BREAKOUT INNOVATIONS

प्रशासनिक सुधार और लोक शिकायत विभाग
DEPARTMENT OF
ADMINISTRATIVE REFORMS &
PUBLIC GRIEVANCES

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ANNIE

INDIA'S FIRST BRAILLE LITERACY DEVICE FOR THE VISUALLY IMPAIRED

JHARKHAND

Braille literacy rate in India is less than one percent. This is due to the fact that pedagogy of Braille requires constant presence of a teacher who is often not available. Secondly, there is hardly any interactive content available for Braille learners. Acute shortage of special educators compounds the problem further. With a major part of available resources going towards meeting other needs, hiring and training more teachers is often a financially challenging and logistically time consuming exercise.

As its contribution to the national goal of creating an inclusive education ecosystem in the country, Ranchi District Administration reached out to collaborate with Thinker-Bell Labs, a BITS-Pilani Start-up. Thinker-Bell Labs has developed a device named "Annie" which is India's first Braille literacy device for the visually impaired.

Annie enables students with visual impairment to self-learn Braille in a funfilled and engaging manner. All hardware modules of Annie are designed and customized to teach Braille in English as well as Hindi language. It comes with pre-loaded interactive content designed by curriculum experts and teachers. The software ecosystem around Annie allows for tracking the student progress (analytics) and downloading of new content on to the device. The Annie learning ecosystem triggers a multiplier impact on the problem by allowing one special educator to teach and monitor several students at the same time.

HOW DOES THE DEVICE WORK?

- Annie is a standalone device. Once switched on, a human-voiced audio guides the user to navigate through interactive learning content such as lessons, games, exercises etc. The content has been specially put together in Hindi incorporating local folk tales and similar other contextually familiar content to better engage the students.
- The user just needs to follow Annie's instructions via the earphones, or speakers, to engage with the interactive and adaptive content to learn Braille at his/her own pace.
- Inputs from the user are taken via the ergonomically designed Braille keys (for typing) and a specially developed digital Braille slate (for writing). There are two refreshable Braille displays for reading. One display showcases the letters with larger dots for beginners while the other has standard sized dots for words to be read simultaneously.

OBJECTIVE

- INCLUSIVE EDUCATION FOR VISUALLY IMPAIRED.

KEY FEATURES

- STANDALONE, UNIVERSAL AND REGION-AGNOSTIC DEVICE.
- INDIA'S FIRST BRAILLE LITERACY DEVICE.
- INSTANT CORRECT FEEDBACK.
- CONTINUOUSLY MONITORED, ANALYSED, AND VISUALISED ON DASHBOARDS.

- The users get an instant corrective feedback when they punch in an answer. The users do not need to depend on the availability of teacher's personal time to correct the mistakes that may have been made by them.
- Annie is a universal, region-agnostic device. The users can learn Braille of any language in any medium of instruction. Once the users learn to read, write, and type Braille on Annie, they can do all of that on any other standard instrument.
- Teachers can control content on the Annie devices being used by their students. Similar to a normal classroom with a blackboard, one teacher can supervise all children using Annie devices at the same time, without the compulsion of relying on an individual's attention.
- Annie is a device with internet connectivity. The user's data can be continuously monitored, analysed, and visualised on dashboards that help teachers & other stakeholders (such as parents) track performance and usage. The users can also access and download fresh content into Annie as and when required.

Leveraging innovative technologies for serving the targeted beneficiaries can be successful only if the technology can adapt itself to the location specific needs of the beneficiaries. This effort of the Ranchi District Administration at the Government Blind School, at Harmu in Ranchi (where a smart classroom was installed for the first time in India in July 2018 through the District Innovation Fund) has demonstrated that success can be achieved in Braille teaching through an adaptive technology and an inclusive approach.

PROJECT OUTCOMES

Since the installation of the smart classroom, a total of 154 days of usage has been recorded by 24 users in the Government Blind School that has a strength of 35 visually challenged students. A total of 985 sessions of student activity have been recorded since commencement of the project. This amounts to an average of 6 hours of daily usage by children where an average session lasts more than 30 minutes. A total of 485 hours of content has already been delivered to each user.

The improvement in learning outcomes can be attributed to the devices installed under the project. Reading and typing lessons have been delivered 1083 times by each student since deployment. Writing proficiency related lessons have been delivered 239 times since deployment. Vocabulary building exercises in Hindi and English (dictation tests) of varying degrees of difficulty were released on September 15th, 2018 in the form of a new content pack. These exercises have been done 136 times by students in 15 days that the devices have been in use. Competitive Braille proficiency building game of various difficulties was released on October 5th, 2018 as a new content pack. Since then they have been used 423 times in 9 days by 24 students who are using the devices. The Competitive Braille proficiency building has received a very encouraging response and has led to a significant increase in student engagement with the device. This has a direct and positive impact on their Braille reading and typing speed and accuracy, along with vocabulary.

WAY FORWARD

It is planned to equip all 24 Districts in Jharkhand with Annie enabled smart classrooms for students with disabilities. This will be a major step in the direction of addressing the inadequacies of pedagogical infrastructure needed for Braille learning.

MASTI KI PATHSHALA

ERADICATING CHILD LABOUR

JAMSHEDPUR, JHARKHAND

As is the case with most cities in India children living in informal settlements alongside roads and railway lines are often found engaged in activities like rag picking, slag picking and begging. Jamshedpur, Jharkhand is no exception to this unfortunate reality. Not only these children are under-nourished, they are also more prone to be exposed/ addicted to psychotropic drugs. Quite often, they also fall prey to plans of organized criminal gangs who use them as foot soldiers to commit petty crimes. Due to dire circumstances these children are compelled to grow up in, these children are perpetually confronted with unmet basic needs. These deficits are a primary trigger to their initiation in the world of crime jeopardizing their safety, security and health. Left unattended, such children are prone to wander towards activities that the society can do without. However, given a positive direction in life through empathy and education, these children are no less than others and stand a very good chance to avoid the otherwise destined criminal trajectory, and become responsible citizens who can contribute positively to achievement of societal goals.

Masti Ki Pathshala is a unique initiative to salvage these innocent lives by initiating them into the world of education and learning. The objective of Masti Ki Pathshala, a residential educational bridging facility, is to bring these children into its fold and gradually ease them into the formal educational process involving not only subject knowledge but also sports, arts and music.

CONCEPT DESIGN AND PROCESSES

To enroll students into the Programme, a team of officials from Masti ki Pathshala regularly conducts surveys of places with high incidence of child labour to pursuades the children to join Masti Ki Paathshala while keeping their families in the loop.

Residential Special Training Centre (RSTC) forms the backbone of Masti Ki Pathshala initiative. Children between age of 9-14 years of age are eligible to join an RSTC under the Masti Ki pathshala initiative. Currently there are four RSTCs with 297 students. Three of these centres are for boys while one is for girls. Once a candidate is enrolled in the Masti ki Pathshala s/he is shifted to an RSTC where s/he spends 18-24 months to bridge learning gaps, before being mainstreamed into an age appropriate class standard in a regular urban school.

The RSTCs provide a safe, respectful and enjoyable learning environment for children who enroll into the Programme by providing a set-up that ensures proper nutrition, health and hygiene. Alongside is a systematic plan to not only bridge their learning gaps but also provide opportunities to bring out their creative abilities in areas like music, dance and sports.

The three schools with which Masti ki Pathshala Programme has collaborated for onward mainstreaming of these children are top ranking English medium high schools of Jamshedpur. These are: Kashidih High School, Tarapore High School (Agrico) and JUSCO High School (Kadma). The Principals/ teachers of partner schools also have shown great enthusiasm in accepting children from RSTC and integrating them into their regular classes. Masti ki Pathshala and these schools have jointly determined to do what it takes to make these boys succeed academically.

OUTCOMES AND WAY FORWARD

A total of 37 children who have been mainstreamed under the project have performed very well and have already been promoted to the next class. Masti Ki Pathshala has exploded the myth that street children "are no good". The remarkable performance of these children in every aspect, be it academics, music, drama, choreography, sports, arts and craft, has convinced all those who have interacted with them that these children have potential like all others. All they need is opportunity and support.

Masti Ki Pathshala is breaking the vicious cycle of poverty and exploitation that traps children from less fortunate family backgrounds. Subsequent to their enrolment in the Masti Ki Pathshala Programme, their home environment is also changing for the better. As their families get that feeling of hope and pride, they are making efforts of their own to enhance their own lifestyles and tend to be better groomed and well spoken with feeling of positivity radiating through the family, neighbourhood and community. Children who enroll in Masti ki pathshala often become role models for other kids in similar vulnerable situations and encourage them to also look for options that change their lives. By making underprivileged children and their parents realise the value of education, Mast ki Pathshala is beginning to alter mindsets that prioritise work over education for a child at the cost of the potential these children have for contributing towards fulfillment of societal and national goals.

OBJECTIVES

- EMPOWERING CHILDREN FROM EXTREMELY DISADVANTAGED SOCIO-ECONOMIC SETTINGS AND MAKING THEM RESPONSIBLE CITIZENS WHO WILL CONTRIBUTE POSITIVELY TO SOCIETY.
- PREPARING STREET CHILDREN FOR A BRIGHTER FUTURE BY INTEGRATING THEM INTO FORMAL EDUCATION SYSTEM TO ENABLE THEM TO ENTER PRODUCTIVE OCCUPATIONS.
- INSTILLING IN THEM VALUES AND ETHICS DESIRABLE FOR A PLURALISTIC AND DIVERSE SOCIETY, IN THE PROCESS POSITIVELY IMPACTING THE NEIGHBOURHOODS AND COMMUNITIES THEY COME FROM.

BHUSEVA

ANDHRA PRADESH

Land is a primary economic and physical asset in any society. Due to the primacy of land in all our productive pursuits, smooth functioning of any economic system requires accurate and efficient maintenance of land ownership records. Major problems currently associated with property/land transactions are forgery of land ownership documents, as well as prevalence of benami land transactions. These maladies have their origins in sub-optimal accuracy and/or clarity in property titles. It is of great importance to put in place mechanisms and procedures that allow prompt and foolproof verification of land title at the time of undertaking any property transaction. Ability of a land management and registration system to authenticate land/property titles at the time of any transactions can eliminate fraudulent land deals and also remove the nagging feeling of insecurity while buying, or leasing, a property. Clean land transactions based on factual titular information also can reduce large number of legal disputes pertaining to ownership of land/property that clog our judicial system.

Bhuseva an initiative of the Andhra Pradesh Revenue Department is an innovative step that seeks to redress this legacy problem. A part of e-Pragati Programme of Andhra Pradesh, the benefits of BhuSeva in administration of land records can be well equated with benefits of Aadhar in ascertaining the identity of individuals.

At the heart of this initiative is the exercise to allot a specific 11 digit unique identity i.e. Bhudhaar ID to each land holding and urban/ rural property. Allotment of Bhudhaar ID is a two step process. In the first step a temporary Bhudhaar ID is generated based on the textual data of the land holding/ urban/ rural property. In the next step, a permanent Bhudhaar is assigned when the land parcel/urban/rural property is geo-referenced on all its corners and bends. The permanent Bhudhaar is based on both textual data and spatial data (indicated by geo-reference points).

Bhudhaar allotment process is quite straightforward. Once a ctiizen files an application for 'Allotment of Bhudhaar' for his land parcel – the concerned land dealing department will geo reference the land parcel and will allocate Bhudhaar. Every Bhudhaar ID is necessarily & mandatorily linked to the Aadhar ID of the owner. If there is any transaction regarding the land parcel after allotment of a Bhudhaar ID, (change of ownership, land-use, sub division etc.) the previous Bhudhaar is discarded and a new Bhudhaar is allocated and integrated with the new owner's Aadhar details.

OBJECTIVES

- TO PROVIDE UNIQUE NUMBERS TO ALL LAND PARCELS IN A.P.
- TO PROVIDE HASSLE FREE INTEGRATED SERVICES TO PUBLIC USING LAND HUB AS A COMMON PLATFORM.
- TO PROVIDE SINGLE SOURCE OF TRUTH DATA TO PUBLIC WITH REGARD TO INFORMATION ON LAND PARCELS.

One the process of allotting Bhudhaar ID is over as explained above, a Bhudhaar Card can be generated by the owner of the land parcel/urban property/rural property from the dedicated website for the purpose i.e. https://bhuseva.ap.gov.in/. It may be downloaded either directly from BhuSeva web portal or into the mobile of the landowner by using a specially developed mobile application that can be installed onto the mobile from the above portal.

Citizens can file applications with regard to services offered by 'BhuSeva' project either by accessing 'Mee Seva' kiosks, or can apply on their own through 'BhuSeva' portal.

KEY FEATURES

By removing all ambiguity around land titles Bhudhaar has delivered many advantages and benefits. These are briefly described as under:

- Seamless integration of Government Departments that interface with issues of land ownership.
- BhuSeva integrates following Government departments that deal with various dimensions of land ownership:
  - » Revenue Department.
  - » Registration Department.
  - » Survey, Settlement & Land Records.
  - » Municipal Administration and Urban Development.
  - » Panchayati Raj and Rural Development.
  - » Forest Department.

Due to necessity of Bhudhaar ID in all land transactions, any transaction done by anyone in respect of the land under any department (sale, gift, mutation, acquisition, conversion of land use etc.) by way of registration or mutations reflects on BhuSeva portal on real time basis.

eKYB (e-KNOW YOUR BHUDHAAR)

e-KYB is the process of identifying the land parcel by Bhudhaar and authenticating the owner with notified types of IDs. With availability of Bhudhaar ID of a land parcel, most land transactions (Mutations, Registrations, Pledging a Collateral) do not require any other supporting documents. This reduces clerical workload and also the chance of any of the documents being tampered with to commit a dishonest land transactions. API- Application Programmeing Interface based Bhudhaar Card with QR code ensures secure, undisputed and assured digital data thereby paving way for paperless transactions and preventing frauds.

FROM ELECTRONIC TO DIGITAL

The textual and spatial data regarding land/properties that was earlier in electronic form, as in Meebhumi portal of the Revenue Department, has now been converted into digital format through BhuSeva portal. Earlier there was no real integration among record of rights, spatial data and registered transactions, even though these are all inter-dependent. BhuSeva removes this lacunae by migrating core data of every land parcel onto a single platform and maintaining it on real time basis.

RELIABILITY AND ACCURACY

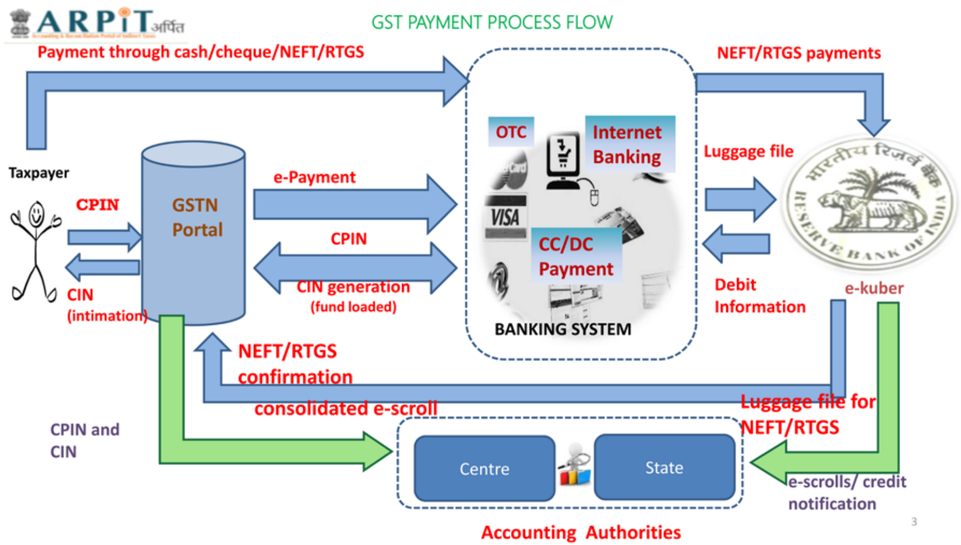
Accurate location and area of parcel through geo-referencing replaces the traditional stone survey framework with digital survey framework making the borders of land parcels dispute-free. It also updates data on sub-division of land holdings.

OUTCOMES

- Assignment of Bhudhaar to agriculture land parcels, urban & rural properties is now in an advanced stage:
- In Agricultural Land Parcels - 2.00 cr out of 2.39 cr (83%)
- Urban houses/vacant sites - 0.05 cr out of 0.32 cr (14%)
- Rural houses/vacant sites - 0.53 cr out of 0.84 cr (63%)
- Total - 2.58 cr out of 3.55 cr (73%)

ARPIT

ACCOUNTING AND RECONCILIATION PORTAL OF INDIRECT TAXES



Goods and Services Tax (GST) was launched on 1st July 2017 as a single nationwide tax. Understandably, GST entails a very large number of daily transactions and huge collections. GST has subsumed a large diversity of central, state and local taxes into one single tax leading to significant ease of business and logistical efficiency. However, to successfully establish this new taxation paradigm into a country as large and diverse as India, required a significant break from the past procedures and systems that had evolved and settled in over more than 100 years. This included the way the tax receipts are accounted for, and reported.

Accounting Reconciliation Portal of Indirect Taxes (ARPIT) is a real time accounting and reconciliation system that ensures that the GST collected throughout the country can be immediately realized into the books of the Government. It comes along with a mechanism for an end-to-end reconciliation amongst the various nodes/stakeholders in the tax administration ecosystem (like GSTN, Banks, RBI, Office of the Pr.CCA, CBIC) in order to minimize the accounting errors/delays in reporting of GST revenue.

