

CHAPTER - III

Effectiveness of Sevana Pension software

3 Effectiveness of Sevana Pension software

Through a close examination of the Sevana Pension software, Audit wanted to evaluate whether the Software has been effective in bringing accuracy, transparency and effectiveness in the execution of the SSP Schemes under the Direct Benefit Transfer programme.

The Sevana Pension software was developed for the automation of disbursement of SSPs. It was developed by IKM and was intended to streamline the disbursement of SSPs with a transparent mechanism. The software and the database were hosted in the server at State Data Centre (SDC) and was made available to all stakeholders, viz. the DBT Cell in the Directorate of *Panchayats*, the LSGIs across the State and the PACS distributing pension in DTH mode. The whole responsibility of execution of Sevana Pension software for the management of SSPs lies with DBT Cell in the Directorate of *Panchayats*. Registration and management of beneficiaries in the software are done by the LSGIs. Fund estimation, bill processing and amount disbursement are the responsibility of the DBT Cell. The Finance Department of GoK sanctions the amount for periodical disbursement and provides necessary directions regarding selection of beneficiaries and payment of SSPs which are to be incorporated in the software.

Audit verified the user interface of the software at the DBT Cell, selected LSGIs and corresponding PACS. Audit also verified the records relating to the software development and management of SSPs, as available at the DBT Cell and the Finance Department. The processes performed by IKM on behalf of the DBT Cell were also checked and physically verified.

On verification of the database, user interface, records and processes, Audit noticed discrepancies in the Software, right from its design and documentation stages. Lack of proper planning and study of the system is evident and glaring in the form of the deficiencies in the Software. Input control deficiencies resulted in erroneous and inconsistent data which makes it impossible to ensure accuracy in pension calculation.

The critical data relating to nearly fifty lakh beneficiaries are placed at risk by hosting the Software with identified vulnerabilities. The processing errors in the Software forced the Department to seek the assistance of the Developer for disbursement of SSPs. With no option to monitor and control the user activities, the User Department became a spectator on each occurrence of erroneous transaction and irregular disbursement.

The deficiencies noticed by Audit are discussed in detail in the following paragraphs.

3.1 Lack of preparedness in automation of DBT

Automation of a system involves system study and design, development and testing of software, installation of the software and ensuring its availability to all stakeholders. The responsibility of automation of the system should be entrusted to an entity by a competent authority, ideally by executing an agreement or by passing an order, enumerating the roles and responsibilities of all stakeholders.

The Finance Department or the DBT Cell could not furnish any such document relating to initiation of the automation of execution of SSP Schemes.

3.2 Documentation Deficiencies

Development of a software requires a systematic planning which includes study of existing system and user requirements, which are to be properly documented. User Requirement Specification (URS) is an important document required in the planning stage of software development. The URS describes the business needs and what the users at all levels require from the system. A deficient URS may ultimately lead to the development of a deficient system. An approved URS ensures that the requirement of the entity has clearly been stated and the same has been passed on to the developer.

The System Requirement Specification or Software Requirement Specification (SRS) is prepared by the developer after understanding all the user requirements specified in the URS. This would enable both the client and the developer to ensure that the software being developed is able to meet all the requirements of the client. The client needs to accept the SRS after ensuring that all the requirements are clearly mapped in the system. These documents are important at the stage of testing the software.

Similar system study and documentation is required while modifications are made in the system. Organisations should follow a defined Change Management procedure that requires approval from a competent authority before being implemented into the operational environment.

a) Absence of System Study Documents

IKM, the software developer, did not prepare the URS and SRS documents before software development. IKM furnished (16 March 2021) an unsigned document purported to be the SRS of Sevana Pension software Version 1.0. The document however describes features of the latest version of the software where recent Government instructions have been incorporated. The 'References' in the document enlists Government orders and Circulars upto August 2020, which indicates that the document was prepared after August 2020. Further, many of the requirements listed in the document furnished by IKM were not seen incorporated in the software.

Absence of design documents show that proper system study was either absent or deficient during the development of this software, which, had they been there would have eliminated the design deficiencies such as non-recording of initial application, which resulted in irregular approval of beneficiaries as described in Paragraphs 2.2, 2.5.4 and 2.5.5 *ante*.

b) Documentation and testing of changes in the Software

Audit observed (August 2021) that proper Change Management procedure is absent in Sevana Pension software. Requests/ directions for changes required in the software are communicated to the Developer from DBT Cell or Finance Department. Government Orders are also considered for making the changes. None of these are documented by the Developer. There is no system of User Acceptance for the changes in the software. Though IKM claim that these changes are tested before deploying, no documentation of the same is available. The fact that certain modifications are not effective has already been brought out in Para 2.5.1 *ante*.

