INFORMATION TECHNOLOGY DEPARTMENT

POLICY NOTE
2022 - 2023

DEMAND No. 31

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Minister for Information Technology

INFORMATION TECHNOLOGY DEPARTMENT

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CHAPTER-I

INTRODUCTION

கொடையளி செங்கோல் குடியோம்பல் நான்கும்
உடையானாம் வேந்தர்க் கொளி.

(குறள் 390)

**He is the light of kings who has
four things, beneficence,
benevolence, rectitude and care
for his people.**

Tamil Nadu is emerging as a favourite destination for Information Technology / Information Technology Enabled Services (IT/ITeS) investments, deep technology and emerging technologies. The government is focusing on improving Governance by establishing IT infrastructure, delivery of services and SMART (Swift, Monitorable, Accessible, Responsive, Transparent) governance through State Family Data Base

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(SFDB), blockchain and e-Office. The citizen can soon expect paperless, contactless and transparent services in a proactive manner. While the Center of Excellence in Emerging Technologies (CEET) is working feverishly to bring technology application to each department, this department has also established an Emerging Technology wing headed by Chief Technology Officer to increase adoption of these technologies in various verticals. This wing will be serviced by Tamil Nadu e-Governance Agency (TNeGA).

Needless to state that data is the new oil and as ICT use in day-to-day life increases, there is going to be an explosive growth in the data. This signals the need to augment data storage infrastructure and an opportunity to use the data for decision making. The first objective has been met by unveiling of the Tamil Nadu Data Centre Policy that enables companies

create the Data Centre infrastructure in Tamil Nadu. This helps not only fresh investments but also develops the entire eco-system. The second objective has been met by unveiling of the Tamil Nadu Data Policy that lays down the foundation of use of data of public good, policy making and for encouraging transparency through publishing of open data.

The State Government has set up an "Advisory Council for Future" with eminent members from IT industry, academia and NASSCOM to help Tamil Nadu to develop the IT ecosystem in the State.

High speed and distributed digital connectivity is key to enhanced service delivery experience. It will ensure delivery of services and enhanced service bouquet by bridging the digital divide. BharatNet project aims to provide digital services, internet education and telemedicine facilities to all villages through

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1 Gbps Gigabit Passive Optical Network (GPON) to all village panchayats under this project.

Skill gap is an important handicap for the growth of a vibrant IT eco-system. This has been addressed through a large initiative designed by this department by bringing Anna University, Tamil Nadu Skill Development Corporation and IBM together to cover the entire cohort of around 50,000 IT/Computer Science students in Tamil Nadu by doing a 3-credit compulsory learning course. This will be scaled up in the coming years to other disciplines based on the feedback from this effort.

Startup eco-system is a critical pre-cursor of determining the trajectory of future economic growth and acquiring strategic capability in technology. Tamil Nadu Technology Hub (iTNT Hub) is being setup to address this gap in Tamil Nadu in the area of deep and emerging technology. It will coordinate the use and

adoption of emerging and deep technology across all departments which will incubate and accelerate startups in an effort to solve societal wicked problems.

The Information Technology Department is acting as a driver and an agent of change to enhance our capability in use and adoption of technology in Governance and Industry through several initiatives and hopes to catapult Tamil Nadu in a *numero uno* position in the country in technology dominance.

CHAPTER-II

ELECTRONICS CORPORATION OF TAMIL NADU LIMITED (ELCOT)

1. Introduction

Electronics Corporation of Tamil Nadu (ELCOT) Limited, registered under the Companies Act, 1956, is a wholly owned Public Sector Undertaking of the Government of Tamil Nadu. Established on 21.03.1977, ELCOT is the nodal agency for the development of Electronics and Communications, IT/ITeS Products/Services and IT Infrastructure and Promotions for the Government of Tamil Nadu.

ELCOT has four broad areas of work, namely, IT promotion of the State of Tamil Nadu, IT procurement for the Government of Tamil Nadu, development of Electronics and IT/ITeS Sector within Tamil Nadu and providing data hosting services to Government departments.

2. Activities

2.1 IT Promotion and Development

ELCOT has played a seminal role in making the State a destination of choice for Information Technology (IT) and Information Technology Enabled Services (ITeS) companies.

It has been a pioneer in the creation of 8 IT Special Economic Zones (SEZs) in Chennai and in Tier-II cities of the State viz., Coimbatore, Madurai (2 sites), Tiruchirappalli, Salem, Tirunelveli and Hosur, spread over 1378.16 acres of land (1321.61 acres in SEZ and 56.55 acres in non-SEZ space) at an investment of Rs. 844.57 crore.

The growth strategy of ELCOT is built around the main objectives of creation of IT parks with world-class IT infrastructure and increasing employment opportunities through

the generation of additional economic activities, IT investment promotion and skill development.

SEZs by ELCOT (ELCOSEZs) have enabled local IT firms to integrate with global value chains and have made significant contribution to the overall growth of exports, investment and employment opportunities in the IT/ITeS sector in the State. The IT/ITeS exports from ELCOSEZs during the year 2021-22 was Rs.22,958 crore and has generated direct employment for approximately 94,000 individuals.

ELCOT has participated/sponsored several promotional activities to project Tamil Nadu as the prime investment destination for IT/ITeS:

➢ Pan IIT event "Global Virtual Technology Summit 2021" conducted on September 17-18, 2021

- CII CONNECT series held at ITC Grand Chola, Chennai on November 26-27, 2021.

- Regional CONNECT at Kanyakumari in March 2022 and Salem in April 2022.

- UMAGINE (a global tech and innovation summit) is proposed to be held at Chennai on September 21-23, 2022.

ELCOT is also the certification authority under the ICT Policy 2018 for availing additional FSI for IT Parks and Nodal Agency for the Tamil Nadu Data Centre Policy.

2.2 ELCOT Special Economic Zones (ELCOSEZs)

2.2.1 ELCOSEZ-Sholinganallur, Chennai

ELCOT has established an ELCOSEZ spread over 377.08 acres at an investment of Rs.258.56 crore at Sholinganallur, Chennai. It has also created the necessary common

infrastructure and an administrative building measuring 6,358 sq.ft.

Land has been leased to the following companies in this ELCOSEZ:

S. No.	Company	Land (in acres)
1	Wipro Ltd.	80
2	HCL Technologies Pvt. Ltd.	50
3	Tech Mahindra Pvt. Ltd.	50
4	Ford Motors Pvt. Ltd.	28
5	Cognizant Technologies Solutions Pvt. Ltd.	20
6	Sutherland Global Services Ltd.	15
7	Tamil Nadu Electricity Board	16

These companies have established facilities in a built-up space of 109.31 lakh sq.ft. and provided employment to approximately 73,390 individuals. These private companies are in the business of Software Development,

Maintenance and Testing, Consulting and Business Process Outsourcing.

To meet the growing demand of quality IT space for export-oriented MSMEs and other IT/ITeS companies in Chennai, the construction of 2.33 lakh sq.ft. Information Technology Tower at an estimated cost of Rs.88.21 crore is in progress at Sholinganallur.

2.2.2 ELCOSEZ-Vilankurichi, Coimbatore

ELCOT established an ELCOSEZ over an area of 61.59 acres of land investing Rs.217.46 crore at Vilankurichi, Coimbatore. The necessary common infrastructure and an administrative building measuring 3,524 sq.ft. have also been created.

Land has been leased to the following companies in this ELCOSEZ:

S. No.	Company	Land (in acres)
1	WIPRO Ltd.	9.5
2	Tidel Park Coimbatore Ltd.	9.5
3	Earmarked to TNEB	2

These Companies have created the necessary infrastructure by constructing 23 lakh sq.ft. IT building and providing employment to approximately 14,000 individuals.

Upcoming Information Technology Tower:

To meet the growing demand of quality IT space for IT/ITeS companies in Coimbatore, a 2.66 lakh sq.ft. Information Technology Tower at an estimated cost of Rs.114.16 crore is under construction at Vilankurichi.

2.2.3 ELCOSEZ-Ilandhaikulam, Madurai

ELCOT has established an ELCOSEZ across 28.91 acres of land at an investment of Rs.34 crore at Ilandhaikulam, Madurai and created the necessary common infrastructure along with an administrative-cum-IT building measuring 60,205 sq.ft.

Land has been leased to the following companies in this ELCOSEZ:

S. No.	Company	Land (in acres)
1	Honeywell Technologies Ltd.	11.25
2	HCL Info System Ltd.	6.75
3	Chella Software Pvt. Ltd.	2.25
4	Tamil Nadu Electricity Board	0.58

In addition, 6,650 sq.ft. land has been leased to Rebar Design and Detail Pvt. Ltd.

These private companies have created the necessary infrastructure by constructing 7.22 lakh sq.ft. IT space in this ELCOSEZ.

In the administrative-cum-IT building, space has been allotted to the following companies:

S. No.	Company	Space (in sq. ft.)
1	Galaxy Infotech	2,508
2	AMBC Technologies Pvt. Ltd.	3,277
3	SBL Knowledge Services Ltd.	15,181
4	Neeyamo Enterprises Solutions Pvt. Ltd.	30,103
5	CVIAC Consulting	9,136
6	Rebar Design & Detail Pvt. Ltd.	447.12

These companies are into consulting, application development, business process outsourcing and digitization of data and provide employment to around approximately 9,000 employees.

2.2.4 ELCOSEZ–Vadapalanji, Madurai

ELCOT has established an ELCOSEZ in 245.17 acres of land (213 acres in SEZ and 32.17 acres in non-SEZ space) at an investment of Rs.70 crore at Vadapalanji, Madurai and created the necessary common infrastructure including a road-over-bridge. ELCOT has also constructed an Administrative-cum-IT building measuring 70,139 sq.ft.

Land has been leased to the following companies in this ELCOSEZ:

S. No.	Company	Land (in acres)
1	HCL	60
2	Chain-sys Software Exports Pvt. Ltd.	20
3	Pinnacle Infotech Solutions Pvt. Ltd.	20
4	Jobin and Jismi IT Services LLP.	4
5	Sashma Global Pvt. Ltd.	1.5

In the IT Building, 59,166 sq.ft. space has been allotted to the following companies:

S. No.	Company	Space (in sq. ft.)
1	Neeyamo Enterprise Solutions Pvt. Ltd.	46,968
2	Neeyamo Works Technologies Pvt. Ltd.	11,543
3	Chain-sys Software Exports Pvt. Ltd.	655

These companies are into consulting, payroll processing and digitization of data and are functional with approximately 425 employees.

2.2.5 ELCOSEZ-Navalpattu, Tiruchirappalli

ELCOT has established an ELCOSEZ in 147.61 acres with SEZ area of 123.23 acres of land at an investment of Rs.80.55 crore in Navalpattu, Tiruchirappalli. It has created

necessary common infrastructure and constructed an administrative-cum-IT building measuring 59,960 sq.ft.

Land has been leased to the following companies in this ELCOSEZ:

S. No.	Company	Land (in acres)
1	iLink Systems Pvt. Ltd.	2
2	ESSKEY Designs Pvt. Ltd.	3
3	Earmarked to TNEB	5

In the Administrative-cum-IT building, 59,960 sq.ft. space is allotted to the following companies:

S. No.	Company	Space (in sq. ft.)
1	iLink Systems Pvt. Ltd.	6,668
2	Scientific Publishing Company	30,250
3	Vuram Technology Solutions Pvt. Ltd.	5,976

S. No.	Company	Space (in sq. ft.)
4	Vdart Technologies	3,643
5	Disaster Recovery Centre	5,963
6	GI Tech Gaming Co. India Pvt. Ltd.	4,919
7	VR Della IT Services Pvt. Ltd.	2,541

These companies are into e-publishing, software development, business process management services and solutions and gaming software development and are functioning with 1,468 employees.

Upcoming Information Technology Tower:

To meet the growing demand of quality IT space for IT/ITeS companies at Tiruchirappalli, 1.16 lakh sq.ft. Information Technology Tower at an estimated cost of Rs.48.10 crore is under construction at Navalpattu.

2.2.6 ELCOSEZ-Gangaikondan, Tirunelveli

ELCOT has established an ELCOSEZ in 290 acres of land at an investment of Rs.55 crore at Gangaikondan, Tirunelveli and created the necessary common infrastructure and constructed an Administrative-cum-IT building measuring 56,720 sq.ft. In the IT building, 5,994 sq.ft. space is allotted to Caliber Interconnect Solutions Pvt. Ltd.

