

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

**Mid-term review of the Debt Management and  
Financial Analysis (DMFAS) Programme Strategic Plan  
2020-2023\***

Independent Evaluation Unit  
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**José Oyola**

## Table of Contents

<b>Acronyms and Abbreviations</b> .....	<b>5</b>
<b>Executive Summary</b> .....	<b>7</b>
1. <i>Introduction</i> .....	7
2. <i>Relevance</i> .....	7
3. <i>Effectiveness</i> .....	8
4. <i>Efficiency</i> .....	9
5. <i>Sustainability of DMFAS Programme</i> .....	10
<b>1. Introduction</b> .....	<b>14</b>
<b>2. Purpose, Scope and Methodology of Evaluation</b> .....	<b>15</b>
<b>3. Organizational Structure and Operations of DMFAS Programme</b> .....	<b>17</b>
<b>4. Relevance of the DMFAS Programme</b> .....	<b>18</b>
<b>5. Effectiveness of the DMFAS Programme</b> .....	<b>20</b>
<b>6. Efficiency of the DMFAS Programme</b> .....	<b>27</b>
<b>7. Sustainability of the DMFAS Programme</b> .....	<b>29</b>
<b>8. Coherence of the DMFAS Programme</b> .....	<b>37</b>
<b>9. Conclusions</b> .....	<b>41</b>
9.1 <i>Relevance</i> .....	41
9.2 <i>Effectiveness</i> .....	41
9.3 <i>Efficiency</i> .....	43
9.4 <i>Sustainability</i> .....	43
9.5 <i>Coherence</i> .....	44
<b>Major Recommendations</b> .....	<b>45</b>
<b>ANNEXES</b> .....	<b>47</b>
<b>ANNEX I. Data Collection Instrument for Donors &amp; Partners Interviews.</b> .....	<b>47</b>
<b>ANNEX II. Data Collection Instrument for Client Surveys.</b> .....	<b>48</b>
<b>ANNEX III. Summary of Findings on Country Visits</b> .....	<b>49</b>
<b>ANNEX IV. Reviewed Documents</b> .....	<b>50</b>
<b>ANNEX V. Additional Findings</b> .....	<b>53</b>

<i>AV.1. Automatic links between DMFAS and other systems</i> .....	53
<i>AV.2. Donor countries, 1998 - 2021</i> .....	54
<i>AV.3. IT Systems development expenditures</i> .....	55
<i>AV.4. Time required to develop DMFAS software</i> .....	56
<i>AV.5. DMFAS software functionalities in DMFAS 6 and 7</i> .....	57
<b>ANNEX VI. Persons Contacted for MTR Interviews</b> .....	<b>59</b>

## Acronyms and Abbreviations

ADB	Asian Development Bank
BCEAO	Central Bank for West African States
CS	Commonwealth Secretariat (ComSec)
D4D	Data for Decisions
DeMPA	Debt Management Performance Assessment
DMF	Debt Management Facility
DMFAS	Debt Management Financial Analysis System
DMO	Debt Management Office
DPA	Debt Portfolio Analysis
DQAF	Data Quality Assessment Framework
DQAFM	Data Quality Assessment Framework Methodology
DRMS	Debt Recording and Management System of ComSec
DRS	Debt Reporting System
DSA	Debt Sustainability Analysis
DSSI	Debt Service Suspension Initiative
ESCWA	Economic and Social Commission for Western Asia
GDDS	General Data Dissemination Standards
GDP	Gross Domestic Product
GNI	Gross National Income
IDS	International Debt Statistics
IFMIS	Integrated Financial Management Information System
IMF	International Monetary Fund
IT	Information Technology
JEDH	Joint External Debt Hub
MEFMI	Macroeconomic and Financial Management Institute
MTDS	Medium Term Debt Strategy
MTR	Mid-Term Review
PEFA	Public Expenditures and Financial Accountability Framework
PFM	Public Financial Management
QEDS	Quarterly External Debt Statistics
QPSDS	Quarterly Public Sector Debt Statistics
SDDS	Special Data Dissemination Standards
SDGs	Sustainable Development Goals
SYGADE	Système de gestion et d'analyse de la dette

TFFS	Task Force on Finance Statistics
TRAC	Tracking System for recording User requests
UNCTAD	UN Conference on Trade and Development
WAEMU	West African Economic and Monetary Union
WAIFEM	West African Institute for Financial and Economic Management

## Executive Summary

### 1. Introduction

1.1 UNCTAD's Debt Management Financial Analysis System (DMFAS) Programme was created more than 40 years ago to help low-income countries negotiate better terms with its Paris Club creditors. Today, DMFAS has become a mature professional organization that provides the foundational software and essential technical advice to manage public debt in 61 countries and 86 institutions.

1.2 The DMFAS Programme is currently implementing its 2020-2023 Strategic Plan, which requires an external evaluation after two years of implementation (Mid-Term Review), to determine progress in its two strategic objectives:

- ✓ Objective 1 - Improve the capacity of Debt Management Organizations (DMOs) to record, process, monitor, report and analyze the country's public debt in a sustainable manner.
- ✓ Objective 2 - Improve the capacity of the DMFAS Programme to deliver effective, efficient and sustainable responses to country needs.

1.3 The methodology of this review was defined in the terms of reference and further developed in the inception report completed at the end of July. The prescribed evaluation criteria were relevance, effectiveness, efficiency, sustainability, and coherence. The consultant was given complete access to DMFAS staff and DMO staff in the three countries that were chosen for in-depth analysis. The evaluation scope was focused on the 2020-2021 period.

### 2. Relevance

2.1 The vast majority of DMFAS users are highly satisfied with DMFAS products and services. More than 96% of the users in national and sub-national offices found the DMFAS Programme to be highly important or important. Survey respondents were also highly satisfied with DMFAS specific products and services, ranking as "very important" the DMFAS software (93%), followed by DMFAS training (83%) and its support services (71%), such as helpdesk.

2.2 Similarly, DMFAS donors and stakeholders expressed high levels of satisfaction with DMFAS products and services. Donors praised the DMFAS software for its strategic contribution to strengthening debt data transparency and public accountability in user countries.

2.3 DMFAS stakeholders MEFMI, World Bank and IMF staff expressed a high level of satisfaction with the quality of technical support provided by DMFAS in their regional and joint capacity development activities. World Bank and IMF highlighted the high capacity of DMFAS IT and capacity training staff, who helped to improve debt databases, reduce debt understatements, and fill debt gaps through the application of data quality procedures. DMFAS support was essential in the production of the debt information that is required to conduct upstream debt functions, such as debt sustainability analysis.

2.4 During the COVID-19 pandemic the DMFAS software and technical services provided reliable

and timely support. According to DMO staff, DMFAS connectivity was essential to ensure the continuity of their debt management tasks during the lockdowns in 2020. Without DMFAS systems, issuing debt payments and producing debt reports would not have been possible.

2.5 In conclusion, the vast majority of DMFAS users, donors and stakeholders were highly satisfied with its products and services. Looking forward, the capacity to support higher levels of satisfaction with DMFAS products and services will depend on achieving a prompt implementation of DMFAS 7 in all user countries.

### **3. Effectiveness**

3.1 DMFAS showed a high level of overall effectiveness in the 2020-2021 period. Specifically, it was highly effective in reallocating its staff during the COVID-19 pandemic, developing quickly its capacity to respond to the needs of client countries during the lockdowns in 2020-2021. There was also a quick recovery in most of the performance indicators that suffered a temporary setback in 2020 due to travel-related restrictions.

3.2 The DMFAS Programme provided quick support to the client countries during lockdowns, issuing guidance to countries on debt reorganizations, and delivering support to enable debt office staff to have remote access to DMFAS during lockdowns in Angola, Dominican Republic, Ecuador, Panama, Philippines and Uganda.

3.3 The DMFAS Programme continued to achieve a high level of effectiveness in the percent of users who report debt data to the World Bank Debt Reporting System (95%), and include public debt in DMFAS (93%). DMFAS users maintained their commitment to debt reporting and transparency during the challenging period of 2020-2021.

3.4 The DMFAS Programme suffered a setback with respect to its second strategic objective due to the delay in the completion of the DMFAS 7 software project in 2020-2021. The delay was caused by several challenges, including the COVID-19 lockdown, a lack of financing, and the requirement to follow UN procurement procedures in order to achieve labor cost savings, obtain open-source software, and maintain control over the intellectual property of DMFAS software.

3.5 Specific plans for the implementation of DMFAS 7 will be presented at the thirteenth UNCTAD Debt Management Conference in December 2022. There are recommendations in this report to accelerate DMFAS7 implementation and to avoid similar delays in future software projects.

3.6 Looking forward, after the delivery of DMFAS 7, there are significant tasks required to implement the new software system widely in user countries, which should be described in the Programme's communications plan. Additional resources will be necessary to implement DMFAS 7 effectively and efficiently. A recommendation is made to create a staff position, funded by UNCTAD, similar to a *Chief Software Development Officer (CSDO)*, to ensure its successful implementation.

3.7 In conclusion, the DMFAS Programme achieved significant progress in its two strategic



objectives, but faced significant challenges that led to a postponement in the delivery of its DMFAS 7 project. Looking forward, recommendations are presented to accelerate its implementation widely in DMFAS user countries.

3.8 Consultant also examined the impact of providing direct debt database access to the Supreme Audit Institution (SAI) and the National Electric Enterprise (ENEE) in the mission to Honduras. In the case of the SAI, which has read-only access to the debt database, a complete audit plan was carried out over a decade that produced detailed debt reports of central, municipal and state-owned enterprises in Honduras, as well as significant improvements in the quality of debt management procedures at the DMO. In the case of the ENEE, which has both write and read functions to the public debt database, the evidence showed the importance of controls to ensure the quality of debt data entries.

3.9 In conclusion, other DMFAS user countries can achieve similar benefits as the DMO of Honduras, if the SAIs have the technical capacity and independence to evaluate and report on debt management operations. Also, with respect to providing write and read functions to SOEs, DMOs should ask DMFAS to provide guidance on quality controls that should exist when several entities share the same debt database, for example, in a Ministry of Finance and the Central Bank.

3.10 The consultant also obtained evidence on the potential to incorporate sub-national debt in DMFAS database. The evidence in Honduras and DeMPA studies of African sub-national governments shows there are significant legal and operational challenges to expanding DMFAS coverage to sub-national governments. A legal and technical analysis is recommended to determine the best alternatives to incorporate debt information of sub-national governments in a DMFAS database. For example, in most countries there are a few sub-national entities that issue most of the total municipal debt. Also, there are significant legal differences between unitary countries and countries that follow the fiscal federalism model. DMFAS should prepare a concept paper and ask user countries, partners and stakeholders for their views on best options to initiate a pilot DMFAS program for sub-national borrowers, by region.

## **4. Efficiency**

4.1 The DMFAS Programme was highly efficient in providing its services to client countries, donors and implementing partners in 2020-2021. DMFAS management moved quickly to adopt efficient online tools to provide technical support and capacity development workshops and courses during the lockdowns caused by the COVID-19 pandemic. DMFAS also obtained significant financial savings in the DMFAS 7 software project, outsourcing its development to IT consultants in several countries.

4.2 DMFAS has developed the capacity to tailor e-learning and in-person services to respond to the different needs of its user clients. There is a widespread consensus that e-learning is effective for delivering relatively simple, easy-to-understand information, if it is provided to knowledgeable and experienced staff, in a well-structured, visually attractive format. DMFAS has prepared a whole suite of well-structured and effective factsheets and courses that are accessible online to its user countries.

4.3 On the other hand, in-person service is the most cost-effective tool to help new DMO staff to acquire full proficiency in the use of DMFAS hardware and software applications. Over several decades, DMFAS has developed a full capacity to plan and conduct missions efficiently, in which the country needs are systematically identified and DMFAS systems are installed successfully. Annex III of this report summarizes the e-learning and in-person activities which were utilized by the DMFAS experts to implement DMFAS6 and train staff in Egypt’s Ministry of Finance between 2018 and 2022.

4.4 Looking forward, there are two recommendations to expand the information DMFAS obtains on the needs of its client countries. The first recommendation seeks to improve the response rate and the quality of the responses in DMFAS Mid-Term surveys. The current MT survey questionnaire could split into two shorter questionnaires, one with the questions related to downstream debt functions and another questionnaire with the questions related to upstream debt functions. The questionnaires would be targeted to country officials who are responsible for each type of debt management function.

4.5 The second recommendation seeks to expand the use mission-related documents in future projects. Currently, mission-related documents are not tagged, which could be done to facilitate their use as references by persons who were not directly involved in the project. Document tagging is the general process of adding labels to a document, so users can easily search and find the reference when they need it. A recommendation is added in this evaluation to tag end-of-mission reports related to DMFAS 7 pilot projects, in order to increase their usefulness in the wide implementation of DMFAS 7 in all user countries.

## **5. Sustainability of DMFAS Programme**

**5.1 Sustainability and ownership of benefits for client countries.** For client countries, who are the direct beneficiaries, the DMFAS Programme provides a high return on the investment. According to the responses in the user survey, DMFAS products and services help DMO staff to make timely payments (80%), make payments for the correct amount (79%), and make better budget forecasts (78%). In return for the financial benefits, user countries have increased their voluntary maintenance fees 153% and their average cost-sharing by 142% in last two decades.

5.2 In the last four years, there was a significant decrease in the number of DMOs where several staff have the capacity to work independently without DMFAS support, from 85% in 2018 to 64% in 2022. The comments provided by respondents identified a need to train new DMO staff to ensure the realization of DMFAS benefits.

**5.3 Overall financial sustainability of the Programme.** The sustainability of the DMFAS Programme is assured in the near term. User countries, donors and other stakeholders expressed a firm commitment to continue their support of DMFAS Programme. In the medium and long term, it is important to take effective measures to ensure the continued financial stability of the Programme. The donors, who have been the largest contributors for decades, cautioned that their governments have many development aid priorities, and the budgets for development aid are subject to periodic appropriations.

5.4 External and internal events can trigger significant changes in development aid priorities of donor and partners, such as economic recessions, wars, climate change challenges and future health pandemics. In order to reduce the risks that critical future projects will be challenged by a lack of sufficient and timely financial resources, UNCTAD is developing a comprehensive strategy to expand its donor base. Also, effective measures should be taken to provide DMFAS Programme the tools to avoid a repeat of the financial problems which retarded the implementation of the DMFAS 7 project.

