



ABSTRACT

Information Technology Department – Developing Data and Analytics Ecosystem to support evidence based policy making - Tamil Nadu Decision Support System (DeTN) – Administrative sanction accorded for a cost of Rs.15 Crores for three year period – Requirement of Rs.6.49 Crore for the first year - Permission to utilize the unspent balance fund of Rs.3,70,83,000/- available under CM Dashboard Project and fresh financial sanction and release of Rs.2,78,17,000/- to Tamil Nadu e-Governance Agency – Orders - Issued.

INFORMATION TECHNOLOGY (E1) DEPARTMENT

G.O.(Ms). No. 37

Dated: 02.12.2021

பிலை, கார்த்திகை - 16

திருவள்ளுவர் ஆண்டு-2052

Read:

1. G.O.(Ms). No. 16, Information Technology (e.Gov.II) Department, dated 13.11.2019.
2. From the Director of e-Governance & Chief Executive Officer, TNNeGA Letter No.K-80/1/2021-COE-CeG/TNeGA, dated 18.06.2021 and 11.10.2021.

ORDER:

The role of data in the design of policies, anticipation and forecasting on real-time basis will not only aid in making critical decisions but helps to improve transparency and efficiency in governance. Hence, Government of Tamil Nadu envisions to design, develop and implement comprehensive analytics based interactive solutions with a capability to analyse and provide insights from the data, in order to aid decision making and project monitoring from all levels of administration.

2. In the Government Order first read above, the Government have accorded administrative sanction of Rs.501.993 lakh with Operation & Maintenance for a period of 2 years for implementation of “CM Dashboard” project and also accorded financial sanction and release of Rs.380.78 lakh for first year, i.e. 2019-2020. It was proposed to utilize both structured and unstructured data available in Government Departments for data analytics in order to monitor projects and schemes.

3. The Hon’ble Minister for Information Technology, during the Budget Session 2021-2022 of the Tamil Nadu Legislative Assembly, on 08.09.2021, has made the following announcement :

“தமிழக அரசின் கொள்கை முடிவுகளுக்கான ஆதாவு அமைப்பு (TN Decision Support - DeTN)

தரவுப் பகுப்பாய்வு மற்றும் இயந்திரக் கற்றல் மூலம் கொள்கை வகுத்தல் மற்றும் அதனைத் திறம்படச் செயல்படுத்துவதற்கான முடிவுகளை எடுப்பதற்கு

உதவிடும் வகையிலமைந்த “தமிழக அரசின் கொள்கை முடிவுகளுக்கான ஆதரவு அமைப்பு” ஒன்று செயல்படுத்தப்படும். தரவுகளின் அடிப்படையில் அமைந்த ஆளுகையை “முதலமைச்சரின் தகவல்பலகை” வழியாக வழங்குவதற்கும், பல்வேறு தரவுத்தளப் பயணாளிகளின் தகவல்களை ஒருங்கிணைந்த வகையில் காண்பதற்கும் இந்த அமைப்பு உதவும். நடப்பு நிதியாண்டில் ரூ.10 கோடியும், அடுத்த நான்கு ஆண்டுகளுக்கு ரூ.5 கோடியும் கிட்கிட்டத்திற்கென ஒதுக்கீடு செய்யப்படும்.”

4. Accordingly, the Director of e-Governance & Chief Executive Officer, Tamil Nadu e-Governance Agency (TNeGA) in his letter dated 11.10.2021, has furnished a detailed proposal with financial implications for “Developing Data and Analytics ecosystem to support evidence based policy making – Tamil Nadu Data Driven Decision Support System (DeTN)” to Government.

5. The salient features of the “**Tamil Nadu Decision Support System**” (DeTN) are as follows:-

Government of Tamil Nadu is a pioneer in adopting ICT technologies and has been offering online services and information to the citizens through web portals. The COVID-19 pandemic has underscored the importance of Digital Technologies and Data in building a resilient society and is transforming the way the public sector, private sector and civil societies will function in times to come.

Data Purity:-

Government of Tamil Nadu envisions a Data-Driven Decision Support Infrastructure for improving governance by aiding planning, implementation and execution of Government schemes and programs. It will help in ensuring efficient, transparent and seamless delivery of services to citizens. Towards this, the Government have instructed all departments to share a copy of their data with TNeGA and instructed TNeGA to develop necessary systems to ensure purity of the data to enable data driven governance.

