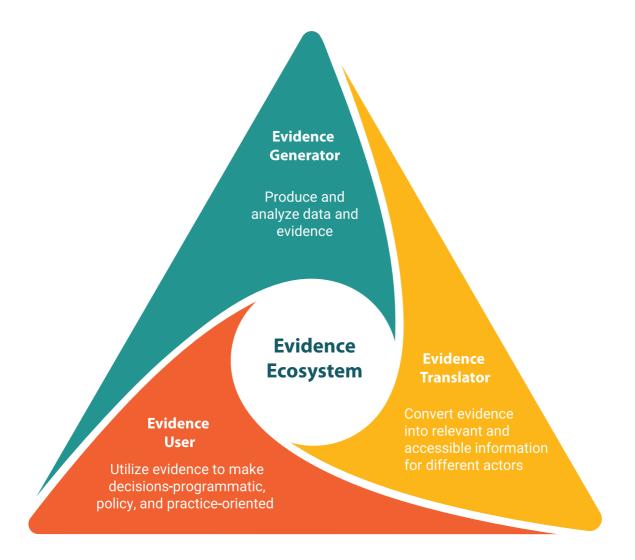
OVERVIEW OF BOOK SUPPLY CHAIN IN CAMBODIA

IDENTIFIED CAUSES

There were five main causes to the issues identified in the Cambodia primary-level book supply chain. They were related distribution aspects, limited funding, country context, rigid policies and regulations, and knowledge gaps.



EVIDENCE ECOSYSTEM OF BOOK SUPPLY CHAIN



Evidence:

Refers to empirical information or data based on scientific studies, such as those that appear in the academic literature and in specialized literature.

Evidence Ecosystem:

Refers to the community of interacting people and resources that contribute to the generation, translation, and use of research relevant to the Cambodian primary level book supply chain. There are three primary actors in the evidence ecosystem: Evidence Generator, Evidence Translator, and Evidence User. The distinction between evidence generators, translators, and users is based on the relationship that actors have with evidence, but one particular actor can fill more than one role at a time.

An evidence ecosystem might have actors who could or should fill these roles but are not actively engaged in them at the moment.

EVIDENCE ECOSYSTEM OF BOOK SUPPLY CHAIN

02

Evidence

Research reports
Journal articles
Conference/workshop material
Baseline and endline research

Alternative to Evidence

Feedbacks from stakeholders
Experience sharing
Press release
National/regional government

TOP THREE SOURCES OF EVIDENCE

- National/regional government documents (law, regulation, policy, instruction, etc)
- Field reports
- Consultancy
- · Personal professional experience
- Decision/instruction from manage ment level
- Local wisdoms (e.g. Indigenous knowledge)

Direct Data Collection

NGOs/Development Partners: survey, interview, and focus group discussion. Government: from relevant offices or department, field mission notes, and Telegram groups.

Consultation Q

Direct inputs from consultants, experts, practitioners, and other stakeholders are often sought through meetings and workshops.

Government
Document



Government policies, reports, and databases are often considerd by both government departments, NGOs, development and implementing partners as evidence sources for their work.

General process of evidence usage across the public and private sector:

- Collecting primary data or receiving direct instruction or guidance from the management.
- Making decisions and imple menting the activities.

General process of evidence usage among NGOs, Devleopment and Implementing partners:

- Identifying issues (with or without direct insights from target audiences or beneficiaries).
- Conducting baseline/action-orient ed/experimental research on identified issues.
- Developing interventions or programs based on insights from the prior baseline research.
- Conducting assessment or evaluation of that program.
- Using findings from that evaluation/endline research to consider the next steps.

It is worth noting that many of the research evidence conducted by NGOs and development partners are not publicly available; for internal use only. While one might relate this to the issue of the shortage of publicly available research evidence, one might also question the relevancy of the evidence dissemination to other stakeholders' decision-making.