Land has been leased to the following companies in this ELCOSEZ:

S. No.	Company	Land (in acres)
1	Syntel International Pvt. Ltd.	100
2	Earmarked to TNEB	12

In this ELCOSEZ, Syntel International Pvt. Ltd. has constructed 2.60 lakh sq.ft. IT building. It is operating with around 80 employees and providing software services.

2.2.7 ELCOSEZ-Jagirammapalayam, Salem

ELCOT has established an ELCOSEZ in 53.33 acres of land at an investment of Rs.44 crore at Jagirammapalayam, Salem, created the necessary common infrastructure and constructed an Administrative-cum-IT building measuring 62,174 sq.ft.

Land has been leased to the following companies in this ELCOSEZ:

S. No.	Company	Land (in acres)
1	Mahima Technologies Pvt. Ltd.	5.501
2	Vee Technologies Pvt. Ltd.	9.49
3	TANTRANSCO Ltd.	7.88
4	E-Mudhra Ltd.	2.5
5	Anmol Technologies Pvt. Ltd.	1
6	FocusR Consultancy and Technologies Pvt. Ltd.	1
7	Nuratech Consultancy Services Pvt. Ltd.	3

In the Administrative-cum-IT building, 37,958 sq.ft. space is allotted to the following companies:

S. No.	Company	Space (in sq. ft.)
1	E-Mudhra Ltd.	2,989
2	Reveille Technologies Pvt. Ltd.	3,704
3	Nuratech Consultancy Services Pvt. Ltd.	3,704
4	Dilogy Solutions Pvt Ltd.	1,000
5	Knowledge Lens Pvt. Ltd.	1,000
6	StinSoft Technologies Pvt. Ltd.	989
7	Vee Technologies Pvt. Ltd.	10,562
8	Vee Imaging Solutions Pvt. Ltd.	10,562
9	Mahima Technology Pvt. Ltd.	3,448

These companies are operating with approximately 640 employees.

2.2.8 ELCOSEZ-Viswanathapuram, Hosur

ELCOT has established an ELCOSEZ in 174.47 acres of land at an investment of

Rs.85 crore at Viswanathapuram, Hosur, Krishnagiri, created the necessary common infrastructure and constructed an Administrative-cum-IT Building measuring 62,100 sq.ft.

In this ELCOSEZ, 12 acres of land has been earmarked for TNEB.

In the Administrative-cum-IT Building, 34,639 sq.ft. space has been allotted to the following companies:

S. No.	Company	Space (in sq. ft.)
1	US Technology International Pvt. Ltd.	21,100
2	Chandu Soft Technologies Pvt. Ltd.	10,550
3	Thendral Infotech	2,989

These companies are operating with approximately 180 employees.

2.3 Multi Sector Special Economic Zones

Government vide G.O.(Ms).No.787, Revenue and Disaster Management Department, Land Disposal Wing, LD5 (1) Section dated 22.11.2021 issued order as all lands alienated to ELCOT for the purpose of IT Parks can be used as Multi Sector SEZs. Now, ELCOT is working to attract the companies from all sectors to setup infrastructure at ELCOSEZs.

2.4 Tamil Nadu Data Centre Policy 2021

The Government of Tamil Nadu has formulated the Tamil Nadu Data Centre Policy 2021 for the State of Tamil Nadu with the vision to develop Tamil Nadu as the *numero uno* destination for Data Centres by catering to all the specific requirements of Data Centres and providing them with an attractive business environment.

2.5. Global Capability Centres (GCCs) Policy

Global Capability Centres (GCCs) are being planned and will act as a resilience centre to support the globally distributed business functions, scale faster to tap the global talent for their digital and R&D centres and serve as a hub for their business innovation.

The aim of the Tamil Nadu GCC Policy being formulated is to make Tamil Nadu the global number one GCC destination.

2.6 Start-up Warehouse

Start-up Warehouse established by ELCOT in Chennai along with NASSCOM as its Knowledge Partner continues to operate with funding support of Rs.1.00 crore per year from Tamil Nadu Startup and Innovation Mission (TANSIM).

2.7 FinBlue–Centre of Excellence (CoE) in FinTech

A Centre of Excellence (CoE) in FinTech, called 'FinBlue', has been set up at Software

Technology Parks of India (STPI), Chennai, with State Government contribution of Rs.5.75 crore. FinBlue will provide the necessary support, mentoring and guidance to Start-ups. It will act as the nucleus of FinTech activity in Tamil Nadu by collaborating with National and International FinTech regulatory organizations. Through its various initiatives, it will attract investments into the State.

3. IT-Infrastructure

ELCOT maintains the State IT Infrastructure services, which is the backbone for providing e-Governance services to the citizens and connectivity to the Government departments.

3.1 Connectivity Services

3.1.1 Tamil Nadu State Wide Area Network (TNSWAN)

It is a scheme jointly started by the Central and State Governments under the

National e-Governance Plan (NeGP).

TNSWAN commenced its operations with 708 Points of Presence (PoPs) that have now increased to 829 PoPs. TNSWAN enables State Government departments to access their applications, services and servers hosted in Tamil Nadu State Data Centre (TNSDC) in a secured manner. It is being used by 3000+ offices of various departments of the Government of Tamil Nadu.

TNSWAN provides voice, data and video connectivity to all Government departments, enables efficient workflow in the Government and facilitates delivery of services to the citizens.

The National Knowledge Network (NKN) has been integrated with TNSWAN at district PoPs as per the guidelines of the Ministry of Electronics and Information Technology (MeitY), Government of India.

3.1.1.1 TNSWAN Phase-2 Extension

The Government of Tamil Nadu had approved the extension of TNSWAN Phase-2 operations for a period of 3 years upto February 2022. It will be extended upto 13.08.2022.

3.1.2 Other Connectivity Services
3.1.2.1 MPLS VPN Connectivity

Multi-Protocol Label Switching Virtual Private Network (MPLS VPN) is being provided as a redundant connection to TNSWAN. ELCOT provides MPLS VPN connectivity services to around 61 offices of Tamil Nadu Government departments.

3.1.2.2 Internet Leased Line Connectivity

Internet Leased Line connectivity is being provided to 250 Government offices on a dedicated basis.

3.1.2.3 VPNoBB Connectivity

Virtual Private Network over Broadband (VPNoBB) is a cost effective alternative for

providing Intranet access at lower bandwidth. ELCOT provides VPNoBB connectivity to 273 Government offices.

3.2 Hosting and Allied Services

Tamil Nadu State Data Centre (TNSDC) is a critical infrastructure that enables delivery of secured e-Services. State Government departments and their agencies can host their data, applications, services and servers on a common, redundant, secured and controlled infrastructure providing ease of operation, integration and efficiency.

The bandwidth of existing connectivity has been upgraded from 1 Gbps to 4 Gbps to ensure seamless access of applications/services hosted in Tamil Nadu State Data Centre for various departments of the Government of Tamil Nadu.

3.2.1 Tamil Nadu State Data Centre-1 (TNSDC-I)

The Government of Tamil Nadu implemented the first ISO certified State Data

Centre (TNSDC-1) in the country in 2011. It was operationalized with a capacity of about 65 racks at a budget of Rs.138 crore for a period of 12 years.

3.2.2 Tamil Nadu State Data Centre-2 (TNSDC-II)

As TNSDC-I has been almost completely utilised, TNSDC–II, the second phase of TNSDC, was established and operationalised from the year 2020 at a budget of Rs.74.7 crore. The Data Centre can accommodate 195 racks. Its modular design supports seamless scale up.

More than 253 applications/services are currently hosted in TNSDC-I, TNSDC-II and Cloud 'Thamizh Megam'.

The e-Office application of the State's initiative for paperless office has been deployed at TNSDC and State level roll out is in progress.

3.2.3 Tamil Nadu Disaster Recovery Centre (TNDRC)

The Tamil Nadu Disaster Recovery Centre (TNDRC) was established at ELCOSEZ, Tiruchirappalli and has been operational from the year 2018. This provides business continuity for various critical e-Governance applications hosted in TNSDC in the event of any breakdown or disaster.

3.2.4 Thamizh Megam-TN Cloud Computing Services

The State cloud infrastructure, trademarked as 'Thamizh Megam', enables optimal sharing of system resources with minimal management. It is operational since 2016 at a cost of Rs.13.88 crore.

At Thamizh Megam, Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS) are being offered and 128 applications/services are being hosted.

The cloud infrastructure is enhanced and the Disaster Recovery facility has been extended at a budget of Rs.9.98 crore.

3.3 e-Security

3.3.1 Security Architecture for TNSDC

To ensure data protection of Government applications/services, a high level Security Architecture Framework has been implemented with High-End Router, Next-Generation Firewall, Distributed Denial of Services (DDOS), Web Application Firewall (WAF), Intrusion Prevention System (IPS), Intrusion Detection System (IDS), Virtual Private Network (VPN) Concentrator, Modular Core Switch and Security Information and Event Management (SIEM).

Vulnerability Assessment and Penetration Testing (VAPT) is conducted periodically on the hosted applications/services through CERT–In empaneled agencies to ensure security of applications/services.

3.3.2 Cyber Security Architecture for Tamil Nadu (CSA-TN)

Cyber Security Architecture for Tamil Nadu (CSA-TN) has been established to counter cyber-attacks in collaboration with the Centre for Development of Advanced Computing (C-DAC), Chennai, at a cost of Rs.21.39 crore for a period of 3 years.

The three pillars of Information Security Management System (ISMS), namely, People, Process and Technology are strengthened as below:-

3.3.2.1 People

a. Departments are assigned with a Chief Information Security Officer (CISO)/Information Security Officer (ISO) for the department employees to reach out to in case of any cyber related issues/threats. Periodically, CISO/ISO are given training on Cyber Security awareness.

b. Classroom-based and virtual training are conducted across Tamil Nadu to educate the department officials on how to secure their assets and report incidents.

c. Cyber Security Incident Response Team – A trained pool of experts on Cyber Security is made available for prompt response and recovery in case of any cyber incident.

3.3.2.2 Process

a. National Institute of Standards and Technology (NIST) - The NIST cyber security framework is a powerful tool to organize and improve the cyber security program. It is a set of guidelines and best practices to help organisations build and improve their cyber security posture with 5 main functions, namely, identify, protect, detect, respond and recover. CSA-TN is one of the pioneers in implementing NIST for State-wide Cyber Security Program.

b. The release of a strong Cyber Security Policy to identify and protect against threats.

c. A helpdesk section of CSA-TN helps departments with rescue activities in case of defacing/hacking/breaching using quicker and reliable channels to detect, respond to and recover from cyber incidents.

d. The Cyber Crisis Management Plan (CCMP) for cyber resilience defines how the organisational plan to respond to a cyber incident can work the difference between success and failure of a Cyber Security Program. The speed at which the CMG (Crisis Management Group) and CMC (Crisis Management Cell) identify and mitigate such incidents makes a significant difference in controlling their risks, costs and exposure. A comprehensive CCMP document is being charted out.

e. Regular auditing of the systems/workstations of the entire State is planned and execution is already underway.

3.3.2.3 Technology

a. Complete Security Operation Centre (SOC) and Network Operation Centre (NOC) have been established as part of CSA-TN to monitor the critical assets.

b. Security Information and Event Management (SIEM) solution are established as part of SOC-TN to prevent attacks for critical assets. As on date,

- Around 4000 brute force credential access events detected.
- Around 47 endpoint denial of service activities detected.
- Around 3,847 lateral movement incidents detected.

c. Antivirus installation -To prevent any cyber attack at Secretariat, around 2,533 machines were identified and completely scanned. Antivirus (AV) software was installed in around 813 machines for which AV had expired.

4. e-Governance

4.1 Permanent Enrolment Centres (PECs)

ELCOT is one of the agencies empanelled by the Unique Identification Authority of India (UIDAI) to execute Aadhaar Enrolment activities in the State. ELCOT has established 227 PECs at 32 District Collectorates, 21 Municipal Corporation Headquarters, 45 Municipal Zonal Offices, 115 Municipalities, 5 Town Panchayats, 2 Revenue Divisional Offices, 4 Block Development Offices and 3 Provident Fund Offices.

So far, 22,32,807 new Aadhaar enrolments have been carried out and 54,71,475 Aadhaar Demographic Updation have been delivered. The transaction count done at all Permanent Enrolment Centres (PECs) as on 21.04.2022 is 77,04,282.