Objective:-

Adoption of ICT technologies for governance and delivery of citizen services online has led to numerous applications, and databases in silos. The data available in these systems can be used for monitoring the project/scheme implementation and evidence-based policymaking. The objective is to make these data available in one place and link them, which will help in drawing actionable insights for policy making.

Challenges with existing systems:-

There are no common standards applied in developing the department IT systems and hence it is a huge challenge for exchanging and linking the data. Also, with the data spread out across multiple databases, there is no easy way to access the data in a standard manner. With the non-standard definition of data and access, it is very difficult to draw insights that help in policymaking.

Proposal to develop decision support systems:-

Information Technology Department is working on the standards for the data and metadata to be applied across all databases. Through the open data initiative, departments

share the data on <https://tn.data.gov.in/> and this needs to be further strengthened. In addition to publishing the data in machine-readable formats, TNNeGA could also have the API (Application Programming Interface) published by the Departments so that the data can be accessed by different decision support systems in near real-time. Once the data is accessible, it is linked to build reports and dashboards to draw insights.

Decision Support System for Tamil Nadu (DeTN):-

- Decision Support System for Tamil Nadu (DeTN) is a connected data ecosystem that would aid the Government in decision-making for effective implementation and policy responses using data analytics.
- This system would establish the necessary framework and create infrastructure for supporting and maintaining open data sharing, visualization platforms, data warehousing and tools necessary for connecting individual datasets and diverse systems.
- This system will have several modules focused on a specific data domain or purpose-driven or function-driven reports and dashboards.
- Some of these modules, which are in different stages of development, are part of services being rendered to Government - SFDB analytics, CM Helpline, CM Dashboard, TNGIS Dashboard, CS Dashboard, etc.
- This system would integrate these modules as foundational components and enable a consistent view of data linked across.
- This system would have the capability to integrate any other key decision support systems that already exist or in future and become a platform for creating necessary reports and dashboards for all planning and monitoring purposes.
- This system will have several components and applications listed below and would be implemented in a phased manner over a period of three years:-

Cost Estimates:-

Building the core data ecosystem includes licensing analytics platform, building the data pipelines for warehousing, building reports and dashboards and so on. There could be some additional development and/or infrastructure needs for departments to publish the required data and APIs.

Software & Hardware requirements:-

The estimate of the software and hardware requirements for 3 years is as below:-

Sl. No.	Item	Number of Units	Cost per unit (in Rs.)	Total Cost for 3 Yrs. (in Rs.)
1	Software licenses for Analytics platform (per user per year)	1000	25,000	2.5 Cr.
2	Development of Data eco system	One-time lumpsum	2.0 Cr.	2.0 Cr.
3	Hardware for hosting the analytics platform	2 HCI Servers	1.0 Cr.	2.0 Cr.
Total cost estimate for 3 Years				6.5 Cr.

HUMAN RESOURCES:-

Support Team for CM Dashboard:-

Publishing data for CM Dashboard involves a lot of efforts in terms of data collection, verification, validation, review and monitoring on a continuous basis. It is proposed to have a team that works across TNNeGA and the departments to ensure the availability of relevant data on time that is to be processed through the dashboard services. The team with the following roles would support the data collection, processing and analysis of the data for the CM Dashboard service and other e-governance initiatives that have a direct connection with the dashboard services.

- Data Analysts to be placed in the departments (Deputation/Outsourcing basis) - Data handling and follow up with Heads of Departments/Departments.
- Data Analysts in TNNeGA-Data handling & coordinating with the departments/Districts. This project is vital in e-Governance and it requires constant monitoring and coordinated efforts from all stakeholders.
- The Data Analysts working for each department would be positioned within the departments on a deputation or outsourcing basis.
- Along with the Data Analysts in TNNeGA, it is proposed that two officers be deputed as leads from Group-1 services with an experience of 5 years in service and passionate in IT to handle the administration related activities. They will be required to coordinate, to conduct periodical reviews on projects, organize meetings with stakeholders and to add value to the software as per the needs of the user.
- This Team would work in close coordination and in consultation with the Advisor (Digital and Simplified Governance) to the Government, in capturing critical key performance indicators and to provide a productive analysis for decision making to all those concerned from Hon'ble Ministers to HoDs.
- Hence, it has been proposed to depute 2 officers from Group-1 services to lead the Data Analysts. The team of Data Analysts would be hired on contract or on outsourcing basis at an estimated cost as below:-

Role	Numbers	Cost/month/ head (in Rs.)	Cost/Year (Rs. in Crore)
Data Analyst to be positioned at each department	38	50,000	2.28 Cr.
Data Analyst in TNNeGA	10	50,000	0.60 Cr.
Total			2.88 Cr.

