STATE FORWARD

BEST
PRACTICES
FROM OUR
STATES

NITI Aayog

ANDHRA
ARUNACHAL
ASSAM
BIHAR
CHHATTISGARH
GOA
GUJARAT
HARYANA
HIMACHAL
JAMMU KASHMIR
JHARKHAND
KARNATAKA
KERALA
MADHYA PRADESH
MAHARASTRA
MANIPUR
MEGHALAYA
MIZORAM
NAGALAND
PUNJAB
RAJASTHAN
SIKKIM
TAMILNADU
TELANGANA
TRIPURA
UTTAR PRADESH
UTTARAKHAND
W.BENGAL

NITI Aayog

"I am trying to create a concept of competitive cooperative federalism so that there is competition among the State Governments in so far as their economic growth is concerned."

Shri Narendra Modi
Hon'ble Prime Minister of India

INTRODUCTION

NITI Aayog has been mandated to foster cooperative federalism in the country for which it is imperative that States work collectively and collaboratively. Cooperative federalism is not just Centre-state cooperation but also state-state cooperation where there is competition among the state governments as far as their economic growth is concerned. In order to realize this there needs to be a convergence of best practices amongst the states.

NITI Aayog is maintaining a state-of-the-art resource centre, which is a repository of research on good governance and best practices of sustainable and equitable development. This compendium on best practices across States is additive to the compilation.

India is a composite of States and Union Territories, some States have GDP that far exceeds the GDP of some of the countries in the world. However, for the country to achieve over 9% sustainable growth rates, most States need to grow at 12-13%. And one of the enabling factors to this would be the replicability of innovative approaches and best project strategies amongst States.

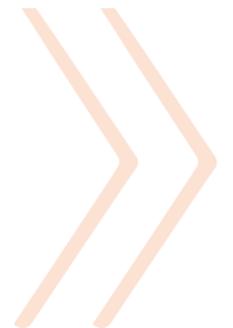It is remarkable to note the modern implementation processes, cutting-edge technology, effective Research & Development, decentralized monitoring, amongst others in many States that are often unnoticed or not adopted widely. This compendium exhaustively lists out some these best practices. NITI Aayog will periodically update this compilation to showcase the best case studies of the States.

The compilation of this compendium reflects a bottoms-up approach, where States' representatives were contacted to identify best practices of the model project examples within the States. Each contact person responsible for the implementation of the project has been identified in the case study. A team of over 60 people, comprising of Senior Officials, Advisers, Officers on Special Duty, Research Officers, and Young Professionals identified and vetted the case studies with the most compelling prospects in other States.

NITI Aayog is closely monitoring the adoption and implementation of projects across the States. The intention of promoting cross-learning across sectors and divisions will strengthen cooperative federalism and augment decentralization. In sum total, this will contribute in evolving a shared vision of national development priorities with the active involvement of States, in light of national objectives.

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AADHAAR ENABLED SERVICES|

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Place of implementation	Krishna District, Andhra Pradesh
Implementing agency	District Administration, Government of Andhra Pradesh
Sector(s)	Fertilizer
Year of launch	2016

BACKGROUND

Following the success of the Direct Benefit Transfer (DBT) in the LPG Sector, Union Budget (2016-17) recommended the rollout of a Pilot Project on DBT in Fertilizer Sector. A committee has been set up under the chairmanship of CEO, NITI Aayog to look into this issue and it has been decided to launch this pilot project in 16 districts of the country. Krishna District is the first region to have started an Aadhaar enabled Fertilizer Distribution System (AeFDS) in 1100 Fertilizer Retail shops with an objective to effectively monitor the distribution of fertilizers across the value chain from Manufacturers till farmers to ensure timely and correct distribution of fertilizers based on Aadhaar numbers of farmers including tenant farmers.

INTERVENTION

AeFDS involves exact distribution of fertilizer quantities to farmers based on a number of factors including the size of their land holdings, soil fertility status and type of crop grown. Aadhaar-enabled Point of Sale (PoS) devices are used for this purpose. Government of India has accepted to pilot AeFDS through Biometrically Authenticated Physical Uptake (BAPU) mode in all retail shops of Krishna District. The workflow was developed by Collector, Krishna and thereafter, training was imparted to Retailers/PACS on use e-PoS devices. Several trials were done to update FMS application from version Ver 1.0 to 1.9 from the month of March to April, 2016, rectifying problems/queries received from the concerned Mandal Agricultural Officers and Retail/PACS dealers which resulted in smooth functioning of e-PoS devices. Real-time update of data in the Mobile Fertilizer Monitoring System (mFMS) portal of Department of Fertilizers has also been ensured.

In this context, it may also be noted that Agriculture Department, Andhra Pradesh is implementing the Government of India scheme "Soil Health Card Scheme under National Mission for Sustainable Agriculture" with special emphasis on micronutrient deficiency correction with target of 94,382 soil samples (covering 5.5 lakh farmers) for collection and analysis during 2016-17. The fertilizer recommendations are given to farmers in the form of Soil Health Cards which depicts the dosage of Micronutrients like Zn, Bo, Mn, Cu & Mg etc., fertilizers like Urea, DAP, MOP, SSP, complexes. The soil

test data will be made online and messages sent to farmers' mobile numbers as soon as the analyses work is done for immediate application of fertilizers to grow crops. Till date, 30% of the soil sample target has been collected

and sent to labs for analysis. The soil sample analyses of all farmers in the entire district shall be saturated within this year and updated in the web portal making them available to the e-PoS devices in real-time.

IMPACT

This will streamline the distribution of fertilizers across the value chain, thereby reducing malpractices. As a result of its introduction, 67 retailers have already surrendered their licences. This system will also ensure that all

farmers get their quantity well in time so that they can avail direct subsidy in the long run. Currently, 90% of the farmers have started taking fertilizers based on the recommendations.

KEY TAKEAWAYS

It is expected that Aadhaar-enabled Fertilizer Distribution System (AeFDS) will go a long way in improving the fertilizer distribution system for 5.5 lakhs farmers in Krishna District, thereby enabling a conducive environment to improve their agricultural productivity. It will also help in controlling the diversion of fertilizers.

Based on the findings, the District Administration has suggested that Government may release subsidy based on actual sales through AeFDS at the retailers end and also provide packets of fertilizers in 10 kg and 20 kg, as against the current 50 kg bags.

II. Aadhaar-enabled Public Distribution System through ePOS Devices

FACTSHEET

Place of implementation	Krishna District
Implementing agency	District Administration, Government of Andhra Pradesh
Sector(s)	Food and Public Distribution System
Year of launch	2015

BACKGROUND

Krishna District has taken up the exercise of automating the supply chain from the Food Corporation of India up to the Ration Card holder. This was done to comply with the end-to-end computerization strategy of PDS launched by Government of India. The first step was to digitize the Ration Card Database and seed the Aadhaar number

into the Ration Card database. Aadhaar-enabled Public Distribution System (AePDS) with PoS devices has been taken up for the automation of 2161 Fair Price Shops (FPS) in the Krishna District. This will increase transparency, accountability and efficiency of PDS.

INTERVENTION

The seeding of Aadhaar to ration cards is a process whereby a Unique Identification (UID) is added to the database of beneficiaries through which he/she is identified under a beneficiary number. As

a result, the database of beneficiaries contains details such as name, ration card number and UID. The following explains the working structure of AePDS -

- ### FOOD CORPORATION OF INDIA TO MANDAL LEVEL STOCK POINT

  Vice Chairman & Managing Director, AP State Civil Supplies Corporation Limited shall issue District-wise allotment of PDS Commodities. Based on this allotment, District Manager, Civil Supplies shall place indent to the Area Manager, Food Corporation of India for release of PDS Stocks.

  Based on the indent, the Area Manager shall check the receipt of money, stock availability etc., and issue Mandal Level Stock (MLS) Point wise release orders.

  Movement of stocks from Food Corporation of India to MLS Points through release order, truck chit and GPS truck movement.

- **MANDAL-LEVEL STOCK POINT TO FAIR PRICE SHOP POINT**

  Generation of release order at MLS Point based on the receipt of demand drafts from Fair Price Shop dealers.

  Movement of stock from MLS Point to Fair Price Shop point through release order, truck chits and GPS truck movement along with Route Officer.

  The Route Officer and Fair Price Shop dealer shall authenticate the receipt of stocks at Fair Price Shop on ePoS device through biometric.

  The stocks receipt message at Fair Price Shop shall go to all cardholders through in-built bulk SMS.

  The Route Officer and FP Shop owner cross check and enter the actual delivered commodity and thereafter, confirm the receipt by authentication.

  The stock gets credited-in to the stock register and the stock register printout come with one copy for the FP Shop dealer and another for Route Officer.

- **DISTRIBUTION OF RATION TO THE CARDHOLDERS THROUGH BIOMETRIC AND IRIS**

  On receipt of SMS, the beneficiary goes to the Fair Price Shop, authenticates his/her biometrics on ePoS and collects the ration.

  As shown in the flow chart, the card holder draws the ration.

FIGURE 1: Distribution of Ration to the Cardholders

AADHAAR HOLDER → Authentication on Devices → ePoS Server at Data Centre → AUA Authentication on User Agency [SRDH] → ASA Authentication on Service Agency [BSNL] → UIDAI Database
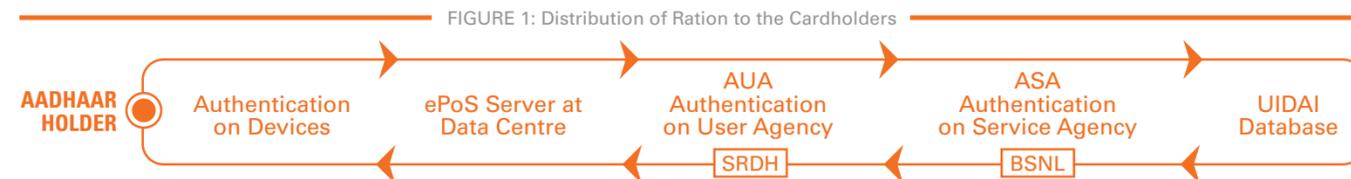
The step by step transactions can be heard from ePoS device either in the regional language (Telugu) or in English.

Finally, the cardholders get the printed receipt of the transaction.

The said transaction is recorded in the NIC Server.

The closing balance gets calculated automatically.

IMPACT

KEY TAKEAWAYS

In a period of thirteen months i.e., from May, 2015 to June, 2016, a subsidy amount of ₹69.78 crore was saved by the implementation of ePoS.

Introduction of ePoS ensures that only genuine cardholders can draw the commodity, records all fair price shop transactions electronically, facilitates monthly allotment of stock to FPS based on real-time MIS stock position, detects fraudulent transactions and establishes communication channel with beneficiaries. Portability has also been enabled in AePDS which allows cardholders to draw commodity from any of the FPS as per his convenience.

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SECTION 2:
AGRICULTURE AND ALLIED SECTORS

BACKGROUND

Groundwater is a common property resource. Groundwater over-exploitation is common and rampant, especially so in peninsular India where the hard-rock aquifers have limited storage capacity. Over-exploitation of groundwater is leading to a steep decline in groundwater levels and failure of wells in 39% of the micro-drainage basins in Andhra Pradesh (FAO 2010). Reversal of a large scale decline of this resource cannot be reversed by individual action. The Andhra Pradesh Farmer Managed Groundwater System (APFAMGS) Project is an enabling intervention to manage groundwater overdraft through voluntary self-regulation.

INTERVENTION

APFAMGS is a partnership with farmers to implement **Demand Side Groundwater Management. In seven drought prone districts of Andhra Pradesh - Anantapur, Chittoor, Cuddapah, Kurnool, Mahabubnagar, Nalgonda and Prakasam - thousands of farmers in 638 habitations** have taken the lead to reduce exploitation of groundwater. APFAMGS is a Nationally Executed (NEX) project through a network of NGOs, under the close support and supervision of FAO India (FAOIN), New Delhi and technical backstopping of FAO Head Quarters (at Rome). Bharathi Integrated Rural Development Society (BIRDS) signed the contract with FAO and acts as the Nodal NGO for the project implementation.

The project undertook extensive training of farmers (Farmer Water Schools) and

FIGURE 2: Crop Water Budgeting

IMPACT

established a hydrological monitoring system (Rainfall Data, Observation Wells, Groundwater Level Data) to facilitate an annual, participatory exercise of community decision making (Crop Water

FAO's evaluation suggested that the project's development objectives have been achieved: groundwater users have been enabled to make better informed decisions on their cropping patterns, while using groundwater more judiciously. Their incomes have improved by reduction in

Budgeting). Efficient water use practices such as mulching, bunding, improved irrigation practices, and large-scale promotion of water saving devices have been implemented by farmers.

the costs of input, some increase in yields and incipient improved marketing strategies. The following is a charge put together by the World Bank during their evaluation of the project, indicating an increase in the net value of outputs per acre.

FIGURE 3: Net Value Output per Acre in Project and Non Project Areas

Hydrological unit/type of area	Net value of Outputs per acre (rupeees, current year prices)		
	2008	2004	%change
Project areas: field crops			
Chandrasagar	16,838	8,987	87.5
Mallapavagu	9,884	5,835	69.35
Nalillavagu	13,339	6,301	111.72
Nasireeddypallyvagu	11,208	8,378	33.78
Erravagu	7,042	5,317	32.43
Peetheruvagu	7,583	7,124	6.44
Vajralavanka	18,051	9,420	91.62
Non project areas: Field crops			
Non project areas near Chandrasagar	4,348	6,415	-32.22
Non project areas near Mallapavagu	3,491	2,605	34.01
Non project areas near Peetheruvagu	2,500	5,173	-51.67

KEY TAKEAWAYS

The FAO evaluation report 2010 terms 'the APFAMGS model to be ready for replication.' APFAMGS experiment has demonstrated a useful model for demystification of hydrology and community participation in hydrological knowledge generation. However, field studies show that sustaining such a network is a challenge. The bottom-up approaches stemming from on-the-ground community action can be complemented by top-down measures that can create an

enabling environment at the local level. The successful experiences of community-based groundwater management owe much to their design being particularly suited to the physical settings of groundwater use i.e., recharge and emptying dynamics of hard-rock aquifers, which cover approximately two-thirds of India's aquifer settings. While APFAMGS could provide a model for other hard-rock settings, it is not likely to work in geographically vast alluvial aquifers with significantly larger storage.