There is also no system available for the User Department to confirm that required changes have been made by the Developer. Omission on the part of the User Department in this regard led to denial of pension to eligible beneficiaries as detailed in Paragraph 2.9 *ante*.

Audit also observed (August 2021) that no formal/ documented system for complaint reporting exists in the Software. System deficiencies/ faults are reported through telephone calls. Whenever bugs are observed, users would lodge complaints through telephone calls and the Developer would make the changes in the application. These requests, modifications and testing are neither documented nor being monitored.

On these being pointed out, IKM stated that the changes in the Software are made according to the Government orders issued and directions from the Finance/ DBT Cell, which are received by email. But IKM could not produce any documentation relating to any of the modification done in the past. The reply is not acceptable as the changes are supposed to be tested by the testing team of IKM and it was admitted by IKM that the documentation regarding changes and test reports are not being maintained.

These were pointed out to Government in December 2021 for which no reply has been furnished by the Government (October 2022).

3.3 Inadequate training, awareness of security

It is essential to define the roles and responsibilities of various personnel within the organisation as well as the skill development or training to carry out their duties. It is also required to create awareness on their responsibility in respect of information system security. Awareness on security of the information assets

including software/ hardware, data and basic knowledge about the features of the software are primary requirement for a user in a software system.

Audit conducted a survey among the LSGI data entry users and found that there is lack of proper training among the users. The details are given in **Appendix - XXIV**.

The Government replied (May 2022) that IKM, in coordination with the DBT Cell, would arrange another round of training to the users of the Software and that the security requirements and implications would be stressed in the upcoming training programmes.

3.4 Deficiencies in integration of essential criteria for beneficiary approval and pension payment

All the essential criteria regarding beneficiary addition should have been integrated in the Software. In the case of the Sevana Pension software, it should only have allowed the registration of those who fulfils the criteria stipulated for each SSP. For example, registration of an individual below 60 years, as a beneficiary of IGNOAP, should not have been allowed by the Software.

A report generated through the Software itself shows that there are 604 IGNOAP beneficiaries below the age of 60 years. Absence of proper in-built validation resulted in irregular registration of beneficiary and erroneous and conflicting values in date columns, such as Date of Application, Date of Approval, Date of Digital Signature, Date of Birth and Age. There is no provision in the system to endorse certain eligibility conditions also.

Lack of mapping the criteria in the software and the absence of proper monitoring by the DBT Cell in respect of necessary modifications done in the software by IKM, to incorporate the latest directions of the Government, has led to irregular approval of beneficiaries as mentioned in Paragraphs 2.5.1 to 2.5.3 *ante* and erroneous bill generation as described in Paragraph 2.9 and 2.13 *ante*.

The Government replied (May 2022) that IKM has already been instructed to look into the matter.

Since data inconsistency is a matter of serious concern, Government may expedite the matter with IKM.

3.5 Deficiencies in Input Controls

Input controls are methods that mitigate the possible errors and omissions in data entry. This includes validation of data at the time of entry by the system itself and manual verification of data by a different user. Authorisation of data by a different user and segregation of these duties are key to successful data validation. These input control mechanisms ensure that accurate, reliable and complete data is accepted by the application. In the absence of proper input

controls there is always a chance of entering erroneous or fraudulent data in the system and failure of the application to deliver business objectives.

The Sevana Pension software lacked basic input validation during data entry of beneficiary details, which resulted in inconsistency in data, erroneous inclusion of beneficiaries and ineligible payment of pension.

Lack of validation in 'Age' and 'Date of birth' caused discrepancies in date of birth and age values as mentioned in Paragraph 3.6.5 below. Lack of cross-checking of date of application, date of approval and Council date led to inclusion of beneficiaries in wrong Welfare Standing Committees, as described in Paragraph 2.5.5 *ante*.

