



TECHNICAL ASSISTANCE REPORT

REPUBLIC OF THE MARSHALL ISLANDS

Consumer Price Index Mission

(January 15–26, 2024)

MAY 2024

Prepared By

David Baran

Authoring Department:

Statistics Department

DISCLAIMER

“The contents of this document constitute technical advice provided by the staff of the International Monetary Fund to the authorities of the Republic of the Marshall Islands (the “CD recipient”) in response to their request for technical assistance. This document (in whole or in part) or summaries thereof may be disclosed by the IMF to the IMF Executive Director for the Republic of Marshall Islands, to other IMF Executive Directors and members of their staff, as well as to other agencies or instrumentalities of the CD recipient, and upon their request, to World Bank staff, and other technical assistance providers and donors with legitimate interest, unless the CD recipient specifically objects to such disclosure (see [Operational Guidance for the Dissemination of Capacity Development Information](#)). Publication or disclosure of this report (in whole or in part) to parties outside the IMF other than agencies or instrumentalities of the CD recipient, World Bank staff, other technical assistance providers and donors with legitimate interest shall require the explicit consent of the CD recipient and the IMF’s Statistics department.”

Table of Contents

Acronyms and Abbreviations	2
Summary of Mission Outcomes and Priority Recommendations.....	3
Section I. Detailed Technical Assessment and Recommendations	4
A. The Majuro and Ebeye Consumer Price Indexes	5
B. Updating the CPI Basket of Goods and Services and Expenditure Weights	7
C. Updating the CPI.....	9
D. Officials Met During the Mission	11

Acronyms and Abbreviations

COICOP Classification of Individual Consumption by Purpose

CPI Consumer Price Index

EPPSO Economic Policy, Planning, and Statistics office

HIES Household income and Expenditure Survey

SPC South Pacific Community

TA Technical Assistance

Summary of Mission Outcomes and Priority Recommendations

- 1. At the request of the Economic Policy, Planning and Statistics Office (EPPSO) of the Republic of the Marshall Islands (RMI), a technical assistance (TA) mission was undertaken between January 15–26, 2024, to assist the EPPSO to update their consumer price index (CPI).** The mission assisted EPPSO to resample the basket of goods and services, and to estimate new expenditure weights, based on the results of the 2019/2020 household income and expenditure survey (HIES). An action plan for updating the CPI was developed and agreed.
- 2. Reliable and accurate price indices are essential for informed policymaking by the authorities and the IMF.** CPIs also provide the private sector, foreign investors, rating agencies, and the public in general with important inputs in their decision-making, while informing economic analysis. Updating the CPI in the RMI will enhance the macroeconomic data available for policymakers, as well as IMF surveillance. This measure also improves the price deflators and indicators used in compiling the national accounts.
- 3. To maintain relevance and representativity, the expenditure weights and basket of goods and services underlying a CPI should be periodically updated.** EPPSO produce two CPIs, one for Majuro (the capital island), and one for Ebeye. Both CPIs are referenced to 2003 Q1 =100. Both indexes share a common basket of goods and services. The basket and expenditure weights are out of date and are unlikely to be representative of current consumer expenditures and preferences. The mission recommended that the CPI should be updated as soon as practicable, using the results of the 2019/20 HIES. Updating the CPI will improve the relevance and representativity of the CPI and will improve both the deflation of the national accounts and economic surveillance.
- 4. The development of a national CPI would improve the representativity of the CPI in RMI.** Currently, EPPSO use the Majuro CPI as a proxy for a national CPI, as Majuro accounts for over half of the total population of the RMI. The requirement for the two current CPIs is not fully understood by EPPSO, it appears to be a historical decision rather than be based on a clear policy need. The development of a national CPI would better represent price developments in the RMI and would align with international best practice of producing a national indicator of price change. Whether this would replace the two current CPIs or be a supplemental indicator, is a key decision that needs to be made before the CPI can be updated. The mission recommended that EPPSO should consult key users as the earliest opportunity, as the outcome will guide the design of the updated CPI.
- 5. An updated basket of goods and services was developed based on the results of the 2019/20 HIES.** The current CPI basket is comprised of just 61 items. The CPIs are not classified in accordance with the classification of individual consumption by purpose (COICOP). The product coverage of the current CPI is patchy, with several product groups either absent or underrepresented. The mission assisted EPPSO to update, expand, and optimize the CPI basket, based on the results of the 2019/20 HIES. The updated CPI basket is comprised of approximately 120 items classified by COICOP 1999. The mission recommended that item descriptions and specifications are developed as a priority.
- 6. New expenditure weights for the Majuro, Ebeye, and for a future national CPI, were derived from the 2019/20 HIES.** To allow for all options regarding the future development of the CPI in the RMI, expenditure weights were developed for both the Majuro and Ebeye CPIs, and for a potential national

CPI. The difference in the weights reflects the differing geographic coverage of the indexes. For Majuro and Ebeye, the coverage is restricted to the respective islands, while the national CPI weights are based on all expenditure in RMI, including the outer islands. The implementation of new expenditure weights will improve the relevance and representativity of the CPI.