EVIDENCE ECOSYSTEM OF BOOK SUPPLY CHAIN

02

Current Status of Evidence Ecosystem in the Cambodia Primary-Level Book Supply Chain



EVIDENCE GENERATOR



EVIDENCE TRANSLATOR



EVIDENCE USER

Point and Extent of Consideration



- When interpreting the results and thinking about its implications
- When formulating the research questions
- When planning the dissemination strategy
- In the language and degree of detail used to write the results
- · When choosing topic of study

Enabling Factors

- Institutional vision and mission
- Partnership/Collaboration
- Resources availability
- Complete gaps in the literature
- Contribution to students' learning
- Potential to influence policy changes

Hindering Factors

- Different interests
- Poor interest of decision-makers
- Decision-makers are hard to approach

Point and Extent of Consideration



- By holding regular meeting with target audiences
- By conducting focus group discussion
- By participating in other working groups and Community of Practice
- By collaborating with target audiences

Enabling Factors

- Institutional vision and mission
- Partnership/Collaboration
- Complete knowledge gaps
- Potential to influence policy changes

Hindering Factors

- Different interests
- Poor interest of evidence users
- Evidence users are hard to approach
- Lack of financial resources
- Lack of quality, useful, complete and transparent evidence

Point and Extent of Consideration



- When deciding what areas or topics are a priority
- When assessing the effect of a policy, intervention or program
- When deciding whether to scale up a policy, intervention or program
- When designing policy, intervention or program

Enabling Factors

- Operation Potential to influence the education outcomes of the population
- Professional recognition
- Potential to collaborate with other
- Economic-It pays well
- Institutional requirement
- Partnership/Collaboration

Hindering Factors

- Lack of funding
- Limited support
- Lack of accessible evidence
- Data is unavailable or low quality
- Research does not have policy implications

03

ANATOMY OF TRACK AND TRACE (TnT)



INI FEATURES AND FUNCTIONS

TnT* is a digital solution created to help manage textbook supply in Cambodia public schools. It was a part of the 2017-2019 "Enhancing Book Distribution in Cambodia" project funded by the World Bank to World Education, Inc (WEI) and its partner, John Snow, Inc (JSI). Closely partnering with the government, especially MoEYS, WEI, and JSI, piloted TnT in 2018. The government took up and expanded the project nationwide in 2020, and it is now officially the Core Textbook Supply Manage-

TnT operates on a Telegram chatbot for users and a web-based dash-board for administrators, as displayed in the figure. It has nine main features, including (1) Registration for school directors, (2) Making textbook request, (3) Textbook confirmation, (4) Approved number of textbooks, (5) Registration for a class inspector, (6) Class inspection, (7) Learning how to use, (8) Reporting problem, and (9) Deleting an account from TnT also embedded two other functions. They are (i) Making a correction and (ii) Printing this page.



* TnT was first created as a prototype in Malawi back in 2016, under the "All Children Reading Grand Challenge" that was awarded to JSI and WEI by USAID, Australian Government, and World Vision.

Mecess to TnT System

The initial step to using TnT is for the user to find the Telegram Application in their phone. Once there, users search for "tntcambodia_bot," then click "start" or type "Hi" (either in Khmer or English) to get started.

O1 Register for School Directors

School directors must register for a TnT account using their school's EMIS ID. Only one account per school is allowed. This feature is also used to register for DoE and PoE whose unique EMIS ID will be generated by TnT admin.

03 Confirm Textbook Receipt

When textbooks are delivered, school directors use this function to record the actual number of textbooks received. They enter the data one by one, and if there is a mismatch, they report it using the "Reporting problem" feature.

04 Check the Approved No. of Textbooks

This feature allows school directors to check the number of textbooks approved for their school. They can use this information to cross-check with the actual number of textbooks delivered or received.

106 Inspect Classroom

Class inspectors use this function to inspect classrooms. They provide information on the number of students, number of students with textbooks, and number of textbooks with a "for sale" stamp. They can also make corrections or print the form before submitting.

07 Learn How to Use TnT

Clicking on this feature button will lead TnT users to a link consisting of short guiding videos as well as one/two-pagers on how to use TnT. Khmer language is the sole language of instruction and guidance.

08 Report A Problem

Users can report problems with TnT or textbook discrepancies using this function. The TnT admin will then help resolve the issue.

02 Make Textbook Request

To request textbooks, school directors click on the "Making textbook request" button. They provide their full name, active grade or class, estimated number of students, and number of current textbooks. TnT automatically projects the number of textbooks needed and sends a summary in the chat box.

