



World Bank Read@Home

THE REPUBLIC OF MARSHALL ISLANDS

BlueTree Group

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ACRONYMS AND ABBREVIATIONS

ADB:	Asian Development Bank
BSC:	Book Supply Chain
BSCM:	Book Supply Chain Management
CLLC:	Customary Law and Language Commission
COFA:	The Compact of Free Association
DFAT:	The Department of Foreign Affairs and Trade
ECD:	Early Childhood Development
ECE:	Early Childhood Education
EPPSO:	Economic Policy, Planning and Statistics Office
EU:	European Union
GPE:	Global Partnership for Education
IREi:	Island Research and Educational Initiative
ISC:	Instructional Service Center
IQBE:	Improving the Quality of Basic Education
JFIT:	Japan Forum for Innovation and Technology
JICA:	Japan International Cooperation Agency
MIEMIS:	Marshall Islands Education Management Information System
MISC:	Marshall Islands Shipping Corporation
MoCIA:	Ministry of Internal Cultures and Internal Affairs
MoEST:	Ministry of Education, Sports and Training
MoHHS:	Ministry of Health and Human Services
OFDA:	Office of U.S. Foreign Disaster Assistance
PSS:	Public School System
RFQ:	Request for Quotation
RMI:	Republic of Marshall Islands
SIDS:	Small Island Developing State
SPC:	Secretariat of the Pacific Community
TLM:	Teaching and Learning Materials
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UN-OHRLLS:	The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States

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KOMOOL-TATA

This report is a brief introduction to the Republic of the Marshall Islands Book Supply Chain, focusing for practical reasons on the National capital, Majuro. The initiative began through the lens of human rights and particularly a child's right to literacy in a language they understand. It was sparked by the lack of children's books in the Marshall Islands. In fact, more than 90% of children in the RMI age 0 to 59 months live in a household with less than 3 children's books (UNICEF, 2017). The very first Marshallese orthography was developed in tandem with the first Marshallese version of the bible in the late 1800s by missionaries. In 2021, the most accessible Marshallese reading materials is still the Marshallese version of the bible. Let us give thanks to God and *Iroj* for this time together.

Big thanks to the Global Book Alliance for tackling the global book gap as a major driver of illiteracy worldwide by promoting investment in high-quality, early-grade reading materials in all languages. We also give thanks to the World Bank Development Group, and particularly the Read@Home team (Marie-Helene Cloutier, Anne Marie Provo, Adelle Pushparatnam, Penelope Bender, and Maya Titelman) for supporting the Government of the Marshall Islands in their efforts to enhance access and quality of Marshallese children's books. The Republic of the Marshall Islands is honored to be the only Pacific Island among the first-wave countries of the Read@Home initiative.

Enormous thanks to BlueTree Group for taking the lead on the first ever RMI Book Supply Chain Analysis and completing it in the midst of the global pandemic. We would especially like to thank Samuel Mbuto and Roel de Haas, who made themselves available during business hours in the Marshall Islands, which meant early morning and very late nights in their respective time zones. We appreciate you.

A gigantic thank you to Newton Langidrik, the local consultant. He went around town and conducted the Key Informant Interviews (KII) intensely over 4 to 5 weeks from October to November 2020. We also thank your father, the late Cent Langidrik. Many of the high-quality, early-grade reading materials in Marshallese that exist are his legacy.

This report would not be possible without the interviews on which it is based. We thank all the interviewees (listed in Annex I) for taking time out of their busy lives to talk about Marshallese children's books.

1. EXECUTIVE SUMMARY: KEY FINDINGS AND RECOMMENDATIONS

This Supply Chain Analysis (SCA) was carried out on behalf of The World Bank's Read@Home initiative by the BlueTree Group. Read@Home supports the delivery of quality reading books to hard-to-reach homes, as quickly and efficiently as possible, and encourages parents and others to support children's learning at home.

Poor access to teaching and learning materials (TLM; including textbooks, teacher's guides, and reading books) across the Republic of the Marshall Islands (RMI) makes it difficult for children to learn. This study was commissioned to identify the main bottlenecks in the RMI book supply chain (BSC) and recommend strategies to ensure timely access to quality and affordable materials.

The SCA was primarily conducted virtually, due to the COVID-19 pandemic, by the BlueTree Group from September 2020 to November 2020. However, a local consultant conducted face to face interviews. Following desk research, the research team interviewed and gathered information from a variety of stakeholders including PSS officials, donors, and NGOs.

The RMI SCA focused on four key areas, namely:

- Forecasting and Planning
- Procurement
- Publishing and Printing
- Distribution and Warehousing

Key Findings:

Forecasting and planning: The lack of availability of accurate and up to date data on student enrollment is a significant hurdle to forecasting and planning. In addition, the RMI's Education Management Information System (MI EMIS) does not collect data on textbooks and supplementary reading materials, although the system is capable of collecting it. There are communication challenges with schools in remote areas, including the lack of internet connection and functioning high frequency radio. The Instructional Services Center (ISC) plays a key role in forecasting and printing materials for schools to collect. In addition, schools may request needed supplementary reading materials via the ISC. An effective data collection system is key in determining supply and demand and ensuring that schools and students receive the correct materials on time.

Procurement: The government purchase request/purchase order process is time consuming, even when schools are trying to purchase simple school supplies. It can take 2-3 months or more, after orders are placed, for supplies to arrive. These delays are observed system-wide and are not specific to education. The process is not cost-effective, as the Public School System (PSS) tends to settle on the cheapest vendor regardless of the quality. Further, as a result of limited funding, the Ministry of Education, Sports and Training (MoEST) is unable to provide learning materials yearly to all the students.

The efficiency and cost-effectiveness of book procurement is suboptimal because, during tendering, no exact specifications are shared. Publishers share samples of products they have done before, and if the samples are considered satisfactory, PSS provides information on a general look of the end product they are looking for, such as the description of the cover, i.e. either a soft or a hard cover. The lack of knowledge about technical specifications may be a barrier.

Publishing and Printing: The ISC currently manages the scope, sequence, and life cycle of books and materials for the education system. They have developed the vast majority of supplementary reading materials available to students in the Marshall Islands. However, there is a lack of equipment, software, and technical capacity for title development and printing locally in the RMI. Due to the small size of the country, there are small print-runs, and this leads to high unit prices when printing books.

There is also a lack of local capacity to create digital illustrations. This is due to limited exposure to illustration software and equipment. Inadequate training is also a major factor. Most locally produced books have hand-drawn illustrations.

Distribution and Warehousing: The main challenge affecting distribution in the RMI is the complicated logistics due to the country's many and often distant atolls and islands. Maritime transport is the predominant mode used to carry cargo and freight; air transport is relied upon primarily for passenger and tourist transport and domestic inter-island shipping and mobility.

RMI has yet to establish an efficient transport infrastructure that would help with the timely distribution of textbooks and supplementary reading materials. As referenced in the *Republic of the Marshall Islands: Outer Island Transport Infrastructure Project Asian Development Bank (ADB) validation report*, transport operations are complicated by poor storage infrastructure and facilities in the outer islands.

Key Recommendations:

MoEST and other stakeholders in the education sector should prioritize the following issues:

Forecasting and Planning: The Information Systems Office (ISO) should revise planning and forecasting processes to include adequate numbers of supplementary reading materials and textbooks. To do so, it is important to have accurate information on book needs based on the number of schools, students and teachers, disaggregated by grade and subject, in combination with information on existing stocks and book replenishment requirements per school. Data on existing stocks and needs should be collected regularly through the MI EMIS and shared with the ISC to inform their forecasting and printing of TLMs. Ensure digital offline data collection and use paper forms where there is no electricity. Data should be digitized and uploaded to the MI EMIS system once there is an internet connection.