7. A detailed action plan for the updating the CPI was developed and agreed. The mission, working with EPPSO developed and agreed a detailed action plan for the updating the CPI, with a target date of September 2024. All target dates in the action plan are indicative at this time due to limited staff resources and staff capacity.

8. Capacity building was provided through training. The mission assisted in capacity building through the provision of practical training. The updated weights were developed in a collaborative manor with EPPSO staff. Training included an overview of the updating process, item and outlet sampling, derivation of weights, and developing item descriptions and specifications.

TABLE 1. Priority Recommendations

Target Date	Priority Recommendation	Responsible Institution
February 2024	<i>Consult on whether CPIs are required for both Majuro and Ebeye in addition to a new national CPI</i>	EPPSO
March 2024	<i>Develop item descriptions and specifications for the updated CPI basket</i>	EPPSO
September 2024	<i>Publish the updated CPI</i>	EPPSO

9. Further details on the priority recommendations and the related actions/milestones can be found in the action plan under Detailed Technical Assessment and Recommendations.

Section I. Detailed Technical Assessment and Recommendations

TABLE 2. Action Plan

Priority	Action/Milestone	Target Completion Date
Outcome: A future strategy for CPIs in RMI is agreed		
H	Launch a consultation on the continued requirement of CPIs for both Majuro and Ebeye in addition to a new national CPI.	February 2024
Outcome: Item descriptions and specifications are developed for the updated CPI basket		
H	Develop detailed item descriptions and specifications for the new CPI basket.	March 2024
H	Test and review the new item descriptions and specifications in both Majuro and Ebeye.	March 2024
Outcome: The sample of outlets is reviewed and updated		
H	The sample of outlets in both Majuro and Ebeye is reviewed and updated.	March 2024

Priority	Action/Milestone	Target Completion Date
Outcome: The CPI data entry workbooks and price collection sheets are updated		
H	Develop new price collection sheets for the updated CPI.	April 2024
H	Develop new data entry Excel workbooks for the updated CPI.	April 2024
Outcome: Overlap price collection commences		
M	Collect prices for the current CPIs in Majuro and Ebeye for the last time.	May 2024
M	Collect prices for the updated CPIs in Majuro and Ebeye for the first time.	May 2024
Outcome: The update of the CPI is preannounced		
M	The current CPI is disseminated for the last time.	June 2024
M	The planned update of the CPI is preannounced.	June 2024
Outcome: New CPI workbooks are developed		
M	Develop and test new Excel workbooks for the updated CPI.	July 2024
Outcome: The updated CPI is disseminated		
M	Prices for the updated CPI are collected for the second time	August 2024
M	Draft metadata for the CPI	August 2024
M	Calculate the updated CPI for the first time	September 2024
M	Update the quarterly report template	September 2024
M	Link the current and updated CPIs	September 2024
M	Disseminate the updated CPI.	September 2024

A. THE MAJURO AND EBeye CONSUMER PRICE INDEXES

10. The Majuro and Ebeye CPIs share the same price, weight, and index reference periods.

The price reference period for both indexes is 2003 Q1. The weights reference period is 2002, with weights being estimated from a HIES survey conducted in 2002. The index reference period is 2003 Q1=100. Currently, there is no national index. The Majuro index is currently used as a proxy for a national index.

11. Prices are collected quarterly. For both indexes, prices are collected four times a year in the second month of each calendar quarter. In Majuro, prices are collected across the second week, and in Ebeye, across the third week of the same quarter. The reason for this difference is a practical. In EPPSO there are 11 staff, of which four work in the statistics office, their focus is compiling social statistics plus the CPI. Compilation of other economic statistics, such as GDP, is largely outsourced to external partners. Once the price collection in Majuro is complete, one staff member travels to Ebeye to collect prices. While a monthly price collection would be preferable, staff resources do not currently allow this. As staff members take turns to travel to Ebeye, the mission recommended that prices in Ebeye should be collected in the same week as Majuro, as any changes to nationally fixed prices would be guaranteed to enter both indexes at the same time, which will increase the comparability of the two CPIs.