4.2 Permanent Enrolment Centres (PECs) in Educational Blocks under Samagra Shiksha

ELCOT is selected as an Enrolment Agency by School Education Department's Samagra Shiksha to establish Aadhaar Enrolment Centre in 505 centres at all 385 Educational Blocks for providing Aadhaar related services to school students. In the initial stage, 120 Aadhaar service centres have been established in 120 Educational Blocks since 03.01.2022. As on 21.04.2022, there have been 21,966 new Aadhaar enrolments and 80,914 Aadhaar updates.

4.3 Capacity Building

ELCOT has been playing an important role in supporting the training needs of Government departments since June 2007. So far, 1,21,890 participants have been benefited from various Government departments across the State.

5. Networks

(1) Service Oriented Tasks:

(a) Video Conferencing (VC) System and Network accessories

Arrangement of Video Conferencing (VC) equipment at various Government departments for the inauguration of welfare schemes and meetings.

(b) CCTV Surveillance System

Provision of CCTV (Closed Circuit Television) Surveillance Systems with accessories for monitoring examinations conducted by various Government departments/agencies.

(2) Procurement Activities:

- Supply and commissioning of video conferencing system with related accessories and software-based VC system.

- Supply and commissioning of public address system with related accessories, video wall, etc.

(3) Services rendered at Secretariat:

- Installation and maintenance of CCTV surveillance systems at the main building and Namakkal Kavignar Maaligai, Secretariat, with facility to monitor on 24x7 basis.

- Maintenance of Secretariat Network (SECNET) 24x7.

- Facilitating Network infrastructure for e-Office implementation at Secretariat.

6. Procurement

ELCOT is an optional procurement agency for IT hardware products for all the Government departments / Public Sector Undertakings / Autonomous Bodies. It procures and supplies quality electronic products to the

departments on request. The original equipment manufacturers and suppliers of desktop, laptop, printer and multifunction devices have been responsive to ELCOT's tenders and offer competitive prices in view of the large volume in the rate contract tenders. This has resulted in cost savings compared to procurements by the individual departments themselves.

Previously, ELCOT floated separate rate contract tenders for various IT hardware depending on the requirements of the departments. This resulted in delay in procurement. To ensure better prices and availability of the products throughout the year, ELCOT has floated rate contract tenders by grouping the items as Group A and Group B.

During the year 2021-22, ELCOT has procured IT Hardware for a value of Rs.121.32 crore and has projected procurement of Rs.300 crore for the year 2022-23.

ELCOT has developed an e-Procurement Portal to ease the procurement services between Government to Government (G2G). This portal will streamline interactions between ELCOT, user departments and vendors.

Some of the flagship procurements done by the ELCOT in the year 2021-22 are given below:

- National e-Vidhan Application (NeVA) – Undertook procurement, supply, installation and commissioning of IT products such as All-in-One desktops, touchscreen tablet devices, networking and UPS for implementation in the Tamil Nadu Assembly.

- e-Office - Undertook supply, installation and commissioning of Hyper Converged Infrastructure, All-in-One desktop and Multi-Function Devices (MFD) for the implementation of e-Office in the departments of Secretariat.

7. Projects

7.1 Digitisation of old records

ELCOT is undertaking various digitisation works using various types of scanners for old Records / Books / Documents / Manuscripts / Palm Leaves. The documents are scanned and converted into digital images according to the requirements of the various Government departments. ELCOT has digitised approximately 12 crore pages for various Government departments.

In order to effectively implement e-Office initiatives of the Government of Tamil Nadu, ELCOT is undertaking digitisation of entire records of the Secretariat under the e-Office program from 01.11.2021.

CHAPTER-III

DIRECTORATE OF e-GOVERNANCE AND TAMIL NADU e-GOVERNANCE AGENCY (TNeGA)

1. Introduction

The Directorate of e-Governance was created in 2006 to lead all the e-Governance initiatives of the Government of Tamil Nadu. The Tamil Nadu e-Governance Agency (TNeGA) was created as an autonomous society registered under the Tamil Nadu Societies Registration Act, 1975, to implement and align with the National e-Governance Plan.

2. Objectives

i. To offer the benefits of information technology to the citizens, firms and the

Government through awareness creation, education and capacity building program.

ii. To position itself as an institution dedicated to promote e-governance by combining the best, that the specialised institutions in the country have to offer into a holistic program.

iii. To help create a State-wide strategic architecture for e-Governance.

iv. To be the primary technology and innovation driving organisation for the Government of Tamil Nadu.

v. To support change management in digital transformation projects.

vi. To conceptualise and stipulate standards for interoperability.

vii. To create an ecosystem of academic institutions, research organisations, start-ups, funding agencies and eminent individuals, to innovate, design and

implement solutions for pressing governance issues.

viii. To build the soft infrastructure for e-Governance, help improve the competitiveness of the State and make the State future ready.

ix. To support capacity building of all Government employees at all levels in Information Technology to enable efficient Governance.

x. To create secure cyberspace for Government departments.

3. Organization Structure

3.1 Information Technology (IT) Cadre

Information Technology (IT) cadre has been created to cater to the needs of all Government departments in a standardised manner for implementing e-Governance projects. The IT Cadre includes Assistant System Analyst/Assistant System Engineer, System

Analyst/System Engineer, Senior System Analyst/Senior System Engineer and Joint Director (Technical). Information Technology Department issued G.O.(Ms).No.4 on 05.02.2014 for the creation of IT cadre and sanctioned 98 technical and non-technical posts under the control of the Directorate of e-Governance.

3.2 State e-Mission Team (SeMT)

A State e-Mission Team (SeMT) has been formed to enhance internal professional capacity and support in the areas of program management, technology, enterprise architecture and change management. SeMT is funded by the Ministry of Electronics & Information Technology (MeitY), Government of India and is functioning under the overall control of TNeGA.

3.3 Centre of Excellence in Emerging Technologies (CEET)

Tamil Nadu Government has established a Centre of Excellence in Emerging Technologies (CEET) under the aegis of TNeGA to focus on emerging technologies such as Artificial Intelligence, Blockchain, Data Analytics and Internet of Things (IoT). This will help the Government adopt Artificial Intelligence (AI) and Blockchain in various sectors such as healthcare, agriculture and education to serve the citizens better.

CEET acts as a catalyst for encouraging innovation in various Government departments and proposes to:

i. Find low-cost scalable solutions for Government problems.

ii. Establish and foster partnerships with Government departments, agencies, corporate entities, industry bodies and

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academic institutions working in emerging technologies.

iii. Define and promote best practices and standards followed across the globe in emerging technologies.

iv. Engage in capacity building, training and orientation of Government officers at various levels.

v. Reach out to other organisations offering similar, complementary or supplementary technologies.

vi. Organise development programs, training courses, conferences, seminars, guest lectures and other related activities.

vii. Organise workshops in the areas of emerging technologies, invite innovative ideas and nurture innovation.

viii. Research output in terms of working papers, industry papers, peer reviewed journal articles, conference presentations etc.

ix.   Take specific prototyping and development tasks in emerging technology areas based on the needs of the Government departments.

x.   Evolve reuse software strategies for asset creation and consumption by Government departments.

3.3.1 Achievements/Awards of CEET during last year

Data Analytics

- Data Purity – Information Technology Department has instructed all Government departments to share a copy of the data including transaction data. TNeGA will process this data for data-driven decision making. It will also issue mandatory directions related to standards on data copy, corrections, collections, format, meta-data, transfer, use and storage.

<u>Current Position</u> - Using the data received from the departments, specific questions raised from Hon'ble Chief Minister's Office and other departments were answered. Under this project, the family counts in *Chief Minister's Comprehensive Health Insurance Scheme* (CMCHIS), Jewel loan waiver scheme beneficiary identification, number of cylinders in LPG vs PDS, comparing OAP with death date, employee and pension data have been validated and crores of money have been saved to the Government exchequer.

- Tamil Nadu Decision Support System (DeTN - CM Dashboard) – The CM Dashboard was launched to monitor implementation of schemes and projects and to provide insights for policy making. The dashboard displays the Key Performance Indicators (KPIs) of various department schemes/programs in near

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real time. It offers a comprehensive data analytics capability along with visual representation to aid decision making.

<u>Current position</u> - Hired around 50 Data Analysts and Engineers to work with all departments ensuring the quality of data flowing into the CM Dashboard, data purity, data standards and open data in the future.

- Business Intelligence Platform – Working with Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) in developing a Business Intelligence platform that will help them with day-to-day operational decisions. Also working on the AI model to predict the demand to reduce last minute purchases at a higher price.

Artificial Intelligence / Machine Learning (AI/ML)

- Health department – Developed e-Paarvai, a cataract detection mobile app using AI and currently getting rolled out for the whole State. Feasibility study is completed for developing a Proof of Concept (PoC) for detecting Tuberculosis.

- Face Recognition Attendance System (FRAS 2.0) – AI/ML based face recognition and attendance marking system developed by TNeGA and being used by TNeGA, TANGEDCO and 2 organisations in Kanyakumari. The next version FRAS 2.0 is developed using Android for scaling the current solution across the State and the first roll-out is planned for Commissionerate of Rehabilitation and Welfare of Non-Resident Tamils.

- Integrated Child Development Scheme (ICDS) – Android based mobile app similar to 'Poshan Tracker' is being developed to capture the growth and nutrition data in Anganwadis. The data collected will be used to develop AI models to predict malnutrition for children aged 0-5. The data obtained will be linked to other relevant datasets for analytics and policy decisions.

Awards:

The AI based e-Paarvai solution developed to detect cataract using a mobile phone, won the National 'AI Game Changers 2021' award from NASSCOM.

Capacity Building and Events:

AI Conclave 2021 – more than 100 companies participated in the event.

Centre of Excellence in Emerging Technologies(CEET)-Ongoing e-Governance Projects :

CEET works with multiple departments in conceptualising, designing, developing and delivering several e-Governance applications.

- Know Your Government, a State portal, will be developed and the existing State portal will be migrated to the new portal.

- Next generation integrated service delivery platform, e-Sevai 2.0, will be developed using the latest cutting edge technologies to replace the existing e-Sevai platform. e-Sevai 2.0 will be modular, scalable and composable and will be integrated with SFDB, Blockchain and predictive service platform in the future that provide efficient citizen delivery.

- Predictive Services Platform – To build a framework for predictive and prescriptive governance, aimed at assisting

policymakers in making informed and evidence-based decisions by providing them with critical, actionable insights and in making governance a seamless process. The end beneficiaries are the public, as life becomes much easier for them with Government services reaching their doorsteps without any explicit efforts from their side. Platform will be built on top of SFDB and Blockchain initially and scaled across department service portals.

- Tamil Nadu Legislative Assembly Secretariat (TNLAS) - Digitisation and Management of Electronic Records of Legislature (DMERL) project digitises the debate books and committee reports from the year 1921 in multiple phases.

- Finance department and National Payment Corporation of India (NPCI) – To develop a common digital payment solution to handle all C2G, G2G, G2C payments

through a unified system. This will provide transparency in payments to Government services.

- Commissionerate of Revenue Administration and Disaster Management - To develop a common application for Disaster Relief Management, matching the relief needs and supplies during disaster situations and manage logistics during disasters.

- Tamil Nadu Water Supply and Drainage Board (TWAD)– A DPR for end-to-end computerisation of department activities and work flow is under preparation.

- Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO)–A mobile application for automatic capture of meter reading is being developed.

- Environment, Climate Change and Forests Department – A DPR has been prepared for end-to-end computerisation of

department activities, digitize G2C services and to integrate them with e-Sevai 2.0.

- Tourism, Culture and Religious Endowments Department - A website has been developed for Aazadi ka Amrut Mahotsav – Suthanthira Thirunaal Amudha Peruvizha (STAP).

- Tamil Nadu Archives and Historical Research department – A portal has been developed for digitization project.

- Registration Department - Digitization of registration documents prior to 1950-1974.

- Tamil Nadu Forest Plantation Corporation Limited (TAFCORN) - DPR has been prepared for end-to-end computerisation.

- Recently developed the Chief Minister's Public Relief Fund (CMPRF) portal to collect donations from public and philanthropists for relief related activities in the State.