Procurement: Capacity building for the MoEST and other BSC actors will be required to develop an understanding of book pricing, durability, and production/distribution timelines. It is essential to understand the basics of printing techniques as well as paper, formats, binding, finishing, among others, which are interrelated, and together determine the book's optimal use, durability and costs. This would also help to address the challenges related to deadlines and quality. The technical specifications provided in a tender or Request for Quotation (RFQ) significantly impact the cost of a book. Understanding how these specifications influence the production process will help the different stakeholders to make the best use of these specifications in their decision making. Support needs to be extended to build local capacity at the country level on technical specifications and their impact on product prices and timelines. Additionally, at the moment, international procurement should be supported by external technical assistance until MoEST and other local stakeholders are well equipped to oversee the procurement independently.

TLMs that are not produced by the ISC should be centrally selected and procured. This would require an efficient and transparent purchase system, and for this to be effective, suppliers need to be properly vetted based on their capacity and ability to deliver. Based on procurement timelines, it may be necessary for PSS to reach out directly to schools to determine their replenishment needs (at least 6 months before the TLMs are needed) to ensure timely procurement and distribution.

Publishing and Printing:

In the medium- to long-term, the PSS has plans to upgrade the ISC. There should be a cost analysis to determine if it would be more cost-efficient to upgrade the book printing unit versus continuing to print internationally. This analysis should include a consideration around the consistency and sustainability of inputs, and an exploration of whether the ISC could also provide printing for other purposes that might provide additional revenue streams, and thus make operations more cost-effective. If the decision is made to upgrade the book printing unit, there needs to be sufficient budget for maintenance, along with extensive capacity building covering publishing, editing, design, pre-press, printing, and packing. Printing internationally is likely to remain a more viable option for getting high quality books at reasonable costs in the short-run and for larger orders.

Authors, illustrators, graphic designers, editors among others would require extensive training in the skills needed to develop high quality books locally.

Distribution and Warehousing: Effective distribution options should be in place, so schools receive textbooks and other reading materials conveniently and on time.

Although the small population and geographical limitations are challenges, the country should consider investing in secure and adequate storage facilities in the outer islands. Land/space in the outer islands and atolls can be leased by coming to an agreement and paying the appropriate landowner. If there is sufficient space in some schools, then the storage facilities can be constructed in the schools. However, MoEST will need additional funding for this. A stock management system, trained personnel, and clear policies for book storage would also improve the efficiency of book distribution.

The government should form a committee that will be responsible for strengthening the BSC. By engaging the right actors, such as Book Chain Experts, the committee can examine the challenges highlighted in this report and consider the recommendations provided for each stage of the BSC.

2. INTRODUCTION**2.1 Background**

One of the most important elements of a country's education system is teaching and learning materials (TLMs), including textbooks, teacher's guides, and supplemental reading materials.

Teachers, regardless of how well-qualified, skilled and prepared they are, need quality teaching and learning materials. TLMs have to be designed to suit the target audience and available in sufficient quantities to meet the needs of the population.

The World Bank's Read@Home initiative supports the provision of reading materials for children in hard-to-reach households. To that end, The World Bank commissioned a study of the Book Supply Chain (BSC) in the Republic of the Marshall Islands (RMI). The report examines how the country supplies learning materials at different levels. The study analyzes the availability of textbooks and other learning materials in RMI, procurement, printing, distribution, associated costs and the supply process. It identifies the weaknesses in the country's BSC. The report also recommends solutions for the bottlenecks identified in the study.

2.2 Country Profile

The RMI is one of the world's smallest, most isolated, and vulnerable nations. The country consists of 29 atolls and five isolated islands (24 of which are inhabited) and has a total land mass of just 181 km² set in an area of over 1.9 million km² in the Pacific Ocean. The population of the RMI was estimated at 53,066 in 2016, more than two third of which lives in the two largest urban centers, Majuro (the nation's capital) and Ebeye.

The RMI faces many of the development challenges common to small, remote economies with dispersed populations. Small size and remoteness increase the costs of economic activity and make it difficult to achieve economies of scale. Remoteness also imposes transport costs that increase the costs of trade and fundamentally constrain the competitiveness of exports of goods and services in world markets. These same factors also increase the cost and complexity of providing public services. Moreover, geographical characteristics, including populations centered on small, low-lying atolls, make the country extremely vulnerable to natural disasters.

The RMI is a sovereign nation in a "Compact of Free Association" (CFA) agreement with the United States. The first CFA was signed in 1983 and continued through 2003. An amended CFA became effective on May 1, 2004, providing approximately US\$37 million in grants per year through the Compact Sector Grants (CSGs). After 2023, the CSGs will cease, although the CFA remains in force in perpetuity. While a Compact Trust Fund was established to replace CSGs from 2024 onward, based on current projections, contributions to the Compact Trust Fund

are inadequate to assure a smooth transition, and annual Compact Trust Fund income can be expected to fall short of what is needed to replace the CSGs in 2024, which presents a key challenge to the country's fiscal sustainability. With substantial constraints to export-led growth, the Marshall Islands is heavily dependent on aid and other fiscal transfers. The current account deficit is largely financed by grant inflows. Aid and fiscal transfers, primarily from the US, support reasonable though declining standards of living for most of the population.

3. Educational Context

RMI structures its education system after the U.S model. The U.S Department of the Interior and the Office of Education provide most of the funding to the system. RMI's Ministry of Education, Sports and Training (MoEST) is responsible for the Public School System (PSS) in the country which also subsidizes private schools.

Due to the remoteness of the islands, education funding relies heavily on aid from the United States.¹ The financial assistance is divided into four parts: a Basic Compact Grant, Supplementary Education Grant, Ebeye Special Needs sub-sector, and U.S Federal Grants. The 2017-2018 Annual MoEST report notes that the PSS was granted a budget totaling \$31,999,355. Several bilateral and multilateral education partners also help fund PSS activities.

The RMI education system serves kindergarten to grade 12, which is divided into: early childhood education (ECE) for children aged 5, primary school (grade 1-8) and secondary school (grade 9-12). Education is free and compulsory for children aged five to eighteen (or up to the 12th grade).² Grades Kindergarten to 3 use Marshallese as the language of instruction, while grades 4 and above learn in English. However, Marshallese is still taught in Marshallese language classes.

Besides the RMI's two official languages (Marshallese Language Arts and English Language Arts), the curriculum covers Math, Social Studies, Physical Education, Health and Science. In addition, the curriculum requires schools to offer lessons on health, population, climate change, career and physical education. This curriculum is available on the following website: http://katakcenter.org/moe_docs.html#

According to RMI's 2018-2019 PSS Educational Statistics Digest, there are a total of 113 schools:

- Public Primary - 79

- Private Primary - 14
- Public Secondary - 7
- Private Secondary - 11
- Public Post-Secondary - 2

The University of the South Pacific-Marshall Islands Campus and the College of the Marshall Islands provide post-secondary education in the country.

RMI has a National Board of Education, created by the 2013 Marshall Islands Public School System Act.³ The Board provides oversight to the PSS. It consists of the Minister of Education and three members appointed by the Minister; one to represent teachers, another for non-public schools and students and the last for parents and guardians. Additionally, the Cabinet, which is comprised of the President and Ministers, appoints 5 members to the Board, who represent the nation's main geographical districts.