BUSINESS PROCESS RE-ENGINEERING

Given the complexity and size of the Indian economy and diversity of entrenched legacy tax administration systems, the task of extensive process re-engineering at various levels had to be undertaken to remove the challenges and constraints in implementation of GST accounting through ARPIT. For instance, the challan based information which used to be received along with the bank scroll on the next working day in physical form is now being received from banks through GSTN Common

OBJECTIVES

- PROVISION OF REAL TIME ACCOUNTING AND RECONCILIATION SYSTEM FOR GST COLLECTIONS.
- TO ENHANCE MANAGEMENT INFORMATION SYSTEM (MIS) AND DECISION SUPPORT SYSTEM (DSS) FOR VARIOUS STAKE HOLDERS IN THE COLLECTION CYCLE.
- TO PROVIDE RELIABLE INFORMATION FOR STRATEGIC DECISION MAKING.

Portal on a real time basis (5 minute interval). This has been made possible by electronic integration and digital signature verification. As a result, complete accounting cycle that earlier took one month, with all attendant mismatches and suspense entries, now has a theoretical life span of 1 hour in ARPIT. This enables RBI to report revenue collections on an hourly basis with an unprecedented level of reliability and accuracy.

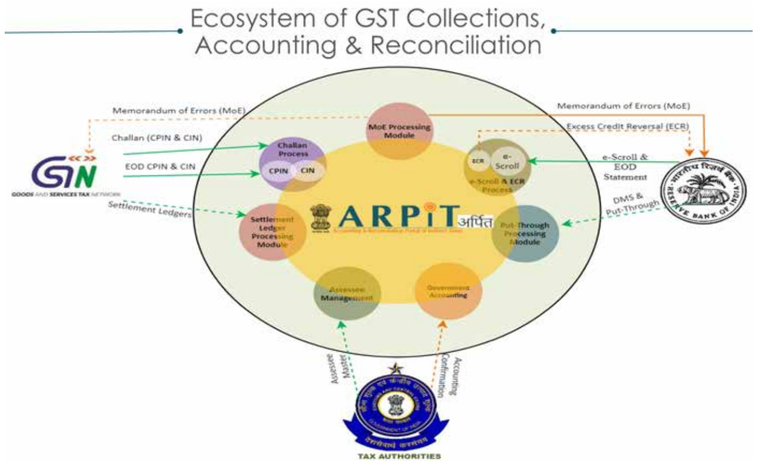
OUTCOMES

ARPIT has led to many positive outcomes that has helped bring India's national financial reporting at par with the best in the world. This includes, but is not limited to, swift, accurate and frequent reporting by RBI about fund accrual in Government account by way of GST receipts. It has also cut down the problem of accumulation of suspense balances in various Account Heads to the extent of 99.99%.

As ARPIT has transaction wise data since the beginning of the GST implementation, it has unique capability of performing revenue-forecasting operations using highly advanced analytical tools. A robust idea of future trends in revenue collection are critical not only to make required changes for timely course corrections, but to also ensure that national development plans are firmly rooted in financial realities.

ARPIT can resolve errors between GSTN, Banks & RBI in an automated environment making possible end to end reconciliation of revenue receipts. It has an inbuilt concurrent audit mechanism that ensures that gap in revenue collection at any point is easily identified and an automated response is triggered through the system. ARPIT also offers a sound Management Information System (MIS) and Decision Support System (DSS) to various stakeholders in the collection cycle as required for crucial/ strategic decisions.

ARPIT has gone a long way in bringing tax administration, accounting and reconciliation in India at par with the best in the world. In the process it has made India's policy makers better equipped to confidently chart the course of the nation towards a brighter future.



GOVERNMENT E-MARKETPLACE

Government e-Marketplace is one of the most transformative initiatives under the 'Digital India' Programme. Hosted on the National Procurement Portal of India, GeM, is an online platform that provides an open, efficient, inclusive, standardized, reliable and transparent solution for all public procurement needs across the country. The portal went live with its version GeM 3.0 in January 2018.

GeM is a marquee initiative that deals with not only goods but also some types of services. From hiring and leasing of vehicles, manpower services to hi-tech services like cloud hosting GeM handles all procurement needs. Paperless, contactless and cashless by design, GeM's following attributes make it a one of its kind pure marketplace based portal in the entire world.

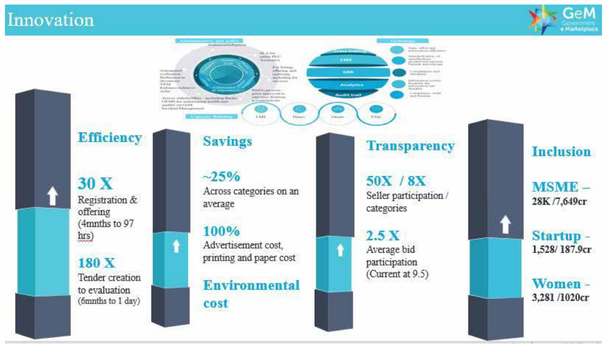
Open and Inclusive: Participation, collaboration and empowerment are at the root of GeM having multiple Government organizations, industry associations, banks, small and medium enterprises, vendors and other stakeholders as partners contributing to its offerings. GeM is available in 13 languages to maximse reachability and usability.

Efficient: GeM's realtime linkages with multiple government databases (like UIDAI, Income Tax, Udyog Aadhar of DPITT, MCA-21 etc.), vendor rating agencies and payment gateways of banks makes things fast and simple. Buyer/seller authentication now takes about 20 minutes without the need of any hard copy documents. Entire cycle of public procurement, from indenting to payment, has been reduced to 10 days, on an average.

Standardized: GeM has helped in standardizing not only the policy and practices of public procurement, but also the specifications and features sought in public purchase.

Reliable: GeM provides a trust based, open and inclusive platform. For the first time, Original Equipment Manufacturers (OEMs) have become active stakeholders in the public procurement space to help through keeping an oversight on prices, specifications and the genuineness of resellers at the entry point itself. Moreover, the reasonability of the prices is ensured by comparing the prices of similar items on other E-commerce portals.

Transparent: The deployment of online systems ensures transparency. Price of an item is visible to all users. Even in case of a bid, the marketplace price of the item is visible for the buyers to make



OBJECTIVES

- ENHANCE INCLUSIVITY, TRANSPARENCY, EFFICIENCY AND RELIABILITY OF GOVERNMENT PROCUREMENT.
- STANDARDISE POLICY AND PRACTICES OF PUBLIC PROCUREMENT.
- REDUCE ADMINISTRATIVE AND TRANSACTION COST OF PUBLIC PROCUREMENT.

a comparisan. All the relevant policies and circulars are also available on the GeM in the form of a GeM Handbook. Training videos and FAQs are available to ensure information symmetry.

Each stakeholder of GeM, through a consultative and cooperative approach, is working towards enriching each of the above mentioned attributes to ensure that the GeM continues to relentlessly fulfill its objectives. The inherent attributes and efficient governance have enabled GeM to achieve savings to the tune of almost 25% accruing to the buyers.

OUTCOMES

GeM has enabled implementation of unified procurement policies and processes across all buyer and seller domains. Prior to GeM, the public procurement space in India was mostly dominated by a limited number of sellers having location and size advantages. GeM has demolished the barriers of location and size that limited participation in public participation to a small number of firms. As against 3500 odd sellers registered on rate contract, GeM has more than 2,19,000 sellers.

With the advent of GeM, sellers from small and medium enterprises, start-ups and self help groups get a fair and equal opportunity to participate in public procurement. GeM has clocked a cumulative Gross Merchandise Value (GMV) of approximately INR 24,000 Cr. through 8,89,000+products and services being offered by 1,79,000 plus sellers to more than 35,000 public procurement offices while delivering an average saving of 25%.

While doing all this, GeM has also reduced administrative as well as transaction costs. No wonder, GeM has received encouraging response from all stakeholders. 27 states and UTs have signed formal MoUs to make purchases exclusively on GeM. In addition, GeM has collaborated with various government agencies and industry fora to accelerate the on-boarding and training of MSMEs.

GeM has recieved all round applause for the transformative changes it has ushered in the sphere of public procurement in India. The awards recieved include:

- South Asia Procurement Innovation Award (2016)
- Digital India Award 2018- Platinum (Exemplary Online Service).

PROTECTING CROPS WITH ICT

The Pink Bollworm (Pectinophora *gossypiella*) is one of the most destructive pests that targets the cotton plant. In all probability native to India, Pink Bollworm (PBW) ravages cotton crops and its cultivators all across the world by boring into cotton bolls, devouring blossoms and seeds. Needless to say, this causes immense financial and psychological distress to farmer communities. Efforts of the Department of Agriculture, Govt. of Maharashtra have always been aimed at helping farmers achieve better crop productivity with the use of various and appropriate agricultural technologies and practices. Farmers of Maharashtra suffered a serious setback in Kharif season of 2017 due to a sudden outbreak of the PBW. Almost 100% area of the state under cotton cultivation was impacted leading to huge losses to farmers. Cotton productivity declined to 265 kg lint/ha as compared to 434kg lint/ha in 2016. The financial loss due to pest outbreak was estimated at about Rs. 8000 Cr.. To alleviate farmer distress, the State Government undertook a survey of the affected area and distributed an amount of Rs. 3132 Crores as crop damage compensation to as many as 50.11 lakh farmers.

Needless to say the situation that prevailed was catastrophic for cotton farmers and warranted a systematic and coordinated approach to tackle the pest problem. Considering various factors responsible for the onset and spread of the pest, a detailed multi-stakeholder initiative involving latest tools of ICT and administrative machinery of the Maharashtra Agricultural Department was undertaken. The stakeholders involved included State Agriculture Department, State Agriculture Universities, Central Institute for Cotton Research (Nagpur); Central Research Institute for Dryland Agriculture (Hyderabad); National Institute of Plant Health Management (Hyderabad); National Informatics Centre (Pune) and National Research Centre for Integrated Pest

OBJECTIVES

- DEVELOPING ICT BASED PEST MONITORING SYSTEM FOR MAJOR PESTS OF COTTON THROUGHOUT MAHARASHTRA.
- IDENTIFYING HOT-SPOTS WITH SPECIAL REFERENCE TO COTTON PINK BOLLWORM AND ISSUE REAL TIME ADVISORIES BASED ON PEST STATUS.
- CREATING AWARENESS AMONG FARMERS ABOUT INTEGRATED CROP MANAGEMENT (ICM) PRACTICES.
- GUIDING THE FARMERS FOR MANAGEMENT OF MAJOR PESTS OF SELECTED CROPS.
- CONVERGENCE OF MANPOWER RESOURCES, GOVERNMENT SCHEMES AND INPUTS FOR EFFECTIVE MANAGEMENT OF PINK BOLLWORM.

Management (New Delhi); various *Krishi Vigyan Kendaras* in the region and, obviously, the affected farmers. The initiative involved sustained pest monitoring and awareness creation among farmers across all cotton growing districts of Maharashtra. e-pest surveillance based real time advisory system through mobile was dovetailed with a web based monitoring and reporting system using ICT tools. 20,160 villages across 26 cotton growing districts of Maharashtra were covered under the initiative.

OUTCOMES

The efforts outlined above have led to a rapid and significant positive change in the situation. Salient achievements are:

- Number of farmers enrolled for SMS service has increased to 67.73 lakh.
- Total 9765 advisories were suggested by State Agricultural Universities for cotton pest management in the state. These advisories were transmitted to 17.21 lakh registered cotton growing farmers of the state through SMSs, free of cost.
- Technology dissemination achievement has been made possible in a short span of just one year.
- Percentage of villages below Economic Threshold Level (ETL) during *kharif* 2017 was about 75%, because of PBW management strategy it is reduced up to 7 % in *kharif* 2018.
- By investing a modest amount of Rs.18.42 Cr. in preventive measures, losses of Rs.8000 Cr. worth of cotton crops were averted.
- Cotton productivity as well as lint quality is now better compared to 2017. This is despite the drought situation faced in 2018.

DIGITAL NERVE CENTER

KOLAR, KARNATAKA

"With close to 20% of the world population living within its geographical boundaries, India faces an extraordinary challenge when it comes to delivering healthcare to all its citizens. "Health for All, Health Everywhere" is a mission at Government of Karnataka that has been proactive in implementing Programmes to provide easy, accessible and affordable healthcare services to its people. Aimed at improving the reach and effectiveness of schemes and Programmes in the health sector, Government of Karnataka has launched a new initiative called the Digital Nerve Center (DiNC) as a collaborative effort of Government of Karnataka, DiNC aims to improve access to healthcare by improving facilities in primary health centres and with the use of 'telemedicine' to provide medical care from specialists. By linking local centers to this regional hub via video facilities, access to specialist care is spread much more widely and that too at a very low cost. This means, for example, world-class oncologists examining a patient remotely – assessing their tests results and advising local doctors of the next steps for treatment and care. Patient records have been digitised so that they can be accessed by specialist teams anywhere. This means that the right people can see the right records at a moment's notice. This streamlining saves time and resources and has the potential to transform the healthcare experience – especially for those with low incomes who have often struggled to get high-quality health care.

OBJECTIVES

- ENHANCING HEALTH CARE AVAILABIULITY.
- MAKING HEALTH CARE AFFORDABLE.
- EASE OF ACCESSING HEALTHCARE.

The Tata Trusts and M/s TCS Ltd. have collaborated with Govt. of Karnataka in this exciting initiative. While Tata Trusts/TCS have provided support for digital infrastructure and software platform for the centre, the State Government has provided manpower to staff the center and deliver the services. Accredited Social Health Activists and Auxiliary Nursing Midwives are the backbone of this project. Set up at Kolar, the DiNC shall coordinate the health care of as many as 14 million families in the area and serve as a model of health care delivery.

A Command Center has been set up in the District Head Quarters at District Health Officer's office premises. The Command Center seamlessly links -Sub-centers, PHCs, CHC's and Taluk General Hospital of the district with each other. DiNC uses the existing manpower at the ground level, starting from ASHA workers to senior professionals to accomplish its aim of providing high quality health care services under one roof without any additional burden to the exchequer.

Digital Nerve Center is running successfully in the district in the form of Health and Wellness Centers at the ground level and a sophisticated Command Center as a bridge between all nodes.

OUTCOMES

- Assured access to schemes under Ayushman Bharat - Arogya Karnataka
- Increased capacity utilization of Primary Healthcare Centers
- Reduction in patient movement to district hospital
- Progressive digitization of patient medical data
- Effective referral mechanism
- Access to specialty care through remote consultation at all PHCs
- Effective communication and messaging
- Effective monitoring of the healthcare delivery
- Standardization and optimization of processes as necessary
- Augment all govt. related Programmes and schemes
- Increased utilization of mother child care services
- Better management (referral, follow up, drugs and diagnostics) for non communicable diseases (Diabetes, Hypertension, Cancer, Thyroid Etc).
- Better management (hand holding, coordination, counseling and follow up) of mental health patients

SMILING SUN

REWA, MADHYA PRADESH

World needs urgent solutions to address the imminent crisis of climate change. Leading from the front, India has raised the bar by announcing a target of setting up 100 GW (1,00,000 MW) of solar energy generation capacity by 2030. However, merely mandating in the rules that out of the total energy to be bought by an electricity distribution company a certain proportion has to be solar energy would not have been effective enough as long as the cost of solar energy continued to be significantly more expensive than power from coal fired plants. High differential costs discourage electricity distribution companies, most of them already in the red from procuring solar energy. Getting out of this straight jacket needed fresh and out of the box thinking, new collaborations and innovation at multiple levels to unlock the full potential of solar energy. Mega Solar Power Projects were then an assumed domain only of large Central Public Sector Undertakings (CPSUs). Breaking this mould, Rewa Ultra Mega Solar Limited (RUMSL), Rewa as the implementing agency for the solar power park at Rewa as a joint venture between the Madhya Pradesh Urja Vikash Nigam Limited (MPUVNL) and the Solar Energy Corporation of India (SECI). RUMSL is a remarkable story of collaboration and innovation that made solar power in India cheaper than coal-based power and gave the country its first institutional customer to benefit from solar power. As a newly set up company, RUMSL neither had the commercial capacity nor any prior experience to handle a project of this scale on its own, in its entirety. Beating heavy odds, a team of officers of RUMSL successfully pulled through not only the intricate and complex tasks of conceptualization, market consultations, financial and legal structuring and bid process management (activities normally undertaken by CPSUs), but also the development of land and associated infrastructure (activities undertaken at state level).

A ride across the 1,590 hectares of land in Gurh Tehsil of district Rewa in MP on a normal day in 2017 would have felt like any regular one on a sunbaked patch of land, with many construction workers in sight and substation towers raising their heads in clusters, away and disconnected from each other. Come 2019, and an ocean of glistening flat PV panels had replaced this ordinary and almost noisome scene with a colossal solar park with world class infrastructure.

The park has registered its place in history for making solar energy an economically viable option in the country without depending on the crutches of subsidy and regulatory directions. It broke all records and attained the lowest tariff in history through an intense bidding

OBJECTIVES

- ENHANCING PRODUCTION OF RENEWABLE ENERGY.
- MAKING SOLAR POWER COST COMPETITIVE WITH CONVETIONAL POWER SOURCES.

exercise. Compared to normal coal-based power tariff of about Rs. 4.25 per unit for the first year, the 33-hour non-stop bidding in Rewa led to a first year tariff of just Rs 2.97 per unit.

The power from Rewa Solar Park is supplied to DISCOMS of Madhya Pradesh and also to Delhi Metro. The supply to Delhi Metro has opened up an entirely new chapter in utilization of renewable energy in the country where large institutional open access consumers can now start directly procuring inexpensive renewable energy. The solar energy harnessed through the Rewa project is expected to meet approximately 60% of DMRC's day-time energy requirements. This is the first time in India that solar energy has been used for railway traction. This can potentially pave the way for the country to achieve its renewable energy targets by expanding the procurement of solar power by large institutional purchasers, without the need to depend on regulatory directions and DISCOMs for the same.