- IT Nanban, a unified portal has been developed to connect the IT Industries, companies and Government that enables active participation to the growth of the State.
- Micro, Small and Medium Enterprises department – Developed 'Valar 4.0', a Networking Portal for Industries stakeholders in Tamil Nadu to promote collaboration between Industry and Academia on leveraging research to adopt technologies related to Industry 4.0.

Policy and Strategy

CEET has actively contributed to the research and drafting of the below policies:-

- Digital Transformation Strategy of Tamil Nadu (DiTN)
- Tamil Nadu Data Policy, 2022
- Reference Standards, 2022

3.4 District e-Governance Societies (DeGS)

District e-Governance Societies have been constituted in all Districts. This Society is headed by the District Collector, except in Chennai, where the Commissioner, Greater Chennai Corporation, is its head. It provides overall guidance to e-Governance projects at the district level. DeGS gets a 5% revenue share from the e-Sevai operations.

3.5 e-District Managers (eDMs)

e-District Managers are placed in each district to support the District Collectors in rolling out various e-Governance initiatives and monitor the e-Sevai centres in each district.

3.6 State Family Database (SFDB)

State Family Database (SFDB) at a cost of Rs.47.5 crore is envisioned as a data-driven decision support infrastructure for improving

governance. It enables data harmonisation and synchronisation among various departments.

It would enable proactive delivery of Government benefits and services to citizens in an inclusive manner.

Current Position - Vendor has been awarded the contract through open tender and the development is in progress.

3.7 Tamil Nadu Blockchain Backbone – Nambikkai Inaiyam (நம்பிக்கை இணையம்)

The State-wide Blockchain Backbone (Nambikkai Inaiyam - நம்பிக்கை இணையம்) will enable departments of Government of Tamil Nadu to use blockchain infrastructure in a plug-and-play model and can be used as single source of truth. Nambikkai Inaiyam will be used to develop applications such as securing the documents and records of Hindu Religious and

Charitable Endowments (HR&CE), land related documents, education certificates, marksheets, certificates and licenses issued through e-Sevai platform, authentic seed certification for agriculture department and certifying authentic handicraft of Tamil Nadu. Other applications of this platform includes automated certificate verification for Tamil Nadu Engineering Admission (TNEA) process, protecting Government websites and portals and enabling easy verification of Government issued certificates/licenses.

Current Position

- Nambikai Inaiyam Backbone – The backbone network allows onboarding of different departments to share common ledgers and automate inter-departmental workflows.
- Developing blockchain applications for Department of Higher Education, Medical Education and Technical Education to make

education certificates available in the Citizen Wallet.

- Developing blockchain applications for Commercial Taxes and Registration Department for annual integrity checking of registration documents and making the registration certificates available in the Citizen Wallet.

- Proof of Concepts are being developed for the Environment, Climate Change and Forests Department and Handlooms, Handicrafts, Textiles and Khadi Department to track the assets, licenses and Geographical Indicators (GI) tagged items.

3.8 Tamil Nadu Geographical Information System (TNGIS)

A Geographic Information System (GIS) uses spatial information in layers arranged geographically. It allows creation, storage, processing and visualization of the spatial

information. TNGIS - Tamil Nadu State Spatial Data Infrastructure (TNSSDI) Portal www.tngis.tn.gov.in is a one-stop-source for all the geospatial data for the State of Tamil Nadu with 358 layers. Currently a modular Web-GIS framework is being developed.

3.9 e-Munnetram

The High Power Committee under the leadership of the Chief Secretary reviews major infrastructure projects of over Rs.100 crore. The system allows for updating the status of progress along with ground level pictures and presents the information on a dashboard linked to GIS maps for better visualization and actionable insights.

3.10 TNGIS/Remote Sensing

Development in progress for AI based land use classification for Agriculture and Revenue departments as a Proof of Concept, using

satellite imagery which classify land use and identify the crops.

4. Sustainable Development Goals (SDGs)

SDG is an inter-governmental set of 17 aspirational goals with 169 targets, further elaborated through indicators focused on measurable outcomes. The 17 Sustainable Development Goals (SDGs) enshrine a vision for better and more sustainable future for all by balancing economic, environmental and social components.

In Tamil Nadu, the Government has constituted a High Power Committee under the chairmanship of Chief Secretary to Government to oversee the implementation of SDGs. Eight thematic Working Groups have been formed to review and monitor the achievement of goals and targets. The implementation is coordinated

by the Planning and Development Department and the State Planning Commission.

TNeGA will capture the data of Sustainable Development Goals and their associated targets for all departments/boards.

An SDG unit has been formed in the IT Department with the following composition:

Joint Chief Executive Officer, TNeGA	Unit Head
Joint Director (Technical), TNeGA	Member
General Manager (Admin), TACTV	Member
General Manager (HR &Admin), TANFINET	Member
General Manager (HR), ELCOT	Member

The SDG indicators related to the IT Department and their achievements are as follows:

S. No.	Indicators	2021-22 Performance (as on 15th April 2022)
1	16.6.1: No. of Government services provided online to citizens	191
2	16.6.1a: No. of Department/ Agencies integrated for mobile Governance	53
3	16.6.1b: No. of e-transactions on e-Taal	84.70 crore
4	16.6.1c: No. of operational common service centres	13,516

Table 1: SDG achievement related to the Information Technology Department

5. Digital Tamil Nadu (DiTN)

The mission of the DiTN is to enable all Government departments to transform their

services and functions. This will provide transparent and citizen-centric Government to citizens. A Project Management Unit has been established and a strategy document is being prepared for laying out the roadmap.

6. Delivery of G2C Services

6.1 e-Sevai Centres

G2C Services are provided electronically through Common Service Centres via walk-in and through a web-based open citizen portal for access anytime/anywhere. The e-Sevai centres are run by Tamil Nadu Arasu Cable TV Corporation Ltd. (TACTV), TACTV Franchise, Primary Agricultural Co-operative Credit Societies (PACCS), Tamil Nadu Corporation for Development of Women (TNCDW), Fisheries and Fishermen Welfare Department, Village Level Entrepreneurs (VLEs) and Cantonment Board to deliver Government services to the public near their home. Compared to last year, 56 more services were added to the bouquet of e-Services this year.

As on 15.04.2022, 13,516 e-Sevai Centres are functioning across the State by different agencies.

Sl. No.	Agency	Counters	Centers
1.	TNCDW (Tamil Nadu Corporation for Development of Women)	4,683	4,641
2.	PACCS (Primary Agricultural Cooperative Credit Societies)	4,269	4,264
3.	TACTV (Tamil Nadu Arasu Cable TV Corporation Ltd.)	911	580
4.	TACTV (Tamil Nadu Arasu Cable TV Corporation Ltd) Franchise	1,925	1,925
5.	FSHD (Fisheries and Department)	150	149
6.	VLE (Village Level Entrepreneurs)	1,954	1,954
7.	MIS (miscellaneous)	3	3
Total		**13,895**	**13,516**

Table 2: List of agencies that run e-Sevai centres

Year-Wise Transaction Count from Jan 2016 to 15th Apr, 2022			
Year (Jan – Dec)	e-Sevai CSC	e-Sevai Citizen Portal	Total
2016	1,02,91,198	-	1,02,91,198
2017	1,12,62,238	-	1,12,62,238
2018	1,04,11,812	1,83,304	1,05,95,116
2019	97,63,563	9,49,460	1,07,13,023
2020	75,86,335	14,00,513	89,86,848
2021	1,55,64,179	24,82,207	1,80,46,386
2022 (Jan – 15th Apr)	21,63,341	5,75,766	27,39,107
Total Transactions	67,042,666	55,91,250	72,63,3916

Table 3: Year-wise transactions count

Between 2020 and 2021, the total number of transactions grew by 101% and at a Compound Annual Growth Rate (CAGR) of 12% between 2016 and 2021. In 2018, a citizen portal was launched, allowing citizens to apply for e-Sevai services from their own mobile phones or laptops anywhere/anytime. There has been a steady increase in the number of transactions on the citizen portal since then. From only 2% of the e-Sevai transactions being delivered over the citizen portal in 2018, it has increased to more than 20% in 2021. The goal is to have 50% of the e-Sevai transactions through the citizen portal.

To promote digital economy, e-Sevai centres have been equipped with Aadhaar enabled payment systems. Citizens can now avoid cash payments and instead use biometric authentication to pay digitally. What cannot be measured cannot be improved. Hence, a

feedback system has been implemented in all e-Sevai centres to collect granular service feedback and overall feedback through an Interactive Voice Response System (IVRS). IVRS pushes around 15,000 calls every day and receives feedback from the public, which helps to improve the quality of services.

6.2 Aadhaar Enrolment - Permanent Enrolment Centres

Directorate of e-Governance / TNeGA is the State Registrar for Unique Identification Authority of India (UIDAI) to carryout Aadhaar enrolment through Permanent Enrolment Centres across Tamil Nadu.

Electronics Corporation of Tamil Nadu (ELCOT) and Tamil Nadu Arasu Cable TV Corporation (TACTV) have been appointed as the enrolment agencies under the Registrar. Permanent Enrolment Centres (PECs) are

operated at Secretariat, Ezhilagam, all Taluk offices, Head Quarters and Zonal offices of Greater Chennai Corporation by Tamil Nadu Arasu Cable TV Corporation (TACTV). ELCOT is operating the Permanent Enrolment Centres at all the Collectorates, Municipalities/Corporation Zonal offices (other than Chennai). Aadhaar enrolment is done free of cost for the public.

Enrolment Agency	No. of Centres	Total no. of Enrolments (in lakh)	Aadhaar Generated from UIDAI portal (in lakh)
TACTV	318	3.45	3.07
ELCOT	227	2.64	2.91
Total	545	6.09	5.98

Table 4: Aadhaar Enrolment & Aadhaar Generated details for FY 2021-2022

7. State Call Centre and Helpline (1100)

'Integrated and Inclusive Public Grievance CM Helpline Management System' (IIPGCMS) has been implemented as an integrated system to allow citizens to register their petitions through multiple channels such as helpline on 1100, online web portal, mobile application, e-Mail, social media or physical submission. Prior to this system, departments used to run independent grievance handling systems – both physical and electronic which were not effective.

This integrated system has been handling the petitions submitted under 'Mudhalvarin Mugavari' and it assigns, tracks and monitors grievances across all Offices.

8. SiTN - Simplify TN

A new initiative called 'Simplify TN' has been undertaken to simplify governance. TNeGA is helping in process re-engineering activities in

various Government departments / Directorates / Commissionerates / Boards on a pilot basis. Priority is being given to areas with maximum public interface. Process compliances, licenses, acts, regulations, rules, Government orders, guidelines and circulars are being studied. Re-engineering measures will be drafted and discussed with the departments for implementation.

9. Proactive Governance

9.1 Proactive Service Delivery

Proactive service delivery is a pioneering attempt in transforming the existing Government services delivery mechanism. The existing service model puts the onus of seeking the service on the citizens, expecting them to go to Government offices and fill out several forms for the services they need.

Proactive service delivery model enables the Government to reach out to the citizens proactively to deliver its services at their doorsteps as and when they become eligible.

TNeGA aims to design and develop a system to enable a proactive service delivery framework using 'intelligent process automation' technologies and connecting existing IT systems and applications. This system will be built on SFDB as the base and Tamil Nadu State-wide Blockchain backbone layer (Nambikkai Inaiyam) on top.

10. Emerging Technologies for Improved Governance

10.1   e-Paarvai: AI-based   Cataract Detection System

Cataract is one of the main reasons of blindness in India. Detection of Cataract at its initial stages can help save the vision. Currently, individuals come to district hospital when they

are at their late stages of Cataract. TNeGA has developed an AI-based mobile application to provide quick screening of Cataract. The pilot was initially done in three districts, namely, Madurai, Nagapattinam and Vellore, and subsequently it has been rolled out in 34 districts.

10.2 Face Recognition System (FRS) and other AI Initiatives

An Artificial Intelligence (AI)-based Face Recognition System developed by Tamil Nadu e-Governance Agency is one of the milestones in the use of AI. The system is in use for day-to-day attendance in TNeGA, TANGEDCO, TANFINET and 2 organisations in Kanyakumari.

Some of the other applications developed using AI are as follows:

i. Chatbot - TNeGA has developed chatbots which provide conversational assistance in

Tamil and English to citizens in availing various services from the Government of Tamil Nadu e-Sevai website (https://www.tnesevai.tn.gov.in).

ii. AI-based pest and disease identification – Farmers can upload the photo of the plant infected by pests using Uzhavan app. AI-based pest identification model developed by TNeGA diagnoses the pest and suggests remedial measures.