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II. Direct Benefit Transfer in Seed Subsidy

FACTSHEET

Place of implementation	Uttar Pradesh
Implementing agency	Agriculture Department, UP
Sector(s)	Agriculture
Year of launch	2015

BACKGROUND

The traditional system of 'at source' subsidy pose a certain set of challenges. The concerned departments receive a number of complaints year after year. Instances where the list of beneficiaries has been unavailable or faulty, have led to issues in determining credibility of such schemes.

The methods of distributing such subsidy are non-transparent and hence give rise to chances of misappropriation. In the wake of rising dissatisfaction among stakeholders, Uttar Pradesh government decided to move towards direct benefit transfers in seed subsidy.

INTERVENTION

The programme was first tried out to provide subsidy on hybrid seeds in the 2015 Kharif season. This was followed by direct benefit transfer (DBT) on all seeds — both certified varieties and hybrids — during Rabi 2015-16. Central to it was the creation of a farmers' database — containing their identity proofs, land particulars and bank account numbers —

under the State Government's scheme called Pardarshi Kisan Seva Yojana. The database already covers over 40 lakh farmers, each assigned a unique 'Kisan ID' number, and is growing by the day.

The process of disbursal under this new system can be explained through the following illustration. For instance, the subsidy on seeds of certified wheat

FIGURE 4: PROCESS OF TRANSFER OF SUBSIDY

Retail counters set up at block level → Farmers register for seeds at portal → Distribution of seeds at the outlet → Farmers buy seed at full rate from seller →

Treasury, after due verification, transfers the amount to the farmers' accounts ← Submit bills to the treasury for direct subsidy transfer into the account of farmer ← Beneficiary list prepared on the basis of the documents ← Farmers deposit a copy of receipt and a form to the govt. employee at the seed store

varieties has been fixed at ₹1,400 per quintal in the current 2015-16 Rabi season. Farmers can buy these from stores belonging to the agriculture and cooperative departments, UP State Agro-Industrial Corporation, UP Seed

Development Corporation or Kribhco and IFFCO at the notified market price of ₹3,000 per quintal. The subsidy amount is, then, transferred directly into their bank accounts within 15 days of purchase.

IMPACT

The DBT programme benefited around 1.5 lakh farmers in Kharif 2015. They were given the freedom to buy seeds from any of the designated retail outlets operated by private companies at market prices, with the subsidy being credited separately into their bank accounts. While in the preceding Kharif season, the UP government spent more than ₹85 crore as

subsidy on hybrid paddy, maize, jowar and bajra seeds, the outgo fell to less than ₹25 crore in Kharif 2015 post introduction of DBT. The total subsidy amount during Rabi season, transferred directly into the accounts of approximately nine lakh farmers, came to ₹127 crore. This again was lower compared to a bill of ₹217 crore during 2014-15 Rabi season.

KEY TAKEAWAYS

The knocking-out of fictitious beneficiaries led to savings in subsidies. In fact, the DBT system's biggest achievement has been that many farmers received subsidised seeds for the first time, thanks to the transparent manner for the identification of beneficiaries. The scope for embezzlement by seed, stores in-charges is also minimized, as the subsidy into the accounts of farmers can be transferred only after the money collected from them has been deposited into the treasury. The readily available database also makes it possible to provide certified seeds — that

require replacement only once in three years — to new sets of farmers each season.

FIGURE 5: Distribution at Barabanki District

III. Integrating Farmers with APMC Mandis through E-Platform

FACTSHEET

Place of implementation	Karnataka
Implementing agency	Rashtriya e-Market Services (ReMS)
Sector(s)	Agriculture (Marketing)
Year of launch	2014

BACKGROUND

The agriculture market is fragmented even within states. It results in higher transaction costs, the need for multiple licences which inhibit economies of scale and seamless movement of agri-goods. Karnataka's Unified Market Platform

(UMP) seeks to address and reverse this process of fragmentation of markets. The Unified Marketplace (UMP) will also provide an electronic auction system across the state for transparent price determination.

INTERVENTION

Karnataka's online trading in agricultural commodities has proved to be a successful model and farmers are reaping its benefits. The UMP through the Rashtriya e-Market Services (ReMS), a joint venture of the State and NCDEX Spot Exchange Ltd., has addressed the concerns of small and marginal farmers, who hitherto struggled for a better price. The government implemented online trading to develop a barrier-free market for farmers. Now, wholesale dealers, including METRO Cash & Carry and major traders in different parts of the State are participating in online trading and quoting competitive prices. Online trading helps producer-seller secure the best price for commodities at the APMCs.

The new system has eliminated the role of middlemen and unfair trade practices. The UMP contributed better price realization to farmers compared with the prices prevailing in earlier years. It increased arrivals in the markets and greater competition was noticed by outside traders' participation, with more bids per lot in the online bidding. The UMP had created quality and price awareness among farmers. To bring in more farmers under the system, a drive has been launched in 11,000 villages across the State, involving at least 200 farmers from each village as of April 2016.

Unified trader licence issued to traders from across the country enabled them to trade across APMC markets in Karnataka. Under the system, the market would correct itself to curb excess speculation of "rogue" traders/agents to the extent of market liquidity and magnitude of participation.

FIGURE 6: ReMS Dashboard
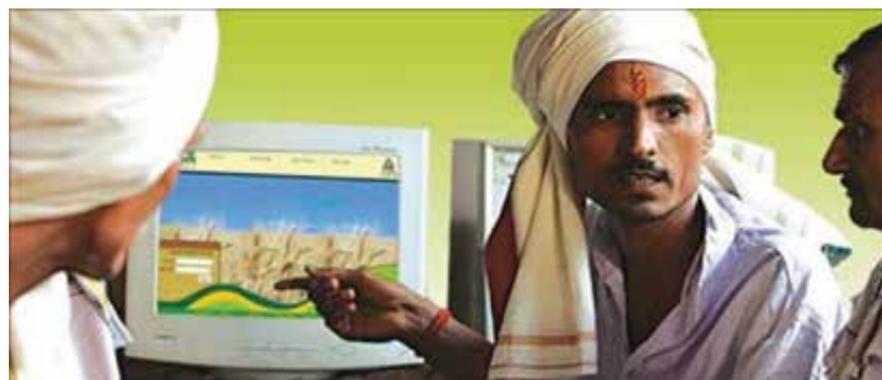
IMPACT

Till April 2016, more than 14 lakh farmers have registered on the UMP and have been benefited from a sharp rise in prices of commodities owing to the introduction of online trading in 107 agricultural produce marketing committees (APMCs) across the State. The UMP had contributed to the significant rise in prices of copra, groundnut, toor, turmeric, Bengal gram, arecanut, dry chilli and green gram. For instance, the average price of copra increased from ₹5,401 a quintal in 2013 to ₹12,936 a quintal in 2015 in the Tiptur market (rise of 139 per cent), while it moved from ₹5,178 a quintal in 2013 to ₹11,169 (116 per cent) in 2015 in the Arsikere market of Hassan district.

KEY TAKEAWAYS

Karnataka's model was showcased at the 'National Conference on Sustainable Agriculture and Farmers Welfare', chaired by Mr. Modi, in Gangtok in January 2016. National Agriculture Market, a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities, is based on Karnataka's model. The Project Appraisal Committee (PAC) set up under the Chairmanship of Secretary (AC&FW) has so far given an in-principle approval to DPRs from 12 States.

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IV. Micro-Irrigation Systems for Water and Cost Economy, and Higher Yield

FACTSHEET

Place of implementation	Gujarat
Implementing agency	Gujarat Green Revolution Company
Sector(s)	Agriculture (Irrigation)
Year of launch	2005

BACKGROUND

In Gujarat, agricultural sector nearly accounts for 85 per cent of available water. Of the total irrigated land area, 80 per cent is done through groundwater and 20 per cent through surface water. Over drafting of groundwater resulted in decrease in the water table levels and an increase in salinity ingression. Many parts in the canal command area of the State have become water-logged. Micro-Irrigation (MI) methods such as drip and sprinkler systems have been found to have significant water saving and crop productivity benefits.

INTERVENTION

During 2005-06, the State Government of Gujarat felt a need for an integrated approach to promote uniformity of provisions under various schemes to remove their inequalities and anomalies. This led to the establishment of a special purpose vehicle – Gujarat Green Revolution Company.

GGRC implements the Micro Irrigation Scheme (MIS) in Gujarat in a uniform mode. The main objective of the MIS is to benefit the farmers by increasing agricultural production through the adoption of scientific water management techniques, and thereby to usher-in the Second Green Revolution in Gujarat. In pursuance of this objective, the State Government has embarked upon Jal Sanchay Abhiyan (Drive for Storage of Water) in which the Micro-Irrigation Scheme is an integral part of the Programme.

The Scheme is being implemented with a uniform subsidy pattern of 50% of the Micro-Irrigation System (MIS) cost or ₹60,000/- per hectare, whichever is less. The tribal (ST) and Schedule Caste (SC)

farmers are entitled to an additional subsidy of 25% of the MIS Cost or ₹90,000/- per hectare, whichever is less. In the Dark Zone area, 10% additional subsidy is provided to beneficiary farmers under the Scheme, which entitles them to avail subsidy at 60% of the MIS cost or ₹60,000 per hectare, whichever is less. The Micro Irrigation Scheme has been made more popular by providing electricity connections on a priority basis to those farmers who adopt Micro-Irrigation Systems on their agricultural lands. This benefit has been availed by 1,16,146 farmers.

FIGURE 7: Micro Irrigation Scheme

IMPACT

Till 2014, a total number of 6,40,853 beneficiary farmers have adopted Micro-Irrigation Systems (MIS) in a total area of 10,34,930 hectares since the implementation of the Scheme in its present modality by GGRC. A total amount of ₹2866.43 crore has been disbursed as subsidy under the scheme up to Dec 2014.

In tribal areas, 1,31,293 farmers have adopted Micro-Irrigation System(s) over a cumulative area of 1,78,745 hectares. Out of the total area of 10,34,930 hectares covered under the Micro-Irrigation Scheme, 4,96,305 hectares has been covered under Drip Irrigation and 5,38,625 hectares under Sprinkler Irrigation.

SNAPSHOT FROM EVALUATION OF GGRC'S MIS SCHEME BY AFC INDIA LIMITED, MUMBAI:

CROP	WATER SAVING (%)	ENERGY SAVING (%)	INCREASE IN PRODUCTION (%)	PAYBACK PERIOD (NUMBER OF CROPPING SEASON)
COTTON	34	14	38	3
BANANA	46	17	23	1.3
SUGARCANE	35	17	20	2.1
POTATO	27	14	20	3.7
CASTOR	39	13	29	2.7
VEGETABLES	48	12	24	2.3

KEY TAKEAWAYS

The strength of the Scheme is its flexibility and transparency. The farmer has the discretion to choose the type of MIS as per his need, whereby, a single design can cater to various crops. The Scheme hand holds the beneficiary farmer by facilitating bank loans as per need and insurance coverage for the system as well as for the beneficiary farmer for a period of one year. The design of the scheme is such that the selected MIS supplier renders agronomical services to the farmer for one year to enhance agricultural productivity and also maintains the system for a period of five years. With the implementation of the Micro-Irrigation Scheme there has been a considerable enhancement in crop productivity, besides savings in the use of water, energy and other agricultural inputs.

v. Mobilising Farmer Groups – Matsya Mitra, Jharkhand

BACKGROUND

Fish cultivation has emerged as one of the major income generation activities in Jharkhand. This has been possible because of the State Government's decision to popularize commercial fishing.

INTERVENTION

Jharkhand, with over 70 percent fish eating population, launched Matsya Mitra initiative in 2007, which invites village residents to join hands with the Fisheries Department and promote aquaculture. The decision was taken because the state, which has a huge fish-eating population, imported a bulk of its fish from Andhra Pradesh and other states. For aquaculture, it is necessary to know the pH scale and content of organic carbon in the pond water and the soil in the surrounding area. The initiative members, called Matsya Mitras, collect this vital information, and in case of an anomaly, instruct farmers to solve the problem. The state has over 3,600 Matsya Mitras who are now helping district fisheries officers in resource assessment, documentation of farming practices and in sourcing of support services. They have also helped in identification of coal pits, small ponds and wells that are not being used for fish

Starting 2007, the state fisheries department has launched a series of initiatives to attract individuals and communities with water bodies to aquaculture.

farming.
Matsya Mitras across the State, motivate other farmers to take up fishery as an alternative source of income. It has helped farmers create ponds through existing fishery schemes of the State Department. The efficiency of Matsya Mitras is evaluated annually and as a matter of recognition, the selected Matsya Mitras are awarded with special rewards to keep them

FIGURE 8: Tribal Fisheries Co-Operative

motivated. The State has also embarked upon cage culture in a big way and the Matsya Mitra(s) are the guiding force for the Tribal Fisheries Co-operative Societies in the adoption of scientific technologies for better production from fish cages, which are installed in reservoirs of the State. This year, additional fish cages are installed in water bodies of Chandil, Dhurwa dam in Ranchi and Hazaribagh areas in an attempt to double fish production in Jharkhand and the Matsya Mitras are actively involved in fishery enhancements with participation of fish production groups (SHGs) including women beneficiaries.

IMPACT

The impact of the initiatives is visible. Jharkhand doubled its fish production to 106,430 tonnes between 2006-07 and 2014-15. It is expected to reach 120,000 tonnes by 2016. The state has also increased its capacity of fish seed production, which is in shortage in the country. The fish production has increased from 96.60 thousand tonnes in the year 2012-13 to 104.82 thousand tonnes during the year 2013-14. Jharkhand doubled its fish seed industry to ₹110-Crore between 2007 and 2015.

KEY TAKEAWAYS

The State Fisheries Department, Jharkhand has realised that the key to success is mobilising Matsya Mitras, since fisheries activities are easy money spinners. It is expected that, a push for fishery related activities through the Matsya Mitras will boost the economy of rural areas of Jharkhand and the State Government is also working on this line.

Citing an instance from media articles, one Nicolas Bando, Matsya Mitra from Sonse Village in Chatara District has appraised the State Fisheries Department that he has sent at least 70 village residents to Ranchi for training in aquaculture. He earned around ₹5.00 lakh in 2015 from selling fish seed that he started rearing in 2014 after seeing a huge demand. Bando has now completely shifted to fish rearing in his four-hectare land that was earlier used for paddy.