The Rewa Solar project is an important step in the direction of meeting clean energy targets of the country. The 750 MW project would lead to avoidance of CO_2 generation of 1.54 MMT per year. This environmentally positive impact would have required planting as many as 2.6 Cr. trees.

Today, the internal sub stations built by RUMS for all the three units of the 750 MW park are working in tandem. The Power Grid Corporate of India Ltd. (PGCIL) substation is also ready and is evacuating power to the Central Transmission Utility (CTU) of the country. The unending rows of solar panels look like an ocean. The power flow has commenced in July 2018. Delhi's lifeline Delhi Metro is running on the power from this solar park. The project, which proved to be the inflection point in the history of solar energy in the country, has set a fine example of policy facilitation, a world class standard transaction structure leading to a rock solid Public Private Partnership. The sun is indeed smiling, not only on Rewa, but on all of Madhya Pradesh, and even on Delhi.

INTERNATIONAL SOLAR ALLIANCE

Countries located between the Tropic of Cancer and the Tropic of Capricorn are largely counted as developing countries. These countries are also confronted by a significant scarcity of fossil fuel resources as compared to their energy needs. However, on the flip side, these countries also receive copious amounts of solar radiation as they are bestowed with more than 300 sunny days in a year. This opens up huge possibilities for cost effective utilisation of solar radiation for meeting energy needs. These countries share aspirations to ensure universal energy access, energy equity and affordability. In June 2014, Prime Minister Narendra Modi envisioned an initiative for bringing solar resource rich nations together for mutual cooperation to upscale the utilisation of their solar energy generation potential. Under the leadership of Prime Minister Modi, India initiated an ambitious effort to create a new international organization that can contribute towards achieving the common goal of increasing utilization and promotion of solar energy and achieving universal energy access at affordable rates. The outcome was the establishment of the International Solar Alliance (ISA). It was a manifestation of the common desire to significantly augment harnessing of solar energy, make joint efforts towards technology development, and mobilize investment in the solar sector in order to promote energy security and universal energy access.

ISA was jointly launched by the Prime Minister of India, and the President of France, on 30 November 2015 at Paris, France on the side-lines of the 21st Conference of Parties (CoP) to the United Nations Framework Convention on Climate Change. 121 solar resource rich countries lying fully or partially between the Tropic of Cancer and Tropic of Capricorn were prospective members. ISA was widely hailed as an ambitious, audacious and game-changing initiative. Prime Minister Modi, in his inaugural address at the World Sustainable Development Summit on 15 February 2018, hailed ISA as the single most important global achievement for combating climate change after the Paris Climate Agreement.

The Framework Agreement of ISA was opened for signatures in November 2016. On 6 December 2017, with 15 countries ratifying the Framework Agreement, ISA became the first treaty based international inter-governmental organization headquartered in India. The Founding Conference of ISA was held on 11 March 2018 in New Delhi. It was jointly hosted by the Prime Minister of India and the President of France. In October 2018, the first Assembly of the ISA was held in New Delhi. As of now, 74 countries have signed the ISA treaty and 51 of them have already ratified the same.

CHALLENGES

The overarching objective of the ISA is to collectively address key common challenges to the scaling up of solar energy in ISA member countries. It also aims to undertake joint efforts required to reduce the cost of finance and technology, to mobilize more than US $ 1000 billion of investments needed by 2030 for massive deployment of solar energy to pave the way for development and adoption of new technologies. This objective will be addressed through aggregation of demand to enhance market leverage, mobilising investments, credit enhancement, risk mitigation of investments in solar products and projects, facilitating deployment of existing solar technologies at scale, promoting collaborative solar R&D and capacity building etc. ISA has been positioned to help create the conditions that would make funding, developing and deploying solar applications on a large scale a reality. In a short time since its inception, it has emerged as a truly international body putting the spotlight on ideas, advances, and technologies from across the world, not just from the dominant players.

ISA is a concerted and co-ordinated effort to enable these countries to improve the lives of their people through application of solar technologies in a cost-effective manner. By joining hands, these countries, primarily from the global south, are set to work together to find locally appropriate solutions, aggregate demand to make the technology affordable and access financial resources necessary for large scale deployment. ISA will assist member countries in drafting solar policies; development of standards; specifications and test protocols for solar energy systems; encouraging collaborations in solar resource mapping; and the deployment of suitable technologies; and also addressing various aspects of the capacity building requirement.

ISA is key to achieving the 2030 Sustainable Development Goals and has the potential to script transformational change that entails a shift to more sustainable systems of energy production and consumption while bringing millions of those sub-served by modern energy into the fold. ISA will act as the fulcrum for implementing Nationally Determined Contributions under the Paris Agreement.

OBJECTIVES

- TO COLLECTIVELY ADDRESS KEY COMMON CHALLENGES TO THE SCALING UP OF SOLAR ENERGY IN ISA MEMBER COUNTRIES.
- TO UNDERTAKE JOINT EFFORTS REQUIRED TO REDUCE THE COST OF FINANCE AND THE COST OF TECHNOLOGY.
- SIGNIFICANTLY AUGMENT HARNESSING OF SOLAR ENERGY.
- MAKE JOINT EFFORTS TOWARDS TECHNOLOGY.
- MOBILIZE INVESTMENT IN THE SOLAR SECTOR IN ORDER TO PROMOTE ENERGY SECURITY AND UNIVERSAL ENERGY ACCESS.

INNOVATION

ISA has been quite innovative and marks a departure from the existing international bodies active in the renewable space. It has been positioned to help create the conditions that would make funding, developing and deploying solar applications on large scale a reality. ISA is expected to create an altogether new and innovative platform that is going to assist the developing countries in framing of regulation and standards, consultancy support for bankable solar projects, concessional and low-risk finances. This apart, the ISA is expected to be a vehicle for technological collaboration, technology exchange and transfer.

INDIA AND ISA

India has recognised ISA's judicial personality by entering into Headquarters Agreement with ISA and provided immunity at par with UN organizations. India has offered to meet ISA Secretariat expenses for initial five years. This will help unfold ISA's potential for undertaking solar energy Programmes and activities among ISA member countries in a concerted manner. India's initial support has also set an example that will inspire other countries to contribute in different ways, including technology, finance and knowledge sharing.

In a world with overlapping interests, groupings, and international diplomacy, establishing a treaty based international organization in around two years has been unprecedented. India considers ISA a major initiative for putting solar energy in the global agenda and will continue to work for realizing the ISA vision of promoting energy security and achieving universal energy access at affordable rates. The Ministry of New and Renewable Energy and the Ministry of External Affairs, Government of India have been spearheading this Indian initiative under the leadership of the Prime Minister of India.

PROJECT SMART E-POLICE

UTTAR PRADESH

The world is changing and so is India, striding forward in unison. Information Technology (IT) is changing the way world functions. Police Departments are also embracing the possibilities on offer.

To bring policing up to speed with the changing times "**Smart e-Police**" app has been developed as a one-stop solution for police departments and citizens alike. Based on an ecosystem approach under "One nation-One app" concept, it encompasses more than 100 innovations across 6 verticals of law and order, crime, community policing, citizen services, police management and training.

"**Smart e-Police**" has the potential to mitigate, though the use of information technology, several internal and external problems faced by police organizations. The **internal problems** relate to functioning of the police under an archaic legal framework (Indian Police Act 1861) with minimal reforms, shortage of manpower and resources. As a result police personnel often suffer from poor work-life balance, depressions, suicides, animosity, lack of public appreciation, lack of transparency & accountability, increased discretion and corruption within organization. **External problems** include non-professional behaviour, corruption and poor quality of services.

Past attempts at finding partial solutions to these problems suffered on account of following weaknesses:

- Top down approach
- Piecemeal approach.
- Developed by using outdated technology
- Inadequate feedback loops at district/user levels.
- Poor adherence/compliance tracking

"**Smart e-Police**" helps mitigate the above problems by enabling fusion between old processes and modern technology. It reduces discretion, and resultant avenues for corruption, and also increases transparency and accountability. "**Smart e-Police**" has features like bottom-up innovation (by market for government instead of top-down innovation by government for government), multilingual, maturing the product by feedback from stakeholders, data-driven top to bottom decision making; reduction of discretion for transparency and accountability reducing corruption by ecosystem trademark approach, self-correcting system based on policies not enforcement, reliance on information push not information pull.

COMPREHENSIVE ONE-STOP SOLUTION

Various modules of "**Smart e-Police**" achieve these objectives and help optimize efficiency of financial, material and human resources under "One Nation, One App" to integrate the national police system that has been traditionally divided across states. For example, the Leave Management Module of "**Smart e-Police**" addresses the conflict between having adequate force levels on the ground versus adequate leave for personnel welfare. It reduces discretion by auto-forwarding of leave applications older than one day to a higher level. It increases transparency and accountability by showing the status of leave application to the applicant, automatic accounting of leave and daily email reports about the health of the leave administration system. By trademark graphs providing all required information about the leave applicant it promotes data-driven, systemic and neutral decision making instead of personality-oriented decision making.

Similar "**Smart e-Police**" innovations deal with a vast variety of dimensions of policing as a state function. This includes rumour control, crime against women; duty management, security maps, beat management, court monitoring, criminal database, facial recognition, history and verification, senior citizen safety, vehicle theft, charge sheet admission, citizen grievance etc.

The Smart e-Police project is in the pilot phase at present and is being matured by way of receiving, analysing and incorporating feedback from various stakeholders at various levels. The incremental approach is being followed in scale and implementation.

"**Smart e-Police**" has already been operationalised in all seven districts of Agra zone viz., Gorakhpur, Varanasi, Allahabad, Ambedkar Nagar, Mirzapur, Sonbhadra, Jaunpur and 8 districts of Government Railway Police (GRP). Smart e police app has seen 17000 + downloads from the Google Playstore with a 4.3/5 rating. "**Smart e-Police**" has already attracted attention as manifested in FICCI Smart Police Officer Award, 2018 and SKOCH Order of Merit Award, 2019 that it received with in a short period since its launch.

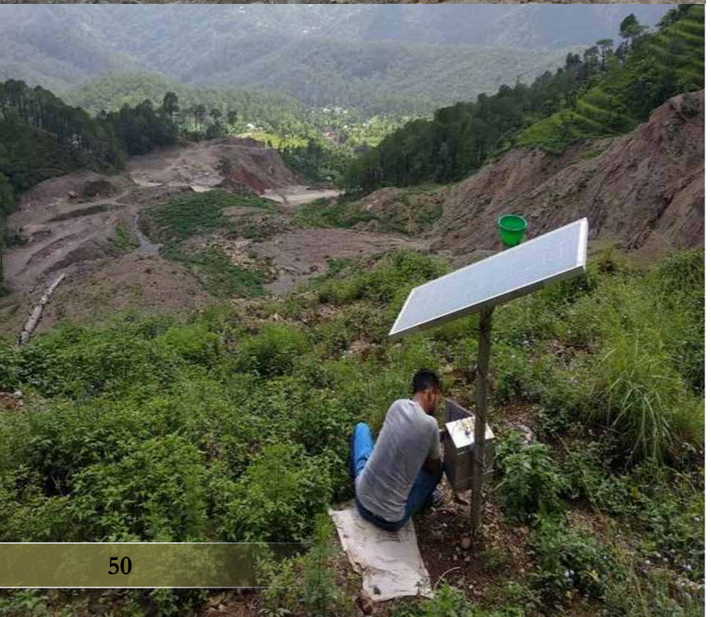
"**Smart e-Police**" has a strong potential to usher in long overdue changes in methods and procedures of law and order maintenance, police management and training and help in catapulting India as a leader in Smart Policing.

OBJECTIVES

- INJECT THE MUCH NEEDED MODERNISATION IN LAW AND ORDER MANAGEMENT.
- ENHANCE SPEED AND OBJECTIVITY OF DECISION MAKING.
- DEVELOP FEEDBACK LOOPS TO INFORM DECISION MAKERS.

LOW-COST LANDSLIDE MONITORING AND WARNING SYSTEM

MANDI, HIMACHAL PRADESH



India is home to the Himalayas, the highest mountain range on the planet earth. The Himalayas are a result of a tectonic phenomenon involving a collision between the Indian and Eurasian plates. The northward movement of the Indian plate towards China causes a continuous stress on the rocks rendering them friable, weak and prone to landslides and earthquakes. The slow motion of the Indian crust, about 5 cm/year accumulates stress to which natural disasters are attributed. Landslides and avalanches are among the major hydro-geological hazards that affect large parts of India. This includes the Himalayas, the north-eastern hill ranges, the Western Ghats, the Nilgiris, the Eastern Ghats and the Vindhyas, in that order, covering about 15 % of country's landmass. The Himalayas alone count for landslides of every fame, name and description- big and small, quick and creeping, ancient and new. Some landslides can result in unparalleled catastrophes.

Mandi district is one of the central districts of Himachal Pradesh state in northern India. The town of Mandi is the headquarters of the district. The town has a mythological and historical significance. It is also referred to as Chhoti Kashi as there are many ancient temples in the city, and, on the banks of river Beas. The town is also an important commercial hub of the state falling at the confluence of two major transit routes, NH-21 (Kiratpur-Manali) and NH-154 (Pathankot-Mandi).

MANDI AND LANDSLIDES

Mandi district of Himachal Pradesh is highly vulnerable to landslides that lead to significant loss to property and life every year. According to vulnerability studies and mapping done by the International Journal of IT, Engineering and Applied Sciences Research, the area most prone to landslides in Mandi is the area along the two national highways i.e. NH-154 and NH-21.

On the night of 12th & 13th August 2017 a massive landslide struck at Kotrupi village in Padhar sub division, about 35 Kms. from the town of Mandi. The landslide buried two buses of Himachal Road Transport Corporation snuffing out 46 precious human lives. Approximately 300 metre long stretch of the National Highway was completely obliterated. It took one month for vehicular traffic to be fully restored on the highway. In the following monsoon season of 2018, personnel from Aapda Dal / Home Guards were deployed along the slide prone stretches of the highways. But that was hardly a reliable mechanism to keep a tab on the possibility and imminence of landslides.

DEVELOPING THE LANDSLIDE MONITORING AND WARNING SYSTEM

Given the frequency and intensity of the hazard posed by landslides, an urgent need was felt for developing an Early Warning System for landslides so as to prevent the much too frequent dance of death and destruction in landslide prone areas of the district. As a part of its quest, the district administration of Mandi reached out to scientists and researchers at the Indian Institute of Technology, Mandi (IIT-Mandi)for development of a Landslide Monitoring and Warning System (LMWS) for advance warning of potential/ prospective landslides in a timely manner. As an outcome, iIoTs,, a group incubated at IIT-Mandi, successfully developed and evaluated an LMWS based on Micro-Electro-Mechanical Systems (MEMS) based sensors.

Under LMWS, as a first step, historical rainfall records, soil properties and geological information for the selected site are analyzed to understand the characteristics of the landslide area. Once this phase is over, site-specific MEMS sensors are installed to collect real time data about rainfall, temperature, pressure, relative humidity, light intensity, soil moisture, and soil movement at the selected site. The captured data is uploaded onto a remote server using GSM technology at 10 minute intervals. The uploaded data is parsed, and, depending upon the magnitude of the soil-movement, a rule-based algorithm triggers landslide threat alerts via SMSs to relevant state agencies and other people who have subscribed for receiving such alerts. It also activates hooters and blinkers to alert local police and those in the vehicular traffic at the deployment site.

After development and robust testing, 10 LMWSs were installed at various locations in the district (5 along the Mandi - Joginder nagar National Highway and 5 along the Mandi – Manali National Highway) namely - Kotrupi (2), Gumma (2), Drang (1), Deod (1), Hanogi (2), Dwada(1) and Reins Nallah (1).

OBJECTIVES

- PREVENT LOSS OF LIVES AND LIVELIHOODS FROM LANDSLIDES.
- PROVIDE RESPONSE TIME ELBOW ROOM TO AUTHORITIES THROUGH TIMELY ALERTS.
- DEVELOP A LANDSLIDE MONITORING AND WARNING SYSTEM THAT CAN BE SCALED UP FOR THE ENTIRE COUNTRY.

DISASTER AVERTED

After the 2017 Kotrupi landslide, a temporary road was made through the debris to provisionally allow movement of traffic. In July 2018 due to high rainfall Kotrupi again started experiencing a seepage overflow situation along the old route. Although the Public Works Department (PWD) had constructed a drainage facility to take care of this seepage overflow, internal water sources were still active at some places underneath the temporary road that were not easy to identify given the massive debris overburden. With the onset of monsoon in July 2018, the integrity of soil layer was broken allowing water to find its path through the points of lowest energy. This breakage caused the internal soil movements leading to a rupture of ground surface near the road to release sub-soil water and activated movements in the soil on the surface.

On the night of 27th July 2018, as it rained heavily in Kotrupi, a flash flood began its journey as underground water came rushing down towards the NH 154. However, the LMWS, deployed just two-weeks prior, was activated by waterflow and the system activated the sound alarm and blinkers to alert home guards deployed close by. The home guards scrambled and managed to stop the traffic on the highway just before the flash flood gushed past the road into the dark valley below. This installation, the largest of its kind in India, succeeded in averting a major disaster. Spurred by this success, the District Administration of Mandi and iIoTs have carried on to strengthen the LMWS network. Three more systems have been installed at Urla, a place close to Kotrupi where landslides are considered quite probable in the times to come.