10.3 Digital Office Tamil Nadu (DoTN)

10.3.1 e-Office

e-Office is the application suite that allows automation of routine tasks and processes within the Government offices. The Electronic File Management System (e-File) helps create 'paperless' offices, allows speedy disposal of files and improves governance. The communication both within and across offices is almost real-time leading to improved efficiency in decision

making. The audit and history features add to the transparency of the processes.

So far, 43,359 users across 42 departments / offices are using this application. TNeGA is rolling out e-Office application to all offices under the administrative control of the Government of Tamil Nadu. In Phase-I, the Secretariat officials in all departments of the Secretariat have been trained in e-Office. It is expected that the Secretariat will be fully on e-Office by June 2022. Simultaneously, e-Office is being rolled out in Heads of the Departments and District Collectorates (and its subordinate offices) and the work will be prioritized after rollout at the Secretariat is completed.

10.3.2 e-Mail Account for Tamil Nadu Government Employees

Secured e-Mail services are being provided to the employees of the Government of Tamil Nadu for use in official communication.

With the help of National Informatics Centre (NIC), 13,600 e-Mail accounts were created during the year 2021-2022. Work is in progress to upgrade the existing e-Mail service and create over 50,000 users towards State-wide coverage.

11. Capacity Building

TNeGA has setup the infrastructure to conduct training programs for upto 100 people at a time. This infrastructure will be used for capacity building of the State Government officials.

12. Namadhu Arasu (MyGov)

'Namadhu Arasu' is a unique platform for the people of Tamil Nadu to participate in governance, sharing ideas and suggestions with the Government in areas related to policies, programs and schemes. This helps build a good partnership between citizens and the Government and promotes participative Governance.

13. Social Media Services

Social Media has become an important lever for the Government departments to reach out to citizens regarding the various schemes and services offered by them. TNeGA supports in carrying out Social Media management and e-Mail Marketing for the Government departments.

14. Policy and Standards

14.1 Reference Standards

The 'Reference Standards' for data and cyber security version 1.0 is a compilation of the list of standards relevant to e-Governance projects. The standards have been categorized as mandatory and non-mandatory. All e-Government systems / applications / hardware specifications by all departments have to comply with the mandatory standards and all tenders will be reviewed and approved for compliance by

Standards Compliance Technical Committee (SCTC) chaired by CEO, TNeGA.

14.2 Tamil Nadu Data Policy

TNeGA is the Nodal Empowered Agency for the Government data vide Tamil Nadu Data Policy published by the Information Technology department, Government of Tamil Nadu. The data collected by TNeGA will be co-owned by it on behalf of the Government of Tamil Nadu with the primary owner being the agency / department / ministry / entity that collected and provided it to TNeGA.

CEO, TNeGA, is the State Chief Data Officer for implementing the various tenets of the policy. The thirteen principles of the policy are as follows:-

➢ Openness
➢ Privacy
➢ Ethics and Equity
➢ Flexibility

- ➢ Transparency
- ➢ Legal Conformity
- ➢ Protection of Intellectual Property
- ➢ Interoperability and Standards
- ➢ Quality
- ➢ Security
- ➢ Accountability and Formal Responsibility
- ➢ Sustainability
- ➢ Usability

14.3 Standards for Government Websites

To improve the usability and accessibility of information and services on Government websites, the Government of India (GoI) has issued guidelines for designing, developing and maintaining websites, called the Guidelines for Indian Government Websites (GIGW).

Complying with those guidelines, TNeGA has taken up the standardization of district websites with access enabled for Differently abled persons.

15. Partnership with Academia & Research Institutions

To build the ecosystem of academic and research institutions for developing innovative solutions and building capacities in emerging technologies, TNeGA has entered into an agreement with various academic and non-academic institutions. MoUs have been signed with the following partners:

i. Chennai Mathematical Institute (CMI) to collaborate on research and projects related to data analytics.

ii. Anna University, Chennai to support and collaborate on research pertaining to analytics and emerging technologies.

iii. Kerala Blockchain Academy to conduct blockchain training programs.

iv. IIT-Madras to bring researchers, academics, policy makers, technologists,

industry leaders to deliberate and provide technological solutions.

v. IIM-Tiruchirappalli to launch training and certification programs on emerging technologies for senior executives in various Tamil Nadu Government departments.

vi. Great Lakes Institute of Management for collaboration on management of technology.

16. Computer-Based Examination as a Service (EaaS)

To help recruit people quickly through an online exam, departments can use the service provided by TNeGA. It is quick and easy for departments to setup an exam for different roles in a secure manner.

So far, 4 departments, namely Environment, Climate Change and Forests department, Teacher's Recruitment Board,

Tamil Nadu Pollution Control Board (TNPCB) and Tamil Nadu Ex-servicemen's Corporation Limited (TEXCO), have used the system successfully and completed the recruitment process for 7,229 vacancies in a secure and hassle-free manner.

Till date, around 18 departments have onboarded the aforesaid services partially/fully. Around 20.20 lakh candidates have benefitted so far. During 2021-22, four departments have utilized this service benefitting nearly 6.30 lakh candidates.

17. Information Technology (IT) Security Audit

TNeGA helps in conducting the security audit of Government websites and applications. These audits are conducted by the auditors empaneled with the Computer Emergency Response Team (CERT-IN). This security audit is mandatory before hosting any website and applications in the Tamil Nadu State Data

Centre. The audits are required again, if there is any major revision in the website/application.

In the year 2021-2022, 78 Government websites/applications have undergone security audit.

18. Software Applications Developed by TNeGA for Various Government Departments

Software applications have been developed for 46 Government departments. Another 79 applications are under progress.

19. iTNT Hub

The Government of Tamil Nadu has proposed to establish Tamil Nadu Technology Hub (iTNT Hub) in Chennai, Madurai and other Tier-II and Tier-III cities over a period of 5 years. These hubs will facilitate innovation via startups in the IT and deep technology space. The primary objective of iTNT Hub will be to nurture the innovation ecosystem in Tamil Nadu

that can guide, develop, implement and support startups.

A section 8 company shall be the implementing agency for this project in conjunction with Software Technology Parks of India (STPI) under the aegis of IT Department, Government of Tamil Nadu. The total budgetary outlay for setting up and operationalizing the iTNT Hub is estimated to be of Rs.54.76 crore.

CHAPTER-IV

TAMIL NADU ARASU CABLE TV CORPORATION LIMITED (TACTV)

1. Origin

Arasu Cable TV Corporation Ltd., was formed under the Companies Act, 1956, on 04.10.2007 with the objective of safeguarding the livelihood of Local Cable TV Operators (LCOs) and providing high quality Cable TV service at a low cost to the public. "Arasu Cable TV Corporation Ltd.," was renamed as "Tamil Nadu Arasu Cable TV Corporation Limited" (TACTV) on 26.08.2011.

2. Vision

To provide high quality Cable TV and e-Sevai services to the public at an affordable cost using latest technologies.

3. Mission

- To provide high quality digital Cable TV service to the public at an affordable cost through the LCOs.

- To provide an enabling environment to facilitate the livelihood of LCOs through cable TV and Internet services.

- To provide role model 'e-Sevai front offices' for the benefit of the general public.

- To provide high quality Internet service to the public at an affordable cost through the LCOs.

4. Digital Cable TV Service

The Ministry of Information and Broadcasting, Government of India, granted the DAS License to TACTV on 17.4.2017 for providing Digital Cable TV Service. TACTV is the

first State Government Undertaking in the Cable TV industry to get DAS License in the country. In order to ensure best quality pictures with the latest Digital Cable TV technology, TACTV also upgraded its existing MPEG2 Digital Head End at Chennai to MPEG4 Digital Head End with higher channel capacity in Digital Transmission.

TACTV started the Digital Cable TV Service with the upgraded MPEG 4 Digital Head End at Chennai and distribution of free Standard Definition Set Top Boxes on 01.09.2017. The High Definition Cable TV service was provided on 02.07.2018 at 5 locations viz., Chennai, Salem, Coimbatore, Tiruchirappalli and Madurai.

TACTV is providing Digital Cable service at the subscription fee of Rs.140+GST with 217 channels (140 FTA channels + 77 pay channels). This is the lowest Digital Cable TV subscription rate in the country. The revenue sharing pattern is fixed as Rs. 70+GST for

TACTV and Rs. 70+GST for Local Cable TV Operators.

Steps are being taken to provide the new STBs with the latest technology to ensure quality digital TV signals are reaching the common people at an affordable cost.

5. Arasu e-Sevai centres

TACTV has established Arasu e-Sevai Centres to provide Government-to-Citizen Services (G2C) in 2014. At present, TACTV is operating 580 Arasu e-Sevai centres across the State in urban areas providing 136 Citizen Centric Services. In addition to the above, the following services are exclusively provided:

i. Uploading the Certificates of shortlisted candidates by Tamil Nadu Public Service Commission (TNPSC).

ii. Printing of identity cards for State Government pensioners, family

pensioners, officers and staff of Secretariat.

iii. Printing of replacement of Electoral Photo Identity Card (EPIC)

iv. Online booking of textbooks being sold by Tamil Nadu Textbook Corporation and Education Services.

v. Registration of subscription for 'Tamizharasu' magazine etc.,

To expand the reach of Arasu e-Sevai centres to the public and to encourage the unemployed youth of Tamil Nadu for self-employment, TACTV has floated an Expression of Interest to empanel interested private internet browsing centres to act as franchises of Arasu e-Sevai centres in urban areas on a revenue sharing model. As on date, 1923 franchises have been empanelled. Necessary steps will be taken to empanel 200 franchises this year, with a vision to reach the public at their ward level.

6. Permanent Enrolment Centres (PECs) for Aadhaar

The Government of Tamil Nadu appointed Tamil Nadu e-Governance Agency (TNeGA) and Directorate of e-Governance as Registrar for Aadhaar enrolment in Tamil Nadu. The TNeGA has authorized TACTV to act as the Enrolment agency for Aadhaar enrolment from 01.10.2016. TACTV has established 318 Permanent Enrolment Centres across the State. Steps will be taken to increase the counters in the above mentioned 318 Permanent Enrolment Centres based on the requirement of the public.

Besides, one 'Mobile Aadhaar Enrolment Unit' is functioning in Greater Chennai Corporation to provide persons with disability and senior citizens who are bed ridden for Aadhaar enrolment based on their request.

7. Internet Service to Home through Tamil Nadu Internet and Connectivity Services Ltd., (TANICS)

TACTV has formed a subsidiary company, namely, Tamil Nadu Internet and Connectivity Services Ltd., (TANICS) on 05.11.2020, to provide internet related services to the public at an affordable cost. This year, steps will be taken to obtain the Internet Service Provider (ISP) License.

CHAPTER-V

TAMIL NADU FIBRENET CORPORATION LIMITED (TANFINET)

Tamil Nadu FibreNet Corporation (TANFINET) is a Special Purpose Vehicle (SPV) setup by the Government of Tamil Nadu to implement the BharatNet phase-II project to provide high speed broadband connectivity in the rural areas of the State. 'TAMILNET' is envisioned by TANFINET to extend the connectivity to urban and semi-urban areas. This unified digital infrastructure will digitally empower the citizen of Tamil Nadu by bridging the digital divide and connecting them to the knowledge economy.

1. BHARATNET

BharatNet project, at an approved cost of Rs.1815.31 crore, envisages laying Optical Fibre Cable (OFC) for 49,500 km to connect 12,525 Gram Panchayats across the State. It is further

proposed to extend the connectivity beyond the Gram Panchayats to all the inhabited villages across the State.

The project is being implemented in four packages as follows:

Package Name	No. of Blocks	No. of GPs	OFC Route	
			Aerial Length (in Km)	UG Length (in Km)
A	75	3,095	11,906	1,591
B	94	3,001	9,615	1,570
C	110	3,326	11,335	1,486
D	109	3,103	10,148	1,849
Total	388	12,525	43,004	6,496

A Master Service Agreement (MSA) has been executed with the bidders of packages A, C and D and the work is ongoing. Package B is under litigation in the Hon'ble High Court of Madras. The Project is expected to be completed

within one year from the issuance of work orders to Master System Integrator / System Integrators (MSI/SIs).