FIGURE 9: Growth Projections of Fish Production in Jharkhand
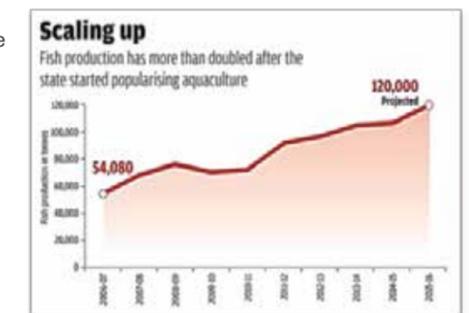
Scaling up
Fish production has more than doubled after the state started popularising aquaculture

Mass Vaccination for Prevention of PPR Disease on the Lines of Pulse Polio Campaign

FACTSHEET

Place of implementation	Chhattisgarh
Implementing agency	Directorate of Veterinary Services, Chhattisgarh
Sector(s)	Agriculture (Animal Husbandry)
Year of launch	2010-11

BACKGROUND

Perstes-des Petits ruminants (PPR), a viral disease, is popularly known to cause heavy economic loss for the goat and sheep rearers in Chhattisgarh over the past decade. The total asset value of goats in the states can be projected at ₹1186 Crore.

Assuming an annual loss of 5 percent of animals due to PPR disease, the economic losses alone work out to be more than ₹60 Crore. The State Government undertook a massive immunization Programme to tackle the disease.

INTERVENTION

A State Wise PPR Disease Control project was formulated and sanctioned under Rashtriya Krishi Vikas Yojana, on the lines of Pulse Polio Campaign, in the year

2009-10, and was implemented for the first time in 2010-11. The campaign has been conducted annually since then.

FIGURE 10: PHASES OF THE PROJECT

PRE VACCINE PHASE	VACCINATION PHASE	POST VACCINATION PHASE
Annual Sensitization, Planning and Technical Workshop Preparing Monitoring Formats Preparing Monitoring Material Mass Awareness Campaign (TV and Newspaper) Procurring vaccines, ice and consumables Collecting serum samples of .01% goats 1 month prior	Mass Vacination Programme (11-12 days) Daily monitoring of events Vaccination at goat markets, farms, nomadic unit, and selling units Vaccination at checkposts Emergency Vaccination Vaccination at villages missed during the campaign	Honorarium payments to paravets only Collection of serum samples and analysis of Seroconversion Generation of data and dessemination of information

IMPACT

Vaccination coverage of 82% was attained through effective implementation of the project (2014-15). Number of vaccinations was 19.44 lakhs in the first year, which rose to 29.30 lakhs in 2014-15.

PPR titre antibody is analysed by competitive ELISA kit, at IVRI Mukteshwar.

The National Livestock Census shows a steep rise in the goat population in the past decade. Goat meat production, based on Integrated Sample Survey, Government of India, also shows significant growth in this sector after implementation of the project.

POPULATION OF SHEEP AND GOAT (IN LAKH)

LIVESTOCK CENSUS	SHEEP	GOAT	TOTAL	GROWTH (%)
17TH CENSUS (1997)	1.95	21.54	23.49	-
18TH CENSUS (2003)	1.22	23.35	24.56	4.55
19TH CENSUS (2007)	1.40	26.68	28.08	14.33
20TH CENSUS (2012)	1.66	32.25	33.91	20.76

KEY TAKEAWAYS

During the last five years, it was realised that the implementation of such a massive vaccination project in the duration of 10-12 days required intricate planning and preparation every year. Field level monitoring is the most critical factor to minimize false reporting. Extensive measures to create awareness also creates peer pressure on the farmers. Post vaccination sero monitoring by ELISA kit helped monitor the performance of the districts. Logistics played a key role in making the campaign a success, such as timely procurement of vaccines, provision of hired vehicles etc. This intervention is expected to eradicate the disease and also to be extended to neighbouring states.

FIGURE 11: Growth Rate of Meat Production in Chhattisgarh as per Integrated Sample Survey
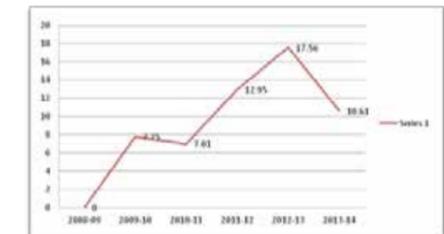
Strawberry Cultivation: Horticultural Revolution in Meghalaya

FACTSHEET

Place of implementation	Meghalaya
Implementing agency	Horticulture Mission of North-eastern and Himalayan States
Sector(s)	Agriculture (Horticulture)
Year of launch	2004

BACKGROUND

North Eastern Region has a vast potential for the development of horticulture sector. The climate and ecological conditions are most congenial for the cultivation of varieties of horticultural crops ranging from different types of fruits, spices, flowers, medicinal plants and a wide variety of vegetables. The Green Revolution that took place in the country in the late 1960's was largely confined to the North Western parts of the country and did not make much

impact in the Eastern and North Eastern States.

Meghalaya's foray into high value low volume crops has changed the economic landscape of the strawberry growers of Ri-Bhoi district. The State Government has a vision of transforming Meghalaya into a fruits and flowers state of the country by setting up "Horti- hubs" in different districts of the state so as to harness horticultural crops and take them to a larger scale.

INTERVENTION

About 15 years ago strawberries were grown at a very small scale in Meghalaya. However, in 2004-05, Sohliya village located in Ribhoi district which is about 30 km from Shillong was selected as a hub for strawberry cultivation in Meghalaya. The initiative was implemented in collaboration with the Horticulture department farm in Dewlieh, in Umsning and active participation of the Ri-Bhoi Strawberry Growers Association (RBSGA) under Technology Mission for the Integrated Development of Horticulture in the North Eastern Region and the, Government of Meghalaya. The success of Sohliya village as a strawberry hub inspired Mawpran village in 2008-09

which is about 58 km from Shillong where 2 hectares of clustered cultivation of the crop was undertaken. Raw materials were brought from Maharashtra, the number one state in strawberry cultivation, but later seedlings and other technologies came all the way from California.

In Sohliya the total production which was 125 metric tonnes in 2009 had gone up to around 250-300 metric tonnes annually in 2012-2013. Whereas in 2012-13, Mawpran village's total production of strawberry was about 10-20 metric tonnes annually. The strawberries of Sohliya village were of high quality and graded according to the size and categorized into A, B and C segments. The farm price of each is ₹120,

₹110 and ₹260 per kg. The market price of Grade A ranges between ₹300-₹350 per kg and that of grade B ₹240-₹260 per kg. They were sold in different parts of North East and as far as Delhi and Kolkata, they have also been exported to nearby countries like Nepal and Bangladesh. However, in Mawpran village, the market price is seasonal, during the peak seasons of January - March, the price of strawberry is ₹350 per kg, whereas during April the prices come down to ₹200-₹280 per kg.

IMPACT

About 66 out of the 67 households are engaged in the cultivation of strawberry ranging from one fourth acre to 3 acres of land. Earlier, the average weekly income of the villagers was of ₹400-₹500 but has seen a massive jump to ₹7000-₹9000 per week. Strawberry cultivation in the village has opened up employment opportunity where about 200-300 people get employment at a wage rate ranging from ₹300-₹400 a day. Sohliya village started booming, where many families have been able to buy TV

sets, pucca houses, two wheelers and in some cases even cars. Even the village church benefitted with Sunday collections now touching ₹5000/- per week as compared to ₹2000/- per week during the pre-strawberry years. The inauguration of Rural Business hub (RBH) took place on 30th January, 2010. Similar success stories were witnessed from Mawpran village. The farm currently provides employment to around 40-50 labourers with wage rate ranging from ₹300-₹350 a day.

KEY TAKEAWAYS

The horticulture sector in North East India has emerged as economically rewarding and the most viable option in the diversification of agriculture in today's time. Horticulture in Meghalaya is heading for a drastic transformation as most of the

horticultural crops have advantage over the traditional crops in generating rural employment, enhancing rural income and have high potential to tap national and international markets.

Yantradoot Villages in Madhya Pradesh

FACTSHEET

Place of implementation	Madhya Pradesh
Implementing agency	Directorate of Agriculture Engineering, Madhya Pradesh
Sector(s)	Agriculture
Year of launch	2009-10

BACKGROUND

Farm Mechanization enhances crop productivity through efficiency of agriculture operations and inputs. However, over 85% farm holdings in India are small and individuals possessing farm machinery is neither feasible nor affordable. Madhya Pradesh Government started a unique model of empowering villages with innovative and highly mechanised farm equipment.

INTERVENTION

The scheme was started in Matha village of Satna district in the year 2009-10. A variety of farm implements were introduced including rotavators, seed graders, double box seed cum fertilizer drills, ridge furrows & ridge bed planters and broad weeders and insect controllers. Harvesting and threshing also deployed the use of machines. Subsequent to success in Matha village, 25 other villages were chosen to extend the scheme in the year 2010-11. Another 14 villages were included in the year 2011-12.

Focused field demonstrations are conducted for various agricultural methods and implements periodically during both the rainy and winter seasons. Post-field demonstrations, Custom Hiring Centers (CHCs) are set up in model villages. CHCs house all the equipment demonstrated to the farmers and are available for hire on a nominal price. This price is cheaper than the rate at which private companies provide this service. The CHC is managed by a field coordinator, who hires people from among the village youth to manage the equipment. The CHC, thus, helps the farmer reduce his costs and provides local employment.

Since 2012-13, the State Government is encouraging private entrepreneurs to set up centers by providing 50 per cent (up to ₹10 lakh) back ended subsidy. So far 1205 centers have been established in Madhya

FIGURE 13: Tractors Parked at CHC

Pradesh. The applicants, who are graduates up to the age of 40 years, for setting up CHC undergo training at an institution of repute such as Central Institute of Agricultural Engineering (CIAE), Bhopal and Central Farm Machinery Training and Testing Institute (CFMTTI), Budhini prior to opening the center.

IMPACT

Case documentation by One World Solutions India (2012) states that an increase of 40 per cent in the agricultural productivity was witnessed in the selected 25 villages. Another evaluation by IWIN Advisory Services (2012-13) observed 60 per cent to 85 per cent increase in productivity of various crops like Soybean (79%), Paddy (83%), Wheat (63%) and Gram (81%). Increase in income by 75 to 100% is noted for majority of the farmers.

In absolute terms, the farmers' income in these villages has increased from about ₹40,000 to ₹100,000 per season. Farmers are now switching to multi-cropping techniques, which relieves them of the restriction of earning an income only twice a year (Kharif and Rabi). The scheme has successfully led to an increase in the output level without any major increase in input costs.

FIGURE 14: Achievements of Yantradoot

YANTRADOOT'S IMPACT

Enhanced production of crops	Multifold increase in Farmers' earning	Improved farmers' knowledge base	Increased output level without any major increase in input cost

KEY TAKEAWAYS

The Yantradoot scheme has succeeded in creating a model for agricultural mechanization, employing modern time and cost saving technologies for farming. The model of Yantradoot scheme was able to inspire Sub-Mission on Agricultural Mechanisation under the 12th Plan. The scheme has cumulated the inputs of various diverse existing agricultural schemes and directed their effects in a concentrated manner on a particular village. An important lesson to learn from Yantradoot lies in its concentrated, impact-driven approach which has yielded very visible effects in terms of increased agricultural productivity and rising farmers' income.

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IX. Crop Pest Surveillance System and Advisory Project - Maharashtra

Place of implementation	Maharashtra
Implementing agency	Commissionerate of Maharashtra, Agriculture Department
Sector(s)	Agriculture
Year of launch	2009

BACKGROUND

CROPSAP, a collaborative initiative was undertaken by ICAR-National Center for Integrated Pest Management, New Delhi and Commissionerate of Maharashtra, Department of Agriculture in the backdrop of severe pest outbreak on soybean crop during 2008-09 in Maharashtra. The state witnessed severe outbreak of leaf defoliators viz. *Spodopteralitura,*

Helicoverpaarmigera and other leaf-eating caterpillars. 48% of the total area under Soybean cultivation was infested, resulting in losses to the tune of ₹1392 crore. The pest epidemic couldn't be detected timely by the existing system of pest monitoring. As a result, the Government had to pay compensations worth ₹450 crore to farmers.

INTERVENTION

Major objectives of the project were to develop an online real-time pest monitoring and advisory system, identify hot-spots to avoid pest build-up and recurrence, issue real-time advisories based on pest status and create mass awareness among farmers about integrated pest management. The major crops covered included cotton, soybean, arhar, rice, gram, mango, pomegranate and banana. Pest scouts collect data on pest incidence from fixed and random plots in representative villages on every Monday-Tuesday and Thursday-Friday. The data is fed on-line and analyzed through software. Location specific advisories are issued by experts from

Agriculture Universities after analyzing the data every Thursday and Monday. These messages are transmitted to around 50 lakh registered farmers in the form of SMSes two times in every week. Mass awareness programmes are also conducted system-wise.

IMPACT

Since the inception of the project there has been no outbreak of any major pests on the crops in the State. The entire State is covered under the project. Considering the expenditure incurred on the project, the per hectare project cost works out to a little less than ₹10. This has helped farmers avoid unnecessary use of pesticides, reduce cost of cultivation and increase profitability. Safer biopesticides have also been adopted by farmers. This was felicitated with the Prime Minister's Award for Excellence in Public Administration' for the years 2012–13.

KEY TAKEAWAYS

This innovative, ICT based e-pest surveillance system was implemented for the first time in the country. Government of India has recommended the replication of this system to other states. Odisha and Gujarat have already implemented the same in 2012-13. Tripura, West Bengal and Rajasthan are in the process of implementing it.

Policy Intervention for Fisheries in Andhra Pradesh

Place of implementation	Andhra Pradesh
Implementing agency	Fisheries Department
Sector(s)	Fisheries
Year of launch	2015

BACKGROUND

Government of Andhra Pradesh has identified the Fisheries Sector as one of the growth engines for achieving double digit inclusive growth. The overall fish production was almost tripled in the past one decade from 8.14 lakh tons in 2005-06 to 23.52 lakh tones in 2015-16. During 2016-17, it is targeted to produce 27 lakh tonnes with GVA of ₹40,200 crore with growth rate of 14.80% on production and 33.56% on GVA. The share of Andhra Pradesh in India's sea food exports has been increased from about 20% in 2009-10 (₹2100 crore) to about 42% in 2014-15 (₹14,000 crore). The sector contribution to GSDP is 5.40% and providing employment opportunities to nearly 14.5 lakh.

INTERVENTION

Andhra Pradesh Government announced Andhra Pradesh Fisheries Policy 2015 envisaging to achieve 42 lakh tonnes of fish and prawn production with GVA of ₹80,000 crores by 2020 duly providing fiscal incentives in fisheries and aquaculture. AP is producing more than 70% of cultured *L. vannamei* shrimp in the country and aim to reach 2nd position in the World in shrimp production by 2020-21 with 0.85 million metric tonnes.