Technical Support Team for Data Purity:-

Data purity project requires a team of data engineers/Business Intelligence Developers and data scientists to cleanup data and prepare adhoc reports and continuously improve the quality of data. TNNeGA would establish a team of Data Engineer/BI Developer/Data Scientist.

Total human resource cost:-

The estimated cost of Human resources is as below:-

Role	Numbers	Monthly Salary per head (in Rs.)	Year 1 (Rs. in Crore)	Year 2 (Rs. in Crore)	Year 3 (Rs. in Crore)	Total (Rs. in Crore)
Data Support Team						
Data Analyst to be positioned at each department	38	50,000	2.28	2.28	2.28	6.84
Data Analyst in TNNeGA	10	60,000	0.60	0.60	0.60	1.8
Total			2.88 Cr.	2.88 Cr.	2.88 Cr.	8.64 Cr.
Technical Support Team						
Data Engineer/BI Developer/Data Scientist	5	1,25,000	0.75	0.75	0.75	2.25
Lead Data Scientist	1	3,00,000	0.36	0.36	0.36	1.08
Total			1.11 Cr.	1.11 Cr.	1.11 Cr.	3.33 Cr.

Year-wise cost estimate breakup for 3 years:-

S. No.	Item	Year 1 (Rs. in Crores)	Year 2 (Rs. in Crores)	Year 3 (Rs. in Crores)	Total (Rs. in Crores)
1	Software Licenses	0.5	1.0	1.0	2.5
2	Development of Data eco system (Open API, SDI for TNGIS)	1.0	0.5	0.5	2.0
3	Hardware Infrastructure (DC + DR)	1.0	1.0	--	2.0
4	Data Analysts for supporting CM Dashboard/e-Governance	2.88	2.88	2.88	8.64
5	Technical support team for adhoc report requirements and for continuous improvements of the platform and dashboards	1.11	1.11	1.11	3.33
Total		6.49 Cr.	6.49 Cr.	5.49 Cr.	18.47 Cr.

6. The Director of e-Governance & Chief Executive Officer, Tamil Nadu e-Governance Agency (TNeGA) has further stated that for the 3-year period, the proposed cost estimate of developing the data ecosystem for Decision Support System for Tamil Nadu (DeTN) is Rs.18.47 Cr. He has also stated that in the G.O. 1st read above, Government have accorded administrative sanction for an amount of Rs.501.93 lakh for developing CM Dashboard, which is now a part of the proposed Decision Support System for Tamil Nadu (DeTN). For the CM Dashboard project, TNeGA received Rs 3.8078 Crore towards first year and out of which Rs.9.95 lakh was spent towards Proof of Concept (PoC) in FY 2020-21 and an unspent balance of Rs.3.7083 Crore is available with TNeGA.

7. The DeG & CEO, TNeGA has further stated that for implementing Decision Support System for Tamil Nadu (DeTN) in the first year, the cost of setting up of Data Ecosystem and DSS Analytics Platform (Obtaining data-sets for Data purity, developing Open API platform, developing APIs by departments if not available, and provisioning of hardware for analytics platform) is estimated to cost about Rs.6.49 Crore and part of this could be met through the funds available under the CM Dashboard G.O. He has therefore requested the Government that:-

- Government may give administrative and financial sanction for Rs.18.47 Crore for 3 years towards the implementation of Decision Support System for Tamil Nadu (DeTN).
- For the 1st year, the total estimated cost of Rs.6.49 Crore and for this, Government to give approval to utilize the unspent balance of funds Rs.3.7083 Crore available with TNeGA sanctioned for CM Dashboard in G.O.(Ms). No. 16, Information Technology (e.Gov.II) Department, dated 13.11.2019, towards implementation of DeTN project.
- Hence, provide administrative and financial sanction for additional funds of Rs.278.17 lakh for the first year (2021-22) towards the implementation of DeTN project.