05 Register for Classroom Inspector

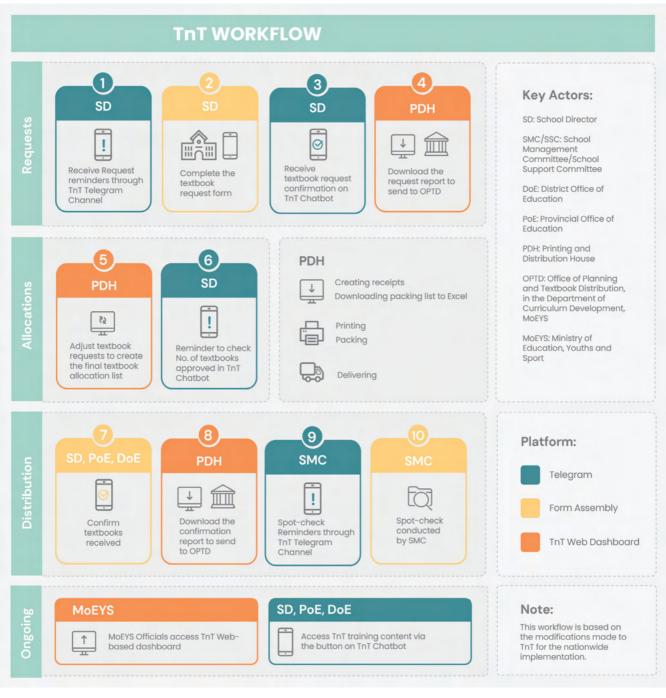
Class inspectors are not school directors and can be from the SSC, school staff, or ministry officials. They inspect textbook number and conditions.

09 Delete An Account from TnT

To delete an account from TnT, go to the application and click on "Delete account".

Additionally, there is "Make a Correction" and "Print this Page" embedded in Make Textbook Request, Confirm Textbook Receipt, and Inspect Classroom feature. They are helpful for TnT users in terms of correcting any unintended mistakes or for documentation purposes, but they can only be used before making any submission or confirmation.

TnT WORKFLOW

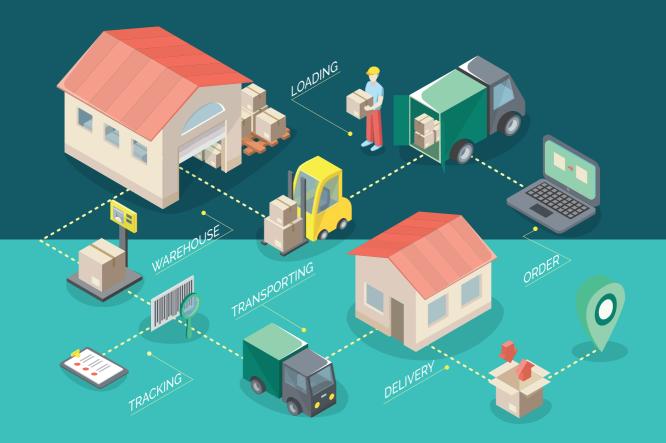


The two most frequently used TnT functions are "Make Textbook Requests" and "Confirm Textbook Receipt". School directors are the main users of TnT, and they use it twice a year for these two functions. DoEs and PoEs also use TnT to confirm receipt of textbooks.

Only about half of the respondents of the online survey reported having used the "Register for School Director" and "Learn how to use" functions. Less than 20% of the school directors have used other TnT functions.

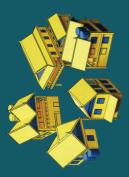
The interviews with the operational level group revealed that some respondents might have sought other people's support to use other functions of TnT, and some only used other functions when they received direction from the management level. Some participants were afraid of making errors to the system.

04TEXTBOOK SUPPLY CHAIN



PRE AND POST

TnT



School Support, Management Committee (SMC/SSC)



Office of Planning and Textbook **Distribution** (OPTD)



and Distribution House (PDH) Publishing





Director (SD)

School

Private Sector (PS)



Development and Implementing Partner (D&IP)



Ministry of Education, Youth and Sport (MoEYS)

Provincial Office of Education (PoE) &

District Office of **Education (DoE)**



- Ministry of Economy and Finance (MEF)
- Ministry of Post and Tele communication (MPTC)
- Ministry of Commerce (MoC)



LEGEND OF INVOLVED **IEXTBOOK ACTORS** SUPPLY IN THE

CHANGES OF ACTOR'S ROLE IN TEXTBOOK SUPPLY CHAIN

Pre-TnT

Post-TnT

- Collect textbook-related data to forecast textbook demand and make textbook requests (hard copies)
- 2. Submit hard copies of their textbook request to DoE, PoE, and OPTD.
- Collect and sign on the delivery note for the supplied textbooks.
 - Distribute textbooks to students.
- 1. Collect textbook-related data to fill in the textbook request form in TnT.
- 2. Submit textbook request form online via TnT. 3. Collect and sign on the delivery note for the supplied textbooks.
- 4. Fill and submit the textbook reciept form in TnT.
 - Distribute textbooks to students.