12. Prices are collected on paper. Reflecting the relatively small populations of Majuro (25,000), and Ebeye (10,000), the number of outlets from which prices can be collected is limited. In Majuro, prices are collected in 31 outlets, and in Ebeye from 13 outlets. On average, five prices are collected for each item. The mission recommended that for the updated CPIs, frequently purchased items, such as food etc., that the number of prices collected should be increased. In addition, the price collection for schools should also be increased reflecting wide range of private providers, and that church run schools have tariffs in place which offer discounted rates to church members. EPPSO has acquired tablets which could be used for price collection, but currently there is no budget for purchasing suitable software.

13. The CPIs are not classified in accordance with COICOP and there are significant gaps in coverage. The CPI uses a bespoke classification which is not fully aligned with COICOP. The current basket of 61 items limits the expenditure coverage of the CPI, particularly for non-food expenditure groups. Gaps in coverage include household consumables, motor vehicles, transport by road and sea, recreational goods and services, products and services for personal care, financial services, and vehicle insurance etc. The mission recommended that these gaps should be addressed as part of the planned update of the CPI, through expanding the coverage and size of the CPI basket, and adopting the COICOP 99 classification, which was used for the 2019/20 HIES.

14. Missing prices are carried forward. In general, product availability in Majuro and Ebeye is good, as most goods are imported. When an item is missing, its price is carried forward. The mission recommended that when an item is missing, the price collector should ascertain as to whether the product is permanently missing or if it is only temporarily missing. Where a product will no longer be available, it should be replaced immediately. Where the product is temporarily missing, its price should be imputed using the price developments of similar items. If the item is still not available in the following quarter, the item should be replaced.

15. Seasonality is generally weak due to the prevalence of imports. While there is some domestic production of fresh fruit and vegetables, imports dominate. In general, seasonality is weak and imputation for out of season items is not required.

16. When an item is replaced, no quality or quantity adjustments are made. When a product-offer is replaced, a direct comparison is made, with no adjustments made to take account of quality or quantity differences. The mission explained that for many items – especially for food items, which dominate the current CPI basket, pack sizes globally have in many cases reduced. Where such changes occur, this should be reflected as a price change in the CPI. The mission used an Excel example to demonstrate how this can be done and recommended that EPPSO should adjust for changes in quantity when these occur.

17. Index calculation: compliance with international best practice will be improved, through the use of the Jevons formula for calculating elementary aggregate indexes. The current CPI uses the Dutot (arithmetic mean) formula for calculating elementary aggregate (item) indexes. Elementary aggregate indexes are aggregated following a Laspeyres-type (Young) approach. Following international best practice, the mission recommended that the updated CPI should use the Jevons (geometric mean) formula.

18. The CPIs are disseminated quarterly to a preannounced timetable. The Majuro and Ebeye CPIs are disseminated on paper, and on the EPPSO website, at the end of each quarter to a preannounced timetable. EPPSO disseminates the all-items CPIs and main groups. Currently, there is no

metadata to accompany the data. The mission recommended that metadata should be developed and be made available along with the updated CPIs.

Recommended Actions:

- Prices in Majuro and Ebeye should be collected in the same week on both islands.
- The number of prices for frequently purchased items and for school tariffs should be increased.
- The coverage of the CPI basket should be expanded and COICOP 99 adopted as part of the planned update to the CPI.
- Changes in quantity should be reflected as price changes in the CPI.
- The updated CPI should use the Jevons formula for calculating elementary aggregate indexes.
- Metadata should be drafted for the updated CPI.

B. UPDATING THE CPI BASKET OF GOODS AND SERVICES AND EXPENDITURE WEIGHTS

19. To maintain relevance and representativity, the expenditure weights and the basket of goods and services underlying a CPI should be periodically updated. EPPSO produce two CPIs, one for Majuro (the capital island), and one for Ebeye. Both CPIs are referenced to 2003 Q1 =100. Both indexes share a common basket of goods and service. Both the basket and expenditure weights are out of date and may not be representative of current consumer expenditures and preferences. Subject to resources, international best practice suggests CPI should be updated every five years. The mission recommended that EPPSO should consider conducting HIES surveys more frequently going forward. Updating the CPIs on a more regular basis will improve the relevance and representativity of the CPIs and will improve both the deflation of the national accounts and economic surveillance.