Due to the absence of details of rejected applications as mentioned in Paragraph 2.2 *ante*, the software is not able to identify and flag subsequent fresh application by the same individual. Ineligible second pension to same individuals, as mentioned in Paragraphs 2.5.1, 2.5.2 and 2.11.2 *ante* could have been completely avoided if proper validation was built in for crucial unique identification fields, like Aadhaar number and electoral ID card number.

The User ID of LSGI staff consists of a number representing the LSGI where the official is posted. Data entry of the approved beneficiary should have been restricted to the users of the same LSGI to which the beneficiary is being added. Lack of such input control led to fraudulent or erroneous addition of beneficiaries as mentioned in Paragraph No.2.5.4 *ante*.

3.6 Lapses in information security and monitoring

The fundamental aspect of IT governance is the security of the information to ensure its availability, confidentiality and integrity on which everything else depends. Information Security is the ability of a system to protect information and system resources with respect to confidentiality and integrity. It allows an organisation to protect its Information System infrastructure from unauthorised users. It deals with the protection of information and information systems against unauthorised access or modification, whether in storage, processing or transit, and against denial of service to authorised users. And it includes those measures necessary to detect, document and counter such threats.

Information Security is increasingly becoming more important for the Government Institutions as the interconnection of public and private networks and the sharing of information resources increase the complexity of controlling access and preserving the confidentiality, integrity and availability of data.

3.6.1 Hosting of web application without Security Audit Certificate

The Government of Kerala had stipulated³⁵ that ‘Safe to Host’ Security Audit Certificate is mandatory for any website to be hosted at the SDC. Periodic Security Audit, once in every two years, is necessary for the websites. The GoK further reiterated³⁶ the requirement of ‘Safe to Host’ Security Audit Certificate for all e-governance applications from Indian Computer Emergency Response Team, an empanelled security auditing agency. It also stipulated that all websites/ applications hosted at the SDC would have to go through a complete security audit process before they can be hosted or whenever an alteration/ addition is made to the application.

The security audit of Sevana Pension software was done by the Computer Emergency Response Team-Kerala (CERT-K) in 2016 and the report of the security audit was made available to Audit. The report is in fact the result of ‘Phase-I Vulnerability Assessment’ done by CERT-K which enlists vulnerabilities classified on the basis of OWASP³⁷ Top 10 categories. The vulnerabilities reported by CERT-K are detailed in **Appendix -XXV**.

CERT-K provided recommendations on each vulnerability noticed and advised IKM to fix the vulnerabilities in the application as per the recommendations given and to submit corrected application for a subsequent round of auditing. It was stated by CERT-K that approval to host the application will be issued only after final confirmation by CERT-K that application is free from any vulnerability.

In respect of ‘Login Password Guessing Attack’ vulnerability, the recommendation was to implement some type of account lockout after a defined number of incorrect password attempts and Captcha Settings and to use strong credentials. Audit checked the login process of Sevana Pension software and found that there is no restriction to the number of incorrect password attempts. The status of other vulnerabilities reported can be verified only by a certified security auditor.

It is also noticed that periodic security audits as stipulated was also not done on Sevana Pension software. The Sevana Pension software and the valuable data, including personal details of the beneficiaries, are exposed to risk by hosting the web application in SDC without clearing security audit and ‘Safe to Host’ certificate.

The Government replied (May 2022) that IKM has already fixed the vulnerabilities as per the advice of CERT-K before hosting the application at

³⁵ Vide GO(MS) No.43/2015/ITD dated 01 October 2015.

³⁶ Vide GO(MS) No.8/2019/ITD dated 22 October 2019.

³⁷ Open Web Application Security Project (OWASP) is a non-profit foundation dedicated to improving software security. OWASP Top 10 is a book/referential document outlining the ten most critical security concerns for web application security.

SDC. The reply is not tenable as mandatory security audit was not seen done and the software is not certified as 'Safe-to-Host'. Further, CERT-K, in its letter dated 30 January 2021, stated that they have not issued 'Safe-to-Host' certificate in Security Audit Phase-I and subsequent audit was not done. Audit also found that vulnerabilities reported by CERT-K still exists in the present version of the software.

3.6.2 Lapses in monitoring of user activities

In a Government environment, access control is important because many Government entities process sensitive data and security of such vital data is of utmost importance. It should be ensured that only users with the authorised credentials have access to these sensitive data.