3.1 Key Statistics

2019 data from the MoEST shows that RMI has a total student population of 14,863 students; 1,262 (641 male and 621 female students) enrolled in ECE, 9,576 students (4,934 male and 4,642 female) in primary education, 3,422 students (1,664 male and 1,758 female) in secondary education, and 603 students in (397 male and 206 female students) in special education which is integrated within primary and secondary schools. Disaggregated data on student enrolment shows that there are slightly more male students enrolled in school than female students (2017 - 8,041 male and 7,598 female; 2018 - 7,628 male and 7,443 female; and 2019 - 7,636 male and 7,227 female).⁴

The available data indicated a slight decrease in enrolment trends in ECE and primary education from the year 2016 to 2019. Additionally, there was a reduction in the enrolment of students in special education. There is, however, a small increase in secondary education enrollees from the year 2018 to 2019; total enrolment increased from 3,411 students in 2018 to 3,422 students in 2019.

According to the MoEST, one factor that contributes to the decrease in the enrolment rate of students is negative perceptions of the value of education. Some parents of out-of-school children let their children participate in house chores and livelihood activities rather than attending school.

The interview participants specified this was particularly the case in what they called large households - households mainly in urban areas, such as Majuro and Kwajalein, where up to three families live together. It was furthermore mentioned that children living with their grandparents instead of parents have less learning support and are, therefore, more vulnerable to dropping out of school.⁵

4. Research Methodology

A combination of desk research and key informant interviews was used to conduct this analysis. Data was collected at Central and District levels by interviewing various stakeholders.

A major impediment to the study was the lack of current information on BSC on the islands. Another was the impact of the COVID-19 pandemic that imposed limitations on face-to-face meetings. However, some interview subjects were available to provide their input virtually. For these reasons, this report did not cover some elements exhaustively such as:

- The local publishing capacity, specifically the technical skills of graphic designers, illustrators, and writers
- Printing capacity, specifically the capacity of local printers other than the PSS Book printing unit. Further investigation needs to be done on the available printing facilities, as well as the technical capacity of the employees.
- The 2017-2018 MoEST Annual Report highlights the integrity of data as one of the issues in data collection. Further investigation needs to be done on this specific issue.

This assessment of RMI's book supply chain was conducted between September and November 2020. The interviews were carried out among key stakeholders in the education sector including government officials, personnel from donors and NGOs and publishers.

More details on the methodology, the topics covered and the questions asked can be found in Annexes I, II and III.

5. Book Supply Chain Analysis

5.1 Forecasting and Planning

Forecasting and planning refers to the recurring/cyclical work that is carried out by governments and publishers to assess need and demand and to arrange for the financial and material inputs required to meet need and demand in a timely manner.⁶ There is a need for accurate data on the book requirements of students, teachers and schools.

The PSS Information System Office puts forth considerable effort in the collection of data and provision of relevant information through the Marshall Islands Education Management Information System (MI EMIS).⁷ The 2017-2018 MoEST annual report notes that the Information Systems Office provides data support for both internal and external activities such as school report cards, budget planning, allocating school supplies, DOI indicators, Ministry of Health and Human Services (MoHHS), Ministry of Internal Cultures and Internal Affairs (MoCIA), Economic Policy, Planning and Statistics Office (EPPSO), Secretariat of the Pacific Community (SPC), Asian Development Bank (ADB), and the United Nations Educational, Scientific and Cultural Organization (UNESCO) among others.

MI EMIS has expanded the MoEST's data collection system to include: monitoring and tracking school facilities/equipment inventory, school/student/teacher reports, staff/teacher professional development and certification, and quarterly student attendance reports. Student and staff information is entered and updated in the database. Data reporting from schools has improved over the past years.⁸ However, the ISC uses data from the MI EMIS to forecast and plan the books needed by each school a year in advance. As such, the numbers of TLMs sent out to schools are not always commensurate to the schools' needs.

Schools obtain books in different ways. They can request books from the MoEST, using the ISC catalog. These requests are done through District Supervisors.

Parents who are financially able, order reading materials and other education items online. For instance, Amazon stocks Marshalllese books, which can be shipped to RMI after purchasing. There are a variety of options online for English materials such as Walmart, Kmart and Barnes and Noble. However, it is not common to purchase textbooks from the private market and there are very few textbooks available for purchase in the country.

The images below show the Scope, Sequence and Life Cycle of some of the books and materials available in the country that have been produced and are printed by ISC for kindergarten-Grade 3. It also includes subject area resource titles.

Kindergarten		Life Cycle
Marshallese	Year of Issue	Next Issue
• Teacher's Manual <i>Jolöt Ko Ad Bok 1*</i>	2017	2021
• <i>Bwebwenato in Aelöñ in Majel*</i>		
• <i>Bok 1 Ni eo Muktata</i>	2017	2021
• <i>Bok 2 Kjeek eo Muktata</i>	2017	2021
• <i>Bok 3 Kjidik eo im Ladik eo Nejin</i>	2017	2021
• <i>Bok 4 Jinoin an Wa'ok Eo</i>	2017	2021
• <i>Bok 5 Wüjlä eo Muktata</i>	2017	2021
• <i>Bok in Jino Waak Jeje*</i>	consumable	
• <i>TM Bok in Jino Waak Jeje*</i>	2016	2020
• Big Alphabet Book Set*	2019	2023
• Small Alphabet Book Set*	consumable	
• Alphabet Set*	2019	2023
• Supplementary Readers*	ongoing	
English		
• Student Text <i>Moving into English</i>	2012 Out of Print	
• <i>TM Moving into English</i>	2012 Out of Print	2012
• Alphabet Set	2019	2023
Mathematics		
• <i>TM Math in Focus (Singapore Math) Grade K</i>	2016	2022
• Student Text <i>Math in Focus Grade K</i>	consumable	
Science		
• Student Book <i>A Closer Look</i>	2009	2015
Health		
• Student Text <i>Health & Fitness</i>	2012	2018
Optional		
• <i>TM Say It 1*</i>	--	
• Art Experience Book 1*		
• Let's Sing*		

First Grade		Life Cycle
Marshallese	Year of Issue	Next Issue
• Teacher's Manual <i>Jolöt Ko Ad Bok 2*</i>	2017	2021
• <i>Bwebwenato in Aelöñ in Majel*</i>		
• <i>Bok 6 Jinoin an niMajel Jelä kapen</i>	2017	2021
• <i>Bok 7 Inedel im Li'aaakak eo Waan</i>	2017	2021
• <i>Bok 8 Irooj Jebro</i>	2017	2021
• <i>Bok 9 Joarmeto</i>	2017	2021
• <i>Bok 10 Jinoin an Lainjin Ejjerakrök</i>	2017	2021
• Student Reader <i>Jilu Ajri</i>	2018	2022
• <i>TM Jilu Ajri</i>	2018	2022
• Student Reader <i>Waake Bwe Kwön Jelä</i>	2018	2022
• <i>TM Waake Bwe Kwön Jelä Kwön Jelä</i>	2018	2022
• Student Text <i>Waake Bwe Kwön Jelä Jipeej</i>	2017	2021
• <i>TM Waake Bwe Kwön Jelä Jipeej</i>	2017	2021
• Alphabet Set*	2019	2023
English		
• Student Text <i>Moving into English Grade 1</i>	2006 Out of Print	
• <i>TM Moving into English Grade 1</i>	2006 Out of Print	
• English Alphabet Set	2019	2023
Mathematics		
• Student Text <i>Math in Focus</i>	2016	2022
• <i>TM Math in Focus (Singapore Math)</i>	2016	2022
Science		
• Student Text <i>A Closer Look</i>	2009	2015
Health		
• Student Text <i>Health & Fitness Grade 1</i>	2012	2018
Optional		
• <i>Art Experiences Book 1 or 2*</i>	2016	2020
• <i>Say It 1 Teacher's Manual</i>	2014	2018
• <i>Let's Sing*</i> Songbook to accompany Say It 1		