All the freshwater ponds have been regularized duly addressing all the environmental issues by the District Level Committees. The registration of aquaculture farms have been taken through Meeseva (online process) in a transparent manner with time bond schedule in West Godavari and Krishna Districts.

The Aqua farmers with innovative approach acclimatized the *L.vannamei* shrimp to freshwater aquaculture, resulting in a quantum jump in production.

Remote sensing based resources survey is conducted with AP Space Application Center (APSAC) and identified 0.64 lakh hectares of additional potential area for expansion of the aquaculture in the state in 2015. Accordingly, the Government has permitted taking up aquaculture in DKT/ Assigned Government lands and provided fiscal incentives for promotion of aquaculture under AP Fisheries Policy 2015.

Farmers Producer Organisations (FPOs) organized promoting BMPs, collective marketing and quality control in aquaculture. Organization of 40 FPOs in fisheries sector are in progress.

For disease surveillance and monitoring in shrimp farming, task force teams were constituted with convergence and extending effective services to aqua farmers through:

- IFFCO – Kissan Mobile Advisories
- Toll Free Services

To ensure the conservation of marine fishery resources, the Govt. imposed a ban period of 61 days and implemented it stringently by providing relief at the rate of ₹4000 per affected fisherman family through Direct Benefits Transfer.

For Reservoir Fisheries Development, the stocking of 80-100 mm size advanced fingerlings at the rate of ₹2000 has been taken up in all potential reservoirs to enhance their productivity. The entire stocking process is monitored through a web-enabled network in the state.

Captive seed nurseries are promoted at reservoirs and perennial tanks for rearing of fry to fingerling size to ensure the supply of quality seed, high survival rate and additional income to the fishing community.

The Department of Fisheries was restructured by instituting new wings - Aquaculture, Marine Fisheries, Regulatory, HRD and Marketing, Planning and Administration and Engineering for effective functioning of the department in mission with a vision mode and to cater very efficient services to Fishers and Aqua farmers at field level to achieve the Andhra Pradesh vision of Blue Revolution by 2020-21.

IMPACT

Increasing GVA of the State and enhancing employment opportunities across the States.

KEY TAKEAWAYS

The intervention of local technology at grass-root level increases employment opportunities and strengthens the economy of the households as well as of the State.

Automated Paddy Procurement System

Place of implementation	Odisha
Implementing agency	IPE Global for the Food Supplies and Consumer Welfare Department (FS&CW), Government of Odisha
Sector(s)	Agriculture
Year of launch	2014

BACKGROUND

In the year 2015-16, the total amount of Paddy procured in the state of Odisha was 29,111,157QT. The FS&CW Department planned to automate all transactions with respect to paddy procurement at the Society/Market Yard level so as to reduce the workload of societies or agencies, keep track of the progress of procurement, optimization of fund flow, and for increased farmer participation.

INTERVENTION

The software is integrated with a farmer registration software of the FS&CW Department, Government of Odisha. The software can be used by all commission agents for Odisha State Civil Supplies Corporation (OSCSC) and other state procuring agencies. The software generates all the paper work needed throughout the process of paddy procurement from farmers at Paddy Purchase Centers, to transport such paddy to rice millers for de-husking, payment of farmers for paddy purchase etc. Two separate software components have been developed – a desktop component for rural areas where Internet connectivity is often not available, and a web portal component for concurrent access to information by all stakeholders through MIS reports.

IMPACT

The automation has not only streamlined operations and brought in transparency but has also reduced the time taken to do the manual paper work and the consequent harassment of farmers in getting payment for their paddy. The system has already been implemented in 700 Paddy Purchase Centers of 600 Paddy Agricultural Cooperative Socieites of 60 high paddy procuring blocks of 24 districts. Monitoring of farmer registration is being done at civil supplies offices of all 30 districts. The system is also being used by 20 branches of District Credit Co-operative Banks. In the 2014-15 Kharif season, 3,10,018 farmers registered in 60 P-PAS blocks while 1,22,851 farmers registered during the 2014-15 Rabi season.

KEY TAKEAWAYS

This intervention, running successfully in Odisha, can be customized to include all high yielding crops in different states. The platform and processes already developed can be replicated across different states.

FIGURE 15: Paddy Procurement

FOOD ODISHA PORTAL 1

| # Farmer data (from Farmer Registration module)
Bank Branch

| # Procurement, Payment Summary |

PPAS Server

| # Consolidted Payment Advice |

STATE AGENTS BANKS' PORTAL 4

| # Credit Status |

Advance Token
Paddy Procurement
Paddy Delivery
Payment Advice

PPAS LOCAL APPLICATION 2

| # Farmer Data
Master Data sets
Payment Advice |

| # Payment Advice |

| # Approved Payment Advice |

APPROVER OF PAYMENT ADVICE 3

(e.g. DOCB Branch in case of Comission Agent)

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Digital Soil Test and Fertilizer Recommendation (STFR) Kit

FACTSHEET

Place of implementation	Rolled-out on a Pan-India basis
Implementing agency	The kit was developed by Indian Agricultural Research Institute, Pusa in 2012. It was licensed to a private company WS Telematics in 2014.
Sector(s)	Agriculture (Fisheries)
Year of launch	2014

BACKGROUND

The STFR kit was developed by Indian Agricultural Research Institute (IARI). After working on the STFR kit for more than a decade, IARI gave the licence of commercial manufacturing to WS Telematics, a New Delhi based company which started its production in 2014.

INTERVENTION

STFR kit seeks to address the lack of awareness among farmers about their soil quality. It not only tests the soil samples, but also recommends the quantity of fertilizer required for different kinds of crops. The farmer does not have to depend on the Krishi Vigyan Kendra (KVK) for its soil testing, where it usually takes more than 10 days and they lack modern facilities for soil testing.

IMPACT

a. Five samples of soil can be tested simultaneously in one and a half hours' time.
b. Seven soil parameters can be tested - organic carbon, nitrate, phosphorus, potassium, sulphur, zinc and boron.
c. 380 machines have been sold across India.
d. It enables rational use of fertilizers (would check over use of urea).

KEY TAKEAWAYS

This machine is already used in different parts of the country, but there is a need to create more awareness through massive campaigns to make its use widespread. The cost of the machine, if reduced may help in its uptake. Though, the upfront investment on this machine can act as a hindrance in its acceptance, the distribution can start with one machine in each Gram Panchayat.

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Narmada Canal Project in Rajasthan - Coverage of More Area Under Irrigation Using Micro Irrigation Systems

FACTSHEET

Place of implementation	Rajasthan
Implementing agency	Water Resources Department, Government of Rajasthan
Sector(s)	Agriculture
Year of launch	2012-13 onwards

BACKGROUND

The Narmada Canal project is an inter-state Project benefitting the States of Gujarat and Rajasthan. The project has been designed to utilize 0.05 Million Acre Feet (MAF) of Narmada water in Rajasthan. Initially, the project was conceived to provide irrigation facility over 1.35 lakh ha in 89 villages (74 villages in Jalore and 15 in Barmer districts) at the cost of ₹467.53 cr. (1989-90 price level) by conventional (flood) irrigation method. It was observed with the experience during Indira Gandhi Nehar Project Stage-I that conventional irrigation method with higher water allowance caused (i) increase in the water table in a short span and (ii) problems related to drainage and salinity. It was then decided to adopt pressure irrigation (sprinkler irrigation) to avoid problems arising due to conventional method.

INTERVENTION

To overcome the problems caused by conventional irrigation and to optimize the use of water, it was decided to introduce pressure irrigation (sprinkler and drip) in the command areas of the Narmada Canal Project. To provide pressure irrigation, the command area has been divided into 2,236 chaks; each chak having its own diggi (shallow tanks) which receives water from canal. The water in the diggi is lifted through mono block pumps installed in pump rooms constructed with each diggi. Water, so lifted, is carried through buried H.D.P.E. pipes and cultivators draw their share of water by installing their sprinkler sets at the outlets provided. In this project, Command Area Development and Water Management (CAD&WM) activities are being implemented pari-passu with construction of the canal network and other civil works.

IMPACT

THE FOLLOWING BENEFITS WERE OBSERVED AFTER THE INTERVENTIONS WERE MADE:

- The project command could be increased from 1.35 lac hectare to 2.46 lac hectares i.e. an increase of about 82%.
- The no. of villages getting benefits of irrigation increased from 89 to 233.
- Drinking water facility could be provided to 1541 villages and 3 towns, which was not planned earlier.
- Increase in food production has been assessed as ₹1480 cr. from ₹534 cr. (based on 2013-14 data).
- Kharif crop could be introduced in the project areas.

KEY TAKEAWAYS

Use of micro-irrigation systems improves on-farm water use efficiency leading to coverage of more areas under irrigation. The States may be encouraged to follow the practices, as adopted during the Narmada Canal Project (Rajasthan), for coverage of maximum areas with available water.
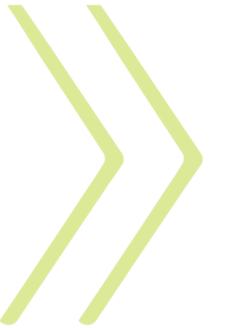
SECTION 3:
HEALTH AND NUTRITION

FACTSHEET

Place of implementation	Madhya Pradesh
Implementing agency	UNICEF and Self-Employed Women's Association
Sector(s)	Nutrition
Year of launch	2010

BACKGROUND

There is scarce evidence of the impact of unconditional cash transfer on nutrition outcomes for low income Indians.

INTERVENTION

Over 6000 individuals (general low income and tribal villages) received small unconditional monthly cash transfers, or what was called a basic income (pilot – ₹200 per adult and ₹100 per child; after one year- ₹300 per adult and ₹150 per child). These amounts were calculated so as not to be too high as to substitute employment, but enough to make some difference towards fulfilling basic needs.

IMPACT

The intervention was tested in general and tribal populations with control groups for each to evaluate effects through a baseline survey (census), interim evaluation (sample survey), final evaluation survey (census) and a sample post-final evaluation survey. Nutrition outcomes assessed included weight for age tracking, food sufficiency reporting, and practices in purchase of nutritious food.

The proportion of normal weight-for-age children increased from 39% to 58% by the end of the pilot in the villages receiving the cash transfer. Therefore, receipt of basic income had a statistically significant impact on children's nutrition, in both general and tribal villages, particularly on nutrition levels of female children.

Households receiving the basic income reported a higher propensity to consume fresh vegetables and milk. Their ability to do so was more pronounced in the tribal pilot where basic income beneficiaries reported a substantial rise in the consumption of more nutritious food like pulses, vegetables, eggs, fruits, fish and meat.

The ability of income to satisfy the expenditure on food was reported to increase from 52% at the start of the pilot to 78% by the end of it in the tribal population receiving the cash transfer.

Respondents reported perceived improvements in health, and cited among other reasons, having consumed food more regularly.

Additional outcomes were recorded among beneficiaries of the cash transfer some of which were improvement in

sanitation, investments in better access to drinking water, improvement in cooking and lighting energy sources, better access to healthcare, better enrolment of girls in schools and increased engagement in farming as an occupation, as opposed to waged labour.

KEY TAKEAWAYS

The decreased cost of implementation of unconditional cash transfer programmes together with evidence of positive outcomes associated with these makes a case for revising current conditional cash transfer schemes/replacing food rations with cash transfers as appropriate.

II. Decentralization of ICDS Supplementary Nutrition Programme

FACTSHEET

Place of implementation	Odisha
Implementing agency	Department of Women and Child Development
Sector(s)	Nutrition
Year of launch	2011

BACKGROUND

Providing supplementary nutrition to children under 6, pregnant women and lactating mothers is one of the main components of the Integrated Child Development Services (ICDS). However, the implementation of this programme suffers due to pilferage, corruption and excessive delays in the supply of food to Anganwadi centers. Further, under this usually centralized system, Anganwadi Workers (AWWs) do not have any control over the quantity and quality of food supply. Poor quality of grains is a frequent concern.

INTERVENTION

Funds for the procurement of food materials are transferred directly into the joint accounts of AWWs. For all the remaining expenses (such as expenses of hygiene kits), the funds flow from the state to the CDPO at the district level and then finally to AWWs. This system helps in the procurement of food material by the AWWs locally, while other materials can be procured at the district level. There is a state-level Management Information System (MIS), which can be accessed by users at each administrative level. E-transactions for the transfer of funds are carried out by banks via e-FMS (Electronic Fund Management System). In addition, the state department has a Treasury Management System for management of funds.

IMPACT

The resulting impact is majorly two-fold: a) Improved functioning of the ICDS in Odisha; b) Empowerment of women and their self-help groups (SHGs). The decentralization initiative is seen to be serving its objective of streamlining and strengthening the ICDS programme.

KEY TAKEAWAYS

Social sustainability of the initiative is high, owing to the successful run of the community-driven model that has been institutionalized for the Supplementary Nutrition Programme (SNP).

III. ASHA Soft - Online Payment and Monitoring System for ASHAs

FACTSHEET

Place of implementation	Rajasthan
Implementing agency	National Health Mission, Medical, Health & Family Welfare Department, Government of Rajasthan
Sector(s)	Health
Year of launch	2014

BACKGROUND

Complex fund flows for ASHA payments from multiple budget heads leads to delays and lack of transparency in payments.

INTERVENTION

ASHA Soft a web-based software launched in the State with key objectives of ensuring timely and transparent online payment to ASHAs and to improve the system of monitoring. ASHA Soft was developed by the State Health Mission in collaboration with National Informatics Center, Rajasthan State Unit. Fixed dates for the sanction of funds at different levels are assigned which ensures that ASHAs receive timely and transparent payments of incentives. The payment is then transferred into ASHA's Bank Account directly from State Headquarters, where a separate account has been opened for ASHA incentives. After release of payments an SMS alert is sent to ASHAs regarding the transfer of payment.

IMPACT

ASHA Soft has led to fixed day payment of ASHA incentives, reducing delays and establishing transparency in the payment process. It has also improved entry of beneficiaries in Pregnancy and Child Tracking Systems (PCTS) as both databases are interlinked for payment verification. This software has also enabled programme managers to capture the performance of ASHAs based on incentives earned for a range of activities and maintain detailed database of ASHAs.

KEY TAKEAWAYS

Streamlining of payments in Rajasthan through ASHA Soft with no additional HR and financial investments highlights the potential of scale up in other States where adequate HR for data entry is available at PHC level. Capacity of programme managers to utilize the reports generated by the software must be built to improve the usefulness of the initiative.