Access control is being given least importance in the Sevana Pension software. In an incident of erroneous addition of a beneficiary at Thrissur Corporation, IKM officials reported that the addition was done from Wadakkanchery Municipality and the error occurred as a result of using the login IDs of Thrissur Corporation and Wadakkanchery Municipality simultaneously in one computer. This shows that there is a practice of using login id of one local body in another.

Sharing of credentials is taken lightly and such incidents are not followed up and actions, as stipulated³⁸ in the guidelines for usage of passwords are not seen initiated.

User login details are not recorded properly in the system, which could later have been used to monitor the user activities by the User Department. IKM stated that user log is available in the Table 'TR_Web_UserLog'. On verification of the Table, Audit noticed (November 2021) that it does not contain the login-logout details of user and the details of all activities performed in the database. Further, it was noticed that transaction details available in the Table were not complete.

Audit even found passwords in unencrypted form in a Table named TR_Login history, available in the database. The Table contains login details of users which are incomplete. Lack of login details and record of user activities make it impossible to trace the user *vis-à-vis* the activities.

Record of important activities, like application by individuals, their approval and digital signing, were found overwritten during subsequent process, due to possible flaws in the Software. Such overwriting of data resulted in loss of important information, like date of application, date of digital signing of approval, etc.

The DBT Cell is not able to monitor the active users of Sevana Pension software. Absence of such monitoring lead to misuse of User IDs such as login

³⁸ Vide Circular no PAN/2444/2020-D3(DP) dated 6 February 2021.

at one local body with the User ID of another local body. Irregular addition of users in the Software could have been avoided with better monitoring of user activities.

Even though the matter was reported to the Government (December 2021), the Government's reply is still awaited (October 2022).

3.6.3 Inconsistencies in Beneficiary addition

The Sevana Pension software was closed during the period from February 2017 to June 2018. Data entry of new beneficiaries were also not done during this period of 17 months, as stated by the DBT Cell, in reply to a complaint regarding delay in approving SSP to an applicant.

On analysing the database of Sevana Pension software made available to Audit, it is found that 3,27,863 beneficiaries were added to the database during the period from February 2017 to June 2018 when the website was closed. The DBT Cell does not have any information about the addition of such a large number of beneficiaries when data entry was not possible through LSGIs. IKM stated that LSGIs were doing the data entry in the local server, which was later ported to the centralised server maintained in SDC.

However, the LSGIs visited by Audit reported that they were not able to enter the details of beneficiaries approved by the Welfare Standing Committee during the said period. On verifying the data, Audit noticed that out of the 3,27,863 beneficiaries added, a total of 2,99,427 received pension during the period. While some applicants were denied their right to receive SSPs on account of modification of application, others were able to get into the beneficiary list and received pension. Pension payments of eligible individuals whose applications were not processed due to the blocking up of data entry in Sevana Pension software were delayed upto 18 months. The criteria or method by which 3,27,863 beneficiaries were added, when LSGIs were not able to make data entry, could not be clarified by the DBT Cell. The reason for the discrepancy has been requested for from the Department, for which a reply has not been received yet (October 2022).

The Government replied (May 2022) that the Director of *Panchayats* is looking into the matter and that the Finance Inspection Wing will also conduct enquiry in this regard.

The Government may direct the Department to furnish the reasons for the discrepancy and its rectification.

3.6.4 Other security lapses

Audit observed the following security lapses in the Sevana Pension software:

- a) It was noticed (August 2021) that critical information relating to SSPs are being transmitted between the User Department and the developer through their 'gmail' accounts, even though the entities have 'gov.in' mail accounts;
- b) While examining the Sevana Pension software at LSGIs, it was noticed (February 2021) that 'State Level Reports', which are intended for DBT Cell, are accessible to Data Entry Users. The Data Entry User at LSGI is able to open 'State Level' MIS reports which is not even permitted to be accessed by the LSGI Secretaries.

The application software should have been more robust and secured with facilities to monitor and control the user activities effectively.

This was pointed out (December 2021) to the Government, for which it was replied (May 2022) that use of gmail accounts has now been discontinued and access to reports are now restricted to authorised users only. The details regarding compliance are yet to be furnished.