Source: Instructional Services Center

Second Grade		Life Cycle
Marshallese	Year of Issue	Next Issue
• Teacher's Manual <i>Jolöt Ko Ad Bok 3</i> *	2017	2021
• <i>Bwebwenato in Aelön in Majej</i> *		
• <i>Bok 11 Ebar Wajok Mile</i>	2017	2021
• <i>Bok 12 Ladik eo Ejejä Eprööd</i>	2017	2021
• <i>Bok 13 Juon Mejenkwaad ilo Wotto</i>	2017	2021
• <i>Bok 14 Mejabokda</i>	2017	2021
• <i>Bok 15 Ledik eo Ejool</i>	2017	2021
• Student Reader <i>Äindein Mour</i> *	2018	2022
• <i>TM Äindein Mour</i>	2018	2022
• Alphabet Set*	2019	2023
English		
• Student Text <i>Moving into English</i>	2006 Out of Print	
• <i>TM Moving into English</i>	2006 Out of Print	
• English Alphabet Set	2019	2023
Mathematics		
• Student Text <i>Math in Focus Grade 2</i>	2016	2022
• <i>TM Math in Focus (Singapore Math) Grade 2</i>	2016	2022
Science		
• Student Text <i>A Closer Look</i>	2009	2015
Health		
• Student Text <i>Health & Fitness Grade 2</i>	2012	2018
Social Studies	--	
Optional		
• <i>TM Say It / Write It Book 2</i> *	2014	2018
• Student Book <i>Write It 2</i> *	2014	2018
• <i>Art Experiences Book 2</i> *	2016	2020

Third Grade		Life Cycle
Marshallese	Year of Issue	Next Issue
• Student Reader <i>Jän Ijin Nän Ijej</i> *	2018	2022
• <i>TM Jän Ijin Nän Ijej</i> *	2018	2022
• Marshallese Alphabet Set*	2019	2023
English		
• Student Text <i>Moving Into English Grade 3</i>	2006 Out of Print	
• <i>TM Moving into English</i>	2006 Out of Print	
• English Alphabet Set*	2019	2023
Mathematics		
• Student Text <i>Math in Focus Grade 3</i>	2016	2022
• <i>TM Math in Focus (Singapore Math) Grade 3</i>	2016	2022
Science		
• Student Text <i>A Closer Look</i>	2009	2015
Health		
• Student Text <i>Health & Fitness Grade 3</i>	2012	2018
Social Studies		
Optional		
<i>TM Say / It Write It 3</i> *	2014	2018
Student Text <i>Write It 3</i> *	2014	2018
<i>Art Experiences Book 3</i> *	2016	2020

Source: Instructional Services Center

Bottlenecks in Forecasting and Planning:

The 2017-2018 MoEST Annual Report highlights the following bottlenecks.

- Schools do not always comply with data submission timelines; data can be delayed up to 6 months. As a result of these delays, PSS is unable to compile complete reports on time.
- There are communication challenges with schools in remote areas. For example, the only high frequency radio in a village may not be working, making it difficult for the schools to submit information.
- Poor internet connectivity and untrained staff also constrain data collection.
- There is a lack of training facilities to conduct capacity building for PSS Staff.
- Data does not include data on textbooks and supplementary reading materials, although the system is capable of collecting this data. In the past, before the MI EMIS system was introduced, a Japan International Cooperation Agency (JICA) volunteer collected textbook data. The software for the MI EMIS is capable of collecting customized data on books. Textbook data is not currently part of the reporting that flows to the MI EMIS system.
- The ISC uses MI EMIS data to forecast schools' needs a year in advance, which sometimes results in inaccuracies.
- Planning and forecasting is difficult due to insufficient funds and the reliance on donor funding.

Recommendations for Forecasting and Planning:

- The Information Systems Office should revise planning and forecasting processes to ensure adequate numbers of supplementary reading materials and textbooks. This will guarantee that data collected is used to project both textbooks and reading materials needs, which will be included in education budgets.
- The ISC's planning for adequate book supplies requires accurate and up to date information on book needs. This must be based on information regarding number of schools, students and teachers, disaggregated by grade and subject; in combination with information on current stocks available and book replenishment needs per school.
- Improve the MI EMIS infrastructure to facilitate effective data collection and include data on books. For instance, data collected should include the number of books, date of delivery, publisher, copyright/license, topics and grade. To collect data on textbooks, the Executive Council of the PSS will need to approve the customization of the system to

include book data collection and the personnel in the data chain will need appropriate training in data collection, analysis, and reporting.

- Ensure digital offline data collection and use paper forms where there is no electricity. Data should be digitized and uploaded to the MIEMIS system once there is an internet connection.
- Continue Information Systems Office staff development and training for all schools on timely data management.⁹

5.2 Procurement

Procurement is defined as the acquisition of the goods, services, and works that an organization requires. The largest procurer of books in education for a country is often the national government. In procurement, said government will choose vendors, set payment terms, negotiate contracts per unit and print run prices for reading materials according to certain specifications and quality standards, and issue payment for book purchases. Procurement may involve non-standard financing models or purchasing consortia. Individual families or students may also be book consumers and may purchase books depending on their ability to pay.¹⁰

According to a 2017 Procurement Capacity and Risk Assessment conducted by the ADB funded Improving the Quality of Basic Education (IQBE) Project, RMI has adopted a “Procurement Code (Act) 1988 as an Act to establish a procurement system and for purposes related thereto”. The Procurement Code covers all aspects of the public procurement system including policies, institutional frameworks, guidelines, procedures, administration and financial management of the procurement system. The Procurement Code also describes the legal foundation, structure of public procurement organization, procurement authorities, process and steps to be followed by government agencies and individuals responsible for procuring goods, services, and works for government-funded projects and operations. In terms of procurement procedures, any purchase above a \$25,000 threshold has to use an open and competitive sealed-bidding method. In general, the provisions in the Procurement Code are in line with international standard practices to ensure transparency, open competition, improve accountability, and increase the efficiency of the procurement process. Authorities, responsibilities, obligations, restrictions on certain acts by procurement staff and sanctions in case of failure to comply with the law are spelled out in the documents. The document further states that Government agencies must use standard documents prepared or approved by the Government in all procurements.

The financial management and procurement processes used depend on the source of funding.

Main current sources of funding for MoEST are:

- *General Fund* - Locally generated domestic revenues collected by the government and allocated to the MoEST as part of revenue appropriation and public expenditure.
- *Compact Funds* - Received under the Compact of Free Association. This is an agreement in which the U.S provides economic assistance among other benefits to RMI.
- *US Supplemental Education Grants* - separate Federal Grant Programs benefiting the MoEST.

The General Fund is managed within the MoEST Finance and Budget office. This office develops the annual budget and manages, tracks and account for the budget transferred to PSS. To increase the efficiency of the procurement and supply functions, the procurement, finance, and budget and staff use the Microix Workflow Management system. Microix is used for processing, authorization and approval of Purchase Orders, Purchase Requisitions, Travel Authorizations and Contract and Other Payments from the RMI General Fund. Capacity building for system users continues to be offered through in-house and off-Island workshops. Business processes that fully comply with the Finance Management Act 1990 for all transaction types have been set up and operationalized using Microix, and electronic files for all Microix transactions are permanently stored in the system. A separate workflow has been set up for the IQBE project. The financial officer for the project can request payments using the Microix system.¹¹ Using this system, PSS is able to meet the expenses allocated under the General Fund on time.