IV. Tripura Vision Center (Tele-ophthalmology)

FACTSHEET

Place of implementation	Tripura
Implementing agency	Health and Family Welfare Department
Sector(s)	Health
Year of launch	2007

BACKGROUND

There is an acute shortage of Ophthalmologists in Tripura. At present, a total of 22 ophthalmologists and 52 ophthalmic assistants/optometrists in public sector are catering to the needs citizens in the state. This number is further expected to reduce to about 15-18 ophthalmologists. Moreover, a majority of the population resides in rural areas. They have to spend a substantial amount of their income on transportation and accommodation to avail the services. Therefore, Tripura decided to use ICT as a delivery mechanism for eye-care services.

INTERVENTION

Tripura Vision Center Project was conceived and designed by the collaborative effort of the Ophthalmology Department at Indira Gandhi Memorial (IGM) Hospital under the Department of Health, Government of Tripura, IL&FS ETS and Aravind Eye Care Systems. It aims at offering primary and preventive eye-care services in a decentralized manner to rural citizens of the country by adopting advances in medical sciences, bio-medical engineering and its convergence with ICT. The project currently serves a rural population size of 27.18 lakh people in remote areas covering 44 blocks of 8 districts in the state of Tripura. A total of 44 Vision Centers have been deployed in three phases to render Tele-ophthalmology service across the State of Tripura. All the VCs of the state are established in the premises of Community Information Centers (CICs) set up under National e-Governance Plan (NeGP) to leverage the existing infrastructure. The VCs are connected to the Indira Gandhi Memorial (IGM) Hospital in the state capital Agartala from where the ophthalmologists tele-consult with the patients. Ophthalmic assistants at the VC screen the patients and enter information in the database. The assistants also capture the images of the eye which are uploaded to the database along with the patient's history. With the help of Tripura State Wide Area Network, relevant information is transferred to the Referral Center, where the images are diagnosed and the modality of treatment is prescribed.

IMPACT

Until March 2016, the project has screened 4.72 lakh patients. Of these patients, 55% were males. Increasing number of women are also accessing these services as it doesn't involve long distance travelling. A majority of eye problems are diagnosed and treated at the Vision Centers. Only 5.84% of the total patients are referred to IGM Hospital, Agartala. This project has been awarded the National e-Governance Gold Award in 2008-09.

KEY TAKEAWAYS

Such a programme can be replicated across the country to deliver healthcare at one's doorstep. It has proven to be one of successful models for healthcare services under the PPP format in the country.

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SECTION 4:
HOME AND
LEGAL AFFAIRS

FACTSHEET

Place of implementation	Surat, Gujarat
Implementing agency	Surat Traffic Education Trust
Sector(s)	Traffic and Law & Order
Year of launch	2013

BACKGROUND

The project was launched to cover the entire city with CCTV cameras for surveillance, crime prevention and detection, post incident forensic examination, traffic management and enforcement, to provide disaster management support and pollution control measures. The idea was floated in order to create a deterrent for criminals/terrorists and to infuse a sense of security in the minds of common people.

INTERVENTION

The project has been implemented on public-private-people-partnership model (4P). The awareness campaign under the I-Follow Programme was used for building public opinion in favour of installing surveillance and traffic management system through CCTV cameras. The contract for the purchase of CCTV cameras was awarded through a transparent tendering process. The project was implemented with public funding, having been duly approved by the Government of Gujarat. PCR vans connected with the Command & Control Center and integrated with Intellectual Information Management System which were deployed to transfer live feeds for analysis. It supports Non-interventional Traffic Management by means of issuing e-Challans.

IMPACT

Post installation of CCTV cameras the crime figures (dacoity, robbery, house break-ins, chain snatching, vehicle theft and bag lifting) have reduced considerably.

KEY TAKEAWAYS

The rescue teams during natural calamities like floods can be assisted. Evacuation plan in case of critical situation can be prepared using video feed. Processions like Ganpati procession, Tazia procession, agitation etc. can be monitored & supervised. VIP/VVIP visits can be handled more efficiently. CCTV based surveillance system, traffic management, and disaster management in Surat is an excellent example of community participation in policing efforts. This experiment can be replicated in other cities through a mass campaign for the mobilization of stakeholder support.

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II. Automated Traffic Monitoring and Challaning System – Bengaluru

FACTSHEET

Place of implementation	Bengaluru
Implementing agency	Bengaluru Traffic Police
Sector(s)	Traffic Monitoring
Year of launch	2002 (Enforcement Automation Center in Bangalore)

BACKGROUND

Enormous growth of vehicles, indiscipline on the part of road users and poor traffic enforcement has led to traffic congestion, increased pollution levels and road accidents in most of the Indian cities today. The problems are largely due to manual Traffic Challaning System which is ineffective and has low deterrence level.

INTERVENTION

The Enforcement Automation Center works on the computerized process of capturing violations through various inputs such as – integrated compact 920 handheld devices which comprise of a built-in camera, smart card reader, GPS, data card, credit/debit card reader, printer etc.; complaints by the public (SMS, E-mail, Facebook, IVRS); analyzing the live images/videos captured by the enforcement/red light camera, field traffic violations noted by the traffic police personnel on field etc. All these inputs are fed into a Centralized Database Server accessed through the workstation by the personnel at the Automation Center. The data collected is organized and made available to all Police Stations over the internet. It can also be accessed by Blackberry Enforcement Devices provided to the field personnel. Violation of traffic rules by road users is captured on cameras and computerized challans are sent to the owners of vehicles to pay traffic fines. This facilitates the public to go to the nearest police station or to the traffic personnel with Blackberry Enforcement Device to pay the fine and compound the offences leading to "Anywhere Anytime" fine collection and disposal mechanism.

FIGURE 16: Process Flow of Automated Challaning
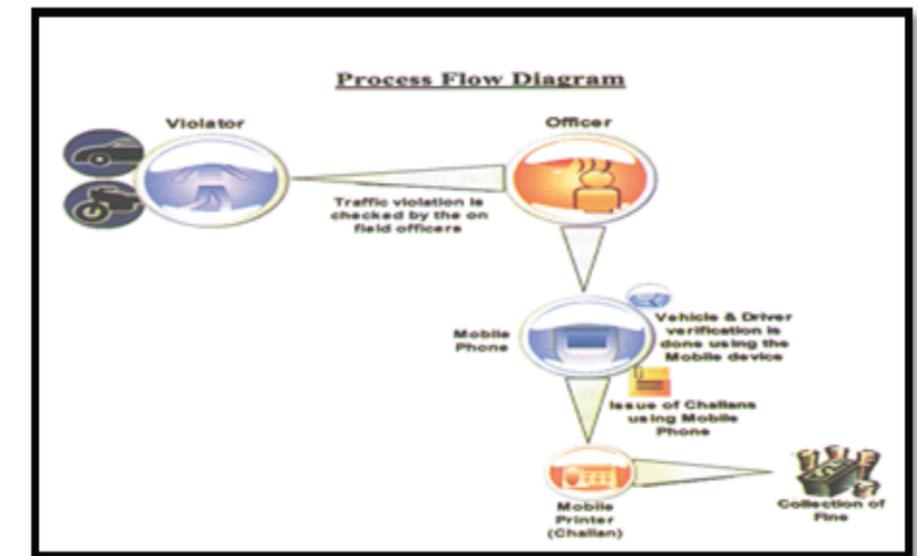
IMPACT

- It brings transparency in enforcement of traffic rules.
- Avoids conflicts between police and public.
- Increase in awareness of traffic rules and regulation.
- Reduction in the processing time of violation and disposal of the same.
- It helps in identification of repeat violation, and imposing enhanced fine.
- It can be used as an effective tool of e-governance to manage, monitor and administer.
- On an average, Bangalore Traffic Police books around 8000 traffic violation cases through cameras and another 8000 through handheld Blackberry devices. It has booked over 7.4 million traffic violation cases in the year 2014 and has collected ₹65 crore as fine during the same period.

KEY TAKEAWAYS

The Automated Traffic Challaning System is a revenue generating model. A similar system for a city of one million population would require an approximate initial investment of ₹10.32 crore which can be recouped within one year. Thus, the entire system is self-sustaining and does not require any funds for expansion.

III. The Himmat Safety Solutions for Women and Delhi Police Emergency Services for Citizens

FACTSHEET

Place of implementation	Delhi
Implementing agency	Delhi Police
Sector(s)	Law & Order
Year of launch	2014

BACKGROUND

One of the prime responsibilities of the Police is to provide immediate assistance to a person in distress/emergency situation. In a cosmopolitan mega city like Delhi, citizens in distress depend on dial 100/other helplines and expect a sensitive and reliable response.

INTERVENTION

The Central Police Control Room (CPCR) is the pivot for the Integrated Communication, Co-ordination, Command & Control, and supported by about 1000 patrol vehicles on-ground and connected with more than 70 other control rooms in Delhi. There is a fully automated call center with 60 lines of the number 100 and it rests on 243-node Delhi Police Cyber Highway connecting all the police stations. It also comprises of 20 dispatch consoles which provide real-time location of the CPCR Patrol Vehicles. Tracking of patrol vehicles is done through the AVTS (Automatic Vehicle Tracking System). Round the clock, district-wise CCTV monitoring is used for specific virtual patrolling. Special helplines are run for vulnerable sections of the society: specific helpline for women @ 1091, anti-obscene helpline @ 1096, Himmat-SOS application, Himmat-WhatsApp and Hike groups @ 8800001091, Himmat-Track Me Services, Children, Students' and Senior citizens helpline @ 1291, North-East citizens helpline @ 1093, Daily report of non-functional street lights/dark areas, vulnerable route mapping and coordination with civic agencies.

IMPACT

No. 100 has a good brand value, recall and demand. The service volumes reported by the Delhi Police Central Control Room, which were approximately 84 lakh for 2014, and 87 lakh for 2015, having a daily average of about 24000, indicates the reputation and good brand value. 23 lakh and 24 lakh calls have been attended on-ground by the connected PCR patrol vehicles both in 2014 and 2015 respectively. This service also provides ambulance assistance to citizens, as most Indian cities still do not have a good state-run ambulance service. In Delhi 41,239 citizens in 2014 and 50,000 citizens so far in 2015 have been taken to hospital by PCR patrol vehicles.

KEY TAKEAWAYS

As future policing seems to be largely around the central police control room, the police emergency services are operational 24/7, when other government departments are not responsive. It provides free service and free follow-up legal action. The unique feature of Himmat applications is their integration with Emergency Response System-PA-100 in Delhi. With developing technology and supporting devices in the market, it is an excellent example of giving people in distress another channel of contacting the police. This can be replicated in other cities through integration of various SOS applications with an Emergency Response System.

FIGURE 17: PA 100 Architecture
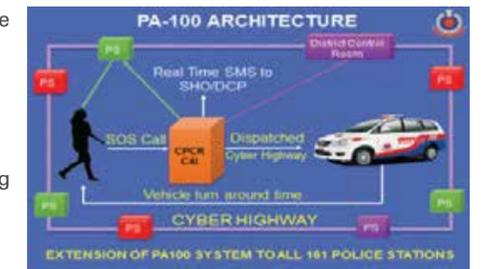
Rajasthan's Law Reform Project -
Minimum Government and Maximum Governance

FACTSHEET

Place of implementation	Rajasthan
Implementing agency	Government of Rajasthan
Sector(s)	Law Reform
Year of launch	2014

BACKGROUND

Government of India repealed 1175 obsolete Acts in 2015. Rajasthan had about 592 Acts in 2015 and the last Act was repealed in 1962. Multiple Acts were in force for identical subjects, with the Education & Revenue departments having more than 70 Acts each. Consequently, Rajasthan government started Law Reform Project.

INTERVENTION

The Project includes four phases - repealing, consolidating, examining relevance and putting laws online. The Rajasthan Laws Repealing Bill 2015 was an outcome of an exercise of taking feedback from 66 departments over 100 meetings which subsequently concluded in repealing 248 Acts. The consolidation phase started in 2015 and was complex and difficult. The Rajasthan Government identified 9 departments with the most consolidation impact and began internal department reviews. Hundred Acts have been put online as well. The next phase intends to reduce the number of laws to 150 and to 100 only.

IMPACT

Reduction in the suspicion and consequent increase in the trust between citizens and lawmakers leads to a reduction in transmission losses between how laws are written, interpreted, practised and enforced. Other upsides of less legislation include less corruption, nepotism and judicial intervention. Over time, it will unclog the courts and reduce pendency.

KEY TAKEAWAYS

Rajasthan's Law Reform Project required dialogue between departments, empathy towards citizens, legislative balance, leadership positivity and massive coordination. Though it was a difficult project but the voluntary clean-up for state laws by bureaucrats and legislators is a wonderful demonstration of belief that there is nothing that cannot be fixed. The Reform Project can be replicated in other States through the personal interest of the CM, efficient bureaucracy and dialogues between various departments and substantial coordination.

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SECTION 5: EDUCATION

I. **School Integration Programme: Rajasthan**

Place of implementation	Rajasthan
Implementing agency	Government of Rajasthan
Sector(s)	Education
Year of launch	2014

BACKGROUND

The State had a lack of government schools covering both elementary and secondary education. Consequently, children had to change schools at least thrice in order to complete education from grades I to XII, leading to drop-outs during transition. Further, many of the schools had a small number of students. The Government of Rajasthan restructured the Model School Scheme (formerly a Centrally Sponsored Scheme) in a unique and innovative manner, such that the existing infrastructure of Model Schools in the State could be effectively utilized.

INTERVENTION

The Government of Rajasthan engaged in a process of merging and integrating schools. Primary/Upper Primary schools located in close proximity of Secondary/Higher Secondary schools have been integrated, without closing down schools in the process. Further, Primary and Upper Primary schools located close to each other in the same revenue village have been merged. School integration is aimed at achieving better supervision at the school level and optimum utilization of resources.

IMPACT

School Integration has led to improved management of schools. Teacher vacancies reduced from 60% to 33%. This has been corroborated by recent UNICEF reports (2016).

There has been an increase in enrolment by about 17% across all grades as compared to the previous year (Grades I to V: 19% increase, Grades VI to VII: 18% increase, Grades IX to X: 12% increase, Grades XI to XII: 19% increase in enrolment).

The pass percentage has increased from 66% to 78% for Grade X and from 81% to 84% for Grade XII.

The transition rate has increased, especially in case of girls. Previously, there was a lack of government schools covering both elementary and secondary education. Consequently, children had to change schools at least thrice in order to complete education from grades I to XII. This was a key cause of drop-outs during transition. Following integration of schools, this problem has been largely resolved.

KEY TAKEAWAYS

This practice has the potential for replication in other States, in order to bring about better supervision at the school level, optimum utilization of resources, and improved transition rates.