20. The updated CPI will adopt the COICOP 99 classification. Updating the CPI will allow for the CPIs in RMI to adopt the COICOP classification, which is also used to a large extent in the 2019/20 HIES.

21. An updated basket of goods and services was developed based on the results of the 2019/20 HIES. The mission assisted EPPSO to update and optimize the CPI basket based on the results of the 2019/20 HIES. Using the detailed HIES expenditure results (at the national level), a new basket of approximately 120 items was developed. This was optimized to ensure that the number of items in each COICOP division reflected both the division's expenditure share of total household expenditure, and the heterogeneity of the goods and services in that division. The new basket addressed the significant gaps in product coverage that exist in the current CPI. Nonetheless, there will still be some gaps, in particular, financial services (which are significant in RMI), as these were omitted from the HIES. This is not unusual in HIES surveys in the region. The mission recommended that future HIES surveys should include all household expenditures, as this is important for developing a complete set of expenditure weights.

22. Updated expenditure weights were developed based on the results of the 2019/20 HIES. As the future strategy for CPIs in the RMI has not yet be finalized, the mission working in a collaborative manor to build capacity at EPPSO, developed a full set of weights for both the Majuro and Ebeye CPIs, as well as for a potential national CPI. Weights at the COICOP 2-digit division level for all three indexes, are presented in table 3 below. Unsurprisingly, with approximately 55 percent of the population, the Majuro and national weights are very similar. While there are some differences in the Ebeye weights, this may be due to the relatively small HIES sample size, given the islands population of just 10,000. The presence of a major American military base which is large employer on Ebeye may also be contributing factor. Both the mission and EPPSO believe the results are plausible.

TABLE 3. 2024 CPI Weights

	National	Majuro	Ebeye
01 Food & Non-Alcoholic Beverages	35.4	34.5	33.0
02 Alcohol & Tobacco	5.2	4.1	6.5
03 Clothing & Footwear	4.1	3.9	3.3
04 Housing, Water, Electricity, Gas & Other Fuels	11.0	10.2	16.0
05 Furnishings, Household Equipment & Routine Maintenance	5.5	5.4	5.1
06 Health	0.2	0.2	0.1
07 Transport	10.7	13.0	5.5
08 Communication	3.0	3.4	1.6
09 Recreation & Culture	1.9	1.9	1.6
10 Education	1.4	1.5	1.7
11 Restaurants & Hotels	15.4	15.6	19.4
12 Miscellaneous Goods & Services	6.3	6.2	6.1
Total	100.0	100.0	100.0

23. A direct comparison of the 2003 and 2024 expenditure weights is not meaningful.

The current CPI weights (see table 4) are based on an expenditure survey conducted in 2002. Given the age of the current CPI weights, the differences in classification, and the absence of the underlying household expenditures, it is not meaningful to directly compare the 2003 and 2024 weights. As the 2019/20 HIES survey has been fully quality assured by both the South Pacific Community (SPC) and by EPPSO, it is not unreasonable to accept that the updated weights, based on the 2019/20 HIES are a good reflection of current household expenditure.

TABLE 4. 2003 CPI Weights

All Groups	Majuro	Ebeye
Food	35.9	46.7
Alcoholic Beverages	1.7	1.4
Housing, Utilities and Major Appliances	17.1	15.9
Apparel	4.3	6.1

All Groups	Majuro	Ebeye
Transportation	13.7	12.3
Medical Care	2.2	0.9
Recreation	2.3	2.2
Education and Comm.	6.6	4.4
Other Goods and Services	16.2	10.1
All Groups	100.0	100.0

Recommendation Action:

- EPPSO should aim to conduct HIES surveys more frequently.

C. UPDATING THE CPI

24. The development of a national CPI would improve the representativity of the CPI in RMI.

Currently, EPPSO use the Majuro CPI as a proxy for a national CPI, as Majuro accounts for over half of the total population of the RMI. The requirement for the two current CPIs is not fully understood by EPPSO, it appears to be a historical decision rather than be based on a clear policy need.

The development of a national CPI would better represent price developments in the RMI and would align with international best practice of producing a national price indicator. Whether this would replace the two current CPIs or be a supplemental indicator, is a key decision that needs to be made before the CPI can be updated. The mission recommended that EPPSO should consult key users as the earliest opportunity, as the outcome will guide the design of the updated CPI.