5.5 The caution expressed by donors is supported by the historical evidence of DMFAS contributions. In the last two decades contributions have been subject to large and unexpected fluctuations, which may continue in the future. Although the DMFAS Programme has a financial goal based on donor-beneficiary-UNCTAD contribution percentages of 40:40:20, the realized shares have deviated significantly from the targets. For example, the actual shares in the 2020-2021 period were 61:22:17, because some donors gave exceptional additional contributions targeted at DMFAS 7 development.

5.6 DMFAS also faces a binding financial constraint, since it must comply with UN financial rules and regulations that prevent activities to take place when funds targeted for these activities are not available in the UN bank account. In other words, there must be sufficient cash on hand to start major software projects and capacity development in specific countries. DMFAS does not have an open line of credit.

5.7 In conclusion, the risks that critical projects will be challenged by a lack of sufficient and timely financial resources will continue in the future. Effective measures must be taken to provide DMFAS Programme the tools to avoid a repeat of the financial problems which retarded the implementation of the DMFAS 7 project.

5.8 Three principal recommendations are included in the report to deal with the risks to financial sustainability. One recommendation would increase the potential of attracting donor support by improving the recognition of DMFAS contributions to the Sustainable Development Goals (SDG). Evidence shows that donors rely on SDG achievements as an important factor in funding decisions.

5.9 It is possible to expand the number of SDGs that are positively impacted by DMFAS. Specifically, DMFAS activities directly strengthen public debt management and transparency, which in turn facilitate the mobilization of debt financing to end poverty (SDG 1.a) and hunger by doubling agricultural productivity of small-scale producers (SDG 2.a, 2.3), build education facilities (SDG 4.a), improve water quality (SDG 6.3), increase access to sustainable energy (7.b), build sustainable infrastructure (SDG 9.a), mitigate climate-related hazards (SDG13.a), and mobilize financial resources to sustainably use ecosystems. This is case of Egypt's green bond issuance in 2020, detailed in this report.

5.10 A second recommendation involve creating a specific trust fund. The objective of the specific trust fund is to provide sufficient resources to make continuous improvements in DMFAS 7 software and provide funding to meet unexpected requests for technical support.

5.11 A third recommendation is the further development of the two budget scenarios which the

Programme has developed in recent years. One scenario has been based on the ideal situation wherein all foreseen activities in the strategic plan would have been achieved. The other scenario is based on a reduced budget. The proposed trust fund opens the possibility of developing financial strategies that would strengthen the financial stability of the Programme by smoothing unexpected revenue fluctuations to achieve a more realistic spending path.

**5.12 Decentralization.** Initiatives to expand DMFAS to sub-national governments and to establish a regional office to serve several countries in a region have been discussed since the early 2000s. The available evidence shows these two initiatives have produced different results. A regional office has been effective for expanding DMFAS to sub-national governments, but not to provide services to several countries. So far, DMFAS has been successful in providing services to several countries in a region with a mobile DMFAS staff, supported by regionally based consultants. The latter model has worked with direct travel to specific countries, as well as travel to a regional center, such as MEFMI.

5.13 On one hand, the implementation of DMFAS in Argentina provinces have been sustainable, and have resulted in high levels of satisfaction with the DMFAS software and technical services by regional staff. On the other hand, initiatives to permanently deploy DMFAS staff to a regional office in order to provide technical support to several countries have had limited results. In conclusion, regional offices may be effective for expanding DMFAS to sub-national governments, while a mobile DMFAS staff, supported by regionally based consultants, may be more effective to serve several countries in a region.

**5.14 Graduation strategy.** DMFAS graduation strategy is based on setting a price for high-income countries based on full cost of services, and a pricing model for project services. The graduation strategy includes cost-sharing in accordance with income level for all user countries. The levels of maintenance fees and development contributions will be modified to coincide with the release of DMFAS 7.

5.15 The report provides an estimate of the maximum revenue, by income categories of the countries, which can be generated in a single year, based on the assumption that all user countries pay the annual maintenance fee and adopt new DMFAS 7 in 2023. The total estimates are \$4,390,000 in one-time development contributions and \$1,341,500 in maintenance fees. Assessment of the sustainability of these estimates and the graduation policy will be possible after the availability of the detailed implementation plan of DMFAS 7.

## **6. Coherence**

6.1 Evidence showed the DMFAS Programme has a high level of internal and external coherence. Internally, DMFAS has an effective and continued collaboration with other UNCTAD programmes. The DMFAS Programme and the Debt and Finance Analysis Unit (its associate within the Debt and Development Finance Branch) collaborate on and jointly address debt issues.

6.2 DMFAS Programme supports the realization of economic, social and cultural rights by reducing the risks that excessive foreign debt burdens pose to their full realization in developing countries. In the challenging period caused by the COVID-19 pandemic, in 2020 and 2021, DMFAS delivered online technical support and produced specific guidance to its client

countries that participated in the Debt Service Suspension Initiative (DSSI). The DSSI delivered almost \$13 billion in debt-service suspension from the poorest countries, which helped them to respond to the COVID-19 pandemic. Through its capacity training programmes, DMFAS has also been successful in promoting gender equality, increasing the percentage of participation of women in its training activities from 41% under the previous strategic plan to 46% in the period 2020-2021.

6.3 Externally, DMFAS has improved its coordination in capacity building activities, avoiding duplication of efforts and participating actively in partner events. In 2022, DMFAS renewed and perfected its cooperation agreements with MEFMI and COMSEC. DMFAS also supports as an implementing partner the Debt Management Facility (DMF), assists countries to report to the World Bank Debt Reporting System and regularly participates as resources in IMF Statistics training events. In 2020 DMFAS experts participated in six partner training events including two IMF regional workshops on public debt statistics.

6.4 DMFAS Programme contributes to the fulfillment of SDG 13.1, which calls for mobilizing \$100 billion annually to mitigate the impact of climate change. For example, in 2020 a major DMFAS client - The Egyptian Government - issued the first sovereign Green Bond in the Middle East and North Africa (MENA) region. The bond proceeds were linked to SDG goals of providing more access to potable water, increasing the capacity to grow more food through wastewater reuse for irrigation, and providing a safer, more affordable commute through the Cairo Monorail. There is a recommendation in this report to increase the recognition of DMFAS Programme to the SDGs.

## 1. Introduction

1.1 UNCTAD's Debt Management Financial Analysis System (DMFAS) Programme was created more than 40 years ago to help low-income countries negotiate better terms with its Paris Club creditors. Today, DMFAS has become a mature professional organization that provides the foundational software and essential technical advice to manage public debt in 61 countries and 86 institutions.

1.2 DMFAS software product and services are focused on the "downstream" functions of recording, reporting and monitoring public debt data. These essential activities make debt transparency and debt accountability possible. DMFAS software and services also provide the debt data that makes possible the "upstream" functions of debt management, such as performing debt sustainability analyses and producing medium term debt strategies.

1.3 DMFAS team of 24 full-time professionals, aided by project-specific consultants and ten hired programmers, provide:

- Specialized debt management software that meets the operational, statistical and analytical needs of debt managers and institutions
- Advisory software-related services, which include debt-related assessments of needs, assistance in software installation, maintenance and establishing links with Integrated Financial Management Information Systems (IFMIS)
- Capacity building on debt data recording, monitoring, reporting, statistics, procedures and basic portfolio analysis

1.4 DMFAS software products and services are "public goods" that require a significant amount of resources to produce and deliver continuously. In 2021 DMFAS' core activities of software development and continuous services to its users were financed primarily by donors (63%), while cost-sharing/cost-recovery including contributions from beneficiary countries represented 21% and UNCTAD contributed 16%. Donor countries have generously provided more than US\$50 million in recent decades to ensure the continuity and evolution of the Programme, and beneficiary countries have contributed a total of US\$23 million between 2004 and 2021.

1.5 Two significant developments have increased the importance of the DMFAS Programme for debt managers in recent years:

- There has been an increase in the type and number of creditors. As of 2020, countries eligible for the G20 Debt Service Suspension Initiative (DSSI) had, on average, more than 20 distinct creditor entities (excluding bondholders).
- Increased complexity and range of debt instruments
- The COVID-19 pandemic in 2020 caused an unexpected, rapid and widespread increase in sovereign debt levels. Average total debt burdens among low-and middle-income countries increased about 9 percent of GDP during 2020, compared with 1.9 percent of GDP per year over the previous decade.<sup>1</sup>

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<sup>1</sup> World Development Report, 2022.

## 2. Purpose, Scope and Methodology of Evaluation

2.1 The DMFAS Programme is currently implementing its 2020-2023 Strategic Plan, which requires an external evaluation after two years of implementation (Mid-Term Review), to determine progress in its two strategic objectives:

- Objective 1 - Improve the capacity of Debt Management Organizations (DMOs) to record, process, monitor, report and analyze the country's public debt in a sustainable manner.
- Objective 2 - Improve the capacity of the DMFAS Programme to deliver effective, efficient and sustainable responses to country needs.

It is expected that the governing bodies and DMFAS management will use the information and recommendations generated by the Mid-Term Review as inputs for possible adjustments in DMFAS strategic plan and its implementation, and to inform decisions on future donations and contributions.

2.2 The Mid-Term Review is required to apply the following Development Assistance Committee (DAC) six criteria:<sup>2</sup>

1. Relevance of the DMFAS Programme's program design, activities and toolkits, from the perspectives of donors and beneficiaries
2. Effectiveness of the DMFAS programmatic and strategic approach, cooperation with other providers, partnerships, individual activities, monitoring and reporting framework, outputs, outcomes, and its overall impact, given the environment in which the Programme operates.
3. Efficiency with respect to sources and uses of funds, financial management, compliance, and from donors' and beneficiaries' perspectives.
4. Impact with respect to what has happened as a result of the Programme.
5. Sustainability of the Programme and the benefits achieved, ownership, decentralization, and graduation strategy.
6. Coherence of the Programme with other interventions, internally in UNCTAD and externally with other organizations.

2.3 The time period covered by the evaluation was from January 2020 to 31 December 2021. The evaluation covered Programme activities in all regions. The methodologies used to obtain evidence to measure the extent of DMFAS compliance with the six criteria in the studied period were:

- Desk review of relevant documents, including the Programme's Strategic Plans, Annual Reports, and Work Plans; the Chairman's Summary of Donor Consultation Meetings and the Advisory Group Conclusions in Previous Evaluations of DMFAS Programme; Country projects in Honduras, Egypt and Pakistan; and Past surveys of client satisfaction in 2013 and 2018.
- Interviews of DMFAS and UNCTAD staff; the Programme's bilateral donors and partners; the Programme's users and institutional partners in Honduras, Egypt and Pakistan;
- Examination of DMFAS software functionalities and Capacity-building modules;
- Visits to Honduras and Egypt, as well as online interviews in Pakistan, of Programme's

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<sup>2</sup> See <https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

- products and institutional partners;
- Analysis of the evidence obtained in documents and the 2022 MTR Questionnaire sent to 74 institutions in 58 countries, as well as interviews of donors and partners.

2.4 The consultant was given complete access to DMO staff in the three countries that were chosen for in-depth analysis. Also, DMFAS staff responded quickly to requests for detailed data, shared useful management insights, and provided documents with the lessons learned in missions to the three selected countries.

## 2.5 Limitations and potential improvements in methodology

2.5.1 Documentary evidence. The MTR report includes indicators that are used to measure the effectiveness of the Programme. However, due to time and cost constraints, it was not possible to examine all the primary documents in the DMFAS country missions which were conducted in the 2020-2021 period. This report includes a recommendation to digitize future documents that describe best lessons learned during DMFAS 7 implementation missions.

2.5.2 Quantity of survey responses. An important tool to capture the opinions of DMFAS users is the MTR survey questionnaire, administered every four years. Obtaining a significant number of responses is important to gauge the overall importance of DMFAS to all client countries over time. The 2022 Questionnaire obtained an overall 62% response rate (46 responses received in 74 questionnaires sent). This is higher than the 54% response rate obtained in the 2018 survey, but is lower than the 77% response rate in the 2013 survey.

2.5.3 Quality of survey responses. The benefits of the 62% response rate were tempered by the significant number of "I don't know" responses. Nearly 10 percent of the respondents selected "I don't know" in 15 out of the 46 substantive questions. Some respondents provided substantive comments that explained their "I don't know" responses. For example, 22 of the 46 respondents answered "I don't know" to the key question "When do you think your organization will implement DMFAS 7?" Two respondents explained in their comments that DMFAS had not provided yet sufficient information on DMFAS 7 to make an informed decision.

2.5.4 Information on nonresponses. There was a significant difference in the respondents by institution and date of the last country mission. Central banks had the highest response rate (76%), in contrast to the 60% response rate of the Ministries of Finance. Countries that had a mission before 2016 had the lowest response rate (42%), compared to countries who had missions in 2022 (69%).

2.5.5 Potential improvements in future questionnaires. There may be other significant differences in response rates that would be found by conducting an in-depth analysis of the 2018 and 2022 questionnaires. The objective of the analysis would be to make changes in future questionnaires to improve the response rate and the quality of the responses. For example, there is a potential to split the existing questionnaire into two shorter questionnaires, one with the questions related to downstream debt functions and another questionnaire with the questions related to upstream debt functions. The questionnaires would be targeted to country officials who are responsible for each type of debt management function.



### 3. Organizational Structure and Operations of DMFAS Programme

3.1 Organizational structure. DMFAS Programme in Geneva is divided in three functional units, one management team and a support unit, as shown in Table 3.1.

**Table 3.1 DMFAS Organization and Staff (in parenthesis)**

<i>Project Management Unit (8)</i> Promotes products and services, performs needs assessments, prepares project documents and related budgets, and assists in securing country project funding requirements.
<i>Systems Unit (6)</i> Manages the information technology component of the Programme's work, including training and development of software and hardware applications.
<i>Quality Assurance and User Support Unit (4)</i> Provides assurance of products and services, develops training modules and facilitates solutions to 'Help Desk' inquiries.
<i>DMFAS Management team</i> Comprised of the Programme Chief and the three coordinators of the above functional units, provides holistic solutions and strategic direction.
<i>Administration and Communication Unit (4)</i> Provides logistical services, such as travel, procurement, training and conferences, communications and fundraising support, as well as budget management.