LMWS - THE COST BUSTER

While the cost of conventional landslide monitoring systems runs into crores of rupees, the cost of an LMWS as deployed in Mandi District is just Rs. 20,000 per system, 1/100th of the cost of a conventional system. Since they have been operationalised, the LMWSs have regularly generated soil movement warnings of different magnitudes to alert the district administration about potential sites that are vulnerable to landslides. The system has also generated severe weather advisories in Pandoh and Joginder nagar about significant rainfall events where the probability of rainfall is greater than 80% and expected amount of rainfall is greater than 3 mm in next two hours.

Beyond alerting about potential soil movements, the LMWS also has the ability to gather data on soil movement, soil properties, and weather over an extended period of time. This time series data can be very useful for predictive analytics that uses AI algorithms based upon historical patterns between soil movement, soil properties, and weather data to predict soil movements. This predictive module is planned as the next big upgrade in the LMWSs network deployed in Mandi district. It can be expected that it will go a long way in securing life and property from landslides in this montane region in the years to come.

PROJECT TEACH GAJAPATI

GAJAPATI, ODISHA

Gajapati District is one of the most backward districts of the State of Odisha. Mostly hilly in terrain, and inhabited largely by tribal population, the district faces several socio-economic developmental deficits. This includes shortage of subject specific teachers in many of its schools, especially those located in the interior pockets. This has been a primary cause of significant learning deficits amongst pupils. To bridge this important gap impacting learning outcomes amongst school students **'Teach Gajapati'** campaign was conceived and rolled out. The project required detailed and meticulous planning. As a first step, the details of subject wise needs were ascertained in consultation with the Education Department and ST & SC Development Department of Govt. of Odisha. Having done that, eligible individuals were invited to participate in the project as Teaching Volunteers. This was done through advertisements posted on district's website, facebook page and twitter handle as well as in other forms of media. The response was pleasantly robust and in a few days only as many as 178 applications poured in. After due scrutiny of willingness forms and considering the subject wise requirements, 60 Teacher Volunteers were appointed to take teach the desired subjects in 53 schools. Each Teacher Volunteer was assigned the task of taking 15 classes over a period of 3 months and at the end of it, conduct an examination. In total, 572 classes have been undertaken by Teacher Volunteers to the benefit of more than 3100 participating students. Continuous feedback was taken from students from time to time on their experience being a part of Teach Gajapati, and its effectiveness. The examination conducted at the end of the classes gave a clear picture of the impact of scheme and also generated useful pointers for future improvements.

This initiative led to an overall improvement of teaching atmosphere in schools. This was because:

- Regular de-briefing and review meetings were conducted in order to take feedback from Teacher Volunteers and to assess the progress of the campaign. For the sake of transparency as well as publicity, media persons were invited to attend all review / progress meetings.
- Regular visits of senior officials to schools during classes taken by Teacher Volunteers led to a robust monitoring of the project and also helped enhance its outcomes.

Teach Gajapati also had some unintended welcome consequences. It not only reduced the gaps in subject specific teaching, it also helped

address many other chronic issues like absenteeism among regular teaching staff and cleanliness/ hygiene in school premises. Optimal use of new age communication tools like Google Docs, Whatsapp etc. was made for data assimilation, information sharing and monitoring.

OBJECTIVES

- BRIDGE TEACHING GAPS IN SCHOOLS.
- CREATE A MORE INCLUSIVE EDUCATIONAL ECOSYSTEM.
- CREATE A CADRE OF VOLUTEER TEACHERS AT THE DISTRICT LEVEL.

Other improvements that flowed out of the project were:

- Proactive participation of students / parents.
- Development of more robust feedback loops.
- A student community inspired by professionals from various walks of life coming to teach them.

To create awareness about the initiative, numerous steps were taken to give publicity to various dimensions of the project in the media wherein facebook and twitter handle of Gajapati district were also used. All information related to 'Teach Gajapati' campaign was uploaded on the district's official website. In order to create a buzz about the project, customised T-Shirts and bags were designed and given to all Teacher Volunteers to wear / carry while taking classes. Few of the 'Teacher Volunteers' were felicitated during Republic Day celebrations in the district.

The modus operandi of the scheme is simple and based on basic administrative management principles.

Since 'Teacher Volunteers' render their services voluntarily, Project Gajapati has almost no additional burden on the state exchequer. Teach Gajapati is a sustainable and easily replicable initiative with potential for being implemented at a much wider scale to enhance the pedagogical capacity of school education system.

PROJECT ROSHNI

ERNAKULAM, KERELA

OBJECTIVES

TO HELP MIGRANT CHILDREN CROSS LANGUAGE AND CULTURAL BARRIERS AND IDENTIFY THEIR STRENGTH AND WEAKNESS WHILE RETAINING THEIR OWN LANGUAGE AND CULTURE IN ORDER TO CREATE A BETTER SOCIETY.

Ernakulam District of Kerela has the highest number of migrant labourers in the state. Children from migrant communities attend different government and aided schools in Ernakulam. As per a survey conducted by Samagra Shiksha, Kerala the majority of these students are not regular to classes and many actually drop out of school midway through the academic year. Two of the most significant drivers for high dropout rate are the linguistic (inability to speak/understand Malyalam, the instructional language) and dietary (these children often were showing up in school empty stomach as their parents had to rush to their jobs leaving no time for preparing breakfast).

Most of the migrant children acquire the ability to speak in their native tongue by the time they migrate. But once in a school in Kerala they are compelled to learn in an alien medium of instruction once they enroll. This creates hurdles in the acquisition of instructional language, second languages, and the conceptual understanding of other scholastic subjects. "Discourse Oriented Pedagogy (DOP) clubbed with code-switching strategy can be employed to provide, what Stephen Krashen termed as 'comprehensible input', to acquire competence in any language. Code switching occurs when a speaker alternates between two or more languages, or language varieties, in the context of a single conversation. A multilingual facilitator who switches between the migrant learners' native tongue and the medium of instruction (or second language) can be employed to pedagogically address their linguistic deterrent.

Project Roshni uses the support of Educational Volunteers (EVs) who are proficient to handle multilingual learners and are appointed Under Sawashilesha Abhiyan (SSA)to deliver an extra class, of about

> **"Roshni is an innovative educational project initiated by District Administration Ernakulam, Kerala and funded by Bharat Petroluem Corporation Limited (BPCL), Kochi. Launched in October 2017, the project ran in as many as 20 schools covering more than 600 migrant students - majorly from Nepal, Lakshadweep and states like West Bengal, Tamil Nadu, Orissa, UP, Bihar, Karnataka and Assam."**

one hour, to the multilingual and multi-graded learners. The sessions begin with a nutritious breakfast every morning before the regular classes. The EVs are given continuous support through training sessions, try-outs, review meetings, supply of hard/soft copies of transaction modules and most importantly an online platform to discuss their concerns/ difficulties at any time. Each of them shares his/her classroom experiences, discourses/model produced in classrooms and the growth they witness among their students through photographs and videos. This gives the other EVs an opportunity to see what happens in other classrooms, and the academic coordinator an opportunity to guide them. Project Roshni has also introduced the concept of 'Student Volunteers'. In schools where the migrant students' strength is high, students proficient in languages are employed pedagogically- to edit migrant learners' writing and to assist the EV by doing the follow up of works assigned to students.

Another unique element of the pedagogy is the development of integrated, theme based evolving texts using audio/ visual aids rather than a printed textbook, designed assuming that it would address the evolving academic needs of the learners. This facilitates active participation of the learners during the production of discourses. Also, instead of correcting the errors of students while writing these discourses, Project Roshni introduced editing at sentence and discourse levels. To give rich input in the target language, and to address the learners at different proficiency levels, the micro process goes for graded Teacher's Versions of the said discourses. This inclusive approach is one of the reasons why the learners could acquire ability to communicate in Malayalam even without the support of a linguistic community around them using Malayalam for communication.

A special package called PEACE (Package for Elementary children in Acquiring Competence in English) was also designed under Project Roshni. The package concentrates on strengthening the ability of teachers to identify the indicators of each discourse at different levels and to plan the micro level classroom process of sensitizing this to the learners. This in turn makes the teacher confident to analyze the

current level of learners, and, to assess their linguistic competence at each level for giving qualitative feedback using different strategies.

OUTCOMES

The impact of Project Roshni in terms of acquiring competence in the instructional language was assessed through different methods. All 20 schools conducted social audits in the presence of officials from Education Department, SSA, language enthusiasts, NGOs and general public in November 2018 to declare students' acquired Malayalam proficiency. Students undertook live tasks to showcase their language skills. The reports of these audits along with the feedbacks from the officials were compiled together as a book titled *Sameeksha*. The success of the Project Roshni is evident in all the internal and external assessments that testify that an average of 75% of students have acquired complete competence in Malayalam and English. Another major impact is the decrease in the dropout rate, even after the turmoil of flood that hit Kerala in August 2018. The dropout rate has come down to half compared to the figure last year. Some other outcomes are:

- Integration of Talent Lab with **Earn n Learn Package** for migrant children
- **A Summer Camp** to strengthen the talent of the learner in fine arts, sports and games
- **A Cultural Exchange Programme** among the native and migrant students to have a better understanding of the cultural diversity of the country
- **An Internship Programme** for graduates to learn about multilingual pedagogy

Year 2019-20 onwards, Project Roshni is all set to be extended to all schools in the district with migrant students.

PROJECT VAAN SHIRAPPU

DINDIGUL, TAMIL NADU

Abutting the mega-diverse Western Ghats mountain ranges, Dindigul District of Tamilnadu is endowed with significant natural beauty. Kodaikanal Hills, a part of Western Ghat ranges, Sirumalai and several other smaller hill ranges are part of the district. Due to its rich and diverse soil conditions, Dindigul is renowned for its vegetable and fruit cultivation. This includes - guava of Ayakudi; mangoes and tamarind of Natham and Shanarpatti; moringa (drumstick) and small onion in Guziliamparai; hill banana and jackfruit of Sirumalai; coffee of lower Palani hills; sembangi flowers (*gloriosa superba*) in Oddanchatram and Thoppampatti; Garlic from Upper Palani Hills; jasmine flower from Nilakottai, only to name a few. However, due to declining trend in rainfall levels, the scenario in this predominantly agrarian district has witnessed a turn for the worse over the past decade. Inadequate rainfall during monsoons has led to over exploitation of ground water resources for agriculture as well as human consumption. This has led to a steady fall in ground water table, beyond 1000 ft in several places. Siltation and encroachments have resulted in degradation of natural water bodies and canals, compounding the problems further. This has led to a decline in agricultural productivity and also a severe shortage of potable water.

To address the situation emerging in the face of rainfall inadequacy and declining ground water resources, an ambitious initiative was launched for restoration and rejuvenation of water bodies and for rainwater harvesting. This initiative was named as "Vaan Sirappu" which indicates 'The Excellence of Rain" and the name itself clearly enunciates the objective of the mission - "Sustainable rain water management through restoration and rejuvenation of water bodies."

Other than the Government agencies, civil society organisations and business establishments were also engaged with the mission to restore water bodies of Dindigul.

Dindi-Ma-Vanam, an NGO served as the bridge between district administration and business organisations to encourage their engagement with the project. Entrepreneurs were convinced of the larger and long-term benefits of water conservation measures to elicit their active participation under their respective Corporate Social Responsibility (CSR) components. All relevant departments- Revenue, Survey, Rural Development, Public Works were brought onto a single platform with the NGO's and business organisations. The ensuing collaborative effort saw removal of encroachments in water bodies followed by proper demarcation. Information boards giving details of survey number, extent, ayacut and the department under which the water body is maintained were installed at each water body to deter encroachers from returning. .

OBJECTIVES

- MITIGATE RECURRENT DROUGHTS.
- STEM GROUND WATER DEPLETION.
- ADDRESS SHORTAGE OF DRINKING WATER.
- FACILITATE RECHARGE OF GROUND WATER AQUIFERS.

The project planned and executed comprehensive efforts aimed at revival of tanks and canals from source (the foothills) to the destination (the river). It required a continuous coordination with all the stakeholders. Several entrepreneurs wholeheartedly came forward to support the district administration. More than 25 tanks, having a catchment/water log area of **858.73.0 Hectares**, were desilted. In addition, 135 KM of supply channels were cleared of encroachments and desilted at a cost of **Rs. 334 lakhs** to ensure free flow of water. This unclogging of water channels ensured irrigation to additional **2284.28 Hectares of agricultural** land besides recharging **913 wells and 11610 bore wells**. As many as 8198 agricultural families and more than 12500 non-agricultural families in rural parts of Didigul have benefitted from the project.

An important dimension of the project was to survey and identify all defunct bore wells in the district and convert them into recharge structures to facilitate faster recharge of ground water aquifers. As many as **1152 defunct bore wells** were converted into **recharge shafts**. Moreover, 2135 ring wells were also constructed, 938 in the "Red Zone" (those with severe scarcity of drinking water) habitations in the 1st phase and 1183 ring wells in "Yellow zone" (habitations with moderate scarcity of drinking water) in the 2nd phase.

DELIVERING FOREST RIGHTS

MAHARASHTRA

Tribals and other forest dwelling communities have been traditionally cultivating their land for generations. However, they were deemed as encroachers as their traditional livelihoods did not fit into the framework of forest laws focused on preservation and conservation. Forest dwellers have innate knowledge of historical traditions for protecting forests. This was not adequately recognized by the forest management regimes in force from time to time. This resulted in criminalization of the routine activities of these communities and also exploitation. Moreover, all development schemes bypassed the tribal communities as they did not have a 'legal right' to the lands they had been cultivating for ages.

The Forest Rights Act, 2006 (FRA 2006) was aimed at undoing this historical injustice and restored individual rights over agricultural land up to 4 hectares for bona fide livelihood purposes. The cut off date for such restoration was deemed to be 13 December, 2005. The FRA 2006 also conferred the right to protect, regenerate and manage forest resources and exercise regulatory powers on local communities. FRA 2006 recognizes a range of rights including a) Access to, collect, use and dispose of Minor Forest Produce (MFP) b) Rights for conversion of 'pattas' to titles and c) Right to *in situ* rehabilitation and protection from arbitrary displacement without settlements of rights.

However, the implementation of FRA 2006 was lackadaisical. This was due to poor awareness amongst stakeholders, tardy implementation, high incidence of technical rejections, lack of clear data, absence of case-wise tracking systems and prevalent misperceptions about the law itself being anti-conservation. This led to a significant dissatisfaction amongst tribal communities which led to frequent agitations. In order to speed up the process of recognition of individual and community forest rights (IFR and CFR) various initiatives were taken by the Tribal Development Department (TDD), Maharashtra to make Maharashtra the top state in India in recognition of forest rights in terms of claim approvals and title distribution. To achieve this objective, TDD embarked upon a bold initiative to not only implement the law, but to go beyond the routine.

INNOVATIONS IN IMPLEMENTATION

- **'Vanmitra Mohim'** launched after a quantitative review of the reasons behind lack of progress in implementation of FRA 2006. 132 FRA 2006 coordinators fanned across the State of Maharashtra to catalyse the process of FRA 2006 implementation at the ground level.
- 54 experienced and promising FRA 2006 coordinators were trained as master trainers. Subsequently 3000+ persons were trained in 36 workshops.
- Real time monitoring and evaluation of implementation of FRA 2006 in the state was ensured.

OBJECTIVES

- **ENHANCE THE CAPACITY OF GOVERNMENT AGENCIES TO HANDLE CLAIM SETTLEMENT PROCESSES.**
- **HASTEN THE PROCESS OF PROCESSING CLAIMS UNDER FOREST RIGHTS ACT.**
- **SYNERGISE GRANTING OF RIGHTS UNDER FRA WITH OTHER GOVERNMENT SCHEMES AND PROGRAMMES.**

- Process Digitisation was adopted to enhance the speed of implementation. This included the MahaVanmitra portal for end-to-end computerisation of the FRA 2006 process from claim to IFR/CFR recognition. Beneficiary details were shared with various government departments to facilitate convergence of schemes through Tribal Research & Training Institute (TRTI) online portal.
- A Community Forest Management Diploma course was designed by Tribal Research and Training Institute, in collaboration with Mumbai School of Economics and Public Policy.
- Development of Forest 'Conservation and Management Plans' (CMP) has been done as per UNDP-Ministry of Tribal Affairs guidelines in 356 CFR villages since 2014
- Success story documentation through GIS mapping of various CFR villages as opposed to idea of deforestation and destruction of forests under FRA and comparison of green cover of previous dates.
- Convergence with other schemes.

OUTCOMES (As on 31 March 2019)

- Security of livelihoods to 1,79,684 tribal and forest dwellers involving 4.02 lac acres of land.
- Over 7,729 villages have secured the right to conserve, regenerate and manage their forest resources covering 29.08 lac acres of land. Maharashtra accounts for 31.5% of area regularised under CFR.
- 49987 IFR claims with an area of 35793.77 acres and 390 CFR claims were settled involving an area of 2.4 lac acres.
- Creation of e-platforms. 1,67,534 IFR beneficiaries and 7,365 CFR villages data entry on the portal till March 31, 2019.
- Rs. 8.60 Crore sanctioned for development of Forest 'Conservation and Management Plans' (CMP) as per UNDP-Ministry of Tribal Affairs guidelines in 356 CFR villages.
- Substantial rise in household incomes noticed in CFR villages in addition to regeneration of degraded forest.
- Increase in household incomes leading to reduction in outbound migration.

MILLION SOLAR URJA LAMPS

HAILAKANDI, ASSAM

Ensuring universal access for all to affordable electricity by year 2030 means investing in clean energy sources such as solar, wind and thermal. Adopting cost-effective standards for a wider range of technologies could also reduce the global electricity consumption by buildings and industry by 14%. This falls squarely under the Sustainable Development Goals (**SDG**) **Goal Number 7: Affordable and Clean Energy**. India has pledged to install 100 GW of solar power generation capacity by year 2022 and to achieve a reduction in its carbon emission intensity by 33–35% by year 2030. This expansion of solar capacity will not only make solar energy reach the off grid villages and communities but shall also be a major step towards addressing global climate change, a key driver behind the setting up of the International Solar Alliance (ISA). India's pledge at the Paris Summit offered to bring 40% of its electricity generation capacity (not actual production) from non-fossil fuel sources (renewable, large hydro, and nuclear) by 2030.