- Notify SD to complete the textbook request form.
- 2. Review textbook requests submitted by school directors within their district
- 3. Consolidate all textbook requests into one textbook request form for their district.
 - 4. Submit the hard copy of the consolidated textbook request and references to PoE





- the textbook request and confirmation via InT 1. Facilitate with schools that do not complete to complete.
- Confirm receipt of their annual textbook allocation via TnT.
- 3. Provide training or guidance on using TnT to school directors or other users.

- submitted by DoEs within their province. 1. Review consolidated textbook requests
- Consolidate all textbook requests into one textbook request form for their province.
- textbook request and references to OPTD. Submit the hard copy of the consolidated





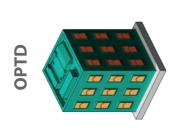
- 2. Provide training or guidance on using TnT to Confirm receipt of their annual textbook allocation via TnT.
 - school directors or other users.

CHANGES OF ACTOR'S ROLE IN TEXTBOOK SUPPLY CHAIN

Pre-TnT

Post-TnT

- Review and enter textbook request data into their computer system.
- Adjust the textbook demand and submit to the Procurement Unit in MoEYS and MEF for approval of the textbook printing budget and guarantee.
- Send the final approved textbook supplied list to PDH and/or the bid-winning printing companies for printing.



 Review and approve the textbook demand and allocation list.

> Review the textbook printing list, print and pack the textbooks.

PDH

- 2. Prepare the delivery schedule list and deliver textbooks to schools or DoE or PoE.
 - Collect the textbook receipt and delivery note for reference.



- Review textbook request and confirmation data in TnT dashboard.
- 2. Prepare the delivery schedule list and deliver textbooks to schools or school clusters or DoE or PoE.
- 3. Collect the textbook receipt and delivery note for reference.
- 4. Provide training on using TnT to users.

- No specific role
- Case-by-case textbook donation



• Conduct spot-check or classroom inspection

SMC/SSC

Case-by-case textbook donation

CHANGES OF ACTOR'S ROLE INTEXTBOOK SUPPLY CHAIN

Pre-TnT

Post-TnT

MoEYS



MEF

1. Review and approve textbook request

2. Review and approve procurement

process for textbook printing

and textbook printing budget

0. Review and update textbooks and

curriculum



- Review and update textbooks and curriculum
- 1. Review and approve textbook request and textbook printing budget
 - 2. Review and approve procurement process for textbook printing

TEXTBOOK SUPPLY CHAIN

PRE-TnT



POST-TNT TEXTBOOK SUPPLY CHAIN



05

The IMPACTS AND CHALLENGES



IMPACTS OF ThT

SAVING TIME:

TnT automates textbook forecasting and requesting, eliminating the need for manual calculations and hard copy submissions from school directors.

TnT also allows PDH to communicate directly with school directors, reducing the need for DoE and PoE involvement. This saves PDH 2-4 weeks in textbook forecasting and planning, and OPTD no longer needs to enter data from school directors into their computer system.

SAVING HUMAN &
FINANCIAL RESOURCES:
TnT has streamlined

In I has streamlined textbook management, saving time, money, and resources.

Even though not all school directors confirmed that they now can spend less on delivering textbooks, about 60% of them affirmed that the printing and distributing company (PDH and Sindy), DoE, PoE, the school cluster or the nearby school will help delivery to their school directly.

IMPROVING TEXTBOOKS

ACCESSIBILITY TO STUDENTS:

TnT has improved textboo

TnT has improved textbook accessibility to students by speeding up the request process, ensuring the right textbooks are delivered, and expediting delivery.

Our survey with school directors found that 79% of them agreed that TnT has helped their schools receive textbooks faster, and some even received textbooks before the new academic year starts. the proportion of schools with 100% of students receiving textbooks in all subjects has increased from 38% to 75%.