Source: UNCTAD

3.2 Consultants. The 24 full-time staff has been supported by an equal number of 24 consultants who have collaborated in capacity-development training since 2015. The consultants have provided expertise in functional DMFAS training, capacity building and IT Systems support, in six languages - English, Spanish, French, Russian, Portuguese and Arabic. Table 3.2 shows the consultants by type of DMFAS and language proficiency. Thirteen consultants are proficient in two or more languages; six consultants are experts in two technical areas. There are also 12 IT experts worldwide developing DMFAS 7.

**Table 3.2. DMFAS Consultants, by type of expertise and language proficiency.**

Language (Institutions with DMFAS)	Consultants by DMFAS Expertise and Language Proficiency		
	Functional DMFAS Training	Capacity Building	IT / Systems, Oracle /IT Training
English (37)	8	11	3
Spanish (22)	5	5	2
French (12)	5	6	2
Russian (3)	2	2	0
Portuguese (0)	1	2	0
Arabic (1)	2	2	0

Note: Consultants who participated in DMFAS capacity building activities since 2015; Languages of software.

Sources: Consultants (DMFAS staff), Languages (DMFAS Annual Report 2021, Annex 2)

3.3 Country missions. The 24 DMFAS staff, with the support of the consultants, have planned and implemented 385 missions since 2016. In the previous 2016-2019 strategic period there were 318 missions. In the first two years of the current strategic period, DMFAS project managers have implemented 67 missions. Due to the lockdowns imposed during the COVID-19 epidemic, there were 22 field missions and 45 online missions in 2020 and 2021. See Table 3.3.

**Table 3.3. Country activities from 2016 to 2021**

Strategic plan 2016 – 2019 (all field activities)				Strategic plan 2020 – 2023	
2016	2017	2018	2019	2020	2021
87	73	79	79	29	38
				1. 13 field missions	9 field missions
				2. 16 online activities	29 online activities
Total: 318				Total: 67	

Source: DMFAS annual reports

3.4 Country missions are useful to identify the technical and capacity-building needs of the debt management office, and provide the evidence that is need to make recommendations to the DMO officials for the acquisition of computer equipment and capacity training of their staff. The end-of-mission documents produced by the DMFAS team contain best lessons learned that can be used as inputs in future capacity-building projects.

3.5 Currently, mission-related documents are not tagged to enhance their usefulness as reference tools. Document tagging is the general process of adding labels to a document, so users can easily search and find the reference when they need it. A recommendation is added in this evaluation to tag end-of-mission reports related to DMFAS 7 pilot projects, in order to increase their usefulness in the wide implementation of DMFAS 7 in all user countries.

## 4. Relevance of the DMFAS Programme

4.1 Relevance refers to the extent to which the DMFAS Programme is responsive to the need and priorities of client countries and supports stakeholders' policies. The evidence shows DMFAS software and services have a high level of relevance among all its stakeholder groups.

4.2 The MTR survey shows more than 96% of user countries found DMFAS Programme to be highly important or important. With respect to DMFAS specific products and services, respondents ranked as "very important" for debt management the DMFAS software (93%), then DMFAS training (83%) and third support services (71%), such as helpdesk.

4.3 In their comments, respondents explained that DMFAS software was "very important" because it provides the primary data for debt reporting, and training is "very important" to provide skills to new personnel. With respect to helpdesk support, respondents requested a faster response to their

needs. See Table 4.1. The effectiveness of helpdesk support is discussed in next section.

**Table 4.1 Importance of DMFAS products and services for debt management for user countries**

	Responses		Comments
	Very important	Important	
DMFAS software	93.3%	4.4%	DMFAS is the primary data sources to prepare debt reports for internal and external stakeholders.
Training (eg. functional, IT, capacity building)	82.6%	10.9%	Training is needed for increasing capacity, since most of the experienced staff has left the DMO.
Support (eg. helpdesk)	71.1%	26.7%	Helpdesk support should be provided faster.  Other means of support should be available to obtain services when help is needed quickly.

Source: MTR 2022 Questionnaire, *Q12: How important are the following DMFAS products and services for debt management in your institution?* Total responses (46).

4.4 With respect to the relevance of DMFAS Programme for other debt management capacity building programmes, the staff at MEFMI, World Bank and IMF expressed a high regard for the quality of technical support provided by DMFAS in their regional and joint capacity development activities. Specifically, DMFAS IT and capacity training staff have been essential in the improvement of debt databases, performing debt data quality procedures to reduce debt understatements, and providing DMO staff with the analytical skills to prepare debt data to conduct upstream debt functions, such as debt sustainability analysis.

4.5 DMFAS has been an implementing partner to the Debt Management Facility (DMF) since it was established in 2009. DMFAS software system is used in 58 countries to produce the debt data for the World Bank’s Debt Reporting System, and more than 65 percent of DMFAS user countries provide debt data to the IMF-WB Quarterly External Debt Statistics Database and the Quarterly Public Sector Debt database. The Programme also cooperates with the World Bank at country project level. For example, in implementing DMFAS 6 in Lao People’s Democratic Republic, DMFAS worked in close cooperation with the World Bank country office. The World Bank Project Implementation Unit provided logistical support to the project and regular exchange of information took place with the World Bank counterpart.

4.6 DMFAS staff has provided essential technical support to International Monetary Staff in capacity-training activities and evaluations of debt management systems and debt data quality by the Statistics Department, the Monetary and Capital Markets Department and the Strategy, Policy and Review Department.

4.7 Domestic debt markets. DMFAS is used to record domestic debt in 44 countries. However, there are only four countries - Angola, Indonesia, Madagascar, Philippines - with interfaces

between DMFAS database and their auctions/central depository systems.<sup>3</sup> Recently, DMFAS helped to build a complex interface in Angola. See Textbox 1.

### **Textbox 1. Automatic Links between DMFAS and other Systems in Angola**

In Angola, DMFAS IT experts collaborated to build an interface among four financial management systems:

- Integrated Financial Management System (IFMS),
- National System for Trading Securities,
- Bond Platform of the Central Bank and
- DMFAS

This complex interface uses the DMFAS web services technology to automate the data transfer, and thereby increase the speed of data recording, ensure a high level of security and reduce operational risks.

During the process of issuance of domestic securities, the Central Bank receives the results of the auction and records the information into its bonds platform. Then the information is automatically sent to the IFMS. Finally, the information is loaded automatically in the DMFAS debt securities module.

## **5. Effectiveness of the DMFAS Programme**

5.1 Effectiveness refers to what extent the objectives of the DMFAS Programme have been realized. It specifically deals with the difference that the Programme is able to make in practice, and to what extent intended beneficiaries benefit from DMFAS products and services.

5.2 DMFAS showed a high level of overall effectiveness in the 2020-2021 period. Specifically, it was highly effective in reallocating its staff during the COVID-19 pandemic, developing quickly its capacity to respond to the needs of client countries during the lockdowns in 2020-2021. There was also a quick recovery in most of the performance indicators that suffered a temporary setback in 2020 due to travel-related restrictions.

5.3 The DMFAS Programme provided quick support to the client countries during lockdowns, issuing guidance to countries on debt reorganizations, and delivering support to enable debt office staff to have remote access to DMFAS during lockdowns in Angola, Dominican Republic, Ecuador, Panama, Philippines and Uganda.

5.4 The DMFAS Programme continued to achieve a high level of effectiveness in the percent of users who report debt data to the World Bank Debt Reporting System (95%), and include public debt in DMFAS (93%). DMFAS users maintained their commitment to debt reporting and transparency during the challenging period of 2020-2021.

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<sup>3</sup> DMFAS Annual Report, 2021, Annex 5. Automatic Links Between DMFAS and Other Systems.

5.5 The DMFAS Programme suffered a setback with respect to its second strategic objective to improve its capacity to support user countries. The setback was due to the delay in the completion of the DMFAS 7 software project, which had been promised at least since 2019. The delay in the DMFAS 7 project was caused by three major factors: the COVID-19 lockdown, the lack of initial financing, and the need to follow UN procurement procedures in order to (a) achieve labor cost savings through outsourcing, (b) secure free open-source software, and (c) maintain control over the intellectual property of DMFAS software.

5.6 Specific plans for the implementation of DMFAS 7 will be presented at the thirteenth UNCTAD Debt Management Conference in December 2022.

**5.7 Impact of COVID-19 pandemic on effectiveness.** The COVID-19 pandemic made face-to-face missions impossible as a result of the lockdowns in user countries and general ban on international travel introduced in March 2020. Face-to-face capacity-development training in countries and regional centers like MEFMI were replaced by remote support, but many debt office staff in user countries lacked reliable and continuous connectivity in their offices and homes.

5.8 Staff resources originally planned for missions were reallocated to assisting beneficiary countries with remote access to the DMFAS software, developing remote training activities, and other COVID-19 related support. Specifically, there was an increase in demand for remote access to DMFAS in Angola, Dominican Republic, Ecuador, Panama, Philippines, and Uganda. DMFAS staff monitored the operational status of debt management office in user countries to assess their needs during the COVID-19 pandemic on a weekly basis, adapting its support to emphasize help desk and advisory services.

5.9 The travel restrictions and lockdowns caused by the COVID-19 pandemic had two major negative effects on DMFAS Programme activities in the years 2020 and 2021:

1. The number of institutions that received technical assistance in country-specific activities dropped almost 50%, from 28 institutions in 2019, to 15 in 2020 and 14 in 2021.
2. Recovery of costs of staff time dedicated to projects and development contributions dropped more than 40%, from \$1.2 million in 2019, to \$616,847 in 2020 and \$711,337 in '21. See Table 5.1.

On the other hand, DMFAS was able to deliver training during travel restrictions and lockdowns through online regional training and webinars. The total number of institutions that received training increased during the pandemic, from 25 in 2019 to 32 in 2021.

**Table 5.1 COVID-19 impact on DMFAS services and DMFAS funding, 2019 - 2021**

	2019	2020	2021
Recipients of DMFAS technical assistance from country-specific funds	28	15	14
Change in institutions,		- 13	- 14

	2019	2020	2021
(baseline 2019)		- 46%	- 50%
DMFAS funds obtained from development contributions & cost recovery of staff time	\$1,202,965	\$616,847	\$711,337
Change in funds, baseline 2019		- \$586,11 - 49%	- \$491,628 - 41%
Recipients of <b>all</b> types of DMFAS training, including online regional training and webinars	25	26	32
Change in institutions, baseline 2019		+1 +4%	+7 +28%

Source: DMFAS reports 2019 - 2021

5.10 Also, there was a significant decrease in the countries whose requests for **Help Desk** assistance were closed successfully. See Table 5.2.

**Table 5.2 Requests at DMFAS Help Desk that were closed**

	2019	2020	2021
Number of countries who had...	# (%)	# (%)	# (%)
75% or more of incoming requests closed	21 (49)	12 (30)	16 (37)
50% to 74% of incoming requests closed	17 (40)	18 (45)	16 (37)
Less than 50% of incoming requests closed	5 (12)	10 (25)	11 (26)
Total number of countries	43 (100)	40 (100)	43 (100)

Sources: Annex 6, ratio of incoming to closed requests, DMFAS annual reports, 2019-2021.

5.11 Essential debt recording and debt servicing operations in user countries continued during the COVID-19 lockdown, thanks to DMFAS capacity to allow remote collaboration. In some countries DMO staff was able to connect remotely to the DMFAS system from their homes. In countries without internet connections, a few staff took turns to access the DMFAS system at the DMO facility to complete all of the essential debt management operations.

5.12 The survey of users shows the usefulness of DMFAS technical support services during the COVID-19 pandemic. Webinars were ranked first in terms of their usefulness; Helpdesk support and Guidelines for using DMFAS remotely from home were ranked second; and Self-learning materials were third. See Table 5.3.

**Table 5.3. Usefulness of DMFAS technical support during COVID-19 pandemic**

	To a very considerable extent	To a considerable extent	To a small extent	To a very small extent	Don't know	Not relevant
Webinar on Debt Statistics	11.6%	18.6%	16.3%	9.3%	0.0%	44.2%
Webinar and Guidelines on the Debt Service Suspension Initiative	16.3%	14.0%	11.6%	14.0%	0.0%	44.2%
Guidelines for using DMFAS remotely from home	14.0%	14.0%	16.3%	9.3%	0.0%	46.5%
Helpdesk support for using DMFAS remotely	14.0%	14.0%	11.6%	11.6%	0.0%	48.8%
DMFAS 6 Training Material in Client Area in DMFAS Website	9.3%	16.3%	14.0%	9.3%	2.3%	48.8%
Self-learning material - Basic Debt Concepts	7.0%	16.3%	11.6%	14.0%	0.0%	51.2%
Self-learning material - Course on Debt Reorganization	7.0%	14.0%	14.0%	11.6%	0.0%	53.5%

Source: 2022 MTR Questionnaire

5.13 COVID-19 pandemic had a mixed effect on DMFAS effectiveness. On one hand, there were reductions in the capacity of user countries to capture and report on debt data, and in the number of participants in capacity-developing activities. However, the 2020 reductions proved to be temporary, and were followed by recoveries in 2021. See Table 5.4.

**Table 5.4 Impact of COVID-19 on reporting debt data and training of DMFAS clients**

	2019	2020	2021
Percent of user countries that capture public and publicly-guaranteed debt in DMFAS,	95%	91%	93%
Percent of user countries that report debt data to DRS.	93%	84%	95%
Number of user countries that produce a debt statistical bulletin	41	36	42
DMOs have increase knowledge of debt management procedures and best practices.	497 participants in 39 countries	Over 360 participants in 26 countries	613 participants from 32 countries

Note: 2019 data exclude participants in Debt Conference.  
 Source: DMFAS reports 2019 - 2021

5.14 The schedule of capacity-building modules was also delayed by the COVID-19 pandemic. There was a 71% reduction in the number of capacity modules implemented in 2020, compared to 2019. However, the 2020 reductions proved to be temporary, and were followed by increases, included 6 webinars on debt statistics in 2021, See Table 5.5.