2. TAMILNET

TamilNet will connect all the Corporations, Municipalities and Town Panchayats through optical fibre, enabling the urban citizens to reap the benefits of the digital revolution. BharatNet aims to provide connectivity only to rural areas and would primarily act as an access network. TamilNet, on the other hand, will provide connectivity to all urban and semi-urban areas and would act as the Core and Aggregation network. TamilNet will act as the backhaul optical fibre infrastructure for BharatNet. TamilNet is proposed to be implemented parallely with BharatNet to achieve a Unified Digital Infrastructure (UDI) for the State.

3. Benefits of Unified Digital Infrastructure (UDI)

Various Government departments such as School Education, Higher Education, Police, Tourism, Information Technology, Health, Co-operation, Food and Consumer Protection and Registration providing citizen centric online services in the State of Tamil Nadu, incur a high cost for internet and intranet services. By migrating to UDI (TamilNet + BharatNet), the departmental requirements can be met at less than 50% of the current cost with a much higher quality bandwidth. This will also help to deliver services at the doorsteps of the people and create jobs, thereby improving the socio-economic conditions of the State.

CHAPTER-VI

TAMIL VIRTUAL ACADEMY (TVA)

1. Introduction

Tamil Virtual University was established as per the Tamil Nadu Co-operative Societies Act, 1975 Section 27 and renamed as Tamil Virtual Academy (TVA) on 16th July, 2010. It functions under the administrative control of the Information Technology Department to provide Tamil education through internet for the Tamil Diaspora and promote Tamil Computing.

2. Objectives

- ❖ To conduct Certificate, Higher Certificate, Diploma, Higher Diploma and Degree courses in Tamil.

- ❖ To promote Tamil Computing.

- ❖ To maintain Tamil Digital Library and Digital Cultural Repository.

❖ To provide information about Tamil culture and civilization to the Tamil Diaspora and others across the Globe.

❖ To provide access to all contents through www.tamilvu.org.

3. Academic Programs

Primary Course, Certificate Course, Higher Certificate Course, Diploma, Higher Diploma and Degree (B.A. Tamilology) Courses are being offered by TVA. The details of each course are as follows:

3.1 Primary Course

Primary Course is designed for Kindergarten students.

3.2 Certificate Course

Certificate Courses are offered at three levels as below:

- Basic Level (equivalent to classes 1 and 2)
- Intermediate Level (equivalent to classes 3 and 4)

- Advanced Level (equivalent to classes 5 and 6)

So far, 10,441 students have passed in the above courses.

3.3 Higher Certificate Course

Higher Certificate Courses are offered at three levels as below:

- Grade 1 (equivalent to classes 7 and 8)
- Grade 2 (equivalent to classes 9 and 10)
- Grade 3 (equivalent to classes 11 and 12)

So far, 1,175 students have passed in the above courses.

3.4 B.A. (Tamilology) Degree Program

B.A. (Tamilology) Degree program is modular in structure, consisting of Diploma, Higher Diploma and Degree courses.

The details of the students passed so far are as follows:

- ❖ Diploma   – 1,738
- ❖ Higher Diploma   - 1,191
- ❖ Degree   - 883

The above academic programs are provided through 118 contact centres in 23 countries. The details may also be viewed in TVA website (www.tamilvu.org).

3.5 Diploma in Tamil Computing course

Hon'ble Minister for Information Technology has announced on the floor of Legislative Assembly that TVA shall start Diploma in Online Tamil Computing course. Accordingly, the curriculum has been designed and the lessons have been completed and ready for launch.

4. Digital Library

4.1. Tamilinaiyam - Digital Library

TVA has created a Tamil Digital Library (www.tamildigitallibrary.in) consisting of rare books, periodicals and palm-leaf manuscripts of various subjects such as literature, religion, history, medicine, science etc. from the 18th century onwards. This is the largest digital library in South Asian languages and consists of more than 50,000 books and periodicals. The library is being enriched continuously by uploading rare documents. This library has been accessed by 2,11,65,112 users so far.

4.2 Palm-leaf Manuscripts Digitisation

The Government have sanctioned Rs.1.05 crore for digitisation and cataloguing of palm-leaf manuscripts available in Dr.U.Ve.Sa Library, Directorate of Indian Medicine and Homeopathy and the International Institute of

Tamil Studies. 7,68,097 palm-leaf manuscript pages have been digitised and uploaded in the website.

4.3 Inclusive Digital Library

An amount of Rs.1.00 crore has been sanctioned to improve the digital library into an Inclusive Digital Library for the use of visually impaired. All the scanned images of printed contents in the digital library are being converted into searchable PDF.

4.4 Digitisation of Rare Audio-Video, Photographs and other Historical Materials

An amount of Rs.1.00 crore has been sanctioned to digitise rare audio-video, photographs and other historical materials.

4.5 Tamilar Tagavalaatruppadai

TVA has created a comprehensive and collaborative repository website consisting of

Tamil language, literature and art (www.tagavalaatruppadai.in). It consists of 31,158 images related to Tamil history and culture. This repository is continuously updated by adding more artefacts and monuments. So far, this website has had 16,83,385 visitors.

4.6 Creation of Virtual Reality Museum

An amount of Rs.7.50 crore has been sanctioned to create a Virtual Reality Museum related to history and culture of Tamil Nadu.

5. Tamil Computing Wing

The following activities are being carried out in the Tamil Computing wing:-

- ## Tamil Computing Propagation

  Promotes Tamil Computing such as Tamil input, blogs development in Tamil, uploading Tamil content in the website, App development, compile mega encyclopedia in

Tamil, encourage Open Source software among students.

- ***Image Processing and Optical Character Recognition (OCR)***

  Developed a Tamil OCR tool and continuously converting the PDF images into text.

- ***Use Cases and Tools Development***

  Write use cases for TVA lessons and its digital library.

- ***Computational Linguistics***

  Compiles Annotated Tamil Corpus, Parallel Corpus (Tamil – English), Graph Database, Indexes and Concordances for Tamil literature, Developing Computational Grammar, Tamil Computing tools such as Part of Speech (PoS) tagger, Chunker and fonts development such as Tamil *vattezhutthu*.

5.1 Tamil Unicode

Tamil Virtual Academy (TVA) is an institutional member of the Unicode Consortium,

USA, on behalf of the Government of Tamil Nadu, by which TVA can include all the Tamil alphabets, Old Tamil fractions and symbols, Tamil *vattezhuthukal* into the database of Unicode Consortium*.*

5.2 Kani Tamil Peravai (KTP)

Kani Tamil Peravai (KTP) is a program envisaged by Tamil Virtual Academy to create awareness among students about Tamil Computing. Accordingly, 200 KTP centres have been started in universities/colleges across Tamil Nadu. Steps are being taken to start Kani Tamil Peravai in Higher Secondary Schools.

5.3 Translation of Khan Academy's Educational videos

Khan Academy, a US-based organization, has created more than 8,714 educational videos in English on subjects such as Mathematics, Science, History, Arts, Humanities, Economics and Finance.

Around 4,000 videos have been translated and uploaded in YouTube channel. Further, TVA has translated 500 English videos this year and work is under progress to upload them. TVA is providing videos to the students in coordination with *Samagra Shiksha Abhiyan* (SSA).

6. Other Projects

6.1 Theera Kadhal Thirukkural

In order to promote Thirukkural concepts among the youth, Tamil Virtual Academy is taking steps to undertake various activities under '*Theera Kadhal Thirukkural*'.

A painting competition titled '*Kuraloviyam*' was conducted for school and college students as first activity. The prizes for the best paintings were distributed by the Hon'ble Chief Minister of Tamil Nadu on 15.01.2022 (Thiruvalluvar Day) at Valluvar Kottam. Thirukkural daily table calendar book was printed by using the best 365

paintings and it was released by the Hon'ble Chief Minister. This calendar book is designed using only the English dates so that it can be used in the subsequent years.

6.2 Tamil Parappurai Kazhagam

Provides financial assistance to organisations teaching Tamil as a second/third language abroad and for training the teachers. An amount of Rs.1.00 crore has been sanctioned.

6.3 Silambattam - Basic Training

To propagate the cultural heritage of Tamils, basic training for *Silambattam* has been compiled into 13 videos.

6.4. Celebrate 150th Birth Anniversary of 'Kappalottiya Tamilan' V.O. Chidambaranaar

In commemoration of the 150th birth anniversary of *'Kappalottiya Tamilan'*

V.O. Chidambaranaar, his books and manuscripts will be digitised and published on the internet.

6.5   Digitisation of rare audios-videos of famous leaders and Tamil scholars

The documentation is being carried out to digitise the rare audio and video recordings of famous leaders and Tamil scholars.

6.6 Documenting PhD Thesis Abstract, Synopsis and Glossaries of all Universities

Work has commenced to document PhD thesis abstract, synopsis and glossaries of all Universities that come under the Higher Education department.

CHAPTER-VII

ICT ACADEMY OF TAMIL NADU (ICTACT)

1. Introduction

Information and Communication Technology Academy of Tamil Nadu (ICTACT) is a not-for-profit organisation, started by the Government of Tamil Nadu in the year 2009, as a Public Private Partnership. The objective of ICTACT is to train the higher education teachers and students, especially in Tier-II and Tier-III cities in various ICT domains.

ICTACT follows a seven-pillar approach, namely:

i.   faculty development
ii. student skill development
iii. entrepreneurship development
iv. youth empowerment
v.   digital empowerment

vi.   industry-institute interaction and research

vii.   publications.

ICTACT is governed by an autonomous board of governors with representatives from the Government of Tamil Nadu and leading companies in the ICT industry.

2. Activities

The activities and achievements of ICTACT for the year 2021-22 are:

2.1 Faculty Development

5,605 faculty members have been trained through 35 faculty development programs in various ICT areas in the State.

2.2 Skill Development

ICTACT has trained and certified 14,442 graduating students from rural colleges in the State to improve their employability.

2.3 Entrepreneurship Development

Conducted entrepreneurship awareness seminars benefiting 22,865 students from 64 colleges across Tamil Nadu.

2.4 Youth Empowerment

➤ Organised "New India Learn-A-Thon 2021" activity for college students to inculcate the habit of self-learning and to make students learn foundations of trending technologies. 1,63,682 students participated and completed 1,02,318 online courses through this initiative.

➤ Conducted "Skill–A–Thon" initiative exclusively for second-year college students to build Robotic Process Automation (RPA) Literacy and to deploy basic Robots. 40,318 students completed their certifications.

➤ Conducted "Power Seminar" for college students. Around 63,623 students have been benefitted through 313 programs.

2.5 Research and Publications

ICTACT publishes 6 peer reviewed International Research Journals on a quarterly basis. During the year 2021-22, 178 research papers were published. These are indexed in various international databases.

➢ ICTACT Journal on Communication Technology (IJCT)

➢ ICTACT Journal on Image and Video Processing (IJIVP)

➢ ICTACT Journal on Soft Computing (IJSC)

➢ ICTACT Journal on Micro Electronics (IJME)

➢ ICTACT Journal on Management Studies (IJMS)

➢ ICTACT Journal on Data Science and Machine Learning (IJDSML)

2.6 Digital Empowerment

ICTACT is an assessment and certification agency for Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA), a program of

the Government of India. 11,61,177 candidates have been assessed and certified for Digital Literacy during 2021-22.

2.7 Industry Institute Interaction

ICTACT has conducted the below conclaves with the support of leading corporate partners to create awareness on the upcoming technologies and their importance in academia. 7,111 senior educators benefitted from these events.

- Trailblazer Connect India Program 2021

- Educators Conclave on Developing RPA Skills

- Educators Conclave on Post Pandemic Graduates

- Salesforce Trailblazer Connect India Program -2021

- Orientation Program on Amazon Web Services (AWS) Cloud Certification

- Industry Expert Session of Microsoft Azure AI and Data Fundamentals

- Explore Your Career with RPA Skills

- Grand Virtual Launch of Skill-a-thon

2.8 New Corporate Social Responsibility (CSR) Projects Implemented (2021-22)

ICT Academy has signed new CSR projects with leading corporate partners such as *DXC Technology, Atos Syntel, HDFC Bank Parivartan, Honeywell Hometown Solutions, Inspirisys Systems, Tejas Networks and Marico Ltd.* Students and teachers in Tamil Nadu were given training on emerging technology skills, entrepreneurship skills and digital teaching skills.

