

Terms of reference

Digital readiness assessment, data quality assessment and data migration to new Management Information System for the new pension

Assignment	Management Information System for the new pension in the NSSF
Contract's duration:	6.5 Months
Total Working Days	100 Days

1. Background

The passing of Pension Law 319 by Lebanon's Parliament in December 2023 was a substantial reform towards a strengthened social protection system in Lebanon. This milestone marks one of the most significant socioeconomic reforms witnessed by Lebanon in recent years amid compounded crises.

For decades, the vast majority of the Lebanese people have lived with little or no income security in their old age, a situation that has worsened since the economic-financial crisis that began in 2019. The fact that the national currency has lost 98 percent of its value against the US dollar coupled with a triple digit inflation, has made the end-of-service-indemnity amount even more inadequate to provide a decent life in old age and made the transition to a new shock resistant pension scheme inevitable. Additionally, Public administrations in Lebanon, including the NSSF, are known to grapple with chronic challenges such as weak oversight, accountability gaps, outdated procedures, and lax governance. These persistent issues have resulted in a significant erosion of trust between citizens and their public institutions.

The new pension law establishes a comprehensive pension system for private sector workers. This scheme promises to offer a monthly payment during a retiree's lifetime instead of a lump-sum at retirement. The new law has also introduced a comprehensive restructuring of the NSSF's governance and operational framework. To effectively implement these changes, a sequence of pivotal and critical steps must be taken, with a major focus on enhancing the Business Processes, the Information and Communications Technology (ICT) and the Management Information Systems (MIS) infrastructure.

In light of the above, and under the framework of the ILO-FCDO partnership on "Supporting Social Security and Institutional Reforms towards a Strengthened Social Protection System in Lebanon" the ILO is supporting the NSSF in assessing its digital readiness and data quality and planning a data migration. This assessment is to prepare the NSSF for implementing a new Management Information System (MIS) for the upcoming pension system.

2. Context and rationale

Data quality is critical to realizing the potential of digital transformation. A well-functioning management information system depends on its data quality foundations. That supposes, in

preparation for digital transformation, specifying data quality requirements, profiling, analyzing, and assessing the quality of existing data, correcting data quality defects, preparing data migration, and defining procedures for managing data quality issues once the MIS is in place.

Ultimately, the good administration of an MIS requires proper data governance systems and processes. Data quality frameworks should follow international standards and practices and technical specifications (e.g. ISO/IEC 38500, COBIT® 4.1, COBIT® 5 and international practices defined in ISO 8000 and the DAMA-DMBOK2). Reference should be made in the following TORs to these detailed frameworks. This entails setting up in ter alia a data quality framework, a stewardship program, and organizational structures to carry out data governance processes.

These TORs define the terms and conditions of support by a consultant to analyse and improve the data quality in preparation for the creation of a repository of digital data, and its migration to the new MIS, and to propose ongoing processes for data quality governance and management under the new MIS to ensure continuous data quality.

3. Deliverables

Output 1: Provide inputs on the digital readiness and digital ecosystem assessment

The assessment consists of a technical note:

- diagnosing the current state of organizational readiness, human resources, technology and digital ecosystem of the social security organization and
- conducting a gap analysis and recommendations for improvements to reach a desirable future state of digital architecture in terms of organizational readiness (IT governance, data management...), human resources (number of staff, their skills,..) and technology stack to support the implementation of the new MIS.

It will contain specifically:

- A high level and synthetic overview of the country's IT and internet communication environment.
- Mandatory government electronic interfaces and systems, including any mandated requirements for the new software system
- Recommendations for software, hardware and communication requirements for MIS solution
- High level mapping and gap analysis of IT governance, technology infrastructure and staff to operate the MIS solution
 - o Data Base Engine
 - o Technology Stack to support the desired software deployment and secure operations
 - o Communication and system deployment for interoperability with critical external data sources.
 - o Infrastructure to host future MIS and its backup and recovery systems
 - o Security features including robustness of access management.

Output 2. Data quality assessment report

Tasks:

- Define a master data dictionary (inventory and profile of core business non transactional data) in line with international standards that can be used by software architects and developers as the data reference for the institution
- Specify a data quality measurement model (dimensions¹ and metrics)
- Measure data quality against defined data quality dimensions including by using data quality software applications (this may require advancing in parallel in data preparation as indicated in output 3).
- Document the results
- Analyse the gaps between results and expected data quality, understanding the issues and pain points, the impacts and root causes of problems.