**Table 5.5 Number of capacity building modules implemented**

	2018	2019	2020	2021
<b>Total</b>	<b>20</b>	<b>14</b>	<b>4</b>	<b>14</b>
Data validation	9	5	2	2
Debt statistics	5	3	0	6*
Debt portfolio analysis	2	3	0	2
Other	4	3	2	4

Note: \* Includes webinars on debt statistics  
 Sources: DMFAS annual reports

5.15 On the other hand, the effectiveness indicators related to activities that didn't require travel and face-to-face meetings improved or were not affected. Specifically, there were increases in the number of capacity-building materials available online, like fact sheets, and DMFAS 6 enhancements were released.

5.16 The evidence on effectiveness showed that a major achievement of DMFAS Programme in the last decade has been the improvement in debt recording and reporting, according to the Public Expenditure and Financial Accountability (PEFA) framework assessments.<sup>4</sup> At the end of 2021, 52 DMFAS countries had been evaluated using the PEFA methodology. Out of these countries, 42 were meeting the minimum requirements for DPI 13.1, which assesses the integrity and comprehensiveness of domestic, foreign, and guaranteed debt recording and reporting. However, some countries continue to have debt transparency challenges due to their limited coverage of total public debt and lack of reporting on contingent liabilities, which are made more difficult by recurrent shortages of qualified debt staff.<sup>5</sup>

5.17 **DMFAS 7 project.** In 2020 and 2021 DMFAS management obtained sufficient financing to outsource globally the DMFAS 7 project. There were significant challenges related to the effective integration of the IT team members, who worked from different locations with insufficient connectivity. IT team members were also challenged by changes in the software specifications, the need to comply with UN procurement regulations to hire personnel and purchase software and hardware components. These challenges arose in part from managerial decisions to obtain significant cost savings by outsourcing the project and relying on open-source software in order to maintain control of the DMFAS software license and achieve lower costs over the expected life of the software.

<sup>4</sup> DMFAS Strategic Plan 2020-2023, page 12.

<sup>5</sup> DMFAS Strategic Plan 2020-2023, page 14.



5.18 Looking forward, after the delivery of the DMFAS7 software, there are major tasks that will determine if the DMFAS 7 software is effectively embraced by most user countries. Specifically, a major task is to prepare a communications plan to share essential information with DMFAS users and stakeholders. Specifically, the communications plan should:

- Provide sufficient information to help user countries perform a benefit-cost analysis to help them decide how long they can keep their current DMFAS6 system
- Specify if DMFAS will provide technical support to DMFAS6 after DMFAS 7 has been released
- Define the incentives for early adoption of DMFAS 7, including:
  - o Offering technical support to migrate existing databases to DMFAS 7
  - o Participating in regional pilot program with several countries
  - o Expand the pool of regional experts in DMFAS 7

5.19 Another determinant of the success of DMFAS 7 implementation is the capacity of DMFAS staff to handle the current and additional tasks. Currently DMFAS staff provides support to 86 institutions in 61 user countries. For example, the average workload of DMFAS staff in the project management unit (PMU) is 11 institutions per project manager, and the average workload of IT experts (six experts in systems unit plus seven IT consultants) are seven institutions per project officer. In the case of the project managers, they have the primary responsibility for performing a needs analysis, defining the components of the financing package, and coordinating the implementation of system in each of their assigned country. DMFAS management should determine how many additional staff would be necessary to achieve a successful installation of DMFAS 7 in 86 institutions in 61 countries. Recommendations are provided in this report related to this issue.

5.20 The evidence also shows that Supreme audit institutions (SAI) facilitate holding public officials accountable and providing debt transparency. Honduras SAI is the only supreme audit organization with direct read-only access to a DMFAS database, out of 58 user countries. In the period 2012 -2016 at least 15 auditors in Honduras received DMFAS training. Staff rotation and retirements have reduced the number of qualified auditors who know DMFAS. As a result of this training and the direct access to DMFAS database, the Honduras SAI has been able to prepare and execute multi-year audit plans and produce specific recommendations to improve DMFAS. Debt transparency has been strengthened in Honduras with SAI reports on debt coverage gaps in DMFAS, including debts of its 298 municipalities and budget arrears.

5.21 **Sub-national governments.** Expanding the installation of DMFAS software to sub-national governments can improve the capacity to provide a complete debt profile of the public sector in user countries and strengthen debt reporting. However, evidence obtained in Honduras and DeMPA results in subnational governments in Africa shows there are significant legal and operational challenges of expanding DMFAS beyond the central level of government in some developing countries. A fact-based, benefit-cost analysis in each user country is recommended to determine the best cost-effective option to initiate DMFAS debt coverage of sub-national governments in different regions. For example, in most countries there are a few sub-national

governments that issue most of the sub-national debt. <sup>6</sup> DMFAS should prepare a concept paper and ask user countries, partners and stakeholders for their views on best options to initiate a pilot DMFAS program for the largest sub-national borrowers, by region.

5.22 Specifically, governments may need to revise the constitutional framework that determine fiscal relations between the central and subnational governments, improve the managerial capacity in sub-national DMOs, provide capacity building training on debt management strategy, improve their procedures for processing of borrowing transactions, strengthen debt data security and business continuity arrangement, and strengthen the accountability framework for debt management

5.23 The survey of users also showed 51% of respondents fully agree that **missions** are a good way to assess the needs for technical assistance. See Table 5.5.

**Table 5.5. Do you agree with the statement that the DMFAS Programme’s needs assessments / evaluation missions are a good way to assess the needs of your country for technical assistance?**

	2013	2018	2022
Fully agree	58%	64%	51%
Somewhat agree	37%	33%	40%
Somewhat disagree	0%	0%	0%
Fully disagree	0%	0%	0%
Uncertain/ Don’t know	5%	3%	9%

Sources: MTR Questionnaires. Total responses (43) in 2022.

5.24 **Domestic debt.** DMFAS has helped user countries to strengthen their domestic debt management, increasing the percent of countries that record domestic debt in DMFAS from 68% in 2019 and 2020, to 71% in 2021. Online specialized training was also provided to Angola to build an interface among four financial management systems: the Integrated Financial Management System (IFMS), the National System for Trading Securities, the Bond Platform of the Central Bank and DMFAS. This complex interface uses the DMFAS web services technology to automate the data transfer, and thereby increase the speed of data recording, ensure a high level of security and reduce operational risks. During the process of issuance of domestic securities, the Central Bank receives the results of the auction and records the information into its bonds platform. Then the information is automatically sent to the IFMS. Finally, the information is loaded automatically in the DMFAS debt securities module.

5.25 Progress was also made to increase the stability of DMFAS financing (discussed in the section on sustainability) and in developing the components of the new DMFAS 7 (discussed in the section on efficiency). The establishment of two regional centers is pending, subject to fund availability.

<sup>6</sup> See Annex III - Honduras, and WAIFEM, *DeMPA in Anglophone West Africa*, 2015.

## 6. Efficiency of the DMFAS Programme

6.1 Efficiency refers to the extent to which the DMFAS Programme interventions transformed the available resources into the intended results in terms of quality and timeliness. DMFAS has two major efficiency challenges: how to measure its overall efficiency and how to develop its new DMFAS 7 software efficiently.

6.2 Past Mid-Term reviews have relied on indicators of efficiency based on the responses of beneficiaries in the surveys. The responses show that the DMFAS Programme provided its services to client countries, donors and implementing partners in 2020-2021 with a high level of efficiency, despite the challenges it faced during the period. Also, DMFAS obtained significant financial savings thanks to its decision to outsource DMFAS 7 software development to several countries, and to its rapid adoption of cost-efficient online tools for capacity development during the lockdown caused by the COVID-19 epidemic. The responses in the 2013, 2018, and 2022 Mid-Term survey are shown in Tables 6.1 and 6.2.

**Table 6.1 Are DMFAS activities being implemented according to the planned time-schedule?**

	2013	2018	2022	Comments
Yes	49%	61%	45.2%	
No, only small delays (<= 6 months)	23%	21%	21.4%	Some delays are due to the COVID-19 pandemic.
No, important delays (often > 6 months)	23%	3%	4.8%	
Other / Don't know	5%	15%	28.6%	The DMFAS installation was done many years ago.

Sources: MTR Questionnaires, Total responses (42) in 2022.

**Table 6.2 Is DMFAS a cost-effective solution for the institution?**

	2013	2018	2022	Comments
Fully agree	51%	45%	52%	
Somewhat agree	37%	42%	43%	Our country pays a fee every year for support
Somewhat disagree	5%	0%	0%	
Fully disagree	2%	3%	0%	
Don't know	5%	9%	5%	

Sources: MTR Questionnaires, Total responses (42) in 2022.

**6.3 DMFAS 7 development costs.** DMFAS 7 features prominently in the latest two strategic plans, as an essential tool to "improve the capacity of the DMFAS Programme to deliver effective, efficient and sustainable response to country needs." <sup>7</sup> Specifically, DMFAS 7 will improve debt data transparency by allowing DMOs to use its additional capacities to capture

<sup>7</sup> DMFAS Strategic Plans 2016-2019 and 2020-2023.

and report on the full range of public sector debt. Hence, managing DMFAS 7 development to deliver it on time and efficiently has been a major strategic task since 2017.

6.4 The original plan to develop DMFAS 7 between 2017 and 2019 did not materialize due to lack of sufficient funding to establish the development team and procure the necessary software licenses and hardware. Instead, a preparatory phase was undertaken in-house to define the technical framework, develop better reporting tools, identify non-traditional debt instruments, and identify potential candidates for outsourcing.

6.5 DMFAS 7 development started in full force in 2020, after securing sufficient funding. Due to the COVID-19 epidemic, the first deliverable - known as Functional Block 1 - was moved to the end of 2022, with beta testing in the Spring of 2023, and its formal release to countries planned for June 2023. The first deliverable will include the existing DMFAS 6 functionalities, plus modules on new debt instruments, reporting enhancements, and links for Debt Sustainability and Debt Portfolio reports.<sup>8</sup>

6.6 In order to reduce costs of DMFAS 7 development, documentary findings show DMFAS management has outsourced its development to consultants in five countries. So far, the savings from this outsourcing are about \$2.2 million annually, according to salary comparisons between the consultants in these countries vis-a-vis similar staff posted in Geneva. In addition to this, the programme has also engaged a private company and outsourced a large portion of programming to it. In order to ensure the new software is responsive to DMO needs, the development team has adopted best practices, known as "Scrum" in the Agile framework, which allows the concurrent development and testing of software, and incorporates the flexibility to accept new requirements during the development process, unlike the old Waterfall development model.<sup>9</sup>

6.7 The historical evidence shows successive DMFAS versions have experienced longer development periods. For example, the first four versions of DMFAS took 21 months to develop, while versions 5 and 6 took 49 months. The longer development periods are related to the increasing complexity of software development and the need to guarantee the quality of results by testing the new software in a real environment with actual debt data, known as beta testing. The time required to develop DMFAS versions, and a comparison of the functionalities of DMFAS 6 and 7 are shown in Annex AV.4.

**6.8 Demand for DMFAS 7 by Client Countries.** The respondents to the 2022 user survey were asked several questions related to the implementation of DMFAS 7. A significant number did not answer or stated there was not sufficient information to provide a definite answer, or the decision will be made later by senior management. Table 6.3 shows the responses and some clarifying comments provided by client countries.

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<sup>8</sup> DMFAS 2021 Report.

<sup>9</sup> GAO Best Practices for Agile Adoption and Implementation, GAO-20-590G, September 2020.

**Table 6.3 When do you think your organization will implement DMFAS 7**

	Responses	Comments
2023	9	Procurement decision will be made in discussion with senior management.
2024	1	
2025	1	
2026 or later	6	It will depend on the indicative costs provided by DMFAS.
Don't know	22	It would depend on our need, budget resources, and DMFAS 7 value added.
No response	7	It would depend on the availability of grants and budget resources. Our priority is to develop DMFAS6.

Source: 2022 user survey, Q57.

## 7. Sustainability of the DMFAS Programme

7.1 Sustainability refers to the extent the results achieved by the Programme will continue in the near, medium and long-term future. DAC provides questions on the following dimensions of DMFAS sustainability:

- **Sustainability and ownership of benefits:**  
Will the beneficiaries be able to continue independently with the positive changes achieved through the assistance of the DMFAS Programme?  
Do the beneficiaries have country-level ownership of the Programme's objectives?
- **Financial sustainability of the Programme:**  
What are the key elements needed to consider to ensure financial sustainability?
- **Decentralization:**  
Is the Programme's plan to decentralize still valid?
- **Graduation strategy:**  
What are the key elements the Programme should take into account in the graduation strategy it will define as part of its next strategic plan, to make it consistent with its goals and with the needs and plans of the beneficiaries and bilateral donors?

7.2 **Sustainability and ownership of benefits.** As with previous Mid-Term reviews, this report relies on user survey questions to obtain the users perspective on sustainability. For example, there was a significant decrease in the number of DMOs where staff cannot work with the system without external support. This indicator shows that the DMFAS Programme has been effective in helping countries to build a sustainable capacity, especially through continued training activities of new debt management staff in DMOs subject to high staff turnover.<sup>10</sup> See Table 7.1.

<sup>10</sup> The survey showed high staff turnover is a problem for 54% of respondents, and not significant for 46% of respondents. No specific, unique characteristics were found that differentiated the two groups.

**Table 7.1. Assessment of the capacity to use the DMFAS software**

	2013	2018	2022	Comments
Several colleagues within our DMO can work with DMFAS software without external support	64%	85%	64.3%	Based on the trainings received, we have created procedures that are used when recording and using DMFAS data. External support is required only for new features/products, or in case of some bugs. Except for the new staff, most of the staff in the Debt Office are able to use DMFAS.
Only one DMO staff member is working with DMFAS software without external support	7%	3%	0%	
Our DMO staff is developing capacity to work with the DMFAS software without external support	12%	6%	26%	
DMO staff cannot work with DMFAS software without external support	10%	6%	2%	
I don't know	7%	0%	7%	

Source: MTR Questionnaires.

7.3 Over the long term, financial contributions by client countries have increased significantly in last two decades. Average cost-sharing and cost-recovery by client countries more than doubled to \$1.5 million in the 2012-2021 decade. See Table 7.2.