3.6.5 Inconsistency in Master data files

Master files containing Beneficiary details, Pension scheme details, Local Body details, etc. should be accurate and authoritative, permanent or semi-permanent computerised information, required for the computerised business process. It is essential to ensure the correctness, reliability and integrity of the data in Master Files as it can significantly affect the accuracy of the process and output.

a) Beneficiary Master (TR_Pension)

TR_Pension is the most important Master Table in the application, which contains all the information regarding beneficiaries. All the activities in Sevana Pension software depends on the information inside TR_Pension Table. Date values are critical in distribution of SSP. A scrutiny of the date values available in this Table revealed the following points:

i) Inaccurate Date of Birth entries in respect of active beneficiaries

Age is a crucial data relating to the beneficiaries of IGNOAP, ALP and UMWP. Enhanced pension given to the beneficiaries was also dependent on the age of the beneficiary. Age of the beneficiary is decisive in the case of IGNWP and UMWP since beneficiaries above 60 years need not furnish Non-Remarriage Certificate. Also beneficiaries above 80 are exempted from furnishing Aadhaar. Incorrect values in 'Age' field can affect the payment of pension to beneficiaries. 'Date of Birth' is therefore one of the most important data for the accurate estimation of SSP.

On verification of the SPs executed during bill generation process, Audit noticed that the date of birth value is used in many of the Structured Query

Language (SQL) statements in the procedures. From the values available in the date of birth column, the following statistics is generated in respect of active beneficiaries and as detailed in **Appendix – XXVI**.

The age of the beneficiaries ranged from (-)1,298 to 267. Since the main criteria for pension calculation is the age of beneficiary, incorrect values of date of birth would lead to erroneous data processing and corresponding output. This would affect the estimation of pension amount and will have a huge impact both on the State exchequer as well as the beneficiaries. Cases of excess payment on account of irregular disbursement of enhanced pension as described in Paragraph 2.14 *ante* could have been avoided if the database contained correct date of birth values and were properly used in the software.

On a test-check of applications/ files produced to Audit in three³⁹ LSGIs with the Sevana Pension Database, it was noticed that in respect of date of birth of 1,015 applications test-checked, date of birth was entered in the database as the first day of the year in 44 applications which is different from that recorded by the applicant in the application and the documents produced along with it. Further, in nine applications instead of the date of birth only year of birth is provided by the applicants. Some illustrative cases are given in **Appendix - XXVII**.

It was observed that proper cross-verification of data entered with the application is not done by the authorities concerned, leading to incorrect entry of date of birth of the beneficiaries, where the date of birth/ age is the main deciding criteria for the eligibility of an applicant.

The Government replied (May 2022) that at present, provision has been enabled in the Sevana Pension software so that correct format of date of birth is entered by the LSGIs.

The Government may direct the Department to furnish the details regarding the enabling of such provisions in the Sevana Pension software.

ii) Inconsistency in other date fields

The date values in the columns dtApplication, dtApproved, dtDigitalSign and dtDistributionStart are important since these values affect the various MIS Reports and many decisions taken during bill processing. Scrutiny of the values in the above date fields shows that there are cases where pension payment started *before approval* and even *before application*. Audit verified (April 2021) the details of beneficiaries approved after 2016, since input of these details are done through the revamped Sevana Pension software. The discrepancies noticed (September 2021) in 2,86,842 cases are as detailed in **Appendix – XXVIII**, which account for 18.98 *per cent* of the total beneficiaries approved during the period.

³⁹ Thrissur Corporation, Nedumangadu Municipality, Kunnathukal GP.

The above discrepancies indicate that the data available in the crucial Master Table are inconsistent and unreliable.

b) Pension type Master file (GM_PensionType)

A data Table containing details of SSP types is available in the database. The Table contains fields showing Pension type ID, Name of Pension and minimum age limit for each pension, along with many other relevant details. This data is one of the most important Master Data required for the processing of SSP. The data extracted from the said Table are detailed in **Appendix – XXIX**.

Lower age limit for ALP, IGNOAP and UMWP are recorded as 18, 18 and 19 respectively, which does not conform to the norms specified by the Government. With proper data, this Master file could have been used for proper validation during data entry.

The Government replied (May 2022) that strict controls have been incorporated in the Software. Records with incorrect data shall be rectified by the DBT Cell and steps will be taken to keep the data in master files updated.

The Government may furnish the details regarding the controls being incorporated in the Software and the action taken to rectify the data deficiencies.