8. The Government, after careful examination of the above proposal of Director of e-Governance and Chief Executive Officer, Tamil Nadu e-Governance Agency, hereby accord administrative sanction to TNeGA for developing Data and Analytics ecosystem to support evidence-based policymaking - Decision Support System for Tamil Nadu (DeTN) over a three year period at a restricted cost of Rs.15,00,00,000/- (Rupees fifteen crore only) which includes the unspent balance amount of Rs.3.7083 Crore sanctioned and released in G.O. first read above available with TNeGA. Fresh sanction and release of funds for the DeTN project is then limited to Rs.11.2917 crore as follows:-

Year-wise cost estimate breakup for 3 years:-

S. No.	Item	Year 1 (Rs. in Crore)	Year 2 (Rs. in Crore)	Year 3 (Rs. in Crore)	Total (Rs. in Crore)
1	Software Licenses	0.5	1.0	1.0	2.5
2	Development of Data eco system (Open API, SDI for TNGIS)	1.0	0.5	-	1.5
3	Hardware Infrastructure (DC + DR)	1.0	1.0	-	2.0
4	Data Analysts for supporting CM Dashboard/e-Governance	2.88	2.88	-	5.76
5	Technical support team for adhoc report requirements and for continuous improvements of the platform and dashboards	1.11	1.11	1.02	3.24
Total		6.49 Cr.	6.49 Cr.	2.02 Cr.	15.00 Cr.

For implementation of the DeTN project in the first year, the total amount required is Rs.6.49 Crore. The unspent balance amount of Rs.3.7083 Crore available with TNeGA under CM Dashboard project to be used against this sanction. For the remaining part, the Government hereby accord fresh sanction and release of Rs.2,78,17,000/- (Rupees Two crore seventy eight lakhs and seventeen thousand only) for the first year (2021-2022).

9. The expenditure sanctioned in paragraph 8 shall be debited to the following New Head of Account opened under Demand No. 31-03:-

2852 Industries – 07 Telecommunication and Electronics Industries – 101
Tele communications – State's Expenditure – AQ Tamil Nadu Decision Support System (DeTN) – 309 Grants-in-aid – 03 Grants for Specific Schemes.
(IFHRMS DPC: 2852-07-101-AQ-30903)

10. The expenditure sanctioned in para-8 above shall constitute an item of "New Service" and the approval of the Legislature shall be obtained in due course of time by an inclusion in the Supplementary Estimates for the year 2021-2022. Pending approval of the Legislature, the expenditure may be initially met by drawl of an advance from the Contingency Fund. The Director of e-Governance & Chief Executive Officer, Tamil Nadu e-Governance Agency is directed to calculate the actual amount required for the period up to next Supplementary Estimates and apply for sanction of the same as advance from the Contingency Fund to Finance (BG.I) Department directly in Form "A" appended to the Contingency Fund Rules, 1963 along with a copy of this order. Orders for sanction of an advance from the Contingency Fund will be issued from Finance (BG.I) Department. The Director of e-Governance and Chief Executive Officer, TNeGA shall also send necessary draft explanatory notes for inclusion of this expenditure in the Supplementary Estimates for the year 2021-2022 at an appropriate time without fail.

11. The Director of e-Governance is the Estimating, Reconciling and Controlling authority for the above new Head of Account.

12. The Pay and Accounts Officer / Treasury Officer concerned are directed to open the above new Head of Account in their books.

13. The Director of e-Governance is authorised to draw and disburse the amount sanctioned in paragraph 8 above to Tamil Nadu e-Governance Agency.

14. The Chief Executive Officer, Tamil Nadu e-Governance Agency is requested to send the physical and financial progress of the project every month to the Government. He is also directed to send proposals to Government for release of funds for the second and third year, along with details of expenditure incurred and Utilization Certificate. Unspent balance if any, should be remitted into Government Account.

15. This order issues with the concurrence of Finance (Industries) Department vide its U.O. No. 52516/Fin(Ind)/2021, dated 02.12.2021 and ASL No. 1027 (One thousand and twenty seven).

(By Order of the Governor)

**NEERAJ MITTAL
PRINCIPAL SECRETARY TO GOVERNMENT**

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The Accountant General (CAB), Secretariat, Chennai-600 009.
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Hon'ble Chief Minister's Office, Secretariat, Chennai – 600 009.
The Senior Personal Assistant to Hon'ble Minister for Information Technology,
Secretariat, Chennai – 600 009.
The Senior Private Secretary to Principal Secretary to Government,
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Sf/Sc.

// Forwarded / By Order //

[Signature]
03/12/2021
Section Officer.
[Signature]
3/12/21