The Compact Funds and Supplemental Education Grants funds flow through the Ministry of Finance. Timelines for the disbursement of these funds are less predictable. Potential reasons for this include more cumbersome planning and budgeting procedures for these sources than for the General Fund and the weaker incentives for the Ministry of Finance to ensure that funds arrive on time to schools.

The table below highlights the breakdown of the PSS 2018 budget by focus areas.

PSS Budget 2018 - 19 by Focus Areas¹²

Focus Area	Amount	%
Leadership and Management	\$233,874	1%
Personnel, Budget and Administration	\$3,235,782	13%
Policy, Planning and Standards	\$885,351	4%
Early Childhood and Primary Education	\$9,742,196	40%
Secondary and Career Education	\$4,336,447	18%
Curriculum, Instruction and Assessment	\$241,091	1%
Kwajalein Atoll Schools	\$3,501,895	14%
Special Education	\$1,973,005	8%
Facilities Improvements and Maintenance	\$421,986	2%
Total	\$24,571,627	100%

In the RMI National Education budget, there is an allocation out of the Supplemental Education Grant allocated to ISC (the amount was 106,160 in FY2020 and 105,168 in FY2021). There is also another budget line under ECE and Primary labeled "books" with an allocation of USD \$18,363 per year. PSS purchased Singapore Math textbooks from this budget and completed the payments over a 5-year period from 2015 to 2020.

However, as a result of limited government funding, supporting partners such as The World Bank and the Asian Development Bank assist in the purchase of learning materials like textbooks and other consumable materials. The Ministry does not purchase textbooks often; two large orders for textbooks were made approximately 4 years ago.

Other sources of funds in the sector include loan and grants from key bilateral and multilateral donors such as:

- **Bilateral donors**
 - United States of America – US Embassy, USAID - Office of U.S. Foreign Disaster Assistance (OFDA).
 - Japan – Japan International Cooperation Agency (JICA), Japan Forum for Innovation and Technology (JFIT), Japanese Embassy grassroots grants
 - Germany GIZ
 - Taiwan Health, Taiwan Farm, Taiwan Embassy
 - New Zealand MoFA
 - Australia – The Department of Foreign Affairs and Trade (DFAT)
- **Multilateral donors**
 - Asian Development Bank (ADB)

- European Union (EU)
- The World Bank (WB)
- Global Partnership for Education (GPE)

Procurement procedures for these sources varies and depends on the partners agreement with RMI. For example, World Bank funding is channelled through the Ministry of Finance so is managed in a manner akin to Compact Funds and Supplement Education Grants while the Asian Development Bank transfers funds directly to MoEST.

The source of funds used to finance textbooks and reading materials also determines the procurement process followed. But for all sources of funds, different procurement methods can be used. For instance, the ADB-funded IQBE Project sourced materials from Bess Press through a sole source procurement. This was done because the publisher had experience in the development of materials that were deemed appropriate and affordable for the Marshallese context. Similarly, in the context of the Multisectoral Early Childhood Development (ECD) project supported by the World Bank, 5 different titles were procured by MoEST/PSS from iREI through sole source. The contract did not include the development of materials but did include updated language standardization. The books will be distributed to preschool classes in Majuro and Ebeye.

Procurement of books for private schools is managed directly by the schools. Most of them follow a specific curriculum and purchase the school materials that match. For example, the Ajeltake Christian Academy follows the PACE curriculum and orders the materials online from the supplier. Majuro Cooperative School follows a US curriculum and orders materials to match. They also encourage parents and local business owners to donate to the school library. Contrary to what is used in public primary schools, most of the books used in private schools are in English.

From the available data, it is evident that there is insufficient funding and little procurement of supplementary reading materials by the government. Donors and NGOs do purchase some materials from regional publishers such as Bess Press.

Main Bottlenecks:

- The government purchase request/purchase order process is time consuming, even when schools are trying to purchase simple school supplies. It can take a full 2-3 months for the process to go through. Delays in getting textbooks and reading

material exists no matter the source of funds but are more important for funding being managed at the Ministry of Finance level.

- In addition, the lack of knowledge among key stakeholders about technical specifications for books is a great challenge. Suppliers are reluctant to submit quotes when they know that PSS will settle on the lowest cost vendor regardless of quality.¹³ The technical specifications provided in a tender or Request for Quotation (RFQ) significantly impact the cost of a book. However, during tendering, no exact specifications are shared. Understanding how these specifications influence the production process will help stakeholders make the best use of these specifications in their decision making.

Recommendations:

- Every school should receive a standardized package of TLMs based on student population. These TLMs should be distributed regularly before the start of the school year. Needs for replenishment of existing stocks should be communicated by schools to the PSS at the end of every school year.
- TLMs that are not produced by the ISC should be centrally selected and procured. This would require an efficient and transparent purchase system, and for this to be effective, suppliers need to be properly vetted based on their capacity and ability to deliver. Based on procurement timelines, it may be necessary for PSS to reach out directly to schools to determine their replenishment needs (at least 6 months before the TLMs are needed) to ensure timely procurement and distribution.
- PSS would benefit from technical assistance to develop/determine printing specifications in advance and conduct quality control checks conducted based on these specifications. Quality control checks should include quantities, brightness and opacity of the paper, page numbering, overall look and finishing, binding quality, cutting and trimming, among others.

5.3 Publishing and Printing

Educational publishing refers to the ownership, management, manipulation, licensure, and marketing of educational content, ordinarily for profit. Printing is the reproduction of text. In some instances, publishers may also be printers.¹⁴

Printing

The ISC is the PSS's book printing unit. The ISC is under the Ministry of Education and it is funded through the Supplementary Education Grant. ISC is responsible for writing, reviewing, producing, and maintaining educational materials to be utilized by Marshallese children and their teachers. Centering on literacy in Marshallese, a series of readers have been developed for elementary school children in kindergarten through eighth grade. As the major responsibility of the ISC, the Publication Services role encompasses the entire scope of materials production. This includes generating materials, editing and updating existing books, booklets, teachers' manuals, and student workbooks, among others, as well as the actual publication process. Since its inception, the center has produced a great number and variety of educational materials. An estimated total of 250,000 books have been printed and distributed to schools in the Republic of the Marshall Islands. These include reading materials for grades K to 12.¹⁵ The images under section 5.1 show titles for kindergarten to third grade.

ISC's book printing capacity is limited due to the lack of printing machines and skilled staff. Currently, ISC is only able to produce simple materials by photocopying existing materials or reprinting those in digital formats and only able to do simple binding. ISC has a small office comprising only 4 staff and 4 Canon imageRUNNER ADVANCE C5535i Multifunction Copiers. Canon C5535i II offers digital imaging solutions targeted to consumers, small - and medium-sized businesses and enterprises.¹⁶

The ISC accepts in-kind contributions. For example, a school could give the ISC boxes of paper or ink and request a rush order of yearbooks or reading materials.

The images below show the facilities at the book printing unit.



The book printing unit also prints parliamentary and other government reports. Raw materials such as paper are sourced from local importers, although importing directly from Guam, Hawaii or California would be much less expensive.

Printing for donor-funded/NGO projects is done internationally, given the lack of local capacity. Despite the lower costs and higher quality of international printing, there are disadvantages, including timelines, transport, logistics, and a lack of control of the production process due to remote management. For instance, the files approval process between the client and the printer is often time-consuming and complicated. This process and clearance are easier when the books are produced locally.

The table below highlights the pros and cons of printing locally vs internationally.