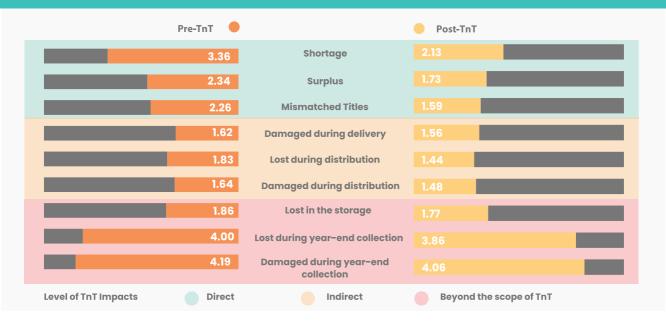
INCREASING
TRANSPARENCY
AND ACCOUNTABILITY:
TnT digitizes the

textbook supply chain, making it more transparent and accountable.

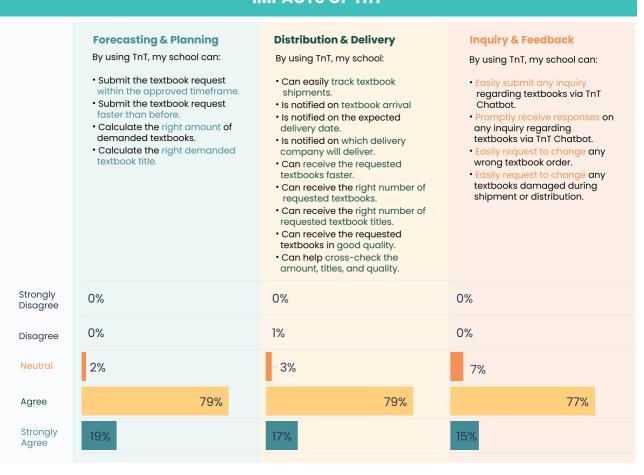
TnT makes it easier to track the movement of textbooks and ensures that the right textbooks are delivered to the right schools. It also allows schools to cross-check the official number of approved textbooks in TnT and review and count them at the distribution place with the delivery notes.

TEXTBOOK SITUATION

1: Never, 2: Rarely, 3: Occasionally, 4: Frequently, 5: All the time



IMPACTS OF ThT



CHALLENGES OF TnT

1

DIGITAL DIVIDE:

Digital divide encompasses beyond the issue of disparities in access to digital technologies, but it also extends to the issue of acquiring relevant competence and content for the uptake.



Some school directors do not have access to digital devices or the internet. Even if school directors have access to digital devices and the internet, they may not be competent in using TnT. The system is partly in English, and some functions are difficult to use.

2

UNFRIENDLY USER INTERFACE:

Some users of TnT have found the user interface to be complex and difficult to use, especially on mobile phones.



They have also had problems finding the functions to print their requests and confirmations, or to make corrections to their responses. These functions are written in English and are represented by small icons, which can be difficult to see or understand.

3

IRRESPONSIVE FUNCTIONS AND COST BARRIERS TO SYSTEM IMPROVEMENT:

TnT is not a complete system nowadays. Some functions have been removed, and others are not responsive to the needs of users.



For example, the ability to track and trace textbook delivery progress has been removed. The number of web-based subscribers has also been decreased while only one person per school is allowed to use TnT. There are commitment to improving TnT, but they have been unable to do so due to high incurred cost.

4

INADEQUATE TRAINING:

Many school directors have not received adequate training on how to use TnT. Only 33.7% of the participating schools in the online survey have received training on TnT.



There are some online guiding materials in the forms of one or two-pager and short animated videos, but not many know about them while the content is observed to not yet fully cover all the existing TnT functions as well.