It is a fact (as per Census 2011) that 40% families in India still use kerosene as the primary source for lighting. Studying under a Kerosene lantern can cause damage to the lungs and eyes of young children. Lack of access to cheap and reliable electricity has adverse implications so far as a child's right to education is concerned. Every child deserves the right to clean light that causes no harm and is affordable. Solar lamps can make an enormous difference in this context.

Hailakandi is the only Aspirational District in the Barak Valley Region of Assam. As per 2011 census, Hailakandi's population was 6,59,296. Its geographical area is 1326.10 square km. of which more than 50% is classified as a Reserve Forest.

Hailakandi District was devastated by floods in year 2018. Considered to be one of the worst in almost a century, the floods seriously affected the district and as many as 57 Relief Camps had to be set up to accommodate affected persons. The destruction due to flood was not limited to submerged farms and destroyed crops, but also serious damage to already inadequate electricity distribution infrastructure of the district. Long and frequent power cuts began to affect the studies of students while income levels of local population dipped significantly due to submergence of farmlands.

Assam Rural Livelihoods Mission, and Indian Institute of Technology-Bombay, with support provided by Ministry of New and Renewable Energy (MNRE), initiated the SoUL project. The twin objectives of

project were a) supporting education of underprivileged children in the unelectrified rural households, and b) generating employment/ livelihood opportunities for local communities especially women organized into community based organisations (SHG/VO/CLF) under the Deen Dayal Antyodaya Yojana – National Livelihoods Mission (DAY-NRLM) by imparting skills to assemble solar lamps.

Local assembling not only resulted in employment generation in assembly of lamps but also in proliferation of workshops for subsequent repair and maintenance of these lamps. Started first in Lala Development Block of the district, the project had a target of 43,555 lamps to be assembled and distributed among the school children across the block. By the end of March, 2019, out of material for 43,042 lamps received by the VO, 33,526 lamps had been assembled and 30,010 distributed among school children in different areas of the district.

OUTCOMES

The solar lamps are helping children to regularly complete their school assignments because of which they also feel more motivated towards continuing their studies as compared to the time when they were required to study under dim kerosene lamps. Better lighting has also eased the burden on housewives in performing household chores like cooking, cleaning, etc.

Members of Self Help Groups (primarily women) working under this project have an average monthly income of upto Rs. 8,000/-. The project has also boosted the morale of SHG members who now see themselves engaged with a technology oriented work. Going forward, the plans are afoot to setup Solar Light Repairing Centres at different locations in the Block to not only keep the lamps working but to also add a new dimension of work to SHGs work profile.

OBJECTIVES

- FACILITATE EDUCATION OF UNDERPRIVILEGED CHILDREN IN UN-ELECTRIFIED RURAL HOUSEHOLDS.
- GENEATE LIVELIHOOD AND INCOME GENERATION OPPORTUNITIES FOR LOCAL WOMEN SHGs.
- OFFSET LOSS OF FARM INCOME DUE TO FLOODS BY OPENING NEW AVENUES OF INCOME GENERATION.
- EASE THE CHALLENGES POSED BY ERRATIC ELECTRIC SUPPLY.

E-AUCTIONING MINING PERMITS

GUJARAT

The mining sector is an important component of every nation's industrial ecosystem. It is also a significant source of revenue for Governments at various levels. State of Gujarat is no exception. However, like in many other states, the mining sector in Gujarat was afflicted by a wide range of issues that shackled the potential of the mining industry to contribute to revenue and gross domestic product of the State. The specific issues were: 1) Stagnation due to legal issues associated with the allotment process for mining leases; 2) Lack of a wider participation from investors in mining as it was perceived as an industry controlled by a limited number of players; 3) Sub-optimal employment generation due to slow process of lease allocation. There was an urgent need to leverage technology in the allotment process for mineral concessions for efficiency, transparency and revenue maximisation.

Government of Gujarat has implemented a novel and transparent process for the allocation of minor mineral blocks on competitive basis. This new regime of e-Auction for minerals has been implemented through concerted efforts, spread over a period of two years, at various fronts. The primary goal of this intervention has been transparency but it has also helped in many other ways. This includes increase in state's revenues; widening of the investor base in the mining sector in the state, and, establishment of a swift allotment process for mineral resources with clear time-lines.

The system for e-auction of minor minerals by Gujarat has evolved to mirror the initiatives undertaken by the Union Government in establishing a rule based regime which is contractually strong, and, has a user-friendly IT platform. To facilitate this, the first step was to put in place, after a thorough process of public consultation, the Gujarat Minor Mineral Concession Rules, 2017. These new rules provide for a two-stage e-auction process that checks cartels from capturing the process and also weeds out the non-serious players from higher stages of auction process.

Services of a Professional Advisory Agency and a Transaction Advisor were engaged (SBI Capital Markets Ltd. & PwC Ltd.) to aid the Government in the process of drafting the new rules of the new regime and to also advise on the design of the tender documents and conduct of the auction process.

A wide-ranging exploration Programme was planned and rolled out in the entire state to identify auctionable blocks in areas having recognized

OBJECTIVES

- UNLEASH THE FULL POTENTIAL OF THE MINING SECTOR.
- IMPROVE TIMELINES, TRANSPARENCY AND INCLUSIVITY OF MINING AUCTIONS.
- OPTIMISE MINING REVENUE.

potential. Professional exploration and report writing agencies were engaged to prepare the reports on blocks to be immediately put up for auction. Reports for 870 blocks were prepared on the UNFC classification pattern.

A dedicated e-Auction portal cgm-eauction.nprocure.com was specially created for the purpose. This user-friendly portal is easily navigable and is updated daily. The portal is complimented by a dynamic and informative website of the department cgm.gujarat.gov.in which has additional informative and educational material for review. A mass media outreach Programme was also designed and implemented to create a robust level of awareness of the new systems of mining permit auctions.

The process mentioned above was continually evolved by way of open feedback from, and dialogue with, existing leaseholders and new participants. Against the target of auctioning 686 blocks in the year 2018-19, which was an additional of 9.50% of the existing 7226 leases, till 31st march, 2019, 686 blocks have already been put up for e-auction. The interest and participation in the mineral block auctions has also been steadily going up.

OUTCOMES

Enhanced Revenue: Of the 132 blocks successfully auctioned till 31st March, 2019, for 5 year and 30 year terms, the Govt. has got an additional premium (above the mandatory payments) of 223% and 97% respectively. (Rs. 2,124 Cr against earlier Rs. 1,076 Cr).

Wider Participation: For the 132 successfully auctioned blocks, the average number of tender forms sold was 8.65 per block with an

average number of 7.35 bidders per block. Till, 31st March, 2019, a total of 2742 tenders have been sold and 1445 bids submitted. This is in sharp contrast to the earlier allotment-based system that saw only one, or a few, suitors applying for each mineral lease.

New Participants: Of the 132 blocks that have been auctioned successfully, many bidders are those that were not associated with mining activity earlier and hence are a new addition to the sector. Nonetheless, all new entrants are also financially sound to undertake these investments.

Time-bound Process: The two-stage e-Auction is time bound with the subsequent Letter of Intent (LoI) issuance process almost instant. This removes the earlier uncertainty of unclear timelines for investment decisions.

Higher Employment: The issuance of LoIs has resulted in the operationalizing of new mineral blocks in a short span of time leading to new and wider avenues for both direct and indirect employment.

CONDUCTING PANCHAYAT ELECTIONS

J&K

OBJECTIVES

- STRENGTHENING DEMOCRACY AT THE GRASS ROOT LEVEL.
- EMPOWERING COMMUNITIES IN GEOGRAPHICALLY CHALLENGING LANSCAPES.
- INCUBATING LEADERS OF TOMORROW.

Panchayati Raj is the vibrant first tier of self governance in the Indian administrative structure. However, the State of Jammu and Kashmir was not able to hold Panchayat elections between the period of 2011-2018 due to law and order apprehensions. This not only created a political void at the grassroot levels but also led to inadequate utilisation of budgetary resources for village development.

Panchayat elections were successfully conducted in Year 2018 in a peaceful manner with a record voter turnout of more than 74%. What especially caught the eye was enthusiastic participation of highly qualified candidates including a large number of women in these elections. This was a rarity till then. Several innovations adopted by the Department of Rural Development & Panchayati Raj (DRDPR), J&K have led to this welcome development.

In order to maximise voter turnout, DRDPR deployed the Systematic Voter's Education and Electoral Participation (SVEEP) method to inform, educate, motivate and facilitate voters to ensure maximum participation of the public, and an error-free electoral process. The activities encompassed setting up of District & Block level groups to create awareness among the public.

The members of the Self Help Groups, set up under Umeed Scheme of the National Rural Livelihoods Mission, played a pivotal role in educating and encouraging women and youth about the importance of exercising their right to vote. IEC cell of DRDPR proactively publicised the innovative reforms ushered through the Panchayati Raj Amendment Act. These included direct election of Sarpanches, enhancement of honorarium of Panches/Sarpanches, reduction of security deposit to be furnished by candidates etc. The awareness was created through advertisements in local newspapers as well as catchy jingles on All-India Radio.

DRDPR has been making all out efforts to build upon the successful conduct of Panchayat elections. A series of comprehensive training Programmes have been conducted for the newly elected representatives covering 3650 Sarpanches and 20,000 Panches. The focus of these training initiatives is to make Sarpanches and Panches well versed about the provisions of J&K PR Act, various management skills (like participative planning, social audits, e-governance) and details of various centrally sponsored schemes relevant to rural development. The aim is to equip the elected representatives to become productive partners in the development of rural areas.

"The training helped me in understanding my powers and responsibilities as a Sarpanch, besides making me cognisant of the guidelines of the schemes," admits Khari, Sarpanch of Panchayat Banpat, District Poonch *"Now large amount of funds have been placed at our disposal and the Panchayats have been assigned the charge of monitoring, implementation and execution of 21 subjects. The Panchayats are now authorised to levy taxes/fees for generation of resources and our Panchayats are also acting as an accessible and effective Grievance Redressal Forum."*

Successful conduct of Panchayat elections has unplugged the flow of funds, pending for the past three years for want of Panchayat bodies in J&K, from Ministry of Panchayati Raj (MoPR), Govt of India. The first installment received as a part of 14th Finance Commission award for the year 2016-17 has already been disbursed to the panchayats for various development works approved as per prescribed procedure. The development works in rural areas are on the upswing. What is special this time is that unlike in the past, the works approved are demand-driven and approved/ implemented by the panchayats. This has significantly subdued the earlier feeling of disenchantment and has inculcated a new sense of empowerment and partnership at the grassroot level.

With devolution of powers, the responsibility of monitoring of schools and health institutions has been passed on to the Panchayati Raj Institutions. The Panchayats are now responsible for various development Programmes focused on literacy, gender ratio, water conservation, natural resource management, agriculture/ horticulture development, health etc. It is with these changes that the Panchayati Raj institutions will don their true mantle as harbingers of social change.

Aarifa Jan Rather | Sarpanch Lalpora B, District Baramulla.

A young 29-year-old girl has shattered the stereotypical image of women by actively participating in the Panchayat elections. Aarifa had relegated herself to household chores after completing her Bachelors in Science, but destiny had something else in store.

"It was not an easy task to plunge into the electoral process," recounts Aarfia, adding, "DRDPR through its Self-Help Groups held intensive awareness camps encouraging the women to participate in the election process. So I did it, that too successfully." Aarifa asserts that "in absence of Panchayat bodies, the people of this Panchayat suffered tremendously. Nobody heard our grievances and nobody reached out to us. But now the Panchayats have empowered us in real sense. Now we can develop our area with our own hands."

She also credits the intensive trainings organised by DRDPR for sensitising them about their roles & responsibilities and their rights & duties as elected members of the Panchayat.

MAKING EVERY DROP COUNT

UDAIPUR, RAJASTHAN

Udaipur District in the State of Rajasthan is a water scarce area in the middle of Aravalli Mountain Ranges. With very limited annual rainfall, the population of the district is overwhelmingly dependent on ground water to meet its domestic and non-domestic water needs. It is no surprise that the annual withdrawal of water from underground aquifers is much more than the annual rainfed replenishment. This has caused a severe downward impact on the water table. Majority of blocks of the district have been categorised as vulnerable, or over exploited, in this context. Challenges posed by demand driven depletion of ground water resources and the prospect of imminent severe water scarcity, or a straight forward drought, were serious indeed. To mitigate these prospects, a special initiative was conceptualized to make villages of Udaipur district self-reliant in terms of their sources of water. This effort included not only the relevant Government agencies and general public, but also corporate, social and religious organisations of the region. It is not that efforts had not been made in the past to achieve the same goals. What differentiated the new initiative from past efforts was that selection of works to be be executed was done strictly on the basis of a scientific analysis that adhered to a 'ridge to valley approach'. The project was rolled out with concerted efforts involving all stakeholders to make it a mass movement. All powers of execution were conceded to the Gram Sabhas but without compromising on the imperatives of scientific planning and maneuvering.

The project followed a systematic process to achieve its stated objectives. This included:-

- A multilayered review & examination of project proposals before ratification of all DPRs.
- A scientific assessment of minimum basic water requirement of each village.
- Working out the present status and deficit assessment.
- Conducting survey of clusters by joint team of all stakeholder line departments with active involvement of locals. Monitoring the survey on Waypoint software mobile application.
- Identifying probable interventions to bridge deficit.
- Preparation of DPRs recognizing local parameters and conditions.

Initially, model DPRs were prepared for one village in each of the 10 agro-climatic zones of the state. These DPRs were put up for a review and endorsement by the Gram Sabhas. All works proposed for execution were geo-tagged for regular monitoring.

The overwhelming emphasis of the project was on watershed development activities in a scientific manner. Each and every DPR was thoroughly scrutinized to attain maximum accuracy. This was done through convergence of expertise and experience of all relevant line departments of the State Government namely Water Resources, Panchayat Raj, Rural Development, Forests, Public Health Engineering, Agriculture and Horticulture.

Each work was geo-tagged, a task that required considerable effort, to establish authenticity/veracity corroborating facts of structures for monitoring and quality control. Physical status of works was uploaded on a day to day basis on a mobile app for effective monitoring of the pace of execution and identification of deficiencies/ anomalies. Besides being innovative and scientific, the outstanding aspect of the campaign was its character of a mass movement. All the stakeholders were mobilised under one umbrella to put in their efforts to make the movement a success. People did Shramdaan (voluntary labour) with enthusiasm, and almost all sections of the society including religious, corporate and civil society institutions pitched in with contributions in cash and/or kind.

OBJECTIVES

- ENHANCING WATER SECURITY OF UDAIPUR DISTRICT.
- TO STEM DROP IN GROUNDWATER LEVELS BY REDUCING DEPENDENCE.
- TO AGUMENT INFRASTRUCTURE AND REJUVENATE WATER BODIES FOR ENSURING ROUND THE YEAR AVAILABILITY OF WATER FOR VARIOUS NEEDS.

OUTCOMES

On the supply side, ground water levels improved to an extent of 2.24-2.35 Mts. The surface water storage also saw a net increment of 19209.67 TCM along. This was due to additional interception of 53785 TCM of monsoon precipitation.

On the demand side the project led to a reduction of 56.13% in tanker deployment between 2015-16 & 2016-17. The number of defunct handpumps in 2018-19 was just 47.8 % of the same in year 2017-18. This led to an increase of cropping area (4.6 % in Rabi, 12.49% in Kharif, and 3.7% in zayad) in the areas covered by the project. It has also led to revival of 18 tubewells & 619 Open Wells in the intervention areas in year 2017-18. The outcomes listed above were verified by an independent agency i.e. the Rajasthan River Basin & Water Resource Planning Authority.

This initiative to promote self-reliance in water has been well received not only by local people but even by several foreign dignitaries who have since visited the district including the Deputy Prime Minister of South Africa. Many national & state media teams have also covered the project. Several 3rd party reviews, state level quality control team reports and RBA state level inspection reviews have held the project in good stead.

The initiative has helped Udaipur turn a new leaf in its water management efforts through effective and sustainable water conservation and restoration of water harvesting structures. Plans are now afoot to replicate the success of Phase 1 in other villages of the district.

TREE BANKS

TRIPURA

Afforestation and Reforestation are the most viable options to reverse the looming spectre of unprecedented and rapid climate change being witnessed by the world. In conventional planting method there are several challenges that significantly effect the economics and effectiveness of afforestation Programmes. These are:

- High cost of afforestation in avenue plantations due to requirement of costly plant guards to protect the planted seedlings in conventional methods.
- Establishment of green belts on degraded lands, mining rehabilitation areas, rocky terrain etc. is an extremely difficult and costly affair in the conventional method of plantation.
- Poor establishment and growth rates of the planted seedlings in conventional method due to difficulties in providing regular maintenance and protection. .
- Planted saplings are highly susceptible to browsing by animals and suppression by weed growth.
- Delay in delivery of ecological services from afforested areas.

Regular and quick afforestation at optimized costs is hence the need of the hour. Successful plantation works for rapid augmentation of green cover require a high post planting survival rate. This is in turn is significantly dependent on the quality and size of planting stick used in plantation works. A Tree Bank is like a nursery but with the difference that here the plants are tended till they reach a much higher height and collar girth. Once the prescribed size parameters are met, these plants are made available for planting in areas that require a rapid development of green cover. Large size plants help reduce post planting mortality being in a better position to withstand cattle grazing and other environmental stresses.