Local	International
<p><u>Pros</u></p> <ul style="list-style-type: none"> • Physical quality controls including visual inspection of the overall production process. Files approval process is easy as this is done physically. • Allows continuous distribution after production start for high print volumes. • Shorter timeline if the production paper is in stock. <p><u>Cons</u></p> <ul style="list-style-type: none"> • More expensive. • Paper procurement lead times may be long, depending on the source of paper. However, paper requires storage facilities and can deteriorate fast when stored in a wet environment. • Poor quality due to lack of capacity. 	<p><u>Pros</u></p> <ul style="list-style-type: none"> • Better quality internationally due to better facilities. • Better prices for both low and high print volumes. <p><u>Cons</u></p> <ul style="list-style-type: none"> • Lack of controls during the production process. • Customs clearance can be difficult. • Longer timelines due to transportation and delays in customs clearance.

A general observation from some of the locally-produced books reviewed is that they have incorrect pagination and are not adhering to the 4-split rule, by which the number of pages should be divisible by four to avoid paper waste. This is also recommended when using saddle-stitching as a binding method. The Scope, Sequence and Life Cycle of Books and Materials (2020-2021) produced by the ISC lists books that have 63, 82, 73 pages, for example among others. Acceptable layout page counts are: 4, 8, 12, 16, 20, 24, 28, etc. Also observed was the poor quality of pre-press, with content not centered on the page and low resolution and distorted images.

Publishing

Development of content in Marshallese is currently done by translating materials from international publishers such as Bess Press, a publishing company based in Hawaii. For example, Bess Press is developing 40 bilingual books (four sets of early education books; each set includes 10 books) as part of the IQBE project. The publisher was contracted using sole source procurement method, and was approached because they have a collection of content and had previously developed bilingual readers for another country in the Pacific Region. The books were already in English and were translated into Marshallese. To develop these resources, the project will join forces with local institutions. They are working with the Customary Law and Language Commission (CLLC) and CIA teams to reach a standardized approach for the Marshallese and English versions, and this process has highlighted the importance of translation processes to develop high-quality bilingual books that meet minimum standards in both languages. The ADB-funded IQBE project is also developing a resource center that will be situated at MoEST and will focus on local (Marshallese) and English resources.

At times, CIA may prioritize the development of materials based on curriculum changes. For example, the National Board of Education recently green lighted the expansion of a Social Citizenship Education initiative to primary level. Previously, this initiative was only implemented at the secondary level. Currently, the CIA team is assessing what materials in Marshallese are needed for the primary school Social Citizenship Education program.

In terms of English-language materials, the government does not consider purchasing existing, copyrighted English materials as a viable option, because the fragmented approach to procurement has created unmanageable high costs which are far above costs in other countries. As a solution, the government has traditionally developed its own content and materials in English. For English materials, the curriculum development team requires assistance because only one volunteer is available at the print shop to develop English learning materials that fit the local context. Due to funding constraints, English books are developed on a rotating basis when funds are available. For example, the production of a textbook may be done for only one year, then can take a couple of years before being completed. Presently, there are about 70 English and 25 Marshallese textbooks available to schools. However, most of the English books were produced in the 1970s and 1980s. Private schools that are supported by Missions/churches have better quality books, both English and Marshallese because they import them. Future decisions of material sourcing should be based on

appropriateness of materials, standardized approaches to procurement, and other cost-saving measures. It is highly likely that purchasing existing English materials will be the least expensive option, particularly for the middle grades and beyond.

Island Research and Educational Initiative (iREi) is a not-for-profit, non-governmental organization located in Pohnpei, Micronesia, established in 2005. iREi is committed to supporting the unique environmental and cultural legacies of islands and island peoples. They work in the Micronesia region on different projects with funding from different sources such as the ADB, UNESCO, and the Pacific Fund, among others. iREi has developed over 150 different books for all ages. However, most of the books are in English and not local languages. iREi creates books from local stories in small quantities and uses local illustrators to convert drawings (see paragraph below) into graphics.

For instance, one of the books in the catalog, titled 'The Marshallese Arts Project,' is the result of a collaboration between an international team of students, teachers, artists, and researchers. It was part of a larger project — the Marshallese Arts Project. The project was designed to engage Marshallese young people in artistic and creative activities and included a series of participatory arts workshops run with children at the Majuro Cooperative School, Ejit Elementary School, and Central Middle School in Honolulu. The workshops focused on empowering Marshallese young people to use poetry and art to explore their culture, identity, and history, including the multiple phases of migration and displacement triggered by nuclear testing. The book mentioned above presents work produced by the students: poetry (in Marshallese and English), drawings, paintings, and murals.

There are some local authors and storytellers and a variety of local talented artists. Youth to Youth in Health is currently invested in the development of three youth artists, the ISC has engaged artists over the years, the local universities always have some talented artistic members. That said, most have not had any specific training on illustrations. It is rare to find a local person skilled in graphic design. The language commission trains College of Marshall Islands students each year as editors in Marshallese and they can work on campus reviewing materials and compliance with language standardization.

Associated costs

MoEST does not have a guide or price chart that shows the average cost of books or the cost of printing. When requesting price quotations from vendors, they provide a sample and specify the number of books required.

The price range for textbooks and other teaching and learning materials done in Marshallese was estimated to be \$5-\$10 when purchases are done locally. On the other hand, the price range for supplementary books varies quite a bit. Small books, if bought in bulk, cost under \$1 per book, while high-end quality and hardcover books range between \$10 and \$18 per book depending on the quantities. For example, on an order from iREi for the WB funded ECD project, the unit costs exclusive of shipping were as follows:

Description	Quantity	Unit Price	Total
Kōnono Bajjek (Marshallese Poetry)	10	US\$17.50	US\$175.00
Bok in Waak Jeje [Our Marshallese Reading Book]	500	US\$9.50	US\$4,750.00
Bok in Bōnbōn [Our Marshallese Counting Book]	500	US\$9.50	US\$4,750.00
Bok in ʻĀm [Our Marshallese Book of Shapes]	500	US\$9.50	US\$4,750.00
Bok in Kōʻar [Our Marshallese Book of Colors]	500	US\$9.50	US\$4,750.00

Bess Press is a well-known publisher in the region, based in Hawaii. The production prices that were provided during the key informant interview were quite high, ranging from \$2.50 to \$3.50 for a 16-page color book and \$3.50 to \$5.00 for a 32-page color book with saddle-stitch binding. They produce in Asia, the USA, and Canada. Production costs for a book of this size should be less than \$0.50 per unit.

Summary Bottlenecks:

- Lack of staff knowledgeable about book production.
- Due to the small size of the country, there are small print runs, and as a result, this leads to high unit prices as indicated under Associated Costs.
- Marshallese reading materials are more often developed from scratch or translated from English. Moreover, primary and secondary schools have a small number of textbooks and not all topics are covered in the Marshallese language. Textbooks are only developed when resources are available. *Scope, Sequence and Life Cycle of Books and Materials* (2020-2021) produced by ISC shows the materials produced. However, it cannot be confirmed that these materials are at the schools since data on textbooks

and other reading materials is not collected. The booklet contains information on the grade, subject, title, year of issue and year of next issue. From the booklet, it is evident that for most of the grades, English materials are out of print.

- English materials, such as Harcourt's Moving Into English series, are developed outside the country and do not fit the local context.

The table below highlights the books that are out of print (kindergarten to third grade) as indicated in the booklet.