**Table 7.2 Average Level of cost-sharing and cost-recovery, 2002-2021**

Time period	Staff time cost recovery	Maintenance fees	Development contributions	Total client contributions
2002 - 2011	\$336,600	\$190,203	\$153,041	\$679,844
2012 - 2021	\$813,130	\$482,147	\$203,855	\$1,499,132
Increase	\$476,530 (+142%)	\$291,944 (+153%)	\$50,184 (+33%)	+\$819,288 (+121%)

Source: DMFAS annual reports

7.4 DMFAS, in turn, has increased the capacity of DMOs to achieve financial benefits. Almost 90% of respondents indicated that DMFAS has helped in making timely, correct debt payments. In Argentina, for example, the direct savings during the three-year implementation phase of the project were about \$25 million, compared to the \$1 million DMFAS project costs. See Table 7.3.<sup>11</sup>

<sup>11</sup> UNCTAD, Review of Technical Cooperation Activities of UNCTAD (2000), Annex 1, paragraph 34.

**Table 7.3 To what extent DMFAS has helped in executing debt management functions?**

	To a very considerable extent	To a considerable extent	To a small extent	Not relevant
Make payments on time	57.1%	23.8%	0.0%	19.0%
Make payments for the correct amount due	45.3%	35.7%	2.4%	16.7%
Make better budget forecasts	42.9%	35.7%	2.4%	19.0%
Manage cashflow better	21.4%	35.7%	7.1%	31.0%
Increase or maintain the country's sovereign credit rating	19.0%	31.0%	7.1%	31.0%

Source: MTR 2022 Questionnaire, Total responses (42).

**7.5 Financial sustainability.** The bulk of DMFAS support is accounted for in a Central Trust Fund and in Project-Specific Trust Funds. In 2021 DMFAS' core activities of software development and continuous services to its users were financed primarily by donors (63%), while cost-sharing/cost-recovery including contributions from beneficiary countries represented 21%, and UNCTAD contributed 16%. Donors provided the exceptional amount as additional funding for DMFAS 7 development.

**7.6 Donors' contributions.** In 2021 DMFAS' core activities of software development and continuous services to its users were financed primarily by donors, \$3.8 million. Currently, the Programme's donors include European Union, France, Germany, Ireland, the Netherlands, and Switzerland.

**7.7** In general, donors expressed strong support for maintaining the financial contribution to the DMFAS Programme. However, they also observed that their governments have multiple developmental aid priorities, and their development aid budgets are subject to periodic appropriations. Therefore, long-term financing commitments are not generally provided.

**7.8** There is a potential improvement to increase DMFAS benefits to the donors. Documentary evidence shows the **Sustainable Development Goals (SDG)** are a shared framework used by DMFAS donors to define their development aid priorities. See Table 7.4. Improving the potential of DMFAS to receive more donor funding, therefore, might be increased by showing clearly all of the DMFAS contributions to the SDG. Recommendations to show the multiple SDG benefits of DMFAS are included in this report.

**Table 7.4 The role of Sustainable Development Goals (SDG) in Donors' priorities**

Donors	How Sustainable Development Indicators shape donor priorities
European Union	European development policy "implements international objectives which the EU helped develop and is committed to achieve, such as the UN 2030 Agenda for Sustainable Development, defining 17 concrete SDGs and reflected in our new European Consensus on Development."
France	The French Interministerial Committee on International Cooperation and Development (CICID) in 2018 "reaffirmed the overarching objectives of poverty eradication, the implementation of the Sustainable Development Goals (SDGs), the Paris Climate Agreement and the protection of global common goods."
Germany	"Germany's development policy provides answers to the global issues of the future. Our guidelines for this are the 17 Sustainable Development Goals (SDGs) of the United Nations."
Ireland	"Ireland will use its membership of international financial institutions (IFIs) to advance progress on the SDGs in line with our international development priority of reaching the furthest behind first."
Netherlands	"The guiding principles for Dutch development cooperation policy are the United Nations' 17 SDGs for 2030."
Norway	"The SDGs are the framework for Norad's work. We will make every effort to ensure the goals are achieved."
Switzerland	"The 2030 Agenda and its 17 goals for SDGs form an important reference framework for the development policy activities of SECO."

Sources: see References in Annex.

**7.9 Graduated cost-sharing by the beneficiary countries.** Users of the product and services provided by the DMFAS Programme pay a voluntary graduated annual maintenance fee and a one-in-a-time development contribution, based on the World Bank Country Income Classifications of the client countries. In 2021 cost-sharing and cost-recovery contributions from beneficiary countries was \$1.3 million.

7.10 Table 7.5 uses the fees and contributions for each income category to produce an estimate of total DMFAS revenue from the cost sharing scheme, based on the assumption that all user countries pay the annual maintenance fee and adopt new DMFAS 7 in 2023. The total estimates are \$4,390,000 in one-time development contributions and \$1,341,500 in maintenance fees. The realization of these estimates is dependent on the actual demand by DMFAS clients for the new DMFAS software, and the capacity of the DMFAS Programme to marshal sufficient resources to implement the new software effectively, swiftly and widely.



**Table 7.5 Potential Revenue from DMFAS 7.0 maintenance fee and development contributions**

WB income categories	Maintenance Fee (annual)		Development Contribution with DMFAS 7 installation	
	Per country	Annual Revenue	Per country	One-time contribution
Low-income (15)	\$15,000	\$225,000	\$60,000	\$900,000
Lower middle income (25)	\$22,500	\$562,500	\$70,000	\$1,750,000
Upper middle income (16)	\$30,000	\$480,000	\$90,000	\$1,440,000
High income (2)	\$37,000	\$74,000	\$150,000	\$300,000
<b>Total</b>		<b>\$1,341,500</b>		<b>\$4,390,000</b>

Sources: Fees and development contributions (DMFAS staff)

7.11 **Stability of DMFAS financing.** The 2020-2023 Strategic Plan includes the improvement in the stability of DMFAS financing as a major objective:

*"2.5 More stable financing for Programme objectives.*

*The predictability and sustainability of Programme activities will be improved through the implementation of the improved cost-sharing mechanism approved by the DMFAS Advisory Group, increasing the contribution from countries. The donor base will be expanded."*

7.12 Evidence shows that in the period 2020-2021 the strategic goal of achieving stable financing was significantly impacted due to the lockdowns related to the COVID-19 pandemic. There was a significant reduction in DMFAS missions and a concomitant decrease in the financial resources classified as "cost recovery". This reduction was offset by an exceptional increase in donor financing, targeted to DMFAS 7 development.

7.13 DMFAS seeks to achieve by 2023 an annual average of Donor-Beneficiary-UNCTAD contribution percentages of 40:40:20. Historically, the shares have been subject to sharp alternating changes in the last ten years, as shown in Table 7.6. For example, donor contributions were on average 50% in the 2012-2015 period, down to 38% in 2016-2019, and up to 61% in the 2020-2021 period.

**Table 7.6 Relative contributions by Donor-Beneficiary-UNCTAD in 2012 - 2021 period**

	2012 - 2015	2016 - 2019	2020 - 2021
Donors	50%	38%	61%
Beneficiaries: cost sharing + cost recovery	29%	39%	22%
UNCTAD	21%	23%	17%
Total	100%	100%	100%
Beneficiaries' contributions:			
Cost sharing	18%	28%	18%
Cost recovery	11%	11%	4%

Source: DMFAS annual reports.

7.14 Analysis of DMFAS financing sources shows there is a close connection between DMFAS capacity to provide timely and high-quality services and its financial stability. For example, DMFAS 7 originally had a target release date of 2019, which could not be met due to lack of funding.

7.15 Cost-sharing and donor contributions have significant different profiles. Their amounts and variability, as well as their legal restrictions, are fundamentally different. Table 7.7 and Figure 1 show the statistical measures in the 2002-2021 period of DMFAS four revenue sources: donor contributions, recovery of staff time costs, maintenance fees and development contributions by user countries. There are two main patterns:

1. The average value of donor contributions in 2012-2021 (\$2,553,839) is higher than the revenue from staff time recovery (\$813,130), maintenance fees (\$482,147), and development contributions (\$203,855).
2. The variability of donor contributions is also higher (35 percent) than other revenue sources. DMFAS has experienced fluctuations of \$894,000 in donor contributions from its \$2.5 million average in last decade. This large variation is higher than the variations of staff time recovery (\$260,000), maintenance fees (\$120,000), and development contributions (\$74,000).<sup>12</sup>

**Table 7.7 Mean value and coefficient of variation of four components of DMFAS revenues, 2002-2021**

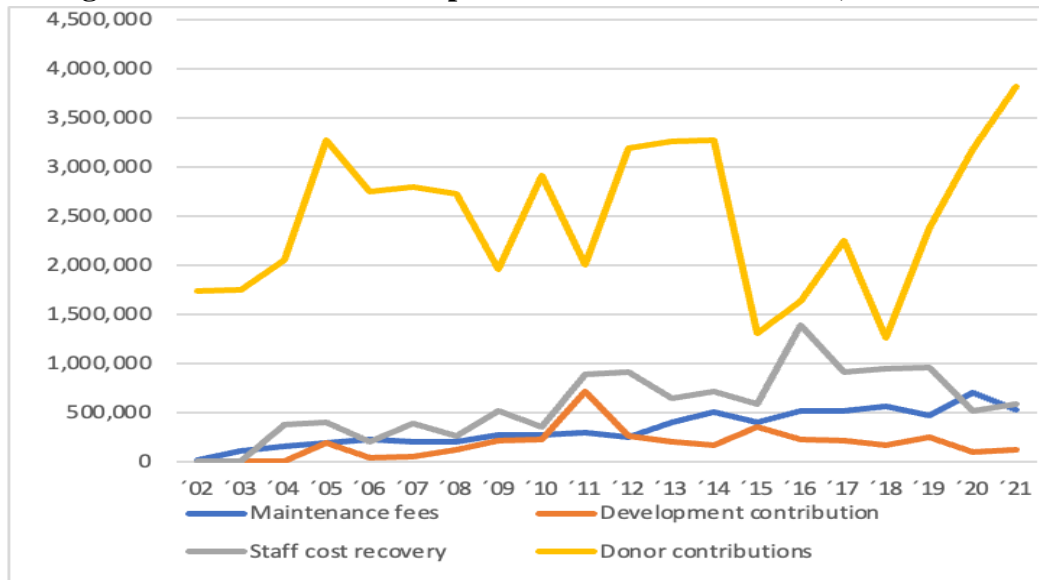
	Donor contributions	Staff time cost recovery	Maintenance fees	Development contributions
<b>Average</b>				
2002 - 2011	\$2,393,398	\$336,600	\$190,203	\$153,041
2012 - 2021	\$2,553,839	\$813,130	\$482,147	\$203,855
<b>Coefficient of variation</b>				
2002 - 2011	0.23	0.76	0.44	1.41
2012 - 2021	0.35	0.32	0.25	0.36

Source: author’s analysis of DMFAS data in annual reports.

7.16 The table also shows DMFAS capacity to generate revenues in two decades: 2002-2011 and 2012-2021. DMFAS management improved its ability to generate more revenue in the four categories, and reduced their variability (i.e., increase the stability) of three revenue categories, except donor contributions. In the largest revenue category - donor contributions - increases were caused by exceptionally large donations of a few donors, explained in the table in Annex II, which shows DMFAS donor contributions by countries in the 1998-2021 period.

<sup>12</sup> The selected measure of revenue instability is the coefficient of variation (CV), which measures the dispersion of revenue around its mean value. The CV is used to compare variability in data series when means are different. The coefficient of variation could be used as an indicator of DMFAS exposure to the risk of revenue instability.

**Figure 1. Trends in four components of DMFAS revenues, 2002 to 2021**



Sources:  
DMFAS staff  
and annual  
reports  
7.17 In

conclusion, the sustainability of the DMFAS Programme is assured in the near term. User countries, donors and other stakeholders expressed a firm commitment to continue their support of DMFAS Programme.

7.18 In the medium and long term, effective measures must be taken to provide DMFAS Programme the tools to avoid a repeat of the financial problems which retarded the implementation of the DMFAS 7 project. Three recommendations are included in the report to deal with the risks to financial sustainability

7.19. One recommendation would increase the potential of attracting donor support by improving the recognition of DMFAS contributions to the Sustainable Development Goals (SDG). Evidence shows that donors rely on achievements of SDG as an important factor in funding decisions. It is possible to expand the number of SDGs that are positively impacted by DMFAS, as shown in this report.

7.20 A second recommendation involve creating a specific trust fund. The objective of the specific trust fund is to provide sufficient resources to make continuous improvements in DMFAS 7 software and provide funding to meet unexpected requests for technical support.

7.21 A third recommendation is to strengthen the two budget scenarios which the Programme has developed in recent years. One scenario has been based on the ideal situation wherein all foreseen activities in the strategic plan would have been achieved. The other scenario is based on a reduced budget. The proposed trust fund opens the possibility of developing financial strategies that offset unexpected revenue fluctuations and thereby create a more stable spending path.

7.22 **Decentralization.** Initiatives to expand DMFAS to sub-national governments and to establish regional centers that can provide technical services to several countries have been discussed since the early 2000s. The available evidence shows these models have produced different results. On one hand, the implementation of DMFAS in Argentina provinces have been sustainable, and have resulted in high levels of satisfaction with DMFAS software and services by regional staff. On the

other hand, initiatives to permanently deploy DMFAS staff to a regional center in order to provide technical support to several countries have had limited results.

7.23 DMFAS was implemented in the provincial governments of Argentina during 2002. Argentina's DMFAS is integrated at the Federal level with the treasury, accounting and budget modules of the integrated financial administration system (SIDIF), and at the provincial level with the Province of Rio Negro and La Rioja. The regional implementation of DMFAS in Argentina was facilitated by the formation of a team at the Central Ministry of Finance, which was created to install the DMFAS in the provinces, and has continued to provide training and first-line technical support. UNCTAD continues to provide the DMFAS software with its specific adaptations and assists in technical matters. Currently, DMFAS plans for installing newer version of DMFAS in the provinces of Chaco and Catamarca are pending, due to lack of financing.