2.9 New Corporate Partners Signed

ICT Academy has signed an MoU with *UiPath Academic Alliance, Bentley and Juniper*

Networks to help students build their skills on the emerging technologies.

2.10 CSR Projects being implemented (2022-23)

S. No.	Name of the Project	Organisation/ Department
1	Aspiring Entrepreneurs Program for 25,000 youth	HDFC Bank
2	Student Transformation Program for 10,000 students	DXC Technology

2.11 Proposed Trainings for the year 2022-23

S. No.	Name of the Project	Organisation/ Department
1	Advanced Technology Skills Training for 10,000 Engineering/ Arts and Science Students	Tamil Nadu Skill Development Corporation (TNSDC)
2	Employability Skill Training for 4,500 Higher Education Students of Tamil Nadu	Tamil Nadu Arasu Cable TV Corporation Limited (TACTV)
3	Empower the 50,000 Graduating Students from the Higher Education Institutions in Tamil Nadu	Information Technology Department and funded by Tamil Nadu Skill Development Corporation (TNSDC)

2.12 *"Nalaiya Thiran" - Experiential Project based Learning - An Initiative of Information Technology Department, Government of Tamil Nadu along with Tamil Nadu Skill Development Corporation, Anna University, ICT Academy of Tamil Nadu, NASSCOM, IBM*

"Nalaiya Thiran" is the first of its kind initiative which aims to expose students from engineering colleges across Tamil Nadu to have an innovative experiential learning.

It will provide students with hands-on experiences and reflection, enabling them to connect theory and knowledge to real-world situations.

Learning will also be supplemented by mentoring support from various industry experts and assessment with a certification.

This elective course will be offered to IT and Computer Science students in their 6th semester of graduation as they get ready for employment and the assessment is added to the University credit.

This initiative will be funded through Tamil Nadu Skill Development Corporation and implemented by ICT Academy of Tamil Nadu along with Anna University, NASSCOM and IBM.

2.13 ICT Academy of Tamil Nadu and Autodesk Presents India Design Week 2022 Grand Finale

ICT Academy of Tamil Nadu in association with Autodesk, has launched the India Design Week (IDW) 2022, a unique initiative for future designers to learn, explore, innovate and design products for different social problems using Autodesk Technology (Autodesk FUSION 360 software). The third edition of the IDW 2022 was conducted on 24th March 2022 at Sairam Institutions Chennai, Tamil Nadu. Around 127 students from 56 institutions participated in the 24 hours Design Challenge and worked on the problem statement given and presented their solutions to the panel of experts from leading

Corporates and finally top 3 designs and team were recognised with Awards and Goodies.

2.14 ICT Academy of Tamil Nadu - BRIDGE 2022.

The High Impact Industry-Institute Interaction Event of India

ICT Academy of Tamil Nadu conducted its 46th edition of `ICT Academy Bridge 2022', the High Impact Industry-Institute Interaction Event of India at Nagercoil, Kanyakumari District.

The conference themed "Future of Work" brought together industry experts, academic leaders and government policy-makers to address the challenges faced in the era of Fourth Industrial Revolution, thus creating a correlated education ecosystem and formulating a strategic regulatory framework.

The conference was attended by more than 200 faculty members from 90 colleges across the southern districts of Tamil Nadu.

CHAPTER-VIII

CONCLUSION

Tamil Nadu is a front runner in the IT sector. Several measures are being taken towards making Tamil Nadu the Global Centre for IT. Information technology would play a role in Hon'ble Chief Minister's vision of taking the State's economy to USD 1 Trillion by 2030. Government would support budding entrepreneurs to adopt future technologies. New investments would be encouraged in the IT sector and new jobs would be created towards ensuring overall growth in the State.

T. MANO THANGARAJ
Minister for Information Technology
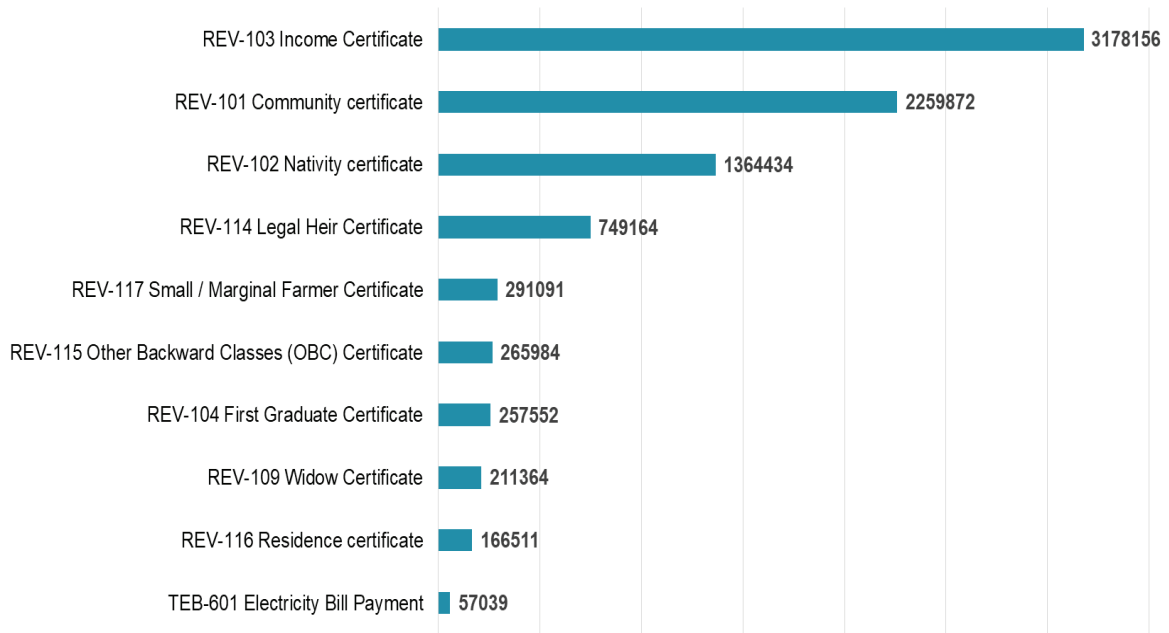
Transaction count of top 10 services offered through e-Sevai centers (2021-22)

Service	Count
REV-103 Income Certificate	3178156
REV-101 Community certificate	2259872
REV-102 Nativity certificate	1364434
REV-114 Legal Heir Certificate	749164
REV-117 Small / Marginal Farmer Certificate	291091
REV-115 Other Backward Classes (OBC) Certificate	265984
REV-104 First Graduate Certificate	257552
REV-109 Widow Certificate	211364
REV-116 Residence certificate	166511
TEB-601 Electricity Bill Payment	57039

Health workers using e- Paarvai app for cataract screening
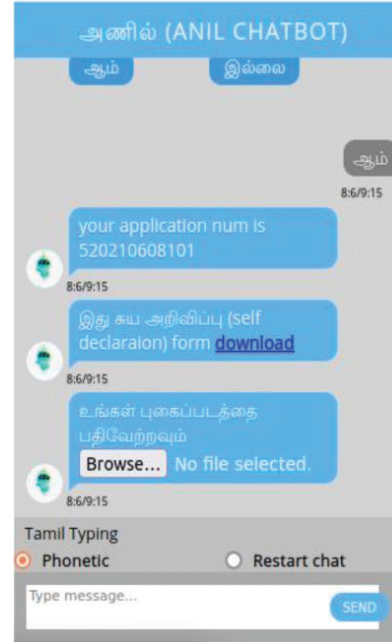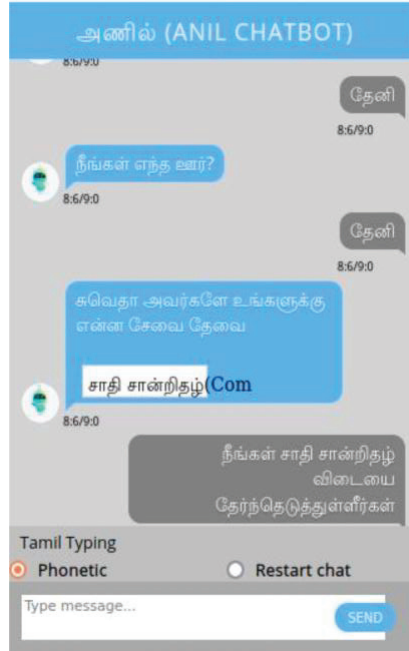
Applying for a Community Certificate using chatbot
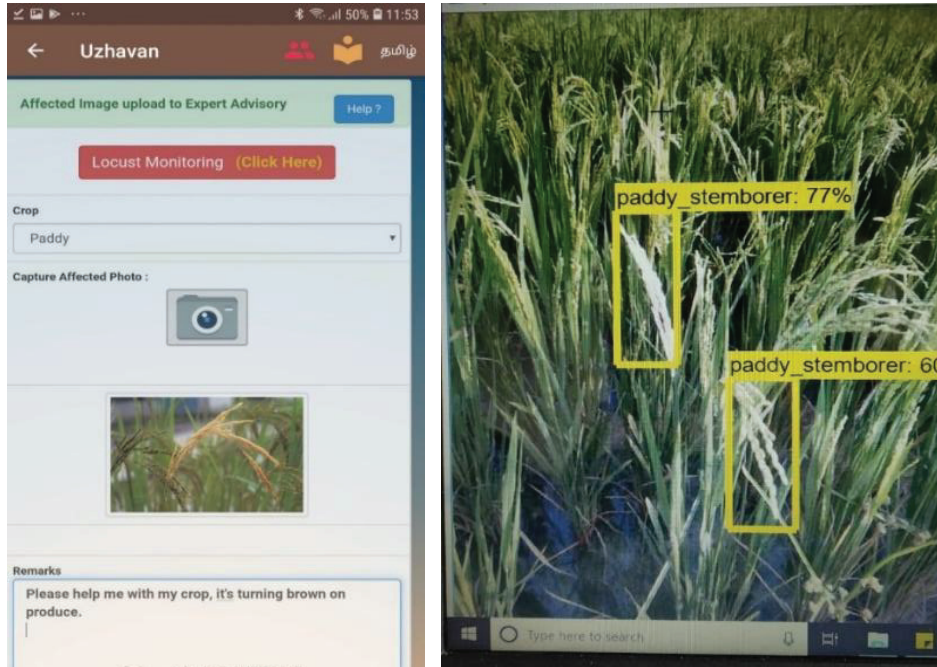
Diseased plant photo uploaded on Uzhavan app

iv
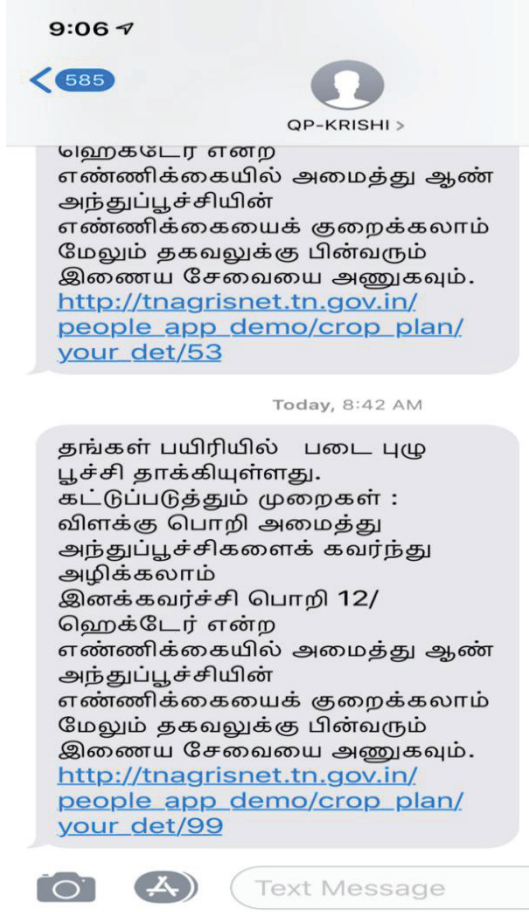
Farmer receives an SMS advising the remedial measures.