3.7 Improper involvement of the Developer in data processing and reporting

Segregation of duties is a fundamental control requirement as it reduces the risk of error and fraud. A software developer should not have access to the live computing environment to carry out the job assigned. Access to the live data at back end can lead to unintended changes which may not conform with the business rules set in the application, which in turn result in threat to data integrity, erroneous/irregular disbursement of SSPs, etc. There is a high chance of errors and omissions during manual intervention in data processing when it is done through procedures requiring editing during each execution, some of which have been identified by Audit. Such an error/omission during pension processing can cause huge loss to the Government. Execution of back-end process for each SSP payment during each payment cycle will leave the Department unable to trace the cause of any such errors.

In the case of SSP, actions pertaining to beneficiary management, fund estimation, disbursement, reconciliation, etc. are to be performed through the Sevana Pension software. The software application should be able to generate all reports required by the User Department. However, it was noticed (February 2021) that the majority of the processing and report generation intended to be done by the DBT Cell are actually performed by the Developer, IKM.

Fund estimation and bill preparation are done by IKM at back-end using independent SPs. The Government decisions relating to payment of SSPs need

to be incorporated in the SPs. Modifications in the SPs done by IKM are neither tested nor documented. Uploading of payment files to Bank server, receipt of payment status from Bank and reconciliation of the payment status are also performed by IKM, which are not completely automated. There were lapses/ discrepancies in these processes which led to excess payments and denial of benefit to beneficiaries as described in Paragraphs 2.9 and 2.13 *ante* respectively. The DBT Cell is not even able to identify such discrepancies due to lack of essential reports.

IKM, the Developer of Sevana Pension software intended for the management of SSPs in Kerala, continues to run the application rather than the User Department. The application cannot generate essential reports like fund requirement, disbursement, reconciliation, etc. Audit examined the SRS furnished by IKM and found that detailed design specification is not available in the SRS. Requirements identified by the Developer are given in the SRS but many of these requirements are not seen mapped in the Software. The requirements which are not incorporated in the software by the Developer are given in **Appendix - XXX**.

The monthly generation of bills should be done by the User Department through the User Interface of the Sevana Pension software. There should be clear segregation of duties between the entities/ persons responsible for development and maintenance of the IT system, and those responsible for and with control over the transactions processed through the IT system. However, that is not the case on the ground in this case. There is extensive involvement of IKM for the monthly generation of bills, amongst others. Use of SPs for such activities, especially monthly generation of bills, appear to indicate that SPs may be used as a substitute for timely and proper Change Management, in keeping with the changes in functional requirements. This is not proper.

The Government replied (May 2022) that IKM will take necessary steps to make the process fully automatic.

The Government may strictly monitor and ensure that there is adequate segregation of duties and the Developer is not involved in data processing and reporting.

3.8 Discrepancies in outputs

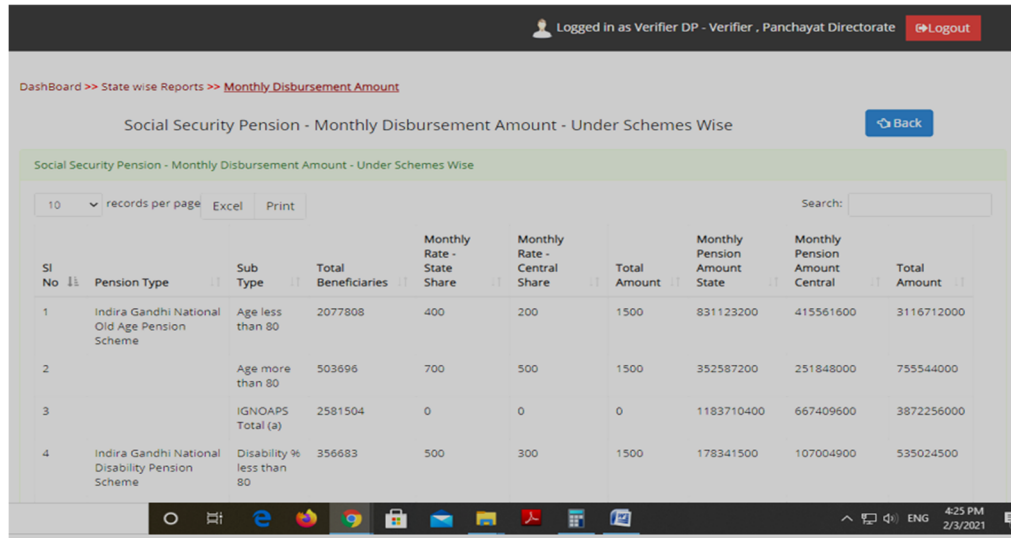
Output from a software is the end product which should be accurate and should be available at any point of time. The reliability of outputs including Management Information System (MIS) reports is vital for management decisions and for the effective distribution of SSPs.