II. 'Pratibha Parv' - Madhya Pradesh

FACTSHEET

Place of implementation	Madhya Pradesh
Implementing agency	Government of Madhya Pradesh
Sector(s)	Education
Year of launch	2011

BACKGROUND

The 'Pratibha Parv' initiative evolved as a response to address key education issues and shortcomings in facilities provided in government schools at the elementary education level. It endeavours to assess the academic performance of students and to track it at regular intervals.

INTERVENTION

The 'Pratibha Parv' assessment is carried out in two phases over two days. The first phase is a self-appraisal-based evaluation involving elementary school students. This is undertaken in the presence of officials from a number of government departments at the district level. The second phase addresses evaluation of aspects such as schools' academic achievements, teaching arrangements, school management, amenities, as well as community participation. This phase takes place in the presence of Class I and Class II officers from all departments in the district.

IMPACT

The initiative has had wide-ranging impact in the following respects:

- Identification of areas of improvement in school education in the State.
- Better quality of education.
- Strengthened monitoring of schools.
- Improved attendance.
- Improvement in infrastructure and facilities.
- Identification of weak students.
- Teacher training.

Figure 18: Pratibha Parv Assessment by District Officials

KEY TAKEAWAYS

A model such as the one described above displays high potential for replication across States/UTs – it has already been successful as 'Pratibha Parv' in Madhya Pradesh and as the well-known 'Gunotsav' initiative in Gujarat. The model can be adapted by other States/UTs as an innovative and sustainable mode of assessment and improvement of school education in their respective States/UTs.

III. Interactive Voice Response System (IVRS): Uttar Pradesh

FACTSHEET

Place of implementation	Uttar Pradesh
Implementing agency	Government of Uttar Pradesh
Sector(s)	Education
Year of launch	2010

BACKGROUND

The IVRS-based Daily Monitoring System (DMS) of the Mid-Day Meal Scheme is an initiative of the Mid-Day Meal Authority of the Government of Uttar Pradesh. The system uses an automated mobile-based

Management Information System (MIS), through which data of children availing mid-day meals is compiled and made available on a daily basis.

INTERVENTION

The initiative involves school-wise information access on a real-time basis. Through an outbound dialling solution, calls are placed to teachers from a virtual number using Primary Rate Interface (PRI)

lines. The data on the number of children availing mid-day meals is then keyed-in by the teachers. The compiled data is displayed online the same day.

KEY TAKEAWAYS

Such an IVRS-based system to monitor the MDM Scheme has the potential to scale-up, and can provide a useful mode to address

malpractices that are commonly reported at the level of implementation of the MDM Scheme..

IV. Dining Hall Construction through MPLAD Scheme: Tripura

FACTSHEET

Place of implementation	Tripura
Implementing agency	Government of Tripura
Sector(s)	Education
Year of launch	2003

BACKGROUND

Construction of dining halls in schools provides children an opportunity to eat mid-day meals in hygienic and comfortable

surroundings. The current practice provides an innovative way to facilitate construction of such infrastructure in schools.

INTERVENTION

The Government of Tripura has used the MPLAD budget to build dining halls for consumption of mid-day meals by students. This convergence has facilitated

construction of clean and safe areas for children to consume mid-day meals. The Government intends to construct more such dining halls in a phased manner.

- Cost: Unit cost of dining hall is ₹14.60 to 25 lakh (approximately)
- Size of dining hall: Seating for 50 to100 students
- Type of construction: Permanent (pucca)
- Project completion time per unit: Two to three months

IMPACT

The construction of such dining halls in schools in Tripura has enabled children to consume mid-day meals in a hygienic and disciplined manner.

Figure 19 : Dining Hall Constructed through MPLAD Scheme in Tripura

KEY TAKEAWAYS

Convergence with the MPLAD scheme is an innovative way to facilitate construction of better infrastructure for the benefit of students in the State. This model can be easily replicated in other States/UTs, not only for the Mid-day Meal scheme but also for other social sector initiatives.

v. Pota Cabins: Chhattisgarh

FACTSHEET

Place of implementation	LWE-affected Districts of Chhattisgarh
Implementing agency	Government of Chhattisgarh
Sector(s)	Education
Year of launch	2011

BACKGROUND

Several districts of Chhattisgarh are at a disadvantage due to their remote location and lack of proper connectivity. The literacy and education status of several of these districts, such as Dantewada, has been worsening due to the adverse impact of left-wing extremism (LWE). 'Pota Cabins' were conceived and implemented as an innovative solution to address these problems. The initiative aims to increase enrolment and retention of out-of-school children and to help mainstream them into formal schooling.

Figure 20: Classroom in Pota Cabin, Chhattisgarh

INTERVENTION

In an attempt to mainstream out-of-school children in LWE-affected areas, the Government of Chhattisgarh conceptualized residential schools called 'Pota cabins', which are pre-fabricated structures made of bamboo and ply. These are strategically constructed using bamboo and ply to prevent their use as hideouts or armed camps by left-wing extremists. The structures are long-lasting, durable, fireproof and waterproof, and can be easily rebuilt. The initial cost of setting up a Pota Cabin is ₹60 to 70 lakhs. 'Pota' means 'stomach' in the local Gondi language – these schools came to be locally referred to as 'Pota Cabins' as they were perceived by parents and the community as places where children received adequate food and education.

IMPACT

Increased outreach: Initially, there were about 17 functional Pota Cabins in the Dantewada district of Chhattisgarh. The initiative was expanded to neighbouring districts of Sukma and Bijapur, increasing the total number of functional Pota Cabins to 43 (according to available data for year 2012).

Improved enrolment and retention, and reduced dropout rate of children.

Reduction in Out of School Children (OoSC) – Within two years of its inception, the number of OoSC in the 6-14 year age group reduced from 21,816 to 5,780.

Opportunities to obtain vocational skills and capacity-building for self-employment.

Empowerment of children and local communities.

Figure 21: Residential Campus at a Pota Cabin

KEY TAKEAWAYS

Pota Cabins have successfully increased enrolment and retention of children living in difficult circumstances in LWE-affected areas. It has also instilled faith in the government educational system among the local people. The concept can be replicated or adapted to other extremism-affected States, as well as to difficult terrains in the North-Eastern and Himalayan States.

VI. Implementation of 'Swachh Vidyalaya' - Andhra Pradesh

FACTSHEET

Place of implementation	Visakhapatnam
Implementing agency	District Administration, Visakhapatnam
Sector(s)	Education
Year of launch	2015

BACKGROUND

The 'Swachh Vidyalaya' campaign of the Government of India has initiated several measures to ensure cleanliness in schools, with a special focus on construction of toilets. Construction of toilets has been particularly emphasized in view of poor retention/transition rates of girls, especially after puberty, due to a lack of proper girls' toilets in government schools.

INTERVENTION

The district administration of Visakhapatnam tapped Corporate Social Responsibility (CSR) funds and resources for construction and maintenance of toilets in schools. School toilet construction in the Visakhapatnam district was taken up with the support of 14 companies and PSUs.
The district administration employed innovative methods to ensure timely completion and quality of construction. The use of prefabricated toilets was one

Figure 22: Pre-Fabricated Toilets in Visakhapatnam District under 'Swachh Vidyalaya' Initiative

such innovative way of ensuring speedy implementation. In addition, engineering wings of multiple departments in the district as well as those of PSUs were effectively utilized. Further, school headmasters were entrusted with the responsibility of ensuring quality and timely completion of toilets in their schools, along with involvement of SMC/SMDC and PTA members. In addition to toilet construction, efforts were made to bring about behavioural change through cleanliness awareness campaigns in schools and in the community.

IMPACT

With the support of CSR efforts of 14 companies and PSUs, a total of 1605 school toilets were completed in the year 2015-16. Timely completion and quality of construction was ensured in innovative ways. The initiative reduced dropout rates and encouraged out-of-school girls to resume mainstream education in government schools in the district.

KEY TAKEAWAYS

'Swachh Vidyalaya' is a mission with nationwide coverage and importance. The model employed in Visakhapatnam successfully led to timely completion and quality of construction of toilets in schools. Various aspects of the model – such as utilization of CSR support, use of pre-fabricated toilets etc. – have the potential for replication or adaptation in other parts of the country.

VII. Multi-Level Learning - Pratham

FACTSHEET

Place of implementation	India
Implementing agency	Pratham
Sector(s)	Education
Year of launch	2012

BACKGROUND

The school system in India is organized by age and grade, and teaching is conducted with the objective of completing the grade-level syllabus/textbook. While a child progressing at a grade-appropriate level can benefit from grade-level teaching, children who are not at the grade-appropriate level are unable to make much progress. In addition, from the point of view of the teacher, teaching multi-level learners in the same grade is very challenging. This is a common scenario in many schools in India, especially in rural areas, where a single teacher has to teach multi-grade and multi-level learners in the same classroom.

INTERVENTION

'Teaching at the right level' is Pratham's intervention enabling children in primary grades to learn to read, write, comprehend and solve problems in a short period of time. To begin with, one-to-one assessment is conducted, with the objective of grouping each child by level rather than by grade. This is done by administering simple reading and writing tools. Once children are grouped by level, teaching/learning is conducted by assigning to each group a specific set of activities and materials that are appropriate to the group's level. As children make progress, they move into the next group. Each child's progress is tracked through a progress chart, and it involves baseline, midline and endline tests.

Figure 23: Children Learning in Level-Appropriate Groups

IMPACT

In the year 2015-16, Pratham worked directly in over 5000 government schools and impacted approximately 3,37,000 students in primary schools. By the end of the intervention period, more than 70% of these children were reading fluently and doing basic arithmetic. In addition, Pratham has worked with governments to indirectly impact close to 45 lakh children in over 1,00,000 schools in 13 States of India.

KEY TAKEAWAYS

Multi-grade/multilevel environments are common in the school education system in India. Such environments pose a challenge for both learners and teachers in terms of achieving desired learning outcomes. Pratham's intervention provides an effective, low cost and replicable model to address this challenge and consequently improve learning outcomes.

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VIII. Education Leadership Programme - Piramal Foundation for Education Leadership (PFEL)

FACTSHEET

Place of implementation	Rajasthan, Gujarat, Maharashtra
Implementing agency	Piramal Foundation for Education Leadership
Sector(s)	Education
Year of launch	2008

BACKGROUND

Development of school leadership and management as well as teacher support are important factors that determine the quality of education imparted in schools. Recognizing these essential components, Piramal Foundation, a private philanthropic foundation, started its education leadership programme to address critical challenges faced by government schools – especially falling enrolment in government versus private schools and poor learning outcomes.

INTERVENTION

Piramal Foundation for Education Leadership (PFEL) has developed a 'School Transformation Programme', which involves Principal Leadership Development, Teacher Leadership Development, and Community-School Engagement. A key component of Piramal Foundation's initiative is provided by its 'Gandhi Fellowship' – young, bright fellows are attached with particular schools for a specific duration of time, wherein they engage with school leadership, teachers and communities to improve school functioning and the quality of education.

The School Transformation Programme engages with headmasters to coach them to resolve various day-to-day issues, develop their leadership skills, and increase their level of motivation. Engagement with teachers involves efforts to improve their conceptual knowledge and skills, resolve various teaching-related issues, enhance their motivation level, help them use technology and develop data-management and analysis skills. The Programme also engages with the community with the aim of maintaining a functional SMC and to encourage involvement of parents and other community members in school functioning. Through these modes, the Programme has demonstrated increased enrolment, smoother school functioning, and improved learning outcomes at its target schools.

PFEL also runs the 'Education Transformation Programme', which enables education officials to bring about holistic reforms and improve learning outcomes of students in their respective district/cluster/block.

IMPACT

PFEL has impacted over 2,00,000 students in more than 1000 schools in rural, tribal and urban Rajasthan, Gujarat and Maharashtra. Its initiatives have resulted in increased enrolment in government (vs. private) schools in programme districts. The programme has also resulted in noteworthy improvement in learning outcomes of students at its target schools, e.g. in terms of student learning outcomes, there was a 26% gain in Maths and 23% gain in Language in Grades 3 and 5, across 640 schools in 4 districts of Rajasthan.

Figure 24: PFEL's Education Leadership Programme

KEY TAKEAWAYS

PFEL's model can be replicated or adapted in other parts of the country to facilitate increase in enrolment in government schools, improvement in student learning outcomes, and holistic transformation in school functioning.

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IX. Developing a Suite of Online Utilities and App to Capture Data and Drive Data-driven Actions to Transform Education in Government Schools

FACTSHEET

Place of implementation	Haryana
Implementing agency	The Boston Consulting Group supported the Haryana Department of Education
Sector(s)	Education
Year of launch	2013

BACKGROUND

Over the years, Government schools in Haryana have made improvements in access, enrolments and equity; however, learning levels of students continued to lag behind the national average. State had previously tried a number of solutions (pilot solutions) with several NGOs and other partners. However, the results still could not be seen on a large scale. The program – Quality Improvement Program (QIP) – was then conceptualized by the Boston Consulting Group after detailed diagnostic and extensive conversations with key internal as well as external stakeholders. QIP has a very clear set of output objectives – a major shift from the traditional input-based method of tracking improvements. Role of technology has

been a key enabler. A mix of both large scale technology implementations such as a state-wide MIS system and smaller-scale online systems have been used for:

- Driving accountability.
- Enabling transparency and faster decision making.
- Creating last-mile change.

INTERVENTION

A host of interventions including monthly assessment tests, academic monitoring of schools, state-wide MIS, appraisal system and a remedial learning program have been introduced to transform the Haryana education system. Web tools and apps have been leveraged to track each of these interventions and gather data that not only helps to provide a sense of the student learning levels but also automatically identifies issues being faced in schools and assigns them to officers. Additionally, existing technology and web tools have been leveraged to streamline the communication between various stakeholders involved in the Department.

IMPACT

Learning levels in Haryana have started to show signs of improvement as measured by three independent external evaluations of student learning levels. The program is being regarded as a potential model of transformation in other Indian States as well as other countries. Technology has been a major enabler in implementing and tracking all key interventions under this program by providing actionable insights. Automated student assessment reports and academic monitoring reports help focus discussions during monthly review meetings on critical challenges being faced in the schools. MIS has helped realize more that ₹50 crore savings (and potentially several ₹100 crore by identify-ing fake enrolments of ~ 4 lakh students) in scholarship disbursement and is now being used for the disbursement of school uniforms and stationery.