25. A national CPI would be based on national expenditures for the weights, with prices collected in Majuro and Ebeye. It is not practical to collect prices in the outer islands due to their remoteness, small populations, and limited number of outlets. In these islands, most goods will directly shipped from Majuro and Ebeye. Shipping costs are fixed by the government and rarely change.

26. A detailed action plan for the updating of the CPI was developed and agreed. The mission, working with EPPSO developed and agreed a detailed action plan for the updating the CPI, (see table 2) with a target date for dissemination of September 2024. All actions are given in chronological order, with the actions up to the end of April being the highest priority in the near term. All target dates in the action plan are indicative at this time due to limited staff resources and staff capacity. Training was provided covering all aspects of the updating a process.

27. Item descriptions and specifications should be developed and tested. The mission in conjunction with EPPSO developed a new and expanded CPI basket of around 120 items. For new items, item descriptions and specifications need to be developed, for items carried over from the current basket, the existing items descriptions and specifications should be reviewed for their current relevance. Once developed, the item descriptions should be tested in the field. The mission provided training in; outlet and item sampling and developing item descriptions and specifications.

28. The sample of outlets should be reviewed and expanded. The mission recommended that the current sample of outlets is reviewed and updated to take account of the expanded coverage of goods and services in the updated CPI basket. This is particularly relevant for service providers, as services are not well represented in the current CPI basket. For goods, the sample of outlets is likely to remain broadly similar, as the number of outlets is relatively limited reflecting the size of the consumer Market in RMI.

29. New price collection worksheets should be developed. Before prices can be collected for the updated CPI, new price collection sheets need to be developed. The mission recommended that these should be separate from the current price collection worksheets, as the item descriptions and specifications for products carried over from the current basket may have changed.

30. An overlap price collection is required. Prices for the current and updated CPI should be collected at the same time, in at least one month (overlap pricing), in order that the current and updated CPI series can be linked, to provide a long run index series. Prices for the current basket should be collected for the last time, and prices for the updated basket should be collected for the first time. The two price collections should be undertaken concurrently (target date May 2024). It is often preferable to have an overlap period of more than one month, to take account of seasonality. However, as seasonality is generally weak in the RMI, due to the prevalence of imports, and with limited staff resources at EPPSO, the mission recommended an overlap period of one quarter (month).

31. A new Excel based workbook is required for the compilation of the updated CPI. The Majuro and Ebeye CPIs are currently calculated in separate Excel workbooks. As these cannot easily be adapted to take account of the updated basket, and the new COICOP classification, the mission recommended that a new Excel workbook should be developed. EPPSO are likely to require external assistance to complete this task.

32. The current and updated CPIs index series should be linked. To allow for a long run index series, the mission recommended that the current and updated CPI index series should be linked together. Given the differences in classification and the limited product coverage of the current CPI, it will not be possible to retrospectively apply the COICOP 99 classification to historical data. As such, linking may only be possible at the all-items index and for some selected product groups.

33. The planned updating of the CPI should be preannounced. The mission recommended that the update of the CPI should be preannounced alongside the publication of the 2024 Q2 index (June 2024). Given the significant updates being made to the CPI, it is important that all users, and in particular government departments, are made aware of the planned update as soon as possible. In preannouncing the update, users should be made aware that the updated CPI will use new expenditure weights, an updated basket of goods and services, and that from the update, the CPI will adopt the COICOP 99 classification.

34. The provision of metadata will improve the transparency of the CPI. Currently there are no metadata which describes the coverage and methodology of the CPIs in the RMI. The mission recommended that metadata should be drafted which describes the methodology, classification, and coverage of the CPIs etc., as this will greatly enhance the transparency of the CPI and will improve public trust in the CPI numbers.

Recommended Actions:

- EPPSO should consult key users on the future strategy for CPIs in RMI.

- The sample of outlets should be reviewed and expanded.
- New price collection sheets should be developed.
- A new Excel workbook should be developed for calculating the updated CPI.
- The current and updated index series should be linked where possible.
- The updating of the CPI should be preannounced.
- Metadata should be drafted and released alongside the updated CPI.

D. OFFICIALS MET DURING THE MISSION

Name	Position	Department	Email
Frederick J. De Brum	Director	EPPSO	fjdebrum@gmail.com
Scott Keju	Head of statistics	EPPSO	Scott.keju@gmail.com
John Henry	Senior statistician	EPPSO	Jhenry9@gmail.com
Joyceline Mellan-Kaitil	Statistics specialist	EPPSO	Jmellan20@gmail.com
Junior Peter	Economic Unit	EPPSO	lasugah@gmail.com