Grade	Subject and Title	Year of Issue	Status
Kindergarten	English		
	<ul style="list-style-type: none"> • Student Text Moving into English • TM Moving into English 	2012 2012	Out of print Out of print
First Grade	English		
	<ul style="list-style-type: none"> • Student Text Moving into English Grade 1 • TM Moving into English Grade 1 	2006 2006	Out of print Out of print
Second Grade	English		
	<ul style="list-style-type: none"> • Student Text Moving into English • TM Moving into English 	2006 2006	Out of print Out of print
Third Grade	English		
	<ul style="list-style-type: none"> • Student Text Moving into English Grade3 • TM Moving into English 	2006 2006	Out of print Out of print

- The curriculum is outdated, making it difficult to develop high quality books.
- There is a lack of local capacity to create digital illustrations. This is due to limited exposure to software and equipment to develop such illustrations. Inadequate training is also a major factor. Some locally produced books have hand-drawn illustrations.
- Due to the environmental conditions, books wear out fast and when the Ministry wants to replenish their stocks, they find out that publishers no longer publish the same titles.

- Marshallese can be represented in Unicode (see Box below); however, additional training would be helpful to ensure local stakeholder knowledge on how to set up keyboards to easily represent Marshallese in Unicode.

Marshallese and Unicode

(with thanks to Martin Hosken, SIL International)

Marshallese has used different orthographies over the years:

- the “old” orthography, used before 1976 and developed by missionaries;
- the “new” orthography, used from 1976-2009; see the Marshallese English dictionary for an example; and
- the “current” orthography, a modification of the “new” orthography, developed in 2009; see the Marshallese Online Dictionary for an example.

The “old” orthography was heavily influenced by the Bible and used tilde. The “new” orthography added the use of the French cedilla to various characters. Due to technical difficulties in ensuring a consistent cedilla when using a keyboard, the current orthography replaced the cedilla with a combining dot below.

Encoding the current orthography in Unicode

The technical difficulties with the use of cedilla in the “new” orthography arose because there are two styles of cedilla: the comma and the French cedilla. There were challenges with representing these two cedillas in Unicode. The current orthography was created to work well in Unicode, replacing the cedilla with a combining dot below. As almost all fonts are now based on Unicode, almost all fonts support Marshallese characters.

Keyboards

Keyboard entry of Marshallese characters in Unicode is not convenient. The fonts and applications are not widely available and require technical training to manually insert the symbols for dead key typing of diacritical^[1] characters and memorization of the dead key typing patterns (3-4 key combinations) to produce each diacritical mark.

However, technical limitations on keyboard layout design are lessening every year. There is no longer a need to use dead keys and no requirement that one key can result only in one character output. There is no requirement to use identical keyboard layouts to enter Marshallese characters using Unicode, and no link between keyboard and font.

The Marshallese government is encouraged to standardize keyboard layouts for the computer keyboard^[2] and mobile phones. This will lead to more convenient keyboard entry and increased access to the Unicode font, making it easier to produce children’s books that align with the Marshallese language policy and standardized format. The Marshallese language community requires technical assistance to address the problem and take advantage of the improved technology and enable a more user-friendly keyboard entry.

Recommendations:

- Build the capacity of the RMI publishing industry. Local publishing is important to ensure that book content is culturally relevant and fits the country context.
- Authors, illustrators, graphic designers, and editors require extensive training in the skills needed to develop supplementary reading materials. Professional and reliable graphic design software such as Adobe InDesign is recommended for book layout.
- Given the current capacity of the PSS book printing unit, printing internationally is a more viable short-term option for getting large quantities of high quality books at reasonable costs. In the medium- to long-term, the PSS has plans to upgrade the ISC. There should be a cost analysis to determine if it would be more cost-efficient to upgrade the book printing unit versus continuing to print internationally. This analysis should include a consideration around the consistency and sustainability of inputs, and an exploration of whether the ISC could also provide printing for other purposes that might provide additional revenue streams, and thus make operations more cost-effective. If the decision is made to upgrade the book printing unit, there needs to be sufficient budget for maintenance, along with extensive capacity building covering publishing, editing, design, pre-press, printing, and packing.
- There is potential to build capacity to produce quality digital illustrations. This could be through training on using the latest graphics software.
- A training/workshop on how to represent Marshallese in Unicode would facilitate local publishing capacity.

5.4. Distribution and Warehousing

Distribution and warehousing is defined as the organization, oversight, and activities involved in moving books from the point of production to the point of use, including packaging, inventory, warehousing, and logistics.¹⁷ It is among the key elements of BSC.

The small size, remoteness, and insularity of the RMI pose daunting challenges in transport and trade logistics. While international and regional transport connectivity is important for the RMI, inter-island domestic transport is of equal importance, not only to reach the outer islands that are spread across vast distances but also to service key sectors such as education, tourism, fisheries and agriculture. For example, domestic inter-island shipping services in RMI—especially to outer islands—are infrequent and unreliable. This has a negative impact on the production and income generation possibilities of the islands, as regular access to markets is a

critical factor. Infrequent and unreliable shipping schedules lead to increased safety risks to passengers and cargo and added costs for outer island transport. These conditions in turn limit opportunity for social interaction; access to education, health, and business development services; and the ability of public agencies to deliver programmes and develop social infrastructure in the outer islands.¹⁸

In the RMI, books and other learning materials are transported to the outer islands mainly via ship through the Marshall Islands Shipping Corporation (MISC). All books and learning materials are delivered to PSS, which then delivers the books to the MISC to be shipped to the neighboring islands. Distribution on the main island is done using one car from MoEST. With a ship moving at an average speed of 60 to 400 nautical miles, it takes 8 hours to the closest location and 4 days to get to the furthest island. Ships go to the islands once every quarter with some islands getting more visits when private ships visit the atoll/island. School representatives are responsible for receiving the supplies when the ships reach their destination and communicating back to MoEST through the District Supervisors that they have received the supplies. Communications is usually done through high frequency radio since phone service is limited in the outer islands. Communication regarding the receipt of supplies to the District Supervisors is generally timely and accurate. MoEST has a radio in its administrative center with a person listening during business hours. Each locality has a radio and many have been placed at schools by MoEST. However, if the radio breaks down, communication becomes impossible. MoEST does not have a backup system. Shipping manifests and records indicate the drop off chain/handover, including Air Marshall receipts if books are sent as air cargo. The shipping schedule varies based on weather and other factors. At times, the school representatives spend a lot of time waiting for the ship. If they reside far from where the ship docks, then they are not likely to be there at the precise time since arrival times are uncertain.

MISC works with MoEST to get the school calendar and arrange the shipping schedule to align with the calendar. Islands are grouped into sectors. One sector can have 3-4 atolls. The last mile distribution to schools is covered by PSS. Books and other learning materials are distributed to the schools as per their needs. There is no replenishment until schools request books. If the Principal/Head Teacher requests books that are available at MoEST, they are quickly distributed to the school. If the request includes items that are not available, the request is considered when PSS orders new books and other learning materials.

MISC does not have any storage warehouses. It has a distribution warehouse and goods are delivered before the ships depart. They do not store any books even if the ship leaves them behind. Books are supposed to be returned to the owner until the next delivery. If books have not been picked up by the time a ship is ready to depart, the books are stored in the closest public school facilities. This often leads to confusion, as the school storing the books may use them, which can lead to disputes. Even though that school did not request the books, they feel that it is their right to keep them since they are providing storage.