Output 3. Data quality improvement plan and report on the implementation of immediate corrective measures

Tasks

- Define and write a data quality improvement plan including.
 - o Ad hoc immediate corrective measures and preventive controls
 - o Addressing data duplications by specifying Internal Unique sources of single truths
 - o Apply normalization standards to digital data catalogues given future relational database management system
 - o Eliminate unnecessary data by abiding by data collection and retention minimization.
 - o Preventing poor-quality and non-validated data from being inserted in the master data system, especially when exchanging data with other organizations
- Apply immediate corrective measures, including data cleansing operations to enhance data quality according to plan
- Use of software applications for performing data quality cleansing operations on the master data
- Write report on the measures implemented

¹ At a minimum, data quality refers to:

- completeness (avoidance of data gaps),
- conformity (within the set of established standards) or validity,
- uniqueness (no duplicate nor redundant records),
- consistency (data values identical for the same nature of events),
- integrity (correct relationships between data is verified),
- accuracy (compared to authoritative sources),
- correctness (free of errors or mistakes),
- granularity and precision (according to standards)

Data quality can also be assessed according to its reliability, accessibility, traceability, and security.

Output 4. Data migration preparation and implementation report

Tasks:

- Prepare the data
 - o Maximize the use of already validated data, especially in data entry software applications and move the data to a relational digital database platform (eg. MySQL)
 - o Convert and integrate the historic contributory records on paper and or auxiliary databases such as in Excel format into digital records database in the same database
- Prepare data migration
 - o Define migration scope and approach
 - o Build data migration, reconciliation and testing scripts
 - o Backup database before initiating the migration
- Initiate migration
 - o Announce go live timeline
 - o Run trial Migration
 - o Collect information from the trial execution and implement corrections
- Execute migration
 - o Run the migration scripts over a very short period (less than a week) in parallel with the existing system

The consultant will provide inputs on the above to a separately contracted International social security business process specialist.

Output 5: Provide inputs on essential elements for system design specification to be included in Call for Proposal for Developers

The consultant will provide inputs on key requirement for systems specifications, that will be fully developed as part of a separate bid, including:

- Technology stack (User interface, programming languages, frameworks, run time environments for front-end and backend operations including mobile applications, operating systems, servers including cloud based technologies, database technologies to support the development of the MIS)
- Government non-functional requirements in the technology stack
- System components (People, entities and user profiles, their roles, user interfaces, master data sources and repositories, information system objectives and approach, data capture and retention strategies, document management system, backup and recovery systems, auxiliary software acquisition when needed, such as card print, biometric information, etc..).
- Integration architecture (place of MIS in enterprise architecture solutions, external user portals, mobile applications, internal document management systems, accounting software, bank reconciliation, etc,...)
- Implementation specifications (including data entry, capture, and data migration)
- Security architecture (data in transit protection and access security management)

Timeline and Payment Schedule

The consultancy will commence on September 1st, 2024, and conclude on March 15th, 2025, for a maximum of 100 working days. Depending on the availability of resources and the possibility of parallel processing, the actual duration may vary.

Deliverable	Timeline/Deadline	Due Payment
Provide inputs on the digital readiness and digital ecosystem assessment	30 th of September 2024	20%
Data quality assessment report	31 st of October 2024	20%
Data quality improvement plan and report on the implementation of immediate corrective measures	15 th of December 2024	20%
Data migration preparation and implementation report	15 th of February 2025	20%
Provide inputs on essential elements for system design specification to be included in Call for Proposal for Developers	15 th of March 2025	20%

Travel

A mandatory visit to the project site is required to thoroughly understand and assess the current situation. This visit will involve on-ground observations, stakeholder meetings, and information collection to ensure a comprehensive evaluation of the existing conditions. The findings from this visit will be crucial for the subsequent stages of the project.

Qualifications and Selection Criteria

The consultants should have the following qualification and experience:

- Professional with extensive knowledge and understanding of social insurance schemes, modern operating models, and legal and regulatory aspects of public pension funds.
- Excellent understanding and track record implementing Business Process Analysis.
- Demonstrated experience in development and implementation of MIS systems within a large-scale data environment.
- Demonstrated experience in supporting a social insurance scheme or system to improve efficiency in administration.
- Strong ability to plan, manage, implement, and report in a timely fashion and to a high standard of quality, as demonstrated by at least two solid references from relevant work assignments.
- Excellent communication and command in written English, Arabic is an asset.

Application Process

Individual consultants are invited to share the following documents by 12th of September 2024 with the ILO Regional Social Protection team at: Jabbourr@ilo.org and Fawaz@ilo.org

Email subject heading should mention “**NSSF Digital Readiness and Data Quality Assessment**”.

- A cover letter outlining fit for the assignment.
- CV
- An example of previous work on a similar assignment.
- Financial proposal (Daily Rate)