To meet the demand of large size planting stock in various projects in Tripura, "**Tree Banks**" have been developed by the Tripura Forest Department. Tree Banks are repository of plants of desired species raised till they become pole size (12 feet) and also acquire girth at breast height (gbh) of atleast 20 cm. To facilitate this, plants are raised in a large size poly bags (70cm x 77.5cm.). It takes about 2 years for a plant to reach this size in a Tree Bank. This large size planting stock is then made available at a cost of Rs. 350 per plant to agencies engaged in planting operations. Notably, raising a plant to this height in normal field settings would have cost at least Rs.1500 per plant.

OBJECTIVES

- ENHANCE GREEN COVER EXPEDITOUSLY.
- REDUCE POST PLANTING MORTALITY OF PLANTS.
- REDUCE COST OF LARGE SIZE HIGH QUALITY PLANTING STOCK.

Tripura Forest Department used black colored polythene bags of size 70 cm x 77.5 cm with 500micron gauge for the purpose. Each polybag was filled up with a homogenous planting soil mix comprising of 3.5 cft of fertile soil, 0.5 cft of well matured farm yard manure, 100 gms of Urea, 50 gm of Single Super Phosphate and 50 gm of Murate of Potash. Holes were randomly punched in the poly bags to help aeration of soil once they are filled up as well as to facilitate the evacuation of excess moisture. Once the poly bag was ready a one year old healthy seedling of desired plant species, grown in 15cm x 23 cm size poly bag, was selected from a well maintained nursery and transplanted into the filled up large poly bag at its center within the top 1/3 rd height of the bag. This was done to allow space for the root system to grow vertically down as well as horizontally. After transplanting, the plants were supported with a bamboo stake to keep them standing straight. The bags were placed in paired rows, species wise to provide each other mutual support. A distance of 1 meter is maintained between the each pair of rows to facilitate the cultural operations like irrigation, weeding, trimming, pruning, application of fertilizers etc. Irrigation is done manually, minimum twice in a week during the dry period, and none during monsoons. Weeding, trimming and pruning operations are done as per need to ensure a single and healthy leading shoot. Dead and diseased branches are removed immediately as noticed. Additional dose of fertilizer provided are 50 gm urea, 25 gm SSP, 25 gm MoP once every four months and 50 gm dusted Neem cake / poly bag, once every six months over the two year incubation period. This is done by side dibbling method at 5 cm depth at three equidistant places in the bag. Collar girth (in mm) and height (in cm) are recorded species wise, once every month for study and documentation of growth patterns.

OUTCOMES

- Raising trees (min 20 cm collar girth and 4 mt height) in a short period of 2 years, whose plantation requires no plant guard as the foliage is above the browsing height.
- Creation of greenbelts over night with 100% survival/establishment rate.
- Effective and quick generation of green belts at very low cost along roadsides, avenue lands and for urban beautification.
- Effective establishment of greenery on degraded lands and mining rehabilitation areas, including in areas with rocky soils.
- Significant reduction in cost of plantations due to avoidance of the cost of the plant guards and fencing.
- Quicker commencement of delivery of ecological services.

TOILET BEAUTY CONTEST

BAREILLY, UTTAR PRADESH

"A clean India would be the best tribute India could pay to Mahatma Gandhi on his 150 birth anniversary in 2019," said the Hon'ble Prime Minister Shri Narendra Modi as he launched the Swachh Bharat Mission (SBM) at Rajpath in New Delhi. On 2nd October 2014, Swachh Bharat Mission was launched throughout length and breadth of the country as a national movement to achieve the vision of a 'Clean India' by 2nd October 2019. Under the Swachh Bharat Mission, more than 2 lakh toilets had been built in Bareilly District in campaign mode within 15 months. This made the sanitation coverage in the district go up from 40% to 100% in a short time. Even before the mission was launched all Government schools had got toilets built in the premises over the years. However, it was noticed that even though toilets played a critical role in promoting health and hygiene, their maintenance and upkeep remained neglected due to a lack of sense of ownership on part of the users. Poor quality and maintenance often led to toilets falling into a state of disuse, a short time after they were built.

In order to break this sense of apathy, to instill sense of ownership and improve the quality of SBM & School Toilets, Bareilly District administration came up with the idea of starting a TOILET BEAUTY CONTEST in every village of the district. The Toilet Beauty Contest had two distinct phases.

Phase 1: SBM Beneficiaries were asked to paint and beautify the toilets in their houses. After an independent assessment the most well decorated toilets at village, block and district levels were awarded with SWACHHTA KIT on World Toilet Day 2018.

Phase 2: All Government schools participated in a child friendly School Toilet Beauty Contest through the coordinated efforts of the respective Gram Pradhans, Secretaries and Teachers along with students. Winning schools were awarded with additional furniture and computer labs through the MP/MLA Local Area Development Funds and/or Gram Nidhi.

To ensure awareness about and success of the exercise, awareness meetings for stakeholders were organised at district, block and village levels. Innovative and engaging communication strategies like Nukkad Natak, Gaurav Yatra and Ratri chaupals were held in every village during the campaign. An intensive social media campaign was also undertaken through Twitter, Facebook, Whatsapp groups to inform and engage with as many stakeholders as possible.

OBJECTIVES

- TO DEVELOP A SENSE OF PROUD OWNERSHIP TOWARDS SANITATION FACILITIES AMONGST THE USERS.
- TO ENHANCE THE QUALITY OF CONSTRUCTION AND SUBSEQUENT MAINTENANCE OF TOILETS.

OUTCOMES

- >50,000 individual SBM toilets were beautified for the contest. This set an example for others to follow.
- >500 school toilets were refurbished and made world class.
- >100 Government schools got additional furniture through MP/MLA LAD.as a reward for their efforts
- 10 schools got computer labs through CSR funds mobilised from corporate partners.

The TOILET BEAUTY CONTEST PROGRAMME of Bareilly was listed among the National Best Practices on the SBM Blog. It was a matter of great satisfaction and pride for people involved in organising the Programme in Bareilly when the contest was extended to all the districts of the country as SWACHH SUNDER SHAUCHALAY CONTEST from 1st Jan to 31st Jan 2019. Over 1 Cr. toilets were beautified all across the country in the month long campaign. The idea also found a mention in the PM's Mann ki Baat Programme. The Prime Minister hailed it as a unique initiative to improve the quality of sanitation coverage in the country.

Not resting on its oars, Bareilly has moved forward towards replicating the contest to cover Anganwadi Centers & Health Sub Centers in the district.

GREENING AVIATION

The aviation sector is a large emitter of greenhouse gases in the world, 2% of the human-induced total. The sector's transition to sustainable and renewable fuels, is therefore crucial to make it confirm to commitments and targets set forth by the international community in the 2015 Paris Agreement.

Recognising this as a strategic imperative, Chhattisgarh Biofuel Development Authority (CBDA) signed an agreement with CSIR-Indian Institute of Petroleum (IIP), Dehradun in January 2017. The objective of the agreement was to create a robust rural network for collection, storage and supply of *Jatropha curcas* seed oil and several other tree borne oil seeds, to produce biojet (Jet-A1) aviation fuel for demonstration flights in India.

Since then, the project teams have left no stone unturned to create an effective and reliable supply chain of *Jatropha curcas* seed for use of bio-diesel producers. Apart from achieving the core objectives of the project, the setting up of the supply chain has also helped the farmers to fetch a better and fair price for their produce. This has strengthened their faith in cultivation of energy crops to produce bio fuel feed stock. With the advances in Make-in-India Technology from IIP and the dedicated teamwork of both CBDA and IIP personnel, India's first biofuel flight took to the skies on 27th August 2018 from Dehradun to Delhi. Right side engine of a Bombardier Q400 aircraft, operated by SpiceJet, was filled with a concoction of 75% standard aviation turbine fuel mixed with 25% biojet fuel made from Jatropha plants grown in Chhattisgarh. The flight carrying 24 passengers including scientists from IIP & CBDA, officials of DGCA and SpiceJet was received at the Delhi Airport by senior Cabinet Ministers of the Govt. of India.

Going forward, on December 17, 2018, the Indian Air Force flew its AN-32 light transport aircraft on indigenously sourced bio-jet fuel, developed using home-grown technology from native agro forestry produce of Chhattisgarh. With this, India joined the league of select nations to have developed, tested and certified a single step Hydrotreated Renewable Jet (HRJ) process to convert non-edible oil into biofuel for use on military aircraft. It has also made India the first nation, after the United States, to have its own standard (BIS) for bio-jet fuel or synthetic sourced aviation fuel. Prior to undertaking this flight trial, bio-jet fuel (and its production process) had undergone a series of exhaustive evaluations by various agencies before being certified by the Centre for Military Airworthiness and Certification (CEMILAC) as 'fit-for-use' on aircraft.

OBJECTIVES

- REDUCE CARBON FOOT PRINT OF AVIATION SECTOR.
- STANDARDISE PRODUCTION PROCESS OF JET BIO-FUELS.
- OPEN UP NEW AVENUES FOR INCOME GENERATION FOR FARMERS.
- ENHANCE NATIONAL SELF RELIANCE.

After this maiden flight, subsequent trials and certifications by Regional Center for Airworthiness (RCMA) as airworthy, biomass-derived bio-jet fuel produced using this technology has acquired the potential of becoming a key component in Indian aviation industry's strategy for reducing its operating costs and environmental impact.

On 26th January, 2019 during the Republic Day fly past at New Delhi, a new formation named SUTLEJ comprising of three AN32 aircraft flew over the Rajpath. The lead aircraft of the formation, piloted by Gp Capt. MV Panickar & Sqn. Ldr. Mehtab was powered by fuel with 10% biojet blend. During the period between January -March, 2019 CBDA has transported more than 8000 kgs. of Jatropha semi-finished biofuel to IIP, Dehradun for further processing into bio-jet aviation fuel to carry out R&D activities in aviation sector.

History has been created.

WEALTH FROM WASTE

LEH, JAMMU & KASHMIR

Located in a cold desert and endowed with pristine landscapes, the district of Leh is well known for its colorful and unique culture. Economy is traditionally based on agriculture, horticulture and animal husbandry. However, over the past decade tourism has gradually become the mainstay of the economy of Leh. Tourist arrivals surpassed 3 Lakhs in year 2018. With rapid urbanization spurred by the growth in tourism, solid waste management has emerged as a new challenge for administrators of Leh. If left unattended it would have posed a serious threat to the district's fragile ecology.

This emerging scenario prompted the launch of *Project Tsangda* (meaning 'cleanliness' in Ladakhi language). Launched in December 2017, the objective of the project was to ensure sustainable disposal of urban solid waste so as to protect and preserve this environmentally fragile region. The project is being implemented through the Rural Development Department of the Leh district.

From one waste segregation center in 2017, the project has been expanded to 4 such centers that are now running successfully at Choglamsar, Disket (Nubra), Khaltse and Nimoo. A total of 2034 units, including 1174 households and 863 shops, have been covered under the project to take its benefits to about 15,000 individuals.

In the first year of the operations of the project, a total of 81,350 Kg. of waste has been handled for recycling and reuse. Of this, 77,000 Kg. was dry waste. The waste collected under the project, which would have otherwise polluted the water bodies or pasture lands and damaged the ecosystem, has been put to use in various innovative ways to cater to local needs. The project activities have already begun to generate revenue from sale of waste material to recyclers. These cash flows, in addition to the user fees that are collected from beneficiaries, are on the way to make waste segregation centers self sustainable.

After collection, the segregated waste is brought to the Secondary Segregation Centre, where it is further segregated in approximately 20 categories for recycling and reuse. The residual material that is not fit for recycling is disposed off in a scientific manner. Apart from technology, logistical efficiency, staff training and community participation, a very striking feature of the project is perhaps the creativity and innovation with which various categories of waste are recycled and reused to cater to local needs. Some examples are cardboard and paper made into bricks for insulation or as fuel in winter, thermocol reused as insulating material for passive solar structures, discarded egg trays used as wall

OBJECTIVES

- PROTECT AN ECOLOGICALLY FRAGLIE REGION FROM BEING OVER RUN BY URBAN WASTE.
- TO MAKE SOLID WASTE MANAGEMENT A SELF SUSTAINING ENTERPRISE.
- TO NURTURE ETHOS OF REDUCE, REUSE AND RECYCLE AMONGST INHABITANTS.
- TO SET AN EXAMPLE FOR OTHER SIMILAR LANDSCAPES TO ADOPT AND IMPROVISE.

claddings for soundproofing, cotton clothes as filling for mattresses and recycled paper for envelopes etc.

In the category of dry waste, single use polythene has had the maximum share. Though the district administration is taking adequate measures to curb single use plastic, such waste shall be used in construction of roads after mixing with bitumen from this working season. The tetra packs discarded by locals and tourists are being used to make ply boards for the furniture industry and human hair are used as an organic fertilizer.

OUTCOMES

Project Tsangda has focused exclusively on management of solid waste leading to an integrated, participative and sustainable approach towards waste management. This is while also combating and overcoming unique challenges like extreme cold temperatures (as low as -20^{O} Celsius), low humidity, high altitude and inadequate funding. Community participation based on sensitization and awareness has played a major role in project's outcomes.

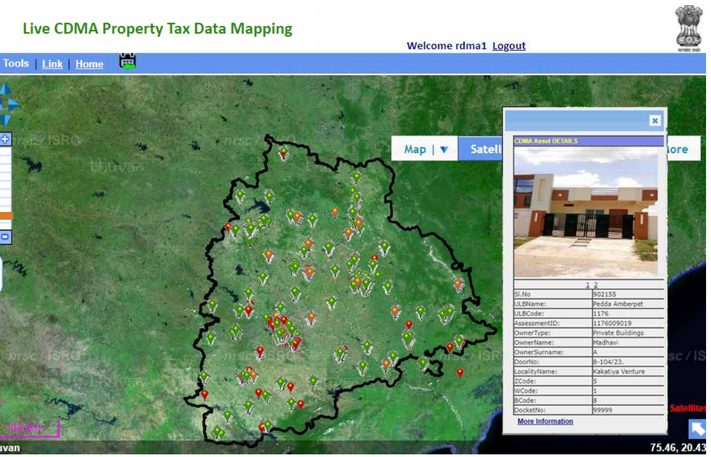
The success of waste management centres has largely been due to financial model based on user fees paid by the beneficiaries. The project has also generated employment for locals as segregation workers, drivers and centre supervisors. Overall, it has brought about a visible improvement in the cleanliness of the areas, not just land but also water bodies.

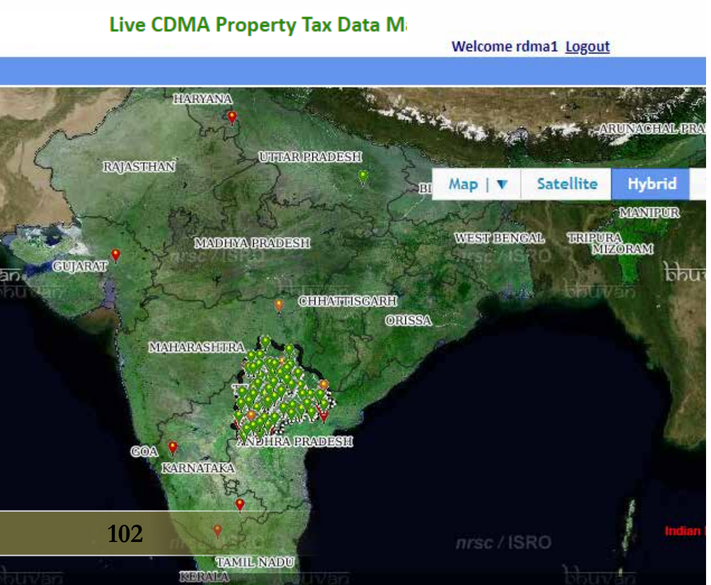
Another important benefits of the project are the forward and backward linkages it has created in waste collection and segregation chain. While households are being encouraged to segregate and use organic waste at the household level itself, market linkages are being provided for the dry waste as described earlier in examples of reuse and recycling. Project Tsangda has also led to tangible positive behavioral changes in the civil society. The market associations, women's groups, panchayats now play a proactive role in community awareness and mobilization. The intense research that has gone into the project has also had a positive impact where new ideas and methods have been discovered and adopted by the Project Tsangda team. Many of the new ideas emanating out of the project are gradually being adopted by the local community

This integrated approach to management of solid waste has led to resource conservation and a visible change in the markets and localities and water bodies where the project is operating.

PROPERTY MAPPING

TELANGANA





Under the Property Mapping initiative, the Commissioner and Director-Municipal Administration (C&DMA), Govt. of Telangana has initiated the process of digitizing property records and link the same with registration data so that every record gives authentic information on encumbered, prohibited and disputed properties. The objective of the exercise is to integrate property information spatially by geo-tagging each property.

To achieve the objectives of the initiative, C&DMA and National Remote Sensing Center (NRSC) have developed a user friendly application with a mobile and server based solution. The app enables the data collectors to systematically record properties being assessed with spatial position (longitude, latitude and attribute) with a time stamped geo-tagged photograph. As part of the survey process, each Bill Collector is allocated an area in the Urban Local Body (ULB) where the GPS is synced with the assessment data. The user of the app needs to perform the following five tasks:

(i) Select the property from the assigned list and opt for house number / assessment number; (ii) Take photograph of the property (two photographs - a front and side angle) from a distance of 10 meters; (iii) Add additional information, if any, about the work & (iv) send the collected information to the concerned Revenue Officer of the Municipality for any moderation. The Revenue Officer subsequently approves, or rejects, the property.