7.24 The regional centre approach was adopted by DMFAS in Africa. A regional centre was established in Bamako, Mali, which operated from 2009 to 2012. The Africa regional centre opened with \$145,000 financial support of the French Government to support DMFAS activities in French-speaking Africa. Its objective included the organization of national workshops in Mali and Côte d'Ivoire, as well as technical missions in Burkina Faso, Mauritania and Senegal. The Africa regional center closed in 2012 due to lack of funding and an armed conflict.<sup>13</sup>

7.25 A different and successful variation of the regional approach, which has been used by DMFAS for decades, is based on travel of DMFAS staff and consultants to a strategically situated centre that is managed by other institutions, such as the MEFMI. These differences in regional results show the importance of incorporating the possibility of travel by mobile staff and consultants to achieve the best regional alternative.

7.26 **Graduation strategy.** DMFAS graduation strategy is based on setting a graduation price based on full cost of services, and a new pricing model for project services. Cost-sharing is based on income levels of all client countries. The levels of maintenance fees and development contributions will be modified to coincide with the release of DMFAS 7.<sup>14</sup>

7.27 A useful analytic framework to identify the factors that determine decisions to change debt management recording systems is the *OECD Transition Finance Framework*, which recognizes that financing sources and debt recording systems must change as countries transition from low-income, to middle-income and high-income categories.<sup>15</sup> Low-income countries tend to rely heavily on official development assistance (ODA) and external multilateral loans, which have been recorded in the external debt modules available in DMFAS software for decades.

7.28 As countries transition towards middle and high income categories, there is an increased reliance on domestic resources, accompanied by an explicit policy to develop domestic debt markets. Several DMFAS client countries in the lower-middle and upper-middle income categories have been on this path for several years. Currently, DMFAS software has automatic

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<sup>13</sup> DMFAS Reports 2009 and 2011.

<sup>14</sup> DMFAS Strategic Plan 2016-2019.

<sup>15</sup> OECD *Financing the journey to sustainable development, The Transition Finance Toolkit*, available in <https://www.oecd.org/dac/transition-finance-toolkit/>

links with auctions and central depository systems in four countries.

7.29 **Project Trust Funds** are used to finance capacity-building activities in specific countries. The providers of specific funds include the beneficiaries, bilateral donors, and international institutions such as UNDP, the World Bank, and regional financial institutions. An increasing number of middle-income countries are fully financing their national projects, paying directly for the DMFAS products and services. Expenditures in 2021 on project trust funds were only \$942,000 due to the lockdowns caused by COVID-19 epidemic. The end of the COVID-19 epidemic should lead to a recovery in the number of projects and a significant increase in cost recoveries. See Table 7.7.

**Table 7.7 Project specific trust funds US\$(000)**

Year	Number of countries (funding sources)	Budgeted funds	Expenditures	Balances
2016	21	5,906	2,234	3,694
2017	18	6,715	1,545	5,170
2018	31	4,125	1,743	2,381
2019	28	5,304	1,880	3,424
2020	15	1,770	659	2,291
2021	14	3,043	942	2,100

Source: DMFAS annual reports.

## 8. Coherence of the DMFAS Programme

8.1 Coherence refers to the extent the DMFAS Programme is compatible with other institutions that collaborate in public debt issues, internally within UNCTAD and externally with respect to other institutions. The evidence obtained showed high levels of internal and external coherence.

8.2 **Internal coherence.** Evidence shows that DMFAS Programme is aligned with UNCTAD’s main policy framework of supporting the 2030 Agenda for Sustainable Development, the Addis Ababa Agenda, the UN Framework on Climate Change, and the UN commitment to position human rights at the core of global development agenda. DMFAS maintains an effective and continued collaboration with other UNCTAD programmes.

8.3 The DMFAS Programme is a leading provider of capacity-development services in debt management to 68 countries who have either low-income, or lower-middle income development status, and at least ten of them are subject to high risk of debt distress. The main development objective of the Programme is to strengthen the capacity of the user countries to manage their debt effectively in support of poverty reduction, transparency and good governance.

8.4 In relation to human rights, the United Nations Office of the High Commissioner for Human Rights warns of the challenges that excessive foreign debt burdens and economic reform

policies pose for the realization of human rights, especially in developing countries.<sup>16</sup> The DMFAS Programme is a direct facilitator of the effective debt management and access to information that is essential to promote the sustainable development in key sectors of the economy. DMFAS facilitates the mobilization of funds to build infrastructure projects to protect the climate, expand educational facilities, and provide essential services of water, electricity and communication. Having comprehensive reliable debt data facilitates well-informed decision-making, strengthens financial transparency and contributes to lower cost borrowing which in turn contributes to improved debt sustainability, poverty reduction and the realization of economic, social and cultural rights. The Programme is committed to implementing UNCTAD's new guidelines to ensure effective mainstreaming of human rights and environmental considerations into its technical cooperation projects.

8.5 DMFAS' efforts to promote gender balance are coherent with UNCTAD's policy to promote gender equality. The programme encourages the participation of women in its capacity-building activities and training within the framework of its technical cooperation projects and monitors the participation of women as part of its evaluation criteria. During the course of implementation of its current strategic plan, the percentage of women participants in DMFAS training activities has risen to 46% compared to 41% in the preceding strategic plan (2016-2019)<sup>17</sup>.

8.6 The DMFAS Programme and the Debt and Finance Analysis Unit (its associate within the Debt and Development Finance Branch) collaborate on and jointly address debt issues. For example, DMFAS cooperates with DFA in a number of UNCTAD and United Nations reports, including UNCTAD Annual Reports, Annual trust fund progress reports, and Report by the UNCTAD secretariat on technical cooperation activities (cluster 11).

8.7 DMFAS has been a model Programme of good practices within UNCTAD. The 2020 report of the Multilateral Organization Performance Assessment Network (MOPAN) reached the following conclusions about the DMFAS Programme:<sup>18</sup>

1. DMFAS Programme strategic planning is based on both constituent priorities and informed by the latest innovation and good practice;
2. DMFAS follows good practices in results-based planning, including the use of effectiveness indicators to develop the DMFAS Strategic Plan;
3. DMFAS has contributed to more complete and transparent reporting on debt and improvements in governance by increasing data availability; and
4. DMFAS' resource mobilization efforts are consistent with the core mandates and priorities of UNCTAD, and a large percentage of self-funded projects under DMFAS are an indication of successful alignment of technical cooperation to the needs and priorities of the member states.

**8.8 DMFAS contribution to the Sustainable Development Goals (SDGs).** DMFAS is currently

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<sup>16</sup> <https://www.ohchr.org/en/special-procedures/ie-foreign-debt/about-human-rights-and-foreign-debt>

<sup>17</sup> UNCTAD. DMFAS Programme. Annual Reports 2019 and 2021

<sup>18</sup> MOPAN 2019 assessment, UNCTAD, June 2020

listed as an institution that provides support to SDG 17: *Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.*

Specifically, DMFAS supports Goal 17.4:<sup>19</sup>

*Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress.*

8.9 The indicator used to measure the progress achieved in this SDG is "Debt service as a proportion of exports of goods and services." In other words, DMFAS is an indirect contributor to this SDG indicator, through improvements in recording, reporting and managing "debt service." Debt service as a proportion of "exports of goods and services" is used as an indicator of external debt burden, but neither DMFAS nor the DMOs have control over "exports of goods and services".

8.10 There are other SDGs that are supported by DMFAS Programme which are not included in official SDG documentation. For example, the SDG 13.a requires countries to mobilize jointly \$100 billion annually to address the needs of developing countries in the context of meaningful climate mitigation actions. DMFAS Programme facilitates the mobilization of green bond financing by strengthening public debt management in its user countries. This is case of Egypt's green bond issuance in 2020.

8.11 In 2020 the Egyptian Government issued the first sovereign Green Bond in the Middle East and North Africa (MENA) region. The bond proceeds were linked to four specific SDG goals:

1. Provide more access to potable water through seawater desalination
2. Increase capacity to grow more food through wastewater reuse for irrigation
3. Provide a safer, more affordable commute through the Cairo Monorail
4. Increase spending transparency in green projects through specific allocation and regular reports

8.12 Another SDG that is supported by DMFAS Programme is SDG 16.10, which seeks to ensure public access to information, in accordance with national legislation and international agreements. The specific indicator for 16.10.2 is the number of countries that adopt and implement constitutional, statutory and/or policy guarantees for public access to information.

The DMFAS capacity building framework is a direct contributor to strengthening public access to debt information. DMFAS uses the number of debt statistical bulletins of client countries.

8.13 Why is this important? Donors and countries that have made commitments to meet the SDGs take decisions which are partly based on the limited indicator currently assigned to DMFAS. There is documentary evidence that the SDGs are important criteria to make donor decisions. See table 7.4. Donors' support to DMFAS, therefore, could increase if DMFAS reports clearly all of its SDG contributions. Recommendations to show the multiple SDG benefits of DMFAS are included in this report

8.14 It is possible to modify and add effectiveness indicators to the SDGs. The procedures are

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<sup>19</sup> UNCTAD, DMFAS Programme: An overview, April 2022

evaluated regularly and are modified by the United Nations Statistics Division, Development Data and Outreach Branch. A recommendation is made to recognize the impact of the DMFAS Programme to the SDGs 17.4, 16 and 13.1.

8.15 Strengthening the links between the DMFAS Programme and the SDGs could increase the support of the donors who are committed to implementing the SDGs. Documentary evidence shows the **Sustainable Development Goals** are a shared framework used by DMFAS donors. See table 7.4. The possibility of increasing donor support to DMFAS, therefore, could increase if DMFAS reports clearly all of its SDG contributions. Recommendations to show the multiple SDG benefits of DMFAS are included in this report.

8.16 **External coherence.** The evidence shows DMFAS has improved coordination in their capacity building activities, avoiding duplication of efforts and participating actively in partner events.

- DMFAS signed memorandums of agreements with MEFMI in 2022 and is included in the MOU that UNCTAD signed with COMSEC in the same year.
- DMFAS is an implementing partner to the Debt Management Facility (DMF) since its inception in 2009, participating in 72 DMF missions to date.
- DMFAS collaborates with the World Bank's Debt Reporting System (DRS), assisting countries to report to DRS. In 2021, 60 percent of DMFAS user countries in low- and middle-income categories provided qualitative data to the DRS database.
- DMFAS also collaborates with World Bank at the country level, working in close cooperation with the country office.
- DMFAS and IMF Statistics Department regularly participate as resource persons in each other's training events for developing countries on debt statistics. In 2020 DMFS experts participated as trainers in two online regional Public Sector Debt Statistics workshops.



## 9. Conclusions

The 2020-2023 Strategic Plan was focused on two strategic objectives, namely, to improve the capacity of DMOs to record, process, monitor, report and analyze the country's public debt in a sustainable manner, and to improve the capacity of the DMFAS Programme to deliver effective, efficient and sustainable responses to country needs.

### 9.1 Relevance

The vast majority of DMFAS users are highly satisfied with DMFAS products and services. More than 96% of the users in national and sub-national offices found the DMFAS Programme to be highly important or important. Survey respondents were also highly satisfied with DMFAS specific products and services, ranking as "very important" the DMFAS software (93%), followed by DMFAS training (83%) and its support services (71%), such as helpdesk.

Similarly, DMFAS donors and stakeholders expressed high levels of satisfaction with DMFAS products and services. Donors praised the DMFAS software for its strategic contribution to strengthening debt data transparency and public accountability in user countries.

DMFAS stakeholders MEFMI, World Bank and IMF staff expressed a high level of satisfaction with the quality of technical support provided by DMFAS in their regional and joint capacity development activities. World Bank and IMF highlighted the high capacity of DMFAS IT and capacity training staff, who helped to improve debt databases, reduce debt understatements, and fill debt gaps through the application of data quality procedures. DMFAS support was essential in the production of the debt information that is essential to conduct upstream debt functions, such as debt sustainability analysis.

During the COVID-19 pandemic the DMFAS software and technical services provided reliable and timely support. According to DMO staff, DMFAS connectivity was essential to ensure the continuity of their debt management tasks during the lockdowns in 2020. Without DMFAS systems, issuing debt payments and producing debt reports would not have been possible.

In conclusion, the vast majority of DMFAS users, donors and stakeholders were highly satisfied with its products and services. Looking forward, the capacity to support higher levels of satisfaction with DMFAS products and services will depend on achieving a prompt implementation of DMFAS 7 in all user countries.

### 9.2 Effectiveness

DMFAS showed a high level of overall effectiveness in the 2020-2021 period. Specifically, it was highly effective in reallocating its staff during the COVID-19 pandemic, developing quickly its capacity to respond to the needs of client countries during the lockdowns in 2020-2021. There was also a quick recovery in most of the performance indicators that suffered a temporary setback in 2020 due to travel-related restrictions.

The DMFAS Programme achieved significant progress in its first strategic objective, despite a

temporary setback in 2020 due to the lockdowns caused by COVID-19 pandemic. In 2021 there were significant improvements in the majority of effectiveness indicators.

The DMFAS Programme suffered a setback with respect to its second strategic objective due to the delay in the completion of the DMFAS 7 software project in 2020-2021. The delay was caused by several challenges, including the COVID-19 lockdown, a lack of financing, and the requirement to follow UN procurement procedures in order to achieve labor cost savings, obtain open-source software, and maintain control over the intellectual property of DMFAS software.

Looking forward, after the delivery of DMFAS 7, there are significant tasks required to implement the new software system widely in user countries, including communications and training plans. Additional resources will be necessary to implement DMFAS 7 effectively and efficiently. A recommendation is made to create a staff position, funded by UNCTAD, similar to a Chief Software Development Officer (CSDO), to ensure its successful implementation.

In conclusion, the DMFAS Programme achieved significant progress in its first strategic objective, but faced significant challenges that led to the postponement of the delivery of its DMFAS 7 project. Looking forward, recommendations are presented to accelerate its implementation in more user countries. Specifically, a recommendation is made to create a staff position, funded by UNCTAD, similar to a Chief Software Development Officer (CSDO), to ensure the success of DMFAS 7 implementation.