While checking the reports available in Sevana Pension software, Audit noticed (February 2021) discrepancies in some of the reports as detailed below.

a) Report – ‘State level Monthly Disbursement Amount’

The report shows the number of beneficiaries under each pension scheme, the rate of pension and the total amount required for pension payment. A screenshot of the report screen is given below.

Report of State level monthly disbursement amount



Sl No	Pension Type	Sub Type	Total Beneficiaries	Monthly Rate - State Share	Monthly Rate - Central Share	Total Amount	Monthly Pension Amount State	Monthly Pension Amount Central	Total Amount
1	Indira Gandhi National Old Age Pension Scheme	Age less than 80	2077808	400	200	1500	831123200	415561600	3116712000
2		Age more than 80	503696	700	500	1500	352587200	251848000	755544000
3		IGNOAPS Total (a)	2581504	0	0	0	1183710400	667409600	3872256000
4	Indira Gandhi National Disability Pension Scheme	Disability % less than 80	356683	500	300	1500	178341500	107004900	535024500

(Source: Report generated from Sevana Pension software)

i) Outdated rate of pension adopted

As per the report generated in March 2021, the State share and Central share are ₹400 and ₹200 respectively in respect of Old Age Pension and ₹500 and ₹300 respectively in the case of Disability Pension. These rates existed during the period from 1 April 2014 to 1 June 2016. The revised rates have not been incorporated in the system.

ii) Mismatch in calculated value

As per the report, the values in the column for State share and Central share are not tallying with the value in the column for total amount i.e. State and Central share of Old Age Pension are ₹400 and ₹200 respectively but the ‘Total Amount’ is shown as ₹1,500.

iii) Incorrect criteria applied

The report erroneously displays that the enhanced pension is eligible for beneficiaries above 80 years instead of the correct age of 75 years. This presents an incorrect number of eligible beneficiaries and deflates the amount required for enhanced pension, also depriving those between 75 and 80 years from the benefits of the Scheme.

Audit observed that an evident procedural/ logical error exists in the internal process of this report. The report of ‘State level Monthly Disbursement Amount’, which could be used by the DBT Cell for estimating the amount required for disbursement at any point of time gives inconsistent, erroneous and misleading figures. As a result of this, the DBT Cell is not using this report and the estimation of funds required for SSPs is being done through IKM every month. Instances of erroneous calculation of enhanced pension by IKM are detailed in Paragraph 2.14 *ante*, which could have been avoided if the report generated through the software was accurate.

b) Report – ‘Statewise Incentive Details’ in DBT module

The report of ‘Statewise Incentive Details’ shows the pension-type wise incentive amount due, incentive amount disbursed and balance amount to be disbursed. The report shows pending incentive amount in many of the pension payment periods. Sample reports showing incentive payments of April 2017 and August 2019 shows nil payment of incentive amount in some payment periods. However, the statement received from DBT cell reveals that incentive amount has been completely disbursed for the period from 2017-18 to 2019-20. As such the information given in the report ‘Statewise Incentive Details’ is incorrect.

c) Non-working of reports

Many of the reports available in Sevana Pension software do not work properly. On selecting these reports error screen is displayed. The screenshots of some of the reports which do not work properly are detailed in **Appendix XXXI**.

d) Reports available in public portal

The ‘Reports’ page⁴⁰ of Sevana Pension software presents various statistical data relating to the number of beneficiaries of SSPs. The statistics given are intended to provide valuable Management Information System (MIS) information for departmental authorities as well as general public. The detailed statistics gives the count of pensioners on the basis of various parameters, such as Pension type, Payment mode, Gender, Pensioner category, type of Local Body, Aadhaar seeding, etc. The report provides State-wide count and District-wise count.

On a scrutiny (February 2021) of the figures provided in the Reports page (last updated on 11 May 2021/7:31 PM), there are significant differences in the total number of beneficiaries under some parameters.

Aggregate of Pensioner category-wise count does not match with the given total number of pensioners. The difference is 68,658. Difference in the total of gender-wise count is 149. There is a huge difference of 21,46,671 in the

⁴⁰ https://welfarepension.lsgkerala.gov.in/Web_Report_en.aspx.

aggregate of Local Body type-wise count. The difference in values indicates some serious error in the data or in the Reports module of the application.