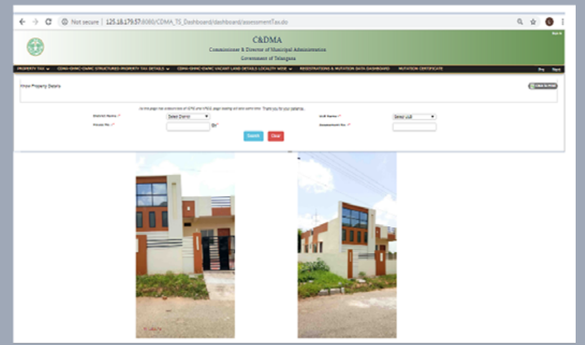
OUTCOMES

A total of 12.5 Lakh property records in 72 ULBs have been mapped till date in the State of Telangana. Property Mapping has been done for the first time for as many as 20,100 new and un-assessed properties to bring the same into the tax ambit. The geo-tagged properties are linked to property database of the ULB. This allows each buyer/ seller to get all the information on the property viz., name of the owner, tax details, building details, encumbrances, prohibitions and disputes associated with each property. This has been made possible by integration of database of the Registration Department with that of ULBs. The end user can access the ULB website or the cdma. telangana.gov.in (C&DMA website) using the property tax assessment number or house number to search for property information.

The Geo-spatial data of properties has been made available in public domain and any citizen can view every detail of the property online,

OBJECTIVES

- TO IMPROVE URBAN GOVERNANCE AND FINANCE THROUGH THE IMPLEMENTATION OF AN AGREED REFORM AGENDA AT STATE AND LOCAL LEVELS.
- ENHANCE THE CAPACITY OF STATE, LOCAL, AND COMMUNITY GROUPS TO MANAGE URBAN AFFAIRS THROUGH A DEMAND DRIVEN CAPACITY ENHANCEMENT PROGRAMME.
- SUPPORT THE REHABILITATION AND CREATION OF SUSTAINABLE URBAN SERVICES WITH ECONOMIC AND SOCIAL BENEFITS AT COMMUNITY AND CITY-WIDE LEVEL.



Owner Details		Address details	
Assessment Number	1176009019	Door No	8-104/23.
Owner SurName	A	Locality	Kakatiya Venture
Owner Name	Madhavi	Revenue Zone	5
Sex	F	Revenue Ward No	1
S/W/D/O		Block	8
Street	NA	Election Ward No	4
Property Tax (Rs.) Half Year		**Property Detail**	
Property Tax	790	Floor Type	0
Education cess	0	Roof Type	r.c.c. ordinery
Library Cess	63	Wall Type	bricks
Penalty on Unauthorised Construction	427	Wood Type	non teak
Total Tax	1280	Ownership Type	Private Buildings

Floor Usage	Floor No	Length	Width	Area
Residential	0	10	8.8	88

Property Tax Payable | Property History Details | Water Tap Connection Details | Download Registered Documents(On Payment)

Encumbrance Certificate Details
...NILL...
Prohibited Details
...NILL...
Disputed Details
...NILL...

without even visiting the ULB office. The initiative has made access to vital property information easier. This ensures transparency, time bound and hassle-free services with reference to property information.

No additional expenditure was involved in the entire process of property mapping as the survey is entirely carried out by the existing Bill Collectors in the Urban Local Bodies. All the properties that have been mapped have also been validated with the existing property tax database. A variation of nearly 42% in 72 ULBs was detected in the process. ULBs have used this variation data and have begun to levy the actual tax. This has enabled them to increase revenues without enhancing the tax rates.

To be exact, an increase of Rs. 31 Crores in revenue has been achieved by detecting un-assessed properties (20,100 Assessments) and under-assessed properties (483397).

JANG-E-AZADI-PUNJAB

MEMORIAL, KARTARPUR, PUNJAB

Jang-e-Azadi Memorial at Kartarpur stands on 25 Acres of land next to the National Highway No. 1 in Jalandhar district of Punjab. Jang-e-Azadi Memorialis envisioned as an educational hub and an important go-to place in the future for national and international tourists. The memorial is based on a circular enclosure which houses the focal centre that integrates it with a harmonious ensemble of galleries amplifying the struggle and sacrifices for the freedom of the country around a ceremonial path. The memorial also has out reach educational, recreational facilities like a movie theatre, auditorium,seminar hall, library, amphitheatre and food court.

The 1st Phase of the memorial was opened by the then Hon'ble Chief Minister of Punjab on 06-11-2016. The 2nd & 3rd Phase was opened by the Hon'ble Chief Minister of Punjab on 06-03-2018 and 14-08-2019 respectively. The 3rd phase provides the experience of Cellular Jail and Jallianwala Bagh event through sensor-based holographic projection, AV & lighting technique.

The memorial is conceptualized and developed as a mark of gratitude for the unparalleled contribution and sacrifices of the people of Punjab in our struggle for independence of India from the British rule starting from the reign of Maharaja Ranjit Singh.

Jang-e-Azadi Memorial links the past to the present and helps people remember and respect those who bravely struggled in the fight for independence, bravely fought, participated or were affected by fight for Independence.

The project is a world class integrated memorial complex showcasing the contributions of the freedom fighters and the martyrs of the struggle for freedom. The memorial houses galleries that reflect various facets of the struggle for independence. The visuals and depictions have a powerful impact on the minds of the visitors. It has become a powerful medium to instil historical memory that is essential for societies

OBJECTIVES

- IMPORTANT GO-TO PLACE IN THE FUTURE FOR NATIONAL AND INTERNATIONAL TOURISTS.
- OUTREACH, EDUCATIONAL, RECREATIONAL FACILITIES LIKE A MOVIE THEATRE, AUDITORIUM, SEMINAR HALL, LIBRARY, AMPHITHEATRE AND FOOD COURT.
- A MARK OF GRATITUDE FOR THE UNPARALLELED CONTRIBUTION AND SACRIFICES OF THE PEOPLE OF PUNJAB IN OUR STRUGGLE FOR THE INDEPENDENCE OF INDIA FROM THE BRITISH RULE STARTING FROM THE REIGN OF MAHARAJA RANJIT SINGH.

and countries to move forward. It evokes a feeling of patriotism among the younger generation so that they become a medium to carry forward the ideals of the freedom fighters and martyrs.

The visitors particularly the youth, get highly impressed by the beautiful visuals and the latest technology employed for depicting the historical facts and events.

This project uses multiple techniques of representing information and has been designed to address the interest of all the age groups. It gives option and freedom to the visitors to choose medium of their interest for knowing the history of independence "be it movie, a 270-degree projection immersive dome, interactive touch table, life size dioramas, or laser show and 3D projection". The affection of Memorial has an Educational and Cultural Hub is an innovative idea, which is well supported by the representation techniques used.

The memorial is based on a concept paper prepared by a Concept Committee comprising of eminent historians constituted by the Government of Punjab for this purpose. For overall development and smooth management of the project, an autonomous body, namely the Punjab Freedom Movement Memorial Foundation was specially set up by the Govt. of Punjab. The Educational value of the memorial has been much appreciated. During the calendar year 2018 more than 70,000 students from different parts of Punjab have already visited the memorial. Up till 31st March, 2020 the memorial has experienced the footfall of more than 8,00,000 Visitors, out of which 1,36,000 were student. The Memorial has also emerged as a focal point for people to gather on important national occasions like Independence Day and Republic Day events.

PROJECT VIDIYAL

SALEM, TAMILNADU

Livelihood activities under Forest Department

Kalrayan (Kalvarayan) hills are a part of the Eastern Ghats in the State of Tamil Nadu. They are spread across three districts of the state, namely Salem, Villupuram and Thiruvannamalai. This hilly area is densely populated and the tribal people of this region are called "Malayalis". Malayali tribal folk have traditionally depended on vast floral biodivesity of this region for various purposes such as food, construction, household & agricultural implements, fuelwood, religious customs & rituals and decoration. A large number of Malayali tribals live in the Karumandurai Hills area of this region, located at an average altitude of 2770 feet and spread over 19,372 hectares.

Karumandurai area has, over the years, seen a steady out migration of local population to towns and cities in search of jobs. This is primarily due to the inadequacy of local economic opportunities. Rapid outmigration of people made creation of local livelihood opportunities an urgent policy imperative for planners and administrators in the region.

PROJECT VIDIYAL (Project NEW DAWN) was conceived, formulated and executed by Salem District Administration by systematically identifying the requirements of the main stakeholders viz. more than 30,000 Malayali tribals of Karumandurai hills. This was done through an innovative and effective convergence of various existing central and state government schemes rather than wait for any special allocations.

The strategy was is to create sustainable livelihoods and then seamlessly integrate them into the daily life of the local population by creating forward linkages for marketing of local products while also conserving the fragile ecology of this unique ecosystem.

Before the initiative could be launched, it was necessary to objectively identify the exact needs of the local population and identify the gaps that need to be plugged. For this purpose, a committee of all stakeholders (members of local population, representatives of locally active NGOs, officials of various Govt. departments like Forests, Tribal Welfare, Rural Development, Co-operatives, Agriculture, Banks, Health, Education etc.) was constituted. The committee was tasked to prepare a project blueprint through interactions, house surveys and consultative meetings while ensuring a robust participation of women in all consultations.

The outcome was a comprehensive project plan comprising of 230 sub projects aimed at enhancing livelihoods and social infrastructure of the region. The sub-projects were sanctioned with a total outlay of Rs. 66.74 Cr. pooled through innovative and effective convergence of various existing schemes like MGNREGS, SBGF, PMKKKY etc.

To ensure effective execution, 23 capacity building and training sessions were conducted with the help of specialized agencies like TNSRLM, Krishi Vigyan Kendra, Tamil Nadu Veterinary University, NABARD, INDSETI, Forest Department, District Legal Aid Society and various dedicated NGOs. These also included sessions aimed at sensitising officers too towards the needs and aspirations of the tribal populations.

Overall estimate of project costs was around Rs. 80.27 Crores, whitch was broken into various small components targeting various sections of the society. These included a 19 Cr, outlay (Kalvarayan) for income generation activities, fully funded by government, and encompassing 256 individual ventures with a credit support of Rs. 7.56 Crores. The examples of these ventures are millet based cookies; processing of Myrobalan (*Terminalia chebula*) known for its medicinal value and in high demand for Ayurvedic/ Siddha medicines; bamboo furniture, honey production; poultry farm and animal husbandary. 123 Self Help Groups (involving 1871 women) have been playing a pivotal role in various activities envisaged under the project. These SHGs have also been supported by a credit line of Rs. 4.61 Cr. and two transport vehicles for moving goods from one place to the other.

A bulk milk cooling and processing plant has been set up at a cost of Rs. 94 Lakhs for doorstep procurement and processing of milk produced by the milch animals provided to tribal families under the project. Loans worth Rs. 2.93 Cr. under various Government schemes like Mudra, PMEGP, UYEGP have been disbursed to 133 tribal entrepreneurs to facilitate their business ideas. Agriculture has got shot in the arm with disbursement of crop loans worth Rs. 10.21 Cr. All weather BT roads, revamp of weekly market place, electrification of houses, augmentation of water resources by construction of check dams and open wells and augmentation of 3 Public Health Centres with required modern clinical and diagnostic facilities are other important dimensions of the project.

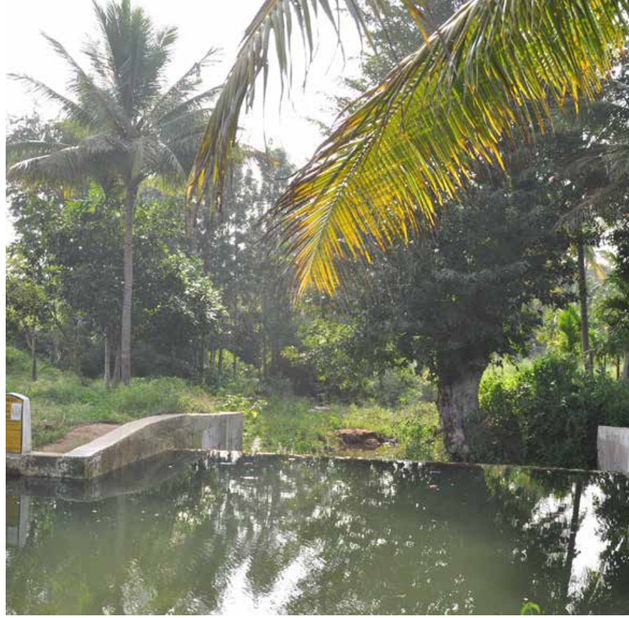
Infrastructure under Rural Development Department

OBJECTIVES

- ECONOMIC DEVELOPMENT.
- SOLID INFRASTRUCTURE.
- IMPROVING PUBLIC HEALTH.
- PROVIDING QUALITY EDUCATION.
- TO MAKE TRIBAL WOMEN FINANCIALLY INDEPENDENT AND SOCIALLY EMPOWERED.
- ENVIRONMENTAL CONSERVATION.

OUTCOMES

Project Vidiyal has resulted in a holistic development push for 9340 households (~ 31000 persons) of 99 habitations located in the region. 5973 tribal families are now earning enhanced monthly incomes ranging from Rs. 8000 to Rs. 30000 through 39 types of livelihood generation activities initiated under the project by converging efforts of various departments and agencies in a coordinated manner.



While infrastructure works have created a conducive economic environment and employment opportunities for locals, other benefits are also evident. Infant mortality rate has come down to 7.4 per million (from 8.4) while Maternal Mortality rate has dropped to zero. This has been made possible by ensuring that all deliveries happen under medical supervision. Gross Enrolment Ratio in high secondary schools is now at 34% and the dropout rate close to zero (0.99%). GER (Gross enrolment Ratio) in Higher education of Scheduled Tribes stands at 34%, very high.

Project VIDIYAL has touched lives of more than 6000 women (54% of the total beneficiaries) organised into SHGs by giving them financial independence and social recognition. Every sub project has been formulated to conserve the fragile eco system of this region with water conservation structures and plantation of local plant species to help conserve and nurture the natural ecosystem. Overall, Project Vidiyal has created a significant positive impact on the living standards of the members of the tribal communities.

GOALPARA - GREEN TECHNOLOGY

February, 2018. Road construction had come to a standstill in Goalpara, Assam as there was no stone construction material available since stone quarries had shut down on expiry of their lease periods. The situation further worsened when, in March 2018, the RCC bridge on NH 37 – the main lifeline for the District - was severely distressed at Krishnai choking the delivery route for construction materials. In the meantime, a project for 565 Km of much needed road length was sanctioned by the **National Rural Infrastructure Development Agency (NRIDA)** for Goalpara district under Pradhan Mantri Gram Sadak Yojana (PMGSY). Given the tough raw material situation, no bidder came forward to carry out the works. This was in the backdrop of the fact that pace of constructing PMGSY roads for the district had always been sluggish due to a variety of reasons. The situation appeared bleak indeed.

In the face of challenges caused by depleting natural resources, closure of stone quarries and logistical bottlenecks, the district authorities started a frantic search for possible solutions. The idea that emerged was to connect all rural habitations with all-weather rural roads using alternative green technologies and using non-conventional materials for road construction such as waste plastic. The goal was to achieve the PMGSY targets while also reducing dependence on conventional materials for road construction. After consultations with the National Rural Infrastructure Development Agency (NRIDA), State Rural Road Development Agency (SRRDA) and State Technical Agency (STA) it was decided to go ahead with the use of green technologies in road construction in Goalpara. This was also quite in line with the "Clean Goalpara, Green Goalpara" mission of the District Administration.

The initiative also promised to solve another problem – that of plastic pollution. It had been observed that clogged drains were the root cause of frequent flash floods experienced by the district. Many cases of animals choking due to consumption of plastic had also been reported. The path to success was definitely less paved than the beautiful "green roads" subsequently built under the initiative. Substitution of conventional materials for road construction by green technologies did lead to some public resistance. Local people were not familiar with use of new materials like waste plastic, geo-grid, cold-mix, cement concrete blocks and were initially a little apprehensive. Through a series of awareness meetings and demonstrations, the District Administration not only allayed all reservations and built consensus but soon had people actively cooperating and demanding more number of "green roads" in their localities. In the initial period, sourcing of green material was a challenge. However, this was resolved within a few months as local manufacturing units came up – with some initial handholding – within the district for manufacturing the material. This also provided new employment avenues for the local youth.

OBJECTIVES

- REDUCING DEPENDENCE ON CONVENTIONAL MATERIALS FOR ROAD DEVELOPMENT.
- INTEGRATE PLASTIC WASTE MANAGEMENT WITH ROAD CONSTRUCTION

OUTCOMES

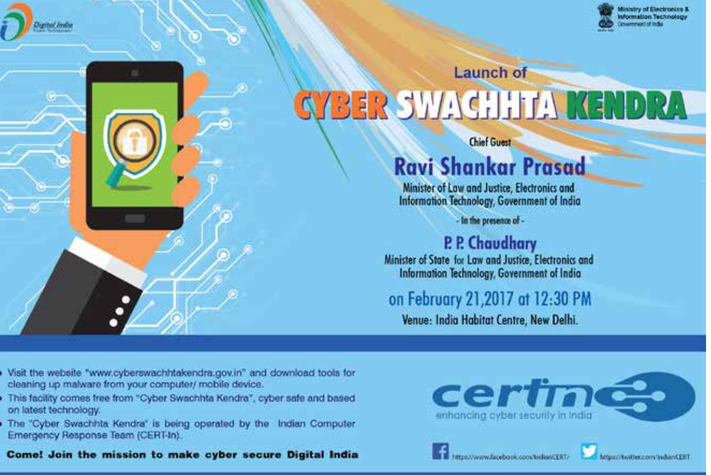
Green Technologies like Waste Plastic Technology, Cell Filled Concrete Technology, Geogrid Technology (Tenax 3D Grids), Cold Mix Technology and Interlocking Concrete Pavement Block (ICBP) have helped complete 237.652 km of roads pegging the achievement at 300% of the annual target. Goalpara District was recognised for being the 1st in the state to use waste plastic technology for construction of roads under various schemes. With the use of Cell-Filled/Panel Concrete Technologies 76.67 km of roads have already been constructed under PMGSY and 18.4 km of roads under other state sponsored schemes. Likewise for Geo-Grid, Cold Mix and Cement Concrete Block Technologies, 19.40 Km, 30.54 Km and 107.48 Km Roads have already been constructed under PMGSY alone.