Consultant also examined the impact of providing direct debt database access to the Supreme Audit Institution (SAI) and the National Electric Enterprise (ENEE) in the mission to Honduras. In the case of the SAI, which has read-only access to the debt database, a complete audit plan was carried out over a decade that produced detailed debt reports of central, municipal and state-owned enterprises in Honduras, as well as significant improvements in the quality of debt management procedures at the DMO. In the case of the ENEE, which has both write and read functions to the public debt database, the evidence showed the importance of controls to ensure the quality of debt data entries.

In conclusion, other DMFAS user countries can achieve similar benefits as the DMO of Honduras, if the SAIs have the technical capacity and independence to evaluate and report on debt management operations. Also, with respect to providing write and read functions to SOEs, DMOs should ask DMFAS to provide training on the quality control procedures that apply when several entities share the same debt database, for example, a Ministry of Finance and the Central Bank.

Consultant also obtained evidence on the potential to incorporate sub-national debt in DMFAS database. The evidence in Honduras and DeMPA studies of African sub-national governments shows there are significant legal and operational challenges of expanding DMFAS coverage to sub-national governments. A legal and technical analysis is recommended to determine the best alternatives to incorporate debt information of sub-national governments in a DMFAS database. For example, in most countries there are a few sub-national entities that issue most of the total municipal debt. Also, there are significant legal differences between unitary countries and countries that follow the fiscal federalism model. DMFAS should prepare a concept paper and ask user countries, partners and stakeholders for their views on best options to initiate a pilot DMFAS

program for sub-national borrowers, by region.

### **9.3 Efficiency**

The DMFAS Programme was highly efficient in providing its services to client countries, donors and implementing partners in 2020-2021. DMFAS management moved quickly to adopt efficient online tools to provide technical support and capacity development workshops and courses during the lockdowns caused by the COVID-19 pandemic. DMFAS also obtained significant financial savings in the DMFAS 7 software project, outsourcing its development to IT consultants in several countries and adopting best software development practices. These experiences have provided a wealth of best practices that can be used for the continuous evolution of DMFAS 7 in the future.

DMFAS has developed the capacity to tailor both e-learning and in-person services to respond to the different needs of its user clients. There is a widespread consensus that e-learning is effective for delivering relatively simple, easy-to-understand information, if it is provided to knowledgeable and experienced staff, in a well-structured, visually attractive format. DMFAS has prepared a whole suite of well-structured and effective factsheets and courses that are accessible online to its user countries.

However, the evidence also shows that conducting missions for in-person training is still the most effective tool for teaching new DMO staff the skills to use DMFAS hardware and software applications. The evidence shows the acquisition of technical skills in debt management is done effectively when DMO staff are engaged in hands-on, face-to-face sessions with DMFAS experts and consultants.

Over several decades, DMFAS has developed a full capacity to plan and conduct missions efficiently, in which the country needs are systematically identified and DMFAS systems are installed successfully. Annex III of this report summarizes the e-learning and in-person activities which were utilized by the DMFAS experts to implement DMFAS6 and train staff in Egypt's Ministry of Finance between 2018 and 2022.

Looking forward, the DMFAS Programme can also improve its future capacity to obtain the views of its client countries through the use of the Mid-Term survey, by improving the response rate and the quality of the responses. For example, there is a potential to split the existing questionnaire into two shorter questionnaires, one with the questions related to downstream debt functions and another questionnaire with the questions related to upstream debt functions. The questionnaires would be targeted to country officials who are responsible for each type of debt management function.

### **9.4 Sustainability**

Sustainability and ownership of benefits for client countries. For client countries, who are the direct beneficiaries, the DMFAS Programme provides a high return on the investment. According to the responses in the user survey, DMFAS products and services help DMO staff to make timely payments (80%), make payments for the correct amount (79%), and make better budget forecasts (78%). In return for the financial benefits, user countries have increased their voluntary

maintenance fees 153% and their average cost-sharing by 142% in last two decades.

In the last four years, there was a significant decrease in the number of DMOs where several staff have the capacity to work independently without DMFAS support, from 85% in 2018 to 64% in 2022. The comments provided by respondents identified a need to train new DMO staff to ensure the realization of DMFAS benefits.

Overall financial sustainability of the Programme. The sustainability of the DMFAS Programme is assured in the near term. User countries, donors and other stakeholders expressed a firm commitment to continue their support of DMFAS Programme.

In the medium and long term, effective measures must be taken to provide DMFAS Programme the tools to avoid a repeat of the financial problems which retarded the implementation of the DMFAS 7 project. Measures should include (1) the expansion of DMFAS the donor base with the support of UNCTAD high-level management and the new UNCTAD fundraising strategy, which is being developed; (2) facilitate the participation of client countries to continue their participation in cost-sharing in line the revised framework agreed by the Advisory Group in 2017; (3) the effective implementation of DMFAS 7 to achieve the goal of 40:40:20 funding; (4) the deployment of an optimal combination of staff and consultants to provide effective services to client countries in country projects; (5) securing an increase in UNCTAD contribution to achieve a quick and wide implementation of DMFAS 7; and (6) strengthen DMFAS capacity to provide sustainable high levels of satisfaction by donors and client countries.

Decentralization. Initiatives to expand DMFAS to sub-national governments and to establish regional centers that can provide technical services to several countries have been discussed since the early 2000s. The available evidence shows these two models have produced different results.

On one hand, the implementation of DMFAS in Argentina provinces have been sustainable, and have resulted in high levels of satisfaction with the DMFAS software and technical services by regional staff. On the other hand, initiatives to permanently deploy DMFAS staff to a regional office in order to provide technical support to several countries have had limited results. In conclusion, regional offices may be effective for expanding DMFAS to sub-national governments, while a mobile DMFAS staff, supported by regionally based consultants, may be more effective to serve several countries in a region.

## **9.5 Coherence**

Evidence showed the DMFAS Programme has a high level of internal and external coherence. Internally, DMFAS has an effective and continued collaboration with other UNCTAD programmes. The DMFAS Programme and the Debt and Finance Analysis Unit (its associate within the Debt and Development Finance Branch) collaborate on and jointly address debt issues.

Externally, DMFAS has improved its coordination in capacity building activities, avoiding duplication of efforts and participating actively in partner events. In 2022, DMFAS renewed and perfected its cooperation agreements with MEFMI and COMSEC. DMFAS also supports as an implementing partner the Debt Management Facility (DMF), assists countries to report to the

World Bank Debt Reporting System and regularly participates as resources in IMF Statistics training events. In 2020 DMFAS experts participated as trainers in two online regional Public Sector Debt Statistics workshops.

In relation to human rights, the Programme supports the realization of economic, social and cultural rights through contributing to effective debt management, debt transparency and poverty reduction. It has also been successful in promoting gender equality, increasing the percentage of participation of women in its training activities from 41% under the previous strategic plan to 46% in the period 2020-2021.

DMFAS Programme contributes to the fulfillment of SDG 13.1, which calls for mobilizing \$100 billion annually to mitigate the impact of climate change. For example, in 2020 a major DMFAS client - The Egyptian Government - issued the first sovereign Green Bond in the Middle East and North Africa (MENA) region. The bond proceeds were linked to SDG goals of providing more access to potable water, increasing the capacity to grow more food through wastewater reuse for irrigation, and providing a safer, more affordable commute through the Cairo Monorail. There is a recommendation in this report to increase the recognition of DMFAS Programme to the SDGs.

## Major Recommendations

### 1. Relevance.

1. Solidify its high relevance among users, donors and stakeholders by accelerating the implementation of DMFAS 7 in all user countries.
2. Prepare guidance, based on the lessons learned during the lockdowns in the COVID-19 pandemic, that describe effective, secure and resilient practices in debt recording and reporting that can be applied in future crises.
3. Develop guidance on best practices to
  - support the creation of DMFAS links to domestic debt systems and other financial management systems
  - provide different access levels to debt databases, and
  - execute effective, secure and resilient debt recording and debt reporting during a major pandemic or natural crisis.

### 2. Effectiveness.

1. Create a staff position, funded by UNCTAD, similar to a Chief Software Development Officer (CSDO), to ensure the successful implementation of DMFAS 7 in user countries.
2. Increase the capacity of DMFAS Help Desk to provide effective solutions quickly to DMFAS 7 inquiries.
3. Continue to support increases in debt transparency and accountability, by (a) incorporating fiscal contingencies systematically in debt databases of DMOs, and (b) providing SAIs

with training to improve their capacity to evaluate debt transparency and debt reporting.

4. A fact-based, benefit-cost analysis is recommended to determine the best cost-effective option to initiate DMFAS debt coverage of sub-national governments in different regions.

### **3. Efficiency.**

1. Incorporate lessons learned from the development of DMFAS 7 into the Programme's procedures for future software development, in order to ensure continuous improvement in DMFAS 7 modules to promptly meet client needs.
2. Adopt tagging of end-of-mission documents generated in the pilot program of DMFAS 7, to facilitate the application of best lessons learned in the pilots then DMFAS 7 enters into its full implementation phase.
3. Evaluate the potential of expanding the number of trained consultants in regions, in order to implement DMFAS 7 quickly, widely, and more efficiently.
4. Increase DMFAS capacity to build budget scenarios based on historical variations in revenue and build effective financial solutions to smooth them.
5. Split future surveys that are used in Mid-Term Reviews to target different debt management officials in the downstream and upstream areas, in order to increase the number of respondents and the quality of their responses.

### **4. Sustainability.**

1. Establish a trust fund - *the DMFAS software development trust fund* - to accumulate targeted contributions and provide accountability for the use of resources to finance improvements in DMFAS 7.
2. Expand DMFAS' donor base with the support of UNCTAD high-level management and the new UNCTAD fundraising strategy.
3. Facilitate the participation of client countries to continue their participation in cost-sharing in line the revised agreements agreed by the Advisory Group in 2017.
4. Achieve an effective implementation of DMFAS 7 in order to support the goal of 40:40:20 funding.
5. Select an optimal combination of staff and consultants to provide cost-effective services to client countries in country projects.
6. Obtain an increase in UNCTAD contributions.
7. Obtain the resources to ensure a sustainable capacity to provide high levels of satisfaction by donors and client countries.

### **5. Coherence.**

1. Increase its potential to attract donor support by recognizing all the contributions of DMFAS Programme to the Sustainable Development Goals (SDG).

## ANNEXES

### **ANNEX I. Data Collection Instrument for Donors & Partners Interviews.**

Virtual interviews were done to donors and partners in order to obtain their views, based on the six DAC criteria: Relevance, Effectiveness, Efficiency, Sustainability, Impact and Coherence:

1. What has been your involvement in the funding arrangements for the DMFAS Programme?
2. Why did your country support DMFAS now or in the past?
3. Relevance of the DMFAS Programme from the perspective of beneficiaries: Is the program design, approach and strategy adequate to address clients' needs?
4. Effectiveness and impact of the DMFAS software and program support services: are DMFAS products, services and activities appropriate for client needs? Are there specific improvements in the management of the Programme and delivery of training that should be considered?
5. Efficiency with respect to the sources and uses of funds from beneficiaries' perspectives: Has staffing been adequate to meet client needs in a timely way? Could similar results be achieved at lower cost such as by decentralization, outsourcing of IT development and use of e-learning for training?
6. Sustainability of the DMFAS Programme, ownership, decentralization and graduation strategy: To what extent will beneficiaries continue to depend on the program's assistance in the future? What can reasonably be expected through outsourcing and beneficiary contributions? What would be the impact on sustainability of changes in the financing arrangements for the Programme?
7. Strengths and weaknesses of the DMFAS Programme: How does the support provided by the DMFAS Programme compare with DM services from other programs - is it complementary with other programs, like DMF?
8. Is accountability and responsibility satisfactory, including the respective roles of the Donors' Consultative/Steering Committee Meeting, DMFAS Advisory Group, UNCTAD Management and the DMFAS team?
9. Will your country consider providing future financial support for DMFAS? If not, what would need to change? If so, what is the likely scale of contribution?
10. What can be done/what changes are needed in order to increase likelihood of favourable funding decisions; how can DMFAS make the task of 'selling' the programme easier for officers in competitive internal budget discussions?
11. Did the DMFAS Programme react quickly and effectively to support countries during the COVID- 19 pandemic?

## **ANNEX II. Data Collection Instrument for Client Surveys.**

The client survey was conducted through [surveymonkey.com](https://www.surveymonkey.com).



## **ANNEX III. Summary of Findings on Country Visits**

Redacted for confidentiality purposes.