Certificate and Higher Certificate
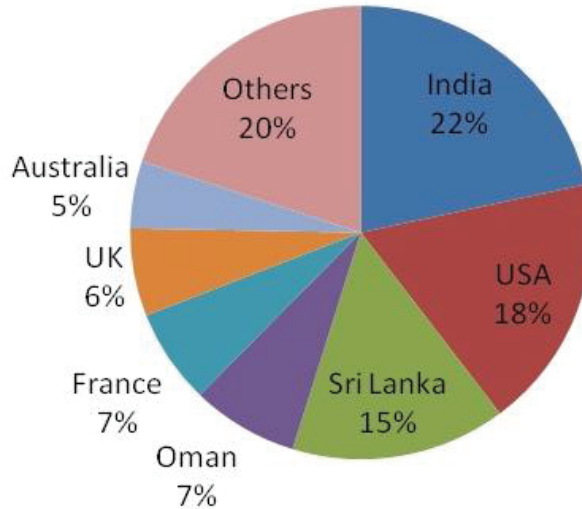
Certificate and Higher Certificate Course – Country Wise

Degree

- France
- India
- Sri Lanka
- Australia
- Singapore
- Canada
- USA
- Others

France, 2043, 29%
India, 1300, 18%
Sri Lanka, 930, 13%
Australia, 570, 8%
Singapore, 440, 6%
Canada, 426, 6%
USA, 243, 4%
Others, 1123, 16%
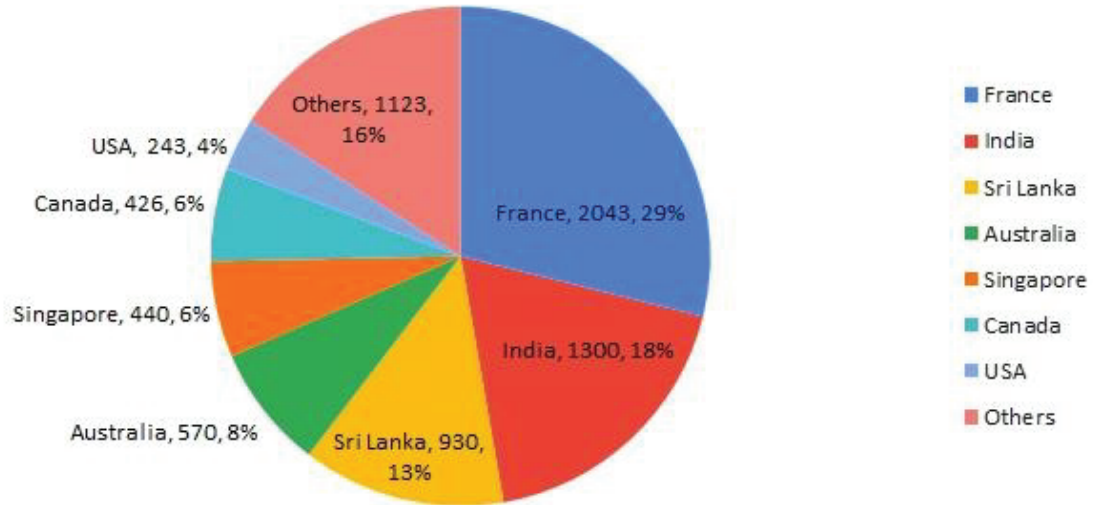
Diploma, Higher Diploma and Degree Courses in Tamilology – Country Wise

vii

The academic programmes are provided through 118 contact centres in 23 Countries

Canada - 4
USA - 39
UK - 6
German - 3
Switzerland - 1
Ireland - 1
France - 3
Italy - 1
UAE - 1
India - 36
Hong Kong - 2
Oman - 5
Myanmar - 1
Sri Lanka - 7
Malaysia - 2
Kenya - 1
Seychelles - 1
Mauritius - 1
Reunion - 1
Fiji Islands - 1
Australia - 8
South Africa - 2
Newzealand - 1

The Academic Programmes are provided through 118 Contact Centres in 23 Countries

viii

Digital Library

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6

Usage of Tamil Digital Library – Country wise

India
Sri Lanka
United States
Malaysia
Singapore
Others

India 88%, Sri Lanka 4%, United States 3%, Malaysia 1%, Singapore 1%, Others 3%

Data as per Google Analytics

Unique Visitors to Tamil Digital Library

2020	179,198
2021	276,819
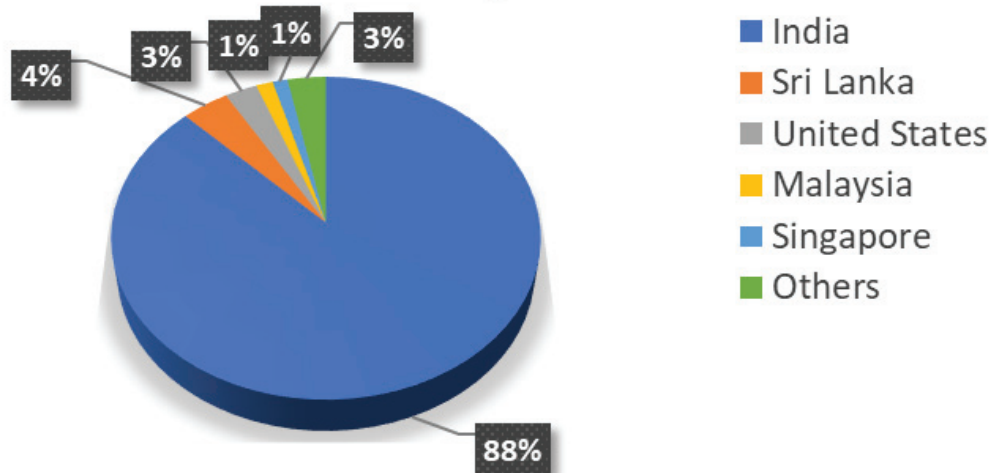
Data as per Google Analytics

xi.

iii
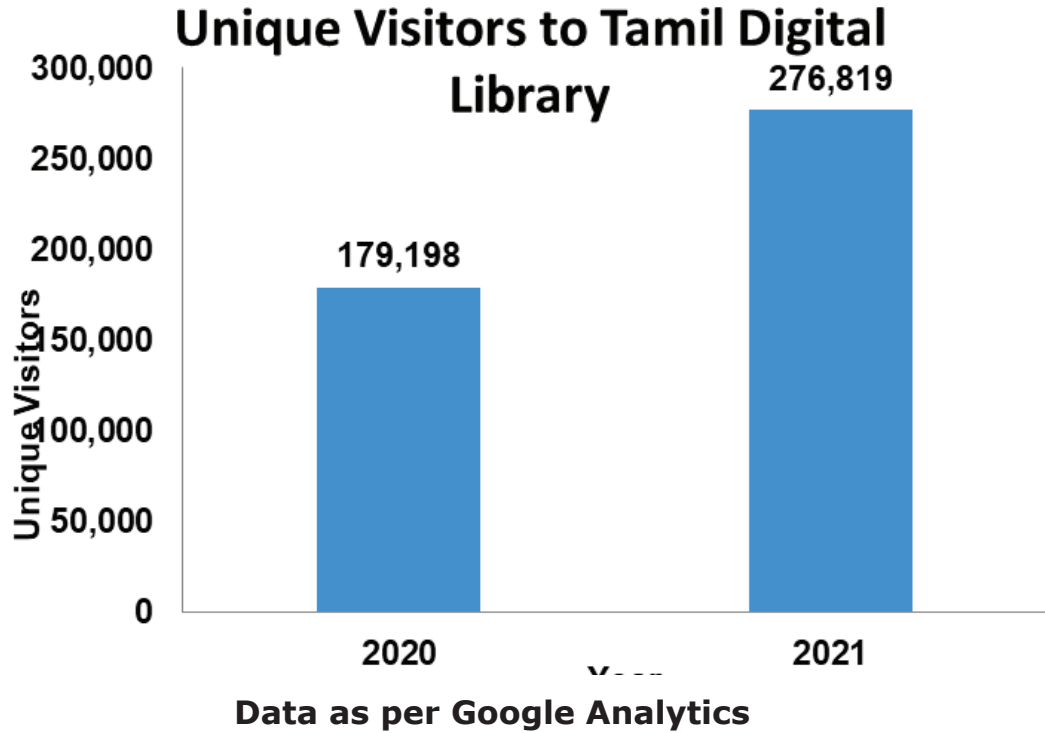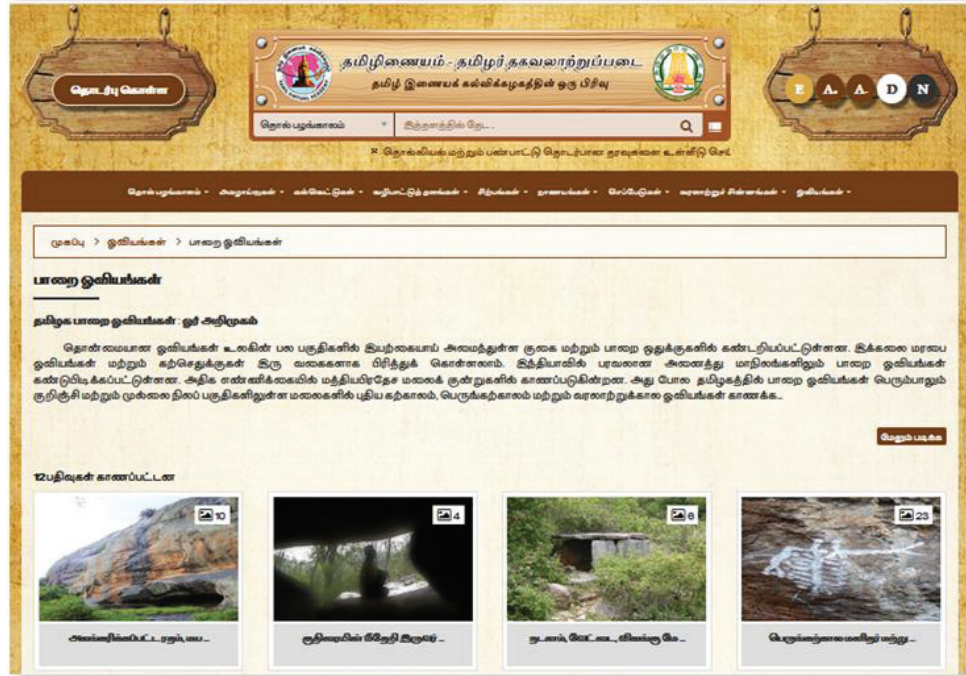
Tamilar Tagavalaatruppadai Website Pag View

Usage of Tagavalaatruppadai – Country wise
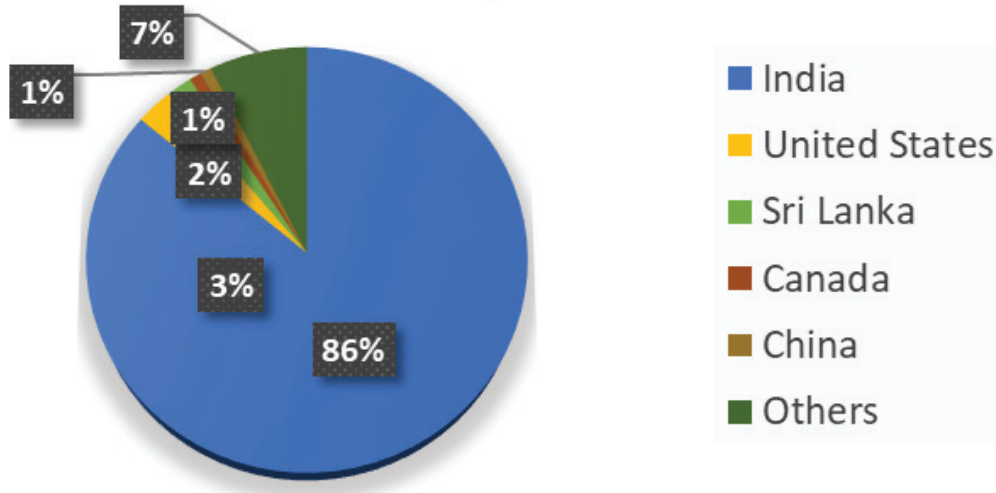
- 7%
- 1%
- 1%
- 2%
- 3%
- 86%

Legend:
- India
- United States
- Sri Lanka
- Canada
- China
- Others

xiii

Data as per Google Analytics

13

A painting competition titled '*Kuraloviyam*' was conducted for school and college students as first activity. The prizes were distributed by the Hon'ble Chief Minister of Tamil Nadu

ICT Academy of Tamil Nadu and Autodesk Presents India Design Week 2022 Grand Finale

ICT Academy of Tamil Nadu - BRIDGE 2022

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