The Government replied (May 2022) that problems in the reports in the public portal have been rectified and all the necessary reports will be verified and updated in the live site. The changes in the portal is yet to be verified. The Government may furnish the details regarding the action taken to rectify, verify and update the necessary reports in the public portal.

3.9 Susceptibility of Sevana Pension software to fraud

Once the beneficiaries of SSPs are approved by the competent authorities and all relevant details are captured in the Sevana Pension software, the monthly bill generation, including detailed beneficiary-wise payment, should be done using an automated process available in the software. The Fund Transfer Orders, detailing beneficiary-wise payments and pushing payments to individual beneficiary-wise bank accounts, should be initiated directly from the software, followed by automated beneficiary-wise responses, i.e. acknowledgement of receipt. This response should be pushed back as a reverse feedback loop to the Sevana Pension software for tracking actual beneficiary-wise receipt or non-receipt. In the case of DTH, such acknowledgement should be obtained using electronic means, such as Aadhaar based finger-print reader. Such a reverse feedback loop would enable tracking of actual beneficiary-wise transfer of SSP and consequently avoid pilferage and misappropriation of money. Audit noticed that automated reverse feedback loop for acknowledgement is absent in Sevana Pension software. Absence of such a system makes the software susceptible to fraud and misappropriation, as illustrated in Box No.3 below Paragraph 2.11.3 *ante*.

3.10 Conclusion

Due to various issues as summarised below, the Sevana Pension software has not been able to become fully effective in improving the accuracy and transparency in the DBT programmes:

- There is lack of proper planning of the automation process. No system design documents were seen prepared prior to the development of the Software, including efficiencies in input controls and correctness of outputs. This has led to serious deficiencies in the Software. There is no practice of documenting the software changes either;
- Security Audit has not been conducted to get ‘Safe to Host’ certificate before hosting the Software. The Software was hosted without addressing the vulnerabilities identified in the first phase of security audit performed by CERT-K;

- There is control lapse in Sevana Pension software from beneficiary addition to disbursement of SSPs. Controls in Sevana Pension software are not adequate and effective and hence lacks robustness. The integrity and consistency of the data also cannot be guaranteed. The Directorate of *Panchayats* is not able to perform the functions which are entrusted to them due to snags in the Software and are completely dependent on the Developer for all essential activities;
- IKM, the Developer of the Sevana Pension software, continues to run it rather than the User Department. The application cannot generate essential reports like funds requirement, disbursement, reconciliation, etc. IKM is generating these reports through backend through stored procedures, which require frequent modifications as well. Use of independent stored procedures for bill generation, without proper monitoring mechanism, instead of tested and certified built-in software modules, is not appropriate;
- The User Department is not able to monitor either the user activities at LSGIs or the activities performed by IKM. Further, there is no effective mechanism for ensuring the receipt of the SSP by the intended recipient.

3.11 Recommendations

In view of the Audit finding above, the Government may consider the following:

- The IT system may be revamped to address the findings highlighted by Audit. It may be ensured that the revamped system has adequate controls to ensure data integrity and consistency with all the eligibility criteria of the SSPs properly incorporated in it. The monthly bill generation and fund transfer may be automated, so that the User Department may operate it independently. The beneficiary-wise payments are to be pushed to the bank accounts and followed by recording the acknowledgement of the beneficiary, which can then be pushed back to the Software for tracking transfer of benefit;
- The role of the Software Developer needs to be restricted to development and maintenance of the IT system, with no responsibility or control over the transactions and activities processed through the system. The administrative responsibilities of the IT System, such as database administration, is to be with an entity or team completely segregated from the development and maintenance entity;
- The DBT Cell needs to be provided with total access and control on the system and all requirements such as bill processing, fund requisition, beneficiary details, fund releasing, report extraction, etc. are done exclusively by the Cell without any kind of intervention by IKM;

- The application software may be linked with the available databases in the LSGIs for effective and essential correlation of facts relating to the beneficiaries and to plug irregular and ineligible disbursements. The data may be verified regularly to weed out inconsistent entries;
- Acknowledgment of disbursement through DTH mode may be done using technology-enabled systems like Aadhaar, rather than physical methods like signature or thumb impression on receipts.