## **ANNEX IV. Reviewed Documents**

### **DMFAS**

Strategic plans, 2016-2019, 2020-2023  
Strategic Plan 2020-2023, Effectiveness Indicators  
Risk Management in the DMFAS Programme, June 2021  
Monitoring DMFAS website visits and downloads  
Overview of 10 years DMFAS progress, 2011-2021, March 2022  
Annual Reports, 1998-2021  
Midterm Review Strategic Plan 2016-2019, Sanga Sangarabalan, Dec 2018  
Midterm Review Strategic Plan 2011-2014, Roy Culpeper and Nihal Kappagoda, Oct 2013  
Strategic Plan 2016-2019, Nov 2015  
DMFAS Business Model Review, Claes Lindhal, 2015  
Storkey & Co, Comparing IT Systems for Debt Management, 2016  
Conclusions of the 12th DMFAS Advisory Group Meeting, 21-22 November 2019  
DMFAS, Financial Situation 2015-2019  
DMFAS 7, Taking debt management to the next level  
Debt Data Quality Assessment Framework, Joint Development with CS-DRMS, September 2020  
Key reference documents provided for MTR 2022 of DMFAS Programme

### **MEFMI**

Memorandum of Understanding between the United Nations Conference on Trade and Development and the Macroeconomic and Financial Management Institute of Eastern and Southern Africa, 15 March 2022

### **UNCTAD**

Inter-Agency Task Force on Financing for Development (2022)  
Review of the Technical Cooperation Activities of UNCTAD and their Financing, Report and Statistical Tables, various years  
Dr. Stephanie Blankenburg, Head, Debt and Development Finance Branch, The unfolding debt crisis in developing countries revisited: Overview and recent trends, UNCTAD Debt Management Conference 2019

### **UNITED NATIONS (SDG)**

Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development, 2022

### **WORLD BANK**

World Development Report, Finance for An Equitable Recovery, 2022 Debt Transparency in Developing Economies, 2021  
Systematic underreporting of public debt statistics: 50 years of evidence and recent progress, Sebastian Horn, David Milhalyi, Philipp Nickol, 03 March 2020, <https://blogs.worldbank.org/developmenttalk>  
Study on Public Debt Management Systems and Results of a Survey on Solutions Used by Debt Management Offices, Cigdem Aslan, Artan Ajazaj, Shurufa Abdul Wahid, World Bank Research

Working Paper, WPS8544, August 2018

## **USAID**

Debt Transparency Monitor, January 2022

## **USGAO**

United States Government Accountability Office, Best Practices for Agile Adoption and Implementation, September 2020, GAO-20-590G

## **THE COMMONWEALTH SECRETARIAT (CS)**

Mid-Term Review of the CS Strategic Plan 2017/18 - 2020/21, February 2020 Financial Statements of the CS Fund, 30 June 2020

Maurel José, Contributing to Debt Management Capacity Building - Options for DFID, April 2015

## **OECD**

Transition Finance Country Study Viet Nam: On the Threshold of Transition, July 2019

## **EGYPT**

Egypt Ministry of Finance, Medium-Term Debt Management Strategy, 2021-2024

Central Bank of Egypt, Annual Report, 2019-2020

UNCTAD, Technical cooperation project financed by the Government of Switzerland, Arab Republic of Egypt, 2019

International Budget Partnership, Open Budget Survey - Egypt May 2022

World Bank, Supporting Egypt's Inaugural Green Bond Issuance, 15 March 2022

UN Economic Commission for Western Asia (ESCWA), Debt Optimization Strategies to Enhance Fiscal Space, Egypt Debt Management Unit Presentation, 27 - 28 July 2022

Egypt Green Financing Working Group, Green Bond Allocation & Impact Report 2021

USAID, 2021 Fiscal Transparency Report - Egypt

## **HONDURAS**

Honduras - Debt Management Performance Assessment (DeMPA), 2021

Tribunal Superior de Cuentas (Entidad Fiscalizadora Superior), Informe Consolidado de Rendición de Cuentas 2020 y Confiabilidad del Control de las Auditorías Internas Municipales, No. 002/GASM-2021,

## **PAKISTAN**

Medium Term Debt Management Strategy, FY20-FY23

Annual Debt Review & Public Debt Bulletin, FY 2021-22

Pakistan Economic Survey, Finance Division, Statistical Supplement, 2020-21

Annual Budget Statement, Finance Division, 2022-23

International Monetary Fund, Pakistan 2021 Article IV Consultation, February 2022

## DONORS

The sources of the citations on the roles of Sustainable Development Goals (SDG) in Donors' priorities (shown in table 7.3) are listed below.

Donors	How Sustainable Development Indicators shape donor priorities
Switzerland	<a href="https://www.seco-cooperation.admin.ch/secocoop/en/home/strategy/development-policy-issues/2030-agenda.html">https://www.seco-cooperation.admin.ch/secocoop/en/home/strategy/development-policy-issues/2030-agenda.html</a>
European Union	<a href="https://international-partnerships.ec.europa.eu/policies/european-development-policy_en">https://international-partnerships.ec.europa.eu/policies/european-development-policy_en</a>
France	<a href="https://www.diplomatie.gouv.fr/en/french-foreign-policy/development-assistance/">https://www.diplomatie.gouv.fr/en/french-foreign-policy/development-assistance/</a>
Germany	<a href="https://www.bmz.de/en/issues">https://www.bmz.de/en/issues</a>
Ireland	Ireland's Second National Implementation Plan for the Sustainable Development Goals 2022 – 2024, Draft for Public Consultation, 13 May 2022  <a href="https://assets.gov.ie/19344/32f9bdd2aae2464caae37760edd1da04.pdf">https://assets.gov.ie/19344/32f9bdd2aae2464caae37760edd1da04.pdf</a>
Netherlands	<a href="https://www.government.nl/topics/development-cooperation/the-development-policy-of-the-netherlands">https://www.government.nl/topics/development-cooperation/the-development-policy-of-the-netherlands</a>
Norway	<a href="https://www.norad.no/en/front/about-norad/news/2021/norads-strategy-towards-2030/">https://www.norad.no/en/front/about-norad/news/2021/norads-strategy-towards-2030/</a>

## ANNEX V. Additional Findings

### AV.1. Automatic links between DMFAS and other systems.

In 2021 16 DMFAS user countries maintained interfaces in three public financial management information systems, namely (1) budget preparation (2) budget execution and (3) reference data sharing. There were four countries with a DMFAS interface with the auctions / central depository system, namely Angola, Indonesia, Madagascar and Philippines. See Table AV.1.

In Angola, DMFAS IT experts collaborated to build an interface among four financial management systems: the Integrated Financial Management System (IFMS), the National System for Trading Securities, the Bond Platform of the Central Bank and DMFAS. This complex interface uses the DMFAS web services technology to automate the data transfer, and thereby increase the speed of data recording, ensure a high level of security and reduce operational risks. During the process of issuance of domestic securities, the Central Bank receives the results of the auction and records the information into its bonds platform. Then the information is automatically sent to the IFMS. Finally, the information is loaded automatically in the DMFAS debt securities module.<sup>20</sup>

Countries with the above linkages are shown in Table AV.1.

**Table AV.1. User countries with automatic links between DMFAS and other systems**

	Budget Estimate	Budget Execution	Reference Data	Auction/ Central Dep System
Angola	1	1	1	1
Argentina	1	1	1	
Bolivia (Plurinational State of)	1	1	1	
Burkina Faso	1		1	
Dominican Republic	1	1	1	
El Salvador	1	1	1	
Ethiopia	1	1	1	
Guatemala	1	1	1	
Honduras	1	1	1	
Indonesia	1	1	1	1
Madagascar	1	1		1
Nicaragua	1	1	1	
Panama	1	1	1	
Paraguay	1	1	1	
Uganda	1	1		
Venezuela (Bolivarian Republic)	1	1	1	
Gabon		1	1	
Philippines			1	1

Source: DMFAS 2021 Annual Report.

<sup>20</sup> See DMFAS, Building complex interface in Angola, <https://unctad.org/dmfas/BuildingcomplexinterfaceinAngola>

## AV.2. Donor countries, 1998 - 2021

Table AV.3 Donor countries, Amount and Number of Years, 1998 to 2021, (\$000)

	Norway	Nether-lands	Switzer-land	Ger-many	Sweden	EU or EC	Ire-land	Italy	Fin-land	France	Total
<b>Years of donations</b>	18	18	14	17	9	6	14	6	1	4	
<b>Total amount</b>	17'269	9'572	8'995	4'949	3'997	6'091	1'915	796	352	463	54'399
<b>Total amount</b>	32%	18%	17%	9%	7%	11%	4%	1%	1%	1%	100%
Yr											
'98	225	532	272								1'029
'99	235				299		64				598
'00	304	300							352		956
'01	976	248	100	43	325						1'692
'02	975	222		50	486						1'733
'03	1'275				468						1'743
'04	1'575				474						2'049
'05	1'943	900			427						3'270
'06	1'608	300	420		414						2'742
'07	1'572	300		147	604			202			2'825
'08	1'746			299	500			120		60	2'725
'09	1'214			210			151	290		240	2'105
'10	1'291	600	1'000	266			139	100		42	3'438
'11	500	600	500	259			143				2'002
'12	500	600	500	195		1'227	123	47			3'192
'13	500	600	375	262		1'357	131	37			3'262
'14	510	600	375	272		1'376	136				3'269
'15		600	375	221			112				1'308
'16	320	566	375	224			106				1'591
'17		545	1'524	59			116				2'244
'18		566		581			114				1'261
'19			762	547		951	110				2'370
'20		896	769	657		756	118				3'196
'21		597	1'648	657		424	352			121	3'799

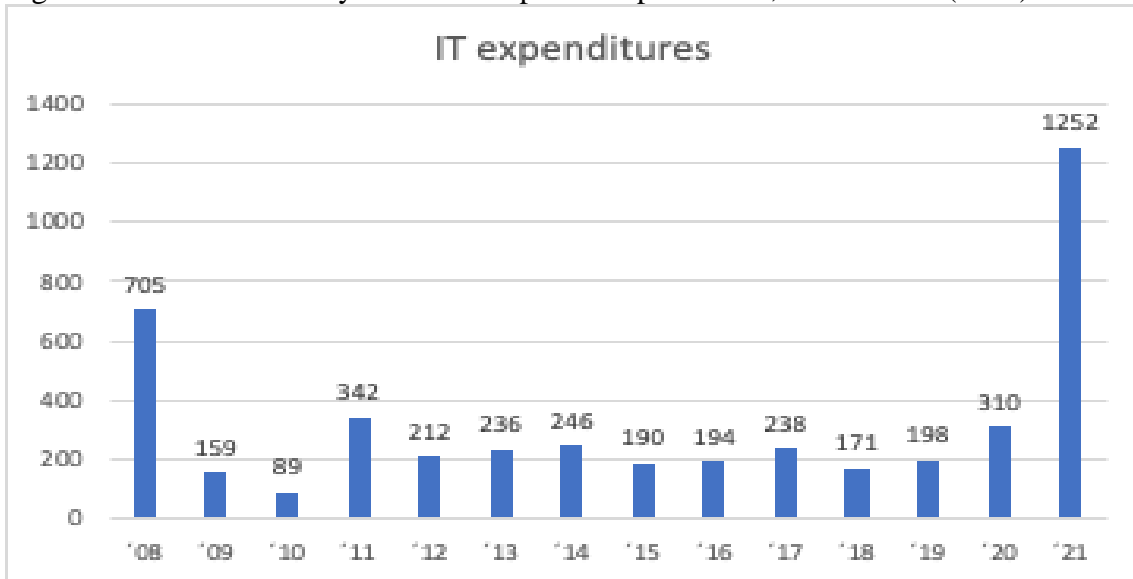
Source: DMFAS annual reports.

### AV.3. IT Systems development expenditures

DMFAS annual reports show expenditures on IT systems development, with the largest amounts in 2008 (before release of DMFAS 6) and 2021 (during mid-term of development of DMFAS 7).

The expenditures in annual reports do not necessarily include staff costs for the development.

Figure A2.1 DMFAS IT Systems development expenditures, 2008 - 2021 (\$000)



Source: DMFAS annual reports.

## AV.4. Time required to develop DMFAS software

Average months spent to develop DMFAS versions have increased over time. DMFAS 1 to 4 took 21 months on average, while versions 5 and 6 took 49 months on average. See Table A2.4.

**Table A2.4 Release Dates of DMFAS versions**

<b>DMFAS versions</b>	<b>Year</b>	<b>Number of months (estimate)</b>	<b>Note</b>
1.0	1981 - 1982	24	COBOL Programming
2.0	1985 (December)	36	
3.0	1986 (December)	12	
4.0	1989 (March)	27	
4.1	1991 (July)	15	
4.1 Plus	1992 (October)	15	
5.0	1995 (March)	30	ORACLE
5.1	1998 (August)	35	
5.2	2000 (January)	16	
5.3	2003 (December)	47	
6.0	2009 (December)	72	WEB-BASED APP
6.1	2015 (February)	74	
6.2	2021 (December)	70	
7.0	2022	In development	MOBILE APP
	<b>Average months:</b>		
	Versions 1 to 4	21	
	Versions 5 and 6	49	

Source: [https://unctad.org/dmfas/DMFAS\\_History](https://unctad.org/dmfas/DMFAS_History)



## AV.5. DMFAS software functionalities in DMFAS 6 and 7

**Table A2.5 Debt Agreements and Functionalities in DMFAS Versions**

DMFAS	Debt Agreements	Additional functional tools in each DMFAS
6	<ol style="list-style-type: none"> <li>1. General debt agreements</li> <li>2. Debt securities</li> <li>3. Short term debt</li> <li>4. Private non-guaranteed external debt</li> </ol>	<ol style="list-style-type: none"> <li>8. Perform back-office functions on debt agreements</li> <li>9. Allow interface with other software, including debt sustainability, risk analysis and IFMIS components</li> <li>10. Allow staff to determine impact of new debt borrowings, debt reorganizations, and assess exchange and rate volatility</li> <li>11. Allow debt portfolio analysis, perform sensitivity analysis, and produce debt ratios directly from database</li> <li>12. Perform auctions or transfer results directly</li> <li>13. Provide user-friendly reports to debt management</li> <li>14. Use DMFAS through a web browser, on intranets or through the internet, allowing links with users through internet</li> </ol>
7	<ol style="list-style-type: none"> <li>3. All DMFAS 6 plus: Non-traditional debt instruments, such as domestic arrears, currency and deposits, SDR allocations and other accounts payable</li> <li>4. Contingent liabilities from Public Private Partnerships, guarantees and private external non-guaranteed debt</li> <li>5. Financial</li> </ol>	<ol style="list-style-type: none"> <li>10. Broader coverage of debt data to include non-traditional debt instruments, contingent liabilities and financial derivatives</li> <li>11. New web-based interface, managerial reports and dashboard</li> <li>12. Integration of international standards for accrual accounting, audit, classification, reports and debt data validation</li> <li>13. Integration of debt management with Public Finance Management (PFM) and Integrated Financial Management Systems (IFMIS)</li> <li>14. Compliant with latest standards for Web applications</li> <li>15. Supporting calculation of debt positions based on accrual accounting, based on International Public Sector Accounting Standards (IPSAS).</li> <li>16. Improving operational risk management through robust auditing and security modules meeting the standards of the International Organization of Supreme Audit Institutions (INTOSAI).</li> <li>17. Complying with the recommendations of the IMF and World Bank external debt and public sector debt guides.</li> <li>18. Generating reports as requested by the World Bank for the Quarterly External Debt Statistics (QEDS), Quarterly Public Sector Debt (QPSD) and the Debtor Reporting System (DRS).</li> <li>19. iCloud technology, better security, faster</li> </ol>

	derivatives	connectivity, processing, accessibility and improved portability 20. Capacity-building package for debt managers
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Sources: DMFAS Programme, UNCTAD, Occasional Report 2009, Meeting of the Inter-Agency Task Force on Finance Statistics, 2010; DMFAS 7, Taking debt management to the next level, 2021

## **ANNEX VI. Persons Contacted for MTR Interviews**

Redacted for confidentiality purposes.