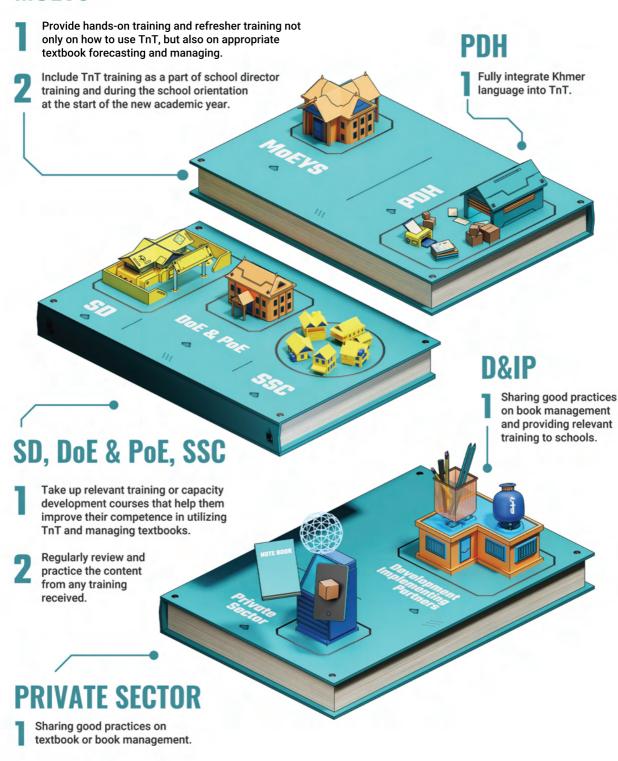
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WHAT CAN WE DO? RECOMMENDATIONS



1. THE USERS' LIMITED COMPETENCY

MOEYS



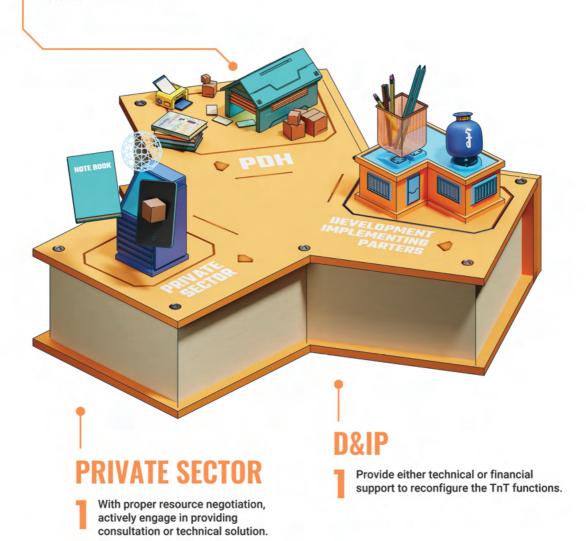
2. INADEQUATE DIGITAL ACCESS

RGC MOEYS Delegate the ministry budget to purchase, Invest in improving utilities, infrastructure, and equip, and maintain necessary facilities internet connectivity across provinces, especially across schools in Cambodia. outside of the urban areas. Informing and guiding schools to effectively Advocating corporate social responsibilities utilize both School Improvement Grant (SIG) to engage more involvement from the and School Operating Fund (SOF). private sector. Formulating means or mediums that allow involvement and partnership from the private sector. VATE SECTION Utilize the SIG and SOF **PRIVATE SECTOR** Try to build and strengthen partnerships with the Actively engage in corporate social private sector. responsibility either in cash or in-kind (facilities, foundation, scholarship etc.)

3. INHERENT TECHNICAL COMPLEXITIES

PDH

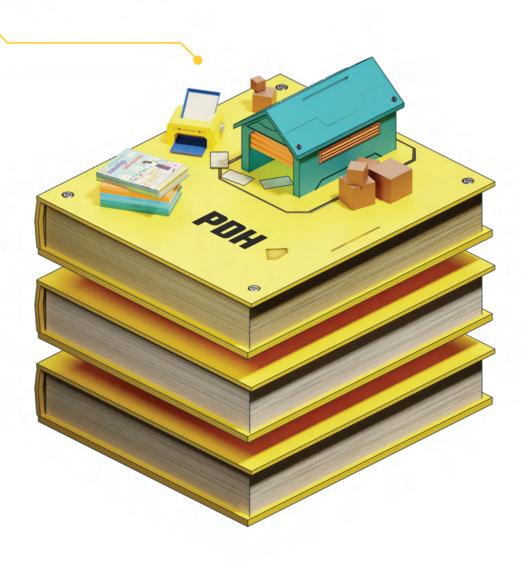
- Compile lists of technical complexities and functions in TnT that need to be reconfigured, resumed, omitted, or newly created.
- Convene buy-in and funding pools from both MoEYS and relvant stakeholders to help solve the technical complexities in TnT and fully localize TnT.
- Open public calls for digital technology or software development companies to express their interest in improving TnT.