KEY TAKEAWAYS

The focus of any technology-led transformation should be to ensure sustainability and the usage of different technology platforms:-

Introduction and adoption of technology in a large scale transformation takes a while. All utilities developed to replace existing offline data processes must be extremely simple and aligned to current formats. Extensive training in the use of these utilities and apps is also a must.

Creating a back-end engine that uses the data and systems that technology enables is very important – technology has to be an enabler and not the only doer in large scale transformations.

Data is never static, and hence needs to be regularly updated. If data is not updated, it does not get used. This is a vicious cycle; the only way to break this cycle is to ensure usage – it ensures that the data gets updated regularly.

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I. CM Office Real-time Executive Dashboard (CORE Dashboard) –
Andhra Pradesh

BACKGROUND

Scattered information on the performance of Government departments leads to inefficient monitoring. Therefore, CORE dashboard was developed for efficient monitoring of various actions/processes across departments and key performance indicators of Andhra Pradesh on real-time.

INTERVENTION

CORE is an integrated dashboard established to monitor Key Performance Indicators (KPI) of various departments/schemes/programmes in real-time. The dashboard shows situation reports (e.g. agricultural land area sown, rainfall status, demand/supply of power, irrigation) and departmental reports (KPI performance of Government Departments). Progress of different Central and State government schemes is also depicted against targets. The parameters have a drill down option from the highest to the lowest administrative unit. They are updated frequently (daily to yearly). A multi-star rating system (up to 3 stars) has also been designed to encourage healthy competition among departments by judging them on parameters related to the way information is shared with CORE dashboard.

IMPACT

CORE provides a bird-eye view of the State's situation - the performance of different schemes as well as that of government departments to both, the state leadership and the public. It has therefore, improved awareness and accountability. It has also enabled faster and smarter decision making.

KEY TAKEAWAYS

Such dashboards should be developed by other states as well to monitor their performance. A similar dashboard was launched in Haryana in 2015. Initially, 134 key performance indicators (KPIs) of 13 online departments and 83 offline KPIs of 14 departments were incorporated in the dashboard.

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II. Centralised e-Auction Portal For North-Eastern States

FACTSHEET

Place of implementation	Sikkim, Assam, Arunachal Pradesh, Meghalaya, Mizoram, Manipur, Tripura and Nagaland
Implementing agency	North Eastern Regional Agricultural Marketing Corporation Ltd.
Sector(s)	e-Governance
Year of launch	2014

BACKGROUND

There are 1,70,000 farmers across the eight north-eastern states of India. Many of them are unable to sell their produce to a wider market at competitive prices. Use of IT to develop an auction system could provide better prices to farmers. With this objective, Center for Development of Advanced Computing (Deity, Ministry Of Communications & IT, Government of India) and North Eastern Regional Agricultural Marketing Corporation Ltd (NERAMAC) developed an e-Auction portal for North-eastern States (http://www.eauction-neramac.in).

INTERVENTION

E-auction system supports product-based online auctions of agricultural crops and produces of the North-East region of India. This is a user-friendly auctioning site where any kind of product can be auctioned. It aims at bridging the gap between the farmers and the market by supporting farmers/producers of North-East in getting remunerative prices for their produces. It also aims to enhance the agricultural procurement, processing and marketing infrastructure of the North-Eastern region of India. Farmers and traders are required to register with the e-auction system managed by NERAMAC (under the administrative control of Ministry of Development of North-East Region) in order to participate in the online auction.

The major features of this system are:
- Login for users and administrators
- Registration of buyers and sellers
- Item-lot wise auction declaration with start/end date & time
- Goods receipt for auction
- Online bidding on secure server
- Inventory of auction items

- Supports multiple auctions for varieties of produce in parallel
- Sold goods shipment assistance
- Sales order issuance
- Returning unsold goods
- Bidding history
- Reports generation
- Audit trail/tracking transactions & log in/log out details

FIGURE 26: Home Page of Portal

IMPACT

E-auction system setup in all eight North-East states have benefited more than 1,70,000 farmers (1700 clusters) till date. Some of the major outcomes of this initiative are:

- Increased market reach
- Increased sales volume
- Reduced transaction cost
- Competitive prices for farmers

KEY TAKEAWAYS

This user-friendly auctioning portal provides a platform for marketing for farmers to boost their economy. Unscrupulous practices can be avoided through such a transparent IT based platform.

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III. Revenue Court Management System

BACKGROUND

The revenue court cases are related to mutation of properties, land rights, illegal possession, distribution of properties among family members and auction of the land etc. undertaken by the revenue officials. Until a few years ago, to lodge complaints about such cases, the peshkar (reader) had to be approached which was very time consuming and costly.

INTERVENTION

The revenue court management system (RCMS) broke the monopoly of the Peshkar by making all the information online. RCMS is a workflow based integrated software product with major functions like case filing, entry/updation of misbrand/case diary, recording of daily proceedings, cause list generation, priority management of cases listed in `list, backlog entry, scanning/uploading of judgment, transfer of cases from upper court to lower court, restoration of cases etc. Court orders, proceedings, judgements and information about dates of next hearing of a case are available online. The web based application has been developed by National Informatics Center in 2013.

IMPACT

Almost 24 lakh cases and their judgements are available online in a searchable database. Every single case that comes up for hearing is updated every day.

KEY TAKEAWAYS

This computerised revenue case management system does away with arduous task of getting information about pending cases manually. It has enabled fast and direct information sharing between the revenue courts and its clients. Moreover, it covers not only districts but also tehsils.

CONTACT:

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IV Integrated Financial Management System

FACTSHEET

Place of implementation	Haryana and West Bengal
Implementing agency	State Finance Departments and National Informatics Center
Sector(s)	Financial Services
Year of launch	Haryana – 2013, West Bengal – 2014

BACKGROUND

This initiative was started in Haryana and West Bengal in order to make all the Government financial transactions online. It would not only make it easier to integrate and record all the transactions but would also ensure greater transparency by streamlining the functioning of the Government's activities.

INTERVENTION

It is an IT-enabled system to integrate and record all the government financial transactions. It includes budget preparation, allocation, monitoring, bill preparation, treasury operations, pension benefits, collection of all types of receipts and all types of payments. Internet facility is provided to all government departments to make full use of this facility. Haryana has also implemented e-stamping facility for online generation of stamp paper, integrated with the property registration system. Pensioners have also been provided the facility of submitting digital life certificates online. West Bengal has also included a module on human resource management system.

IMPACT

❚ Increased transparency in the government system.
❚ Better maintenance of the records of all the financial transactions of the government.
❚ Hassle free service for people availing e-stamp and pension facilities.
❚ The integrated financial management system of Haryana and West Bengal is the recipient of CSI Nihilent Award of Excellence. Haryana has also been awarded the Skoch Order of Merit Award for 2014.

KEY TAKEAWAYS

Such kind of an IT enabled system may be replicated in all the states of India so that all financial transactions are online. This will increase the efficiency and transparency of government offices

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V. Online Police Station – Uttar Pradesh

FACTSHEET

Place of implementation	Uttar Pradesh
Implementing agency	Uttar Pradesh Police Department
Sector(s)	Social Sector
Year of launch	2016

BACKGROUND

Online Police Station was initiated taking in view the difficulties and harassment faced by the common people while they go to police stations to file First Information Reports (FIRs). Officers often deny to registering FIRs. This initiative is launched by the Uttar Pradesh Police Department in 2016 initially across six districts in 153 police stations.

IMPACT

- Hassle free registration of FIRs
- Police stations would be able to make the records of the cases digitally.

KEY TAKEAWAYS

Such a model can be replicated in other states where the situation of law and order is fragile. The police stations may be held accountable for not taking the requisite actions, if required.

VI. Leveraging App/Web Tools to Quickly Develop Data-based Review System for Public Infrastructure

FACTSHEET

Place of implementation	Pan-India (Major Ports, NHAI ROs)
Implementing agency	The Boston Consulting Group (Along With Web/App Developers)
Sector(s)	Infrastructure
Year of launch	2015-16

BACKGROUND

Establishing data transparency and real-time data collection with appropriate review are key to operational improvement in public sector. The typical technological intervention for these issues would be implementation of ERP but the same will take 2-3 years to instal and stabilize especially in a government setup. In the interim, lite-tools like mobile apps, websites can be leveraged for real time data collection and for providing smart data views for review.

INTERVENTION

BCG developed app/web tools to facilitate operational transformation at major ports as a part of Project Unnati and for tracking status of road projects under NHAI. The tools have been developed such that data can be captured mostly in the format it is currently maintained in by respective ports/ROs thus minimizing the change needed. The modular structure enables quick prototyping and views can be fine-tuned based on the experience gained from its use in real reviews.

IMPACT

As of now the Unnati App is being used for weekly reviews by Port Chairmen and by the Ministry of Shipping. It provides real-time view of performance across ports on the set of standardized metrics defined during the programme. Roads website has for the first time provided a consolidated view of all the highway projects underway in the country. Further, the unique algorithm to identify focus projects for review has enabled an informed review of ROs. The tools have greatly aided in the overall transformation agenda.

KEY TAKEAWAYS

App/web tools can be strong enablers for large scale transformation of infrastructure/any distributed system. The following lessons learnt can be leveraged to quickly get a dashboard tool up and running:

- Minimize change – Adapt the existing data collection formats/templates as much as possible by keeping the back-end flexible.
- Stabilize by using – Start reviewing using the app/tool even if it is not fully stabilized. The tools can be quickly modified in case of any issues or to facilitate better review.

FACTSHEET

Place of implementation	Vadodara City
Implementing agency	Vadodara Municipal Corporation
Sector(s)	Health and Nutrition
Year of launch	2014

BACKGROUND

In order to ensure timely delivery of food supply to Anganwadi, real-time health tracking and also to eliminate multiple data updating in various registers, SMART Anganwadi app was launched. The app provides a platform to connect delivery workers, Anganwadi teachers and data centers.

INTERVENTION

An application has been developed and installed on the mobile devices provided to Anganwadi teachers. The Android application is linked with SMART Anganwadi software and helps in monitoring the weight of children, their health status, the quantity of milk supplied to them and the timings of milk supply, which would be displayed on the cell phones of Anganwadi workers. The supply workers confirm their food delivery on the app which is seconded by the teachers; subsequently teachers have to update the profile of students on the app and tag their health progress on the colour range of red, yellow and green. Additionally, all other details need to be submitted on the app to eliminate the use of various registers and its collaboration. The application also develops monthly progress reports and monthly reports of food delivery at Anganwadi centers. This is currently active in 8 centers-however, it will be provided to all 303 Anganwadis of the Vadodra Mahanagar Sevasadan.

IMPACT

- Improved service delivery
- Provide real-time information on service delivery at Anganwadi center and on growth and nutrition status of children.
- Support the Anganwadi workers' job through in-built counselling aids, alerts and auto plotting of graphs and due lists.
- Aid collection of real-time data enabling supportive supervision and timely intervention by the department official.
- Auto-generation of registers which were compiled manually by Anganwadi workers.

KEY TAKEAWAYS

The application helps in centralising different silos. A similar initiative has been undertaken by Ministry of Women and Child Development in collaboration with Bill and Melinda Gates Foundation. It is being piloted at Loni District, Ghaziabad.

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VIII. My Enterprise

FACTSHEET

Place of implementation	West Bengal
Implementing agency	Department of Micro, Small and Medium Enterprises and Textiles, Government of West Bengal
Sector(s)	Micro, Small and Medium Enterprises
Year of launch	2014

BACKGROUND

Micro, Small and Medium Enterprises (MSMEs) don't have enough information on the incentives provided by the State Government. Therefore, My Enterprise project was initiated to create a conducive environment for the MSME set-ups to understand the process, their entitlements and submissions in an effective manner. It also aimed to help in registration and renewal of licenses.

INTERVENTION

My Enterprise is a web portal that provides a quick and simple way to access all information and requirements of setting up an MSME unit in the state. The portal provides a single point from where online statutory application can be made to any Government office. It is a gateway connecting entrepreneurs, investors, mentors, MSME venture capital fund, Startup Bengal And MSME Technology Facilitation Center.

IMPACT

▮ Easy and cost free access to the portal on 24x7 basis to apply for any or all statutory compliances.
▮ Application process has become easier and less time consuming.
Nearly 4000 cases disposed by MSME Facilitation Center and through Single Application Gateway in the last 10 months.
▮ The portal recorded over 97, 000 visitors since its inception in September 2013.
▮ Approx. 46,182 units were registered and ₹72,671 crore bank credit has been flowed since the inception of portal.

KEY TAKEAWAYS

The initiative reduces/eliminates the need to visiting various Government offices for statutory compliances and incentives claim. And with such technological intervention, the same can be taken to entrepreneurs in far off areas and improves the ease of doing business.

CONTACT:

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IX. Mobile One

Place of implementation	Karnataka
Implementing agency	Center of e–Governance, Government of Karnataka
Sector(s)	Services
Year of Launch	2014

BACKGROUND

The application caters to the need to provide a single platform to multiple service applications covering both public as well as private services. The application also gives out a public payment wallet known as Karnataka Wallet.