Main Bottlenecks:

- Budget constraints are a huge challenge in book distribution. MISC has to manage its quarterly funds well to avoid running out of funds since the allocated amount in their budget is not sufficient.
- Atolls and islands are grouped into sectors. Sectors may have multiple schools, spread across atolls and islands. A ship may only go to one atoll or island per sector, meaning that the other schools need to come to the atoll or island where the ship docks to pick up their supplies. Principals and teachers send PTA members to pick up the books if they are busy. Sometimes they use their own money but at times, they bill the ministry. However, they do not always get reimbursed. Reimbursement is supposed to come from the General Fund, but funding may not have been allocated. In this case, the person would need to be very persistent to get reimbursed, with the finance team finding an underspent line item to use for reimbursement.

Recommendations:

- MoEST needs to invest in storage facilities. Schools should not have to wait until the MISC can make their quarterly trips to receive necessary supplies. With properly-structured warehouse facilities on every island, schools could access textbooks when they need them. It would also prevent the distribution network from depending on the weather.
- MoEST needs to develop policies for book storage. If schools are used for storage, there can be confusion over ownership of materials. Land/space in the outer islands and atolls can be leased by coming to an agreement and paying the appropriate landowner. If there is sufficient space in some schools, then storage facilities can be constructed in the schools.
- Stakeholders should come together to determine in what locations formats such as digital textbooks and supplementary reading materials may be feasible, as well as

options and costs to expand this over the long term. As referenced in the RMI National Education Contingency Plan and Continuity of Learning Framework for identified Pacific Countries and Territories, access to resources to implement distance learning varies across the RMI. In the Outer Islands, some schools and communities have access to resources such as radio, television, Hybrid Digital/Citizens Band (CB) radio, printers, and sound systems. However, most schools in the Outer Islands do not have access to the Internet, landline phones, smart phones, social media, or walkie-talkie radio.¹⁹ Within most of the communities in the Outer Islands, there is only limited access to the Internet and nearly no access to smartphones. In most places, High Frequency (HF) radio and paper-based materials are more feasible approaches for distance learning.

- In time, delivery drones may have the potential to change last mile delivery economics by replacing traditional delivery vehicles.²⁰

6. Conclusion

The BSC in the RMI faces significant challenges. However, with the correct solutions and a well thought out implementation strategy, the country can create a sustainable, effective and efficient BSC.

- Regarding **forecasting and planning**, the data collected does not include data on textbooks and supplementary reading materials, although the system is capable of collecting this data. The software for the MI EMIS is capable of collecting data on books if it's customized. To collect data on textbooks and supplementary reading materials, the Executive Council of the PSS will need to approve the customization of the system to include book data collection and the personnel in the data chain will need appropriate training in data collection and reporting. In addition to data on existing stocks and needs, up-to-date data on the number of schools, students and teachers, disaggregated by grade and subject need to be shared with the ISC in a timely manner to inform their forecasting and printing of TLMs.
- Regarding **procurement**, capacity building for the MoEST and other BSC actors will be required to develop an understanding of book pricing, durability, and production/distribution timelines. Staff and other actors need to understand the basics of printing techniques as well as paper, formats, binding, and finishing, which are interrelated and determine books' optimal use, durability and costs. The technical

specifications in a tender or Request for Quotation (RFQ) significantly impact costs. Understanding these specifications will help stakeholders make the best decisions. At the moment, international procurement should be supported by external technical assistance until MoEST and other local stakeholders are well equipped to oversee the procurement independently.

- Regarding **Publishing and Printing**, the country lacks the technical capacity for title development and printing. Given the current capacity of the ISC, printing internationally is a more viable short-term option for getting large amounts of high-quality books at reasonable costs. There should be a cost analysis to determine if it would be more cost-efficient to upgrade the book printing unit versus continuing to print internationally. This analysis should include a consideration around the consistency and sustainability of inputs, and an exploration of whether the ISC could also provide printing for other purposes that might provide additional revenue streams, and thus make operations more cost-effective. If the decision is made to upgrade the book printing unit, there needs to be sufficient budget for maintenance, along with extensive capacity building covering publishing, editing, design, pre-press, printing, and packing.
- Regarding **Distribution and Warehousing**, the MoEST needs to invest in storage facilities. Schools should not have to wait until the MISC can make their quarterly trips to receive necessary supplies. With properly structured warehouse facilities on every island, schools can access reading materials when they need them. It would also prevent the distribution network from depending on the weather.

Implementing the recommendations of this report will require leadership from stakeholders in the RMI education sector as well as continued and significant technical and financial support from donors.

ANNEX I: LIST OF INTERVIEWEES

DATE	Interviewees	Organization	Time (RMI)	MEDIUM
10/14	Jerre Bennett Cheta Anien Stefanie Joseph	ISC	9:00 AM	Skype
10/14	Hebel Luther Fritz Phillip	PSS District Supervisors	1:00 PM	Skype
10/15	Nick Wilson Lucky Lucky Josepha Maddison Belmar Graham Brenda Mellan	BEU& CLLC	9:00 AM	Skype
10/15	Ted Kiluwe Lawrence Janer	Marshall Islands Shipping Corporation (MISC)	1:00 PM	Skype
10/16	Kanchi Hosia	PSS	10:00 AM	Skype
10/19	Matthew Di Loreto	PSS IQBE	11:30AM	Skype
10/20	Theresa Kijiner, Beney Kelen, Eonmita Rakinmeto, Samuel Bikajla, Yshiwata Lomae, Tommy Jibok, Hemrina Beio,	PSS Curriculum Specialist	10:00 AM	Skype
10/20	Patience Awopegba & Kristy Bang	UNESCO	2:30 PM	Google Meet
10/21	Marie-Helen Cloutier	World Bank	10:00 AM	Google Meet
10/21	Hiro Okamoto, Molly Helkena	UNICEF	1:30 PM	Google Meet
10/22	Danko Taborosi	iREi	8:00 AM	Google Meet
10/22	Vere & Lisa	CMI Library	11:00 AM	Oral Interview
10/22	Carol Curtis, Roxene Vagauta	Alele Library	2:00 PM	Oral Interview
10/23	Corrin Barros, Yshiwata Lomae	PREL	9:30 AM	Google Meet
10/28	David DeLuca	Bess Press	9:00 AM	Google Meet

ANNEX II: LIST OF QUESTIONS PER STAKEHOLDER

(See attached zip file)

ANNEX III: BIBLIOGRAPHY

¹*INTERNATIONAL MONETARY FUND REPUBLIC OF THE MARSHALL ISLANDS Selected Issues and Statistical Appendix Prepared by H. Edison and P. N'Diaye (both APD), and D. Nyberg (FIN) Approved by the Asia and Pacific Department February 1, 2006*

²*Education Digest 2019*

³<http://pss.edu.mh/organization/national-board-of-education/>

⁴*Ministry of Education, Sports & Training, 2019*

⁵*National Education Contingency Plan and Continuity of Learning Framework for identified Pacific Countries and Territories*

⁶<https://www.globalbookalliance.org/the-book-chain>

⁷*RMI MoEST/PSS Education Statistics Digest Report*

⁸*Annual Report MOE 2017-2018*

⁹ *Annual Report MOE 2017-2018*

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¹¹ *Annual Report MoE, 2017-2018*

¹²*Digest of Education Statistics 2018 – 2019*

¹³*ADB IQBE RMI (Grant-0536 REG) Monthly Report | March - May 2019*

¹⁴<https://www.globalbookalliance.org/the-book-chain>

¹⁵ http://www.katakcenter.org/about_us.html

¹⁶<https://www.businessnewsdaily.com/11008-canon-imagerunner-advance.html#:~:text=The%20Canon%20ImageRunner%20Advance%20C5535i,an%20option%20to%20lease%20it.>

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¹⁹ *Republic of The Marshall Islands - Education Contingency Plan*

²⁰ <https://blog.wing.com/2020/06/wing-delivers-library-books-to-students.html>