4. INADEQUATE GUIDING MATERIAL

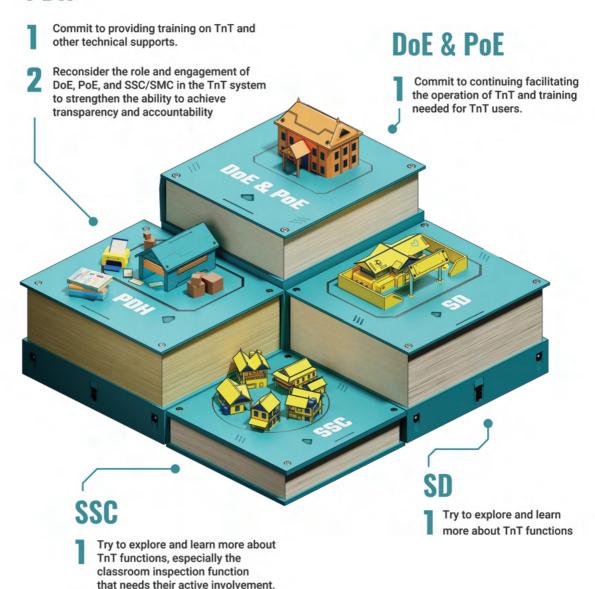
PDH

- Invest in producing or updating high-quality Khmer language training materials and disseminate to both current and potential TnT users.
- Conduct a need assessment and another round of in-person training for those schools that need more capacity development on using TnT.
- Collaborate with key stakeholders involved in the book supply chain to increase engagement, cross-promote, and share best practices.



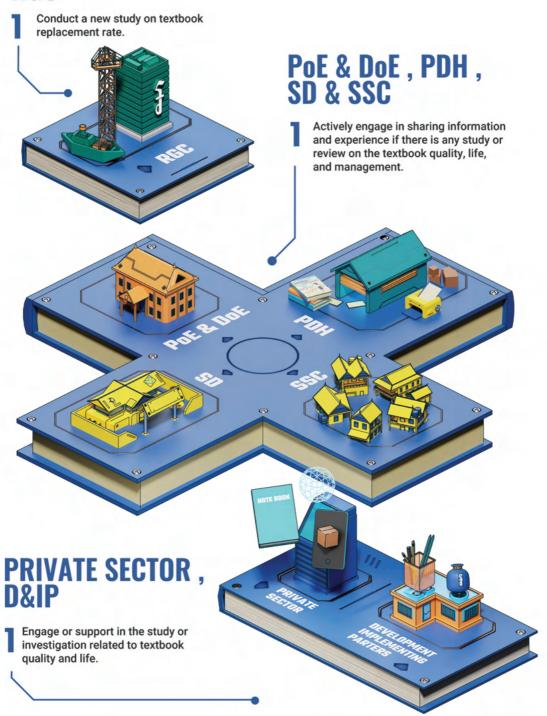
5. LACK OF STAKEHOLDERS COMMITMENT

PDH

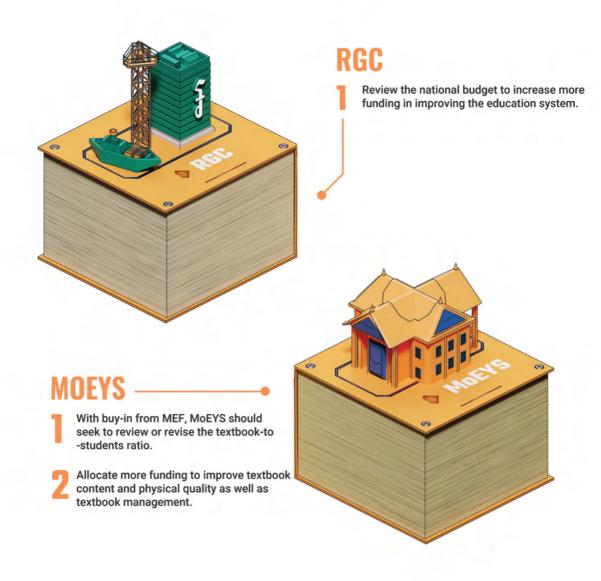


6. IRRESPONSIVE TEXTBOOK REPLACEMENT RATE

RGC



7. RIGID TEXTBOOK RATIO TO STUDENTS



8. CONTEXTUAL CHANGES

MOEYS