Carrying forward the aim of greening, afforestation was carried out to compensate for the trees felled along the road alignments. 3000 saplings of various plant species were planted along various rural roads constructed in the district. The districts border with the neighbouring state of Meghalaya is a riverine area with dense forest cover where connectivity poses a major challenge. To overcome the problems of supervision and monitoring of the road works, the Goalpara District Administration developed the "Infrastructure Snapshot App". It is an Android based one-of-its-kind convergence app that has helped the administration to gather valuable feedback on monitoring the quality of roads and satisfaction levels of the public from use of green material and technology in construction of roads.

The introduction of roads constructed with the help of green material and technologiy has ushered in a new era of all round socio-economic development in the district. These all-weather roads have brought in new economic opportunities, reducing poverty by opening up access to rural markets where the local communities including agriculturists can now sell their produce at more remunerative prices. The freedom of mobility also provided more opportunities for socio-political, administrative activities in rural areas. People have started getting access to better medical facilities. Connectivity through new roads has also increased enrollment in schools. There has also been a gradual increase in entrepreneurial activities in the district.

Even as it has been building roads, the district administration has also embarked on ecological restoration and waste recycling for undoing the damage to the environment. It will ensure a better and greener future for the generations to come by transforming into reality the vision of "Clean Goalpara, Green Goalpara".

CYBER SWACHHTA KENDRA



Digital India has ushered in an increased usage of mobiles/ computers in the country, which in turn has translated to a substantial growth in digital transactions in India after demonetization. Due to the increased presence of users online the threat of online credential stealing from malware infected mobiles/computers has also increased, thereby increasing the instances of cyber crime. It is estimated that a new malware appears every 10 seconds. The consequences of cyber crime inflict a huge burden on society and can potentially be disruptive thereby impacting the economic health of the country.

Cyber Security is a key component of Digital India. Digital India stakeholders such as Internet Service Providers (ISPs) and critical organizations need to secure their systems from malware. This is to ensure continued availability of their services while safeguarding the confidentiality and integrity of the information flowing through their systems.

Cyber Swachhta Kendra (CSK) is a citizen centric cost effective cyber security initiative to enhance trust amongst users of digital technologies by creating a secure cyber space through a well-defined, focused programme and framework for governance. CSK extends the Hon'ble Prime Minister's vision of Swachh Bharat from the physical space to the cyber space through a multi-stakeholder and public private partnership approach.

The primary goal of CSK initiative is to detect and clean the malware infections in the country. It is implemented by the Indian Computer Emergency Response Team (CERT-In), the nodal agency for responding to cyber security incidents. CSK operates on a inter-disciplinary collaborative model involving CERT-In, Internet Service Providers (ISPs), Industry (security companies) and the Academia to reach citizens who are using the infected systems to notify them about the malware/botnet infections in their digital devices. CSK also provides effective and efficient free tools to clean the malware infection and secure the digital devices.

Cyber Security relies on the principle of shared responsibilities as well as mutually beneficial and trusted partnerships. Through its effective leadership, CSK achieves this by facilitating a smooth and productive interaction in terms of guidance, communication and persuasion between the Government and the citizens. This results in collective actions against the cyber adversaries by promoting teamwork between the cyber ecosystem partners namely Government, product/ antivirus companies, service providers, researchers and consumers.

CSK collects diverse cyber threat intelligence data from various sources (external and internal) and transparently shares/delivers in near real time to the affected organizations. It uses a robust and scalable custom data analytics platform for analyzing the threat intelligence feeds and generating statistics. The reports are in open standards and in machine digestible formats.

CSK has completely automated the entire process of collecting intelligence from multiple threat feed sources (internal & external), processing, augmenting and harmonizing the data/information. This allows CSK to disseminate threat feeds in near real time along with the remedial measures and security best practices to the respective designated persons in stakeholder organizations to enable timely mitigation activities. Due to process automation there is not just a perceptible process improvement, but also the system while being robust and scalable is transparently sharing knowledge by efficiently leveraging the technology.

In collaboration with Industry and Academia, CSK provides free bot removal tool, various security tools, security best practices, and information to users to secure their systems/devices while creating cyber security awareness amongst them and promoting lifelong learning. Three security tools available free of cost for the users are : M-Kavach (a comprehensive mobile device security solution for Android devices thereby protecting users data and information); USB Pratirodh (stores data securely on USB devices and allows authenticated users to access the data thereby restricting unauthorized access); and App Samvid (allows only approved applications to run on a user's computer thus avoiding malicious applications).

CSK is providing free of cost services to 81 organizations from multiple critical infrastructure sectors such as Banking and Financial Services, Transport, Power, Government, Insurance, Oil & Gas and Datacenter. Normally organizations would need to pay a large fee for receiving such cyber threat intelligence but CSK provides the necessary information free of cost thereby saving money for the organisations and foreign exchange for the country. For example in the banking sector, the malware/ botnet infection was reduced by 89.07% and the vulnerable services were reduced by 92.32% over a period of 12 months (Dec. 2017- Nov. 2018). The information provided by CSK has been found useful by a majority of the critical sector organizations and has helped them take necessary remedial actions to strengthen their respective cyber security posture.

OUTCOMES

CSK has had a positive impact on the level citizens trust in digital technologies. This is manifested in 8,97,548 CSK Free bot removal tool downloads; 200,000 + M-Kavach downloads; 37303 USB Pratirodh downloads and 24,600 App Samvid downloads.

OBJECTIVES

- TO CREATE A SECURE CYBER SPACE FOR CITIZENS.
- TO DETECT EXISTING BOTNET INFECTIONS.
- TO INSULATE END USER SYSTEMS FROM FUTURE BOTNET INFECTIONS.

The number of participating organisations has grown by 135% from April, 2017 to March, 2019. Highly scalable solutions capable of processing multiple events and serving large number of organizations is a unique feature of CSK.

CSK has been serenaded by several awards for its contributions to India's digital march. These include awards like Gems of Digital India 2018, SKOCH Order-of-Merit and Gold Award for Cost Effective Cyber Security Model in December 2018, and CISO MAG Award India 2019.

DIGITAL MAKEOVER IN FERTILISER SECTOR

In the Union budget of 2016-17, Government of India announced the implementation of Direct Benefit Transfer (DBT) System in the fertilizer sector to improve transparency and promote balanced nutrient usage patterns in agricultural operations. DBT in Fertilizer Sector was initially launched on a pilot basis in 17 selected districts of the country. Subsequently, Niti Aayog commissioned an independent assessment of pilot districts. The assessment highlighted the following:

- Implementation of DBT system has streamlined the fertilizer distribution.
- There is improved tracking through mFMS Id i.e. Fertiliser companies have on-boarded untraceable retailers and co-operative depots on mFMS system to avoid delay in subsidy payments.
- Overcharging by retailers has reduced as each fertilizer purchase by farmers is supported by a receipt generated through Point of Sale (PoS) machines indicating both MRP paid by the farmers and the subsidy component paid by the Government on the quantity of fertilizer purchased by the farmers.

Cross border sale into Nepal and Bangladesh has also reduced. The reports meant for relevant stakeholders are available at https://www.mfms.nic.in and www.urvarak.nic.in under Publications/Reports tab.

On the basis of positive assessment from pilot districts, a pan India roll-out of DBT was executed during year 2017-18 in a phased manner. All India coverage was accomplished by 1st March 2018 in a short span of 18 months. The project since then has been running smoothly across all states and UTs of India

The project has followed an inclusive approach in identifying the role of each stakeholder in planning and capacity building. Several preparatory activities were undertaken ahead of the pan-India roll out of DBT. This included procurement of

OBJECTIVES

- STREAMLINE FERTILISER DISTRIBUTION.
- STOP PILFERAGE OF SUBSIDISED FERTILISERS.
- END OVERPRICING/OVERCHARGING OF FERTILISERS.

2,25,000 PoS devices and their deployment after extensive training, development of PoS Software, creating IT infrastructure, training of master trainers, training of 8288 Retailers/ wholesalers, in-house preparation of manuals, video films, online tutorials etc..

An extensive process re-engineering was done for DBT payments and the modified procedure was notified in March 2017. Required software modules/MIS formats were prepared and upgraded from time to time to accommodate specific needs of stakeholders. The project was continuously and closely monitored by Niti Aayog, Cabinet Secretariat and the PMO right from the time of the launch of pilot in Oct. 2016 upto the pan India rollout in March 2018.

Under the re-engineered DBT framework, 100% subsidy on fertilizers is released to the fertilizer manufacturers on the basis of actual sales made by the retailers to the farmers. Sale of all subsidised fertilizers to farmers/buyers is made through PoS devices installed at each retailer shop. The beneficiaries are identified on the basis of Aadhaar Card, KCC, Voter ID etc. This is a paradigm shift from the earlier legacy system that involved two stages in payment of subsidy (on the basis of fertiliser receipt in the districts and its acknowledgement by the retailers) to 100% subsidy payment on the basis of PoS sales on weekly basis.

As of 31st March 2019, a total of 562.71 Lakh MT of fertilizer has been sold through 7.90 Cr. transactions using approximately 2,23,000 PoS devices under the DBT system. Prior to implementation of DBT in fertilizers, the Government had no mechanism to identify, or track, the actual beneficiaries of the fertilizer subsidy. There was also no way to check/ enforce the prices at which the fertilizers were being sold at retail points. Real-time monitoring of movement of fertilizers from plant/ port to district warehouse, wholesaler, retailers and the stock availability of fertilizer at Block level, District level, State level and pan India level was also not possible. The movement of fertilizers (to ensure availability to the farmers at right time & at the time of Season) was planned only on the basis of rough estimates. Complaints of farmers paying more than MRP due to artificial scarcity created by wholesalers/ retailers were wide spread. There was no provision for recommendation on use of fertilizer to farmers on the basis of soil health or cropping pattern, as is available now.

OUTCOMES

DBT in the fertiliser sector has ensured ready and timely availability of fertilizers at retail points. It has removed the possibility of over pricing or over charging of subsidized fertilizers while ensuring accurate identification of beneficiaries.

DBT also enables accurate and timely monitoring and reporting with minimum paper work.

It ensures optimisation of fertiliser subsidy by reducing illegal diversion of subsidized fertilisers to non-deserving persons.

Release Order Module built into DBT in Fertilizers facilitates companies to monitor and plan dispatches of fertilizers. It also allows a centralized control and monitoring of fertilizers availability across the country.

NATIONAL SCHOLARSHIP PORTAL

Financial exclusion from education is an issue across the world. Continued and expanded access to scholarships, and the importance of ensuring that they are awarded to the most able, but meet the needs of the most deserving, is well recognised. In a large country like India, a large number of state agencies have schemes to meet financial needs of needy and deserving students. It is often the case that lack of awareness about schemes and the maze of procedures results in many potential beneficiaries being left out of the coverage of the scholarship schemes. The need for, and advantages of, a single platform to access details of, and apply for, various scholarships offered by diverse institutions across the country has led to the creation of National Scholarships Portal (NSP).

NSP is a one-stop, end-to-end digital, paperless solution to streamline the scholarship application process (complete lifecycle of scholarship, from application to sanctioning) and disbursement of funds directly to bank accounts of beneficiaries without any leakages. It is a digital platform through which various scholarship administration services, starting from student application, application receipt, processing, sanction and disbursal of various scholarships to students are enabled. NSP aims at providing a simplified, mission-oriented, accountable, responsive & transparent (SMART) system for faster & effective disposal of scholarships. It replaces the legacy manual and cumbersome system where students were required to access and assess each scholarship scheme through their brochures, guidelines, information available in public domain and then make the final choice.

The many facilities offered by NSP, to students and Scholarship Administrators are:

- Simplified process
- All scholarship information under single umbrella
- Intelligent rule based scheme identification facility
- Unified platform to implement all scholarship schemes
- Transparent process and easy verification
- System based intelligence for de-duplication checks
- Bulk and automatic application processing by Institutes
- Timely disbursement through DBT

In addition to facilitating the disbursal of scholarships as described, NSP also creates a database of applicants and beneficiaries. Access to this database with the help of data analytics offers possibilities to analyse the data to not only study the impact of scholarships in terms of desired outcomes, but also provide information necessary to design better scholarship products and Programmes.

OUTCOME

National Scholarship Portal is increasingly being adopted by various Ministries of Central and State Governments and educational institutes for offering and administering their scholarship schemes to eligible students. The portal is gradually emerging as a primary channel to apply for scholarships among students.

OBJECTIVES

- PROVIDE A COMMON PORTAL FOR VARIOUS SCHOLARSHIP SCHEMES OF CENTRAL AND STATE GOVERNMENTS.
- ENSURE TIMELY AND DIRECT DISBURSEMENT OF SCHOLARSHIPS TO STUDENTS.
- CREATE A TRANSPARENT DATABASE OF SCHOLARS.
- AVOID DUPLICATION IN PROCESSING.
- HARMONISATION OF DIFFERENT SCHOLARSHIP SCHEMES & NORMS.

ENERGY EFFICIENT BUILDINGS

CPWD

National Mission for Sustainable Habitat is one of the eight missions under the National Climate Change Action Plan (NCCAP). It aims to make our cities sustainable and efficient through improvement in energy efficiency in buildings, management of solid waste & encouraging a shift to public transport.

Being the primary agency for construction and maintenance of buildings of the Government of India, Central Public Works Department (CPWD) took up the challenge of achieving one of the mission deliverables (energy efficient buildings) of NCCAP in existing as well as in new buildings under CPWD's control. To achieve this, a policy was framed to replace energy inefficient lights, fans and air conditioners in these buildings with energy efficient LED lighting, 5 star labeled fans & air conditioners.

To realise this vision, CPWD zeroed in on the Energy Service Company (ESCO) Model business. The advantage of this model is in the fact that in this model, all upfront capital investments are made by the chosen ESCO partner which then recoups its investment from their share in the savings that arise from of the reduced electricity bill due to energy efficient lights, fans and ACs.

CPWD entered into the intensive discussion with interested ESCO companies to sort out various associated issues. The performance contract was suitably amended for the successful implementation of energy efficiency measures in existing buildings. In small size buildings, and in the buildings located in remote areas, the work was undertaken in CAPEX Mode. In CAPEX mode, the initial capital investment is made by CPWD to be amortised over energy savings in the future. The combination of ESCO and CAPEX mode was preferred to ensure that all CPWD maintained buildings are covered by the initiative.

The pilot project was initiated in Indraprastha Bhawan, New Delhi in April 2015. Thereafter, work was taken up in another 19 buildings at Delhi. After factoring in the learnings and experience of 1st phase, the work was replicated in all other buildings across the country to cover 150 General Pool Office Accommodation (GPOA) buildings between March 2016 to February 2019. The 92 buildings in which work was completed between April 2017 to March 2019 clocked in savings of 186.05 lacs units of energy. This amounts to cash savings of Rs. 18.60 Cr. calculated @ Rs. 10/ per unit of electricity. It has also resulted in reduction of 14884 MT of CO_2 emissions (considering 0.8 kg/kWh of CO_2 emission generated from conventional electricity). These figures indicate the significant contribution of this initiative to achieve national objectives in the field of climate change mitigation and energy security.

CPWD's efforts did not stop here. It subsequently moved into providing LED lighting in the external illumination of Government Buildings during national occasions like Independence Day, Republic Day and Gandhi Jayanti and dynamic façade lighting of new buildings. Since 2016, Central Government buildings are lighted up using LED lights only resulting in substantial financial savings besides better illumination quality.

Dynamic façade lighting, first installed in North Block and South Block buildings of the national capital, has been subsequently extended to Rashtrapati Bhavan, India Gate and many other iconic structures. After the iconic buildings of the national capital were done, CPWD undertook a similar task in respect of several buildings and temples of Varanasi, including Ganga Ghat. Besides providing a visual treat to the eyes of tourists and residents, use of LED lights also resulted in substantial savings of energy.

CPWD has now decided to adopt LED lighting and energy efficient measures in all new buildings. This includes maximum efficiency cooling equipment. CPWD has moved aggressively in generating solar energy to the extent possible through roof top solar installations and adopt its usage in all its buildings.

Solar rooftops installed on the Additional Office Complex for Supreme Court of India and Indira Paryavaran Bhawan (both at New Delhi) and installation of solar trees at National Salt Satyagraha Memorial, Dandi (Gujarat) are prominent examples of this innovation that utilizes available open spaces in, on and around buildings to reduce dependence on grid electricity. With this experience under its belt, CPWD is now venturing into Energy Plus buildings as planned for "Akshay Urja Bhavan" the headquarters building of the Ministry of New & Renewable Energy, Govt. of India.

CPWD cherishes and nurtures its deep commitment towards generation of clean and green energy and will continue to push ahead with ever more ambitious projects in the times to come.

OBJECTIVES

- ENERGY CONSERVATION.
- REDUCTION IN CARBON EMISSION.
- SAVING TO THE GOVERNMENT EXCHEQUER.
- STRENGTHEN FAITH OF PEOPLE IN ENERGY EFFICIENCY MEASURES.
- ANNUALIZED ENERGY SAVINGS.
- SWITCH OVER TO NEW AND EFFICIENT TECHNOLOGY WITHOUT ANY UPFRONT COST.

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सत्यमेव जयते

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