INTERVENTION

The application covers more than 4000 utilities and can be accessed as an app on smart phones, a web portal or through SMS and IVRS. The users have to register themselves and can access multiple services on one platform. The app covers water, electricity bills, city police, traffic police, crime records, bureau services,

healthcare services, travel services, RTO, BMTC, taxes, education services and many more. Following are the categories of services that are available on the Mobile One platform:

▮ Push services

FIGURE 27: PUSH SERVICES OFFERED BY MOBILE ONE
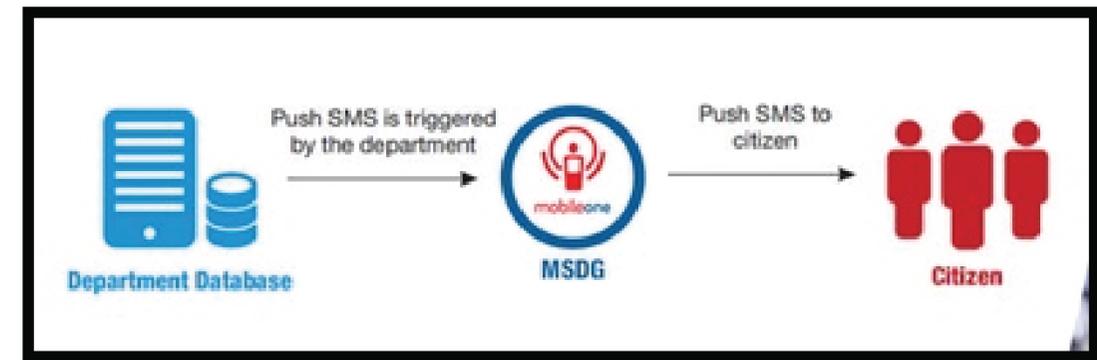
▮ Pull services

FIGURE 28: PULL SERVICES OFFERED BY MOBILE ONE
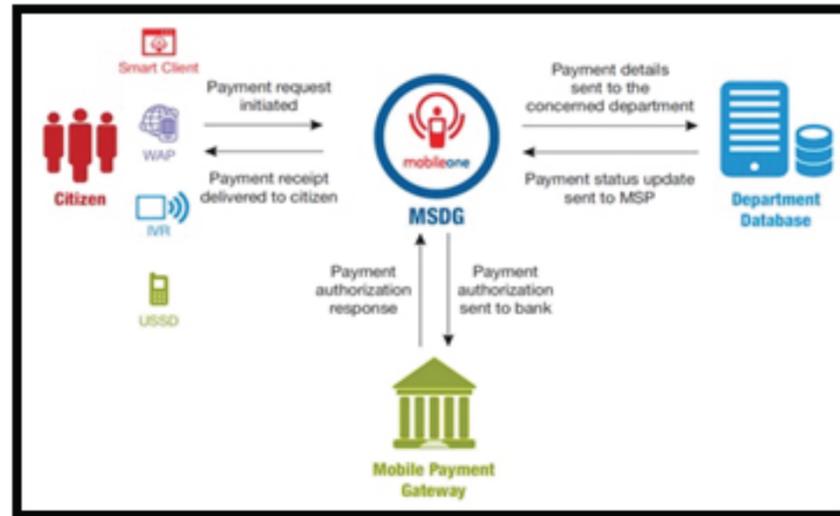
Data capture services
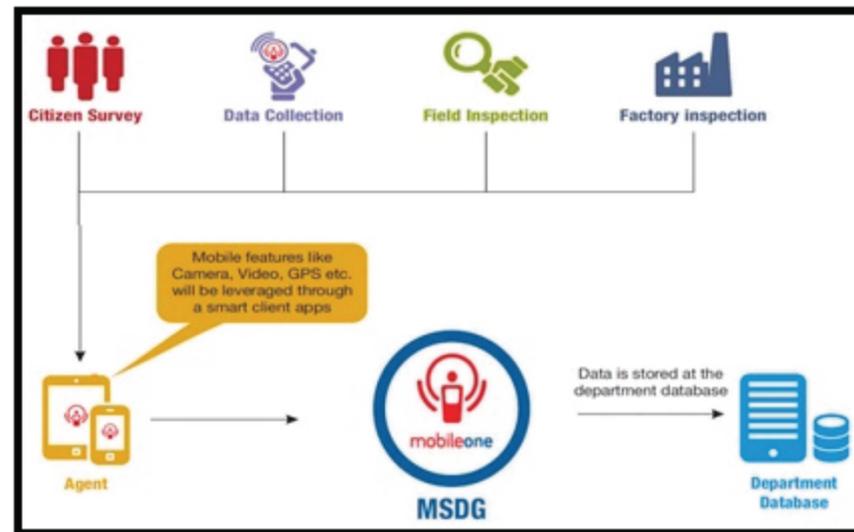
IMPACT

▌ Easy and cost free access to multiple services.
▌ Secured payment gateway.
▌ More than 2 lakh user downloads
▌ It has been awarded in 4th World Government Summit, Dubai.

KEY TAKEAWAYS

The initiative helps in easing access and the same can be implemented on the national level which would really help in collaborating or bringing hundreds of services on a single platform.

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X. e-Gram Vishwagram Project

FACTSHEET

Placeo of implementation	Gujarat
Implementing agency	Panchayat, Rural Housing and Rural Development Department, Government of Gujarat
Sector(s)	e-Governance
Year of launch	2009

BACKGROUND

The project aims to address the digital divide between urban and rural citizens.

INTERVENTION

E-gram centers provide G to C (birth, death, caste, income certificates; tax collection receipts, land right records etc.) and B to C (e-ticketing, bill payments, financial services etc.) and services through entrepreneurship. They are operated through village computer entrepreneurs on PPP model. Panchayats are the delivery points for these services. Scalability depends on enabling

infrastructure. The e-gram vishwagram is implemented as rural Gujarat's public

service delivery mission mode for citizen's engagement and service delivery.

IMPACT

13,685 e-Gram centers have been established in village panchayats. This initiative targets to promote and sustain village panchayats, the basic unit of governance rural India as the delivery point/conduit of e-services for various government departments. This project empowers rural community through access to global communication and information.

Now there is no waiting period in issuance of various certificates, documents and application forms and these are available at nominal fees at their doorstep. This is also effective in the quick redressal of grievances that used to take a long time before this intervention. In the future to resolve this initiative is set to provide commercial services to the rural community.

KEY TAKEAWAYS

The project is scalable amongst other states. However, the project will rely on enabling infrastructure such as electrical and it (including fibre optic networks) being available.

FACTSHEET

Place of implementation	Madhya Pradesh
Implementing agency	Directorate Sports and Youth Welfare, Government of Madhya Pradesh
Sector(s)	Sports
Year of launch	2011

BACKGROUND

Traditionally athletes were selected and trained through manual methods. The project aims to overcome time, accuracy and efficiency problems and is based on highly sophisticated ICT tools. Services rendered by the tool are: collection of data, physical measurement, reporting services, development of instruments, linkage, feedback/support system, user friendly system, heart rate variability, Differential ECG method used to assess the state of aerobic and anaerobic systems as well as the Central Nervous System.

INTERVENTION

The major objectives of use of ICT tools in sports are to:

❚ Bring excellence in sports through innovative use of ICT.

❚ Increase the outreach for better and optimum coverage of athletes' performance enhancing technologies .

❚ Maintain the secrecy of personal parameters of individual athlete.

❚ Develop sports MIS Implementation methodology.

❚ Understanding the current process through extensive meeting sessions.

❚ Identifying the idiosyncrasies of the existing system highlighting the redundant processes.

❚ Identifying the reasons of high incidence of sports injuries and slow growth in medal tally.

❚ Digitizing the individual athlete records and overall performance of various academies.

❚ Fortnightly monitoring of system implementation and training progress.

❚ Intensive multi-level training.

❚ Dedicated team for technical support.

IMPACT

Injury profile
- Reduction in the number of injuries since ICT intervention in September 2011.
- 60% reduction in injuries since 2007-08.
- Major reduction in back, hip and knee injuries.

Medal tally
- Increase in the number of medals since ICT intervention in September 2011.
- Medals tally increased from 375 (2010-11) to 650 (2012-13).

National champions
- The State became National Champion in 2013 in Karate, Taekwondo Canoeing & Kayaking and Sub-Junior Women Hockey.

Notable achievements
- 2012 London Olympics pre-qualification participation (all-time record of Madhya Pradesh) in Shooting, Taekwondo, Rowing and Fencing.

KEY TAKEAWAYS

The project has been implemented through 180 blocks and 50 district centers. It has been replicated in 17 Sports Academies and for Mission Olympics 2020. The project has been tested by International Hockey Teams and star players of India.

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FACTSHEET

Place of implementation	Maharashtra
Implementing agency	Department of Cooperation, Marketing and Textiles
Sector(s)	Cooperatives
Year of launch	2015

BACKGROUND

The Department of Cooperation, Marketing and Textiles Manages the cooperative domain which deals with 2.3 lakh cooperative societies and 535 lakh cooperative members in the State of Maharashtra. The Department is entrusted with the administration of the Maharashtra Cooperative Societies Act, 1960; and the Rules made, thereunder. Considering the economic importance of cooperatives, and the interests of several people involved in it, monitoring the activities of the cooperatives, mainly with the purpose of safeguarding the interests of all the members becomes an essential function.

INTERVENTION

The intervention provides an online platform for governance and management of co-operative societies which is envisaged to carry out the functions of audit management, information management, mandatory returns management and society election management.

IMPACT

Till date, more than 1.45 lakh cooperative societies, and 7500 auditors are enrolled. The Auditing Module provides a transparent auditor selection, tracking and monitoring process for cooperative societies. The profiles of cooperatives are accessible to all members. The Election Management Module, and Online Mandatory Returns Management Modules aim to automate the election process, and the mandatory returns process as well.

This initiative is the winner of the Web Ratna Award 2014 (category: Innovative use of technology).

KEY TAKEAWAYS

This initiative can be replicated in the other states of India for better and more transparent management of cooperative societies. The platform and dashboards used can be customized to include other states and societies.

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Pune City Surveillance Project

FACTSHEET

Place of implementation	Pune, Maharashtra
Implementing agency	Pune Police and Home Department Authorities through Allied Digital Services
Sector(s)	Security
Year of launch	2014-15

BACKGROUND

The project aims to proactively prevent issues of crime, inefficient traffic laws, traffic violations, and to investigate incidents. The project was declared 'Go Live' on August 8, 2015 by the Chief Minister of Maharashtra, Mr. Phadnavis.

INTERVENTION

Closed circuit surveillance cameras were installed to monitor Pune City -

| 1250+ CCTV cameras installed at 440 junctions across Pune City covering an area of 640 sq.km.

| Types of cameras – fixed camera, and PTZ camera.

| Automatic Number Plate Recognition System for recording vehicle number plate in a database.

| Video analytics to trigger alert for illegal left/right turn; wrong side parking.

| Round the clock monitoring at command and control center at the Commissioner of Police's office in Pune as well as at 30 Police Stations Control Rooms.

| Integration with vahan RTO database for detect hot listed vehicles (e.g. a stolen vehicle).

IMPACT

400 incidents including murder and attempted theft have been identified since August 2014 with 17 video clips with security watermark presented to the court as evidence.

Traffic is monitored regularly during religious processions.

Real-time integration of various crime and vehicle databases for profiling.

Detecting, alerting and recording traffic violations such as wrong lane driving and 'no entry' violations through smart video analytics.

Advance urban surveillance to improve social order, tracking of crimes and protect the lives and property of citizens.

KEY TAKEAWAYS

Knowledge and experience of setting up of a command and control center that supports diverse sub-systems technology from Multi OEMs used in the solution architecture which makes it easier to replicate the system.

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Alfaz-e-Mewat 107.8 Fm (Community Radio)

FACTSHEET

Place of implementation	District Nuh (Mewat), Haryana
Implementing agency	S. M. Sehgal Foundation
Sector(s)	Technology in Governance (Spans Various Sectors)
Year of launch	2012

BACKGROUND

Mewat is one of the most backward districts in Haryana, inhabited by an ethnic tribe, Meo Muslims. The district is characterised by some of the lowest socio-economic indicators (Female literacy: 28%, child marriage is a norm, only 15% childbirths take place in hospitals). There is no information to the public about Government schemes and programmes to enable people to access their entitlements.

INTERVENTION

Based on the foundation's experience of working in Mewat, and an assessment of local knowledge, capabilities and interests, Sehgal foundation initiated a community media programme to connect individuals and communities to new knowledge, essential government services, and local cultural traditions. They run programmes like Kanoon Ki Baat (Law Talk), Mera Ration Mera Haq (My Ration My Right), Panchayat Ki Baat Tai Ke Saath (Talk on Village Councils), MGNREGA Mera Haq (MGNREGA My Right) on IVRS, Hamse Hai Shasan (Governance by us) and Shochalay Mere Angana (Toilet in My House).

IMPACT

Since its inception, the initiative has covered 225 villages in the district. The intervention has also won Manthan Awards 2015, in the category of e-Community Broadcasting. A monitoring study carried out after one year of its inception witnessed a 4% increase in the number of households that owned a TV set, and increased participation of women (both in terms of listening statistics, and participation by calling in (20% women callers).

KEY TAKEAWAYS

Initiatives like these can be replicated in other districts where the presence of media is not very high. Local content can be customized based on Government schemes and programmes running in the district, and other issues specific to the district (e.g. health, sanitation, women's employment/participation, best practices etc.)

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Figure 31: Impact Of Community Radio

XV. SAMVIDA – Bihar

FACTSHEET

Place of implementation	Bihar
Implementing agency	National Informatics Center and Chief Electoral Officer
Sector(s)	e-Governance
Year of launch	2013

BACKGROUND

A system for appointment of contractual/volunteer services in districts of Bihar, popularly known as SAMVIDA was developed to support the increased demand of manpower in Bihar government. Traditional hiring process are time-consuming, delaying the entire recruitment process. Other challenges that SAMVIDA aimed to tackle include delay in receipt of approvals of recruitments, difficulties in appointing qualified retirees into the service, recruitment of large number of volunteers needed for various schemes and inconsistency in recruitment among others.

INTERVENTION

SAMVIDA is a recruitment management system that utilises ICT technology and web-based resources for finding, attracting, training, assessing, interviewing and hiring new candidates/personnel under various schemes of the State and Central Governments. Unemployed citizens can register on the website to avail the services and alerts. Registered users automatically get SMS and emails to apply for suitable vacancies. Departments can also publish any advertisement for posts. The following process is used for selection of manpower:

- Applicants apply online for a vacancy as per the eligibility criteria.
- Application fee is collected through RTGS facility of banks, wherever applicable.
- Draft merit list is published as per the defined criteria and reservation rules.
- Final merit list is published after grievance redressal of candidates, if any.
- Candidates are offered employment after verification of documents.
- Application forms and recruitment process have been standardized to ensure transparency.

IMPACT

Automation of the entire process makes it more efficient, effective and economical. Online recruitment can reach a larger pool of potential employees and facilitate the selection process in a transparent manner. It has a comprehensive reach covering 38 districts of Bihar, 534 blocks and 8463 panchayats. Till date, more than 30 lakh.

transactions have been processed online. Records are preserved in digital format. The time taken for recruitment has also decreased due to faster processing. It was awarded the National e-Governance Award in the 18th National Conference on e-Governance.

KEY TAKEAWAYS

Such a portal can be replicated by every Government Department owing to its cost-effectiveness and efficiency

XVI. System for Attumanal Neutral Distribution (Sand) - An E-governance Project on River Sand Mining

FACTSHEET

Place of implementation	Thrissur, Kerala
Implementing agency	Thrissur Collectorate
Sector(s)	Construction
Year of launch	2009

BACKGROUND

Sand is one of the most essential commodities involved in the construction of any building. Unhindered sand mining caused severe environmental damage to the river banks of Kerala. Further, the cost of sand increased in the market leading to more illegal activities in the procurement process. Thus, it was decided that a software and IT solution will be developed which would curb the problem and ensure that sand officially mined is given to the actual consumer to bring fairness and transparency to the sand mining process.

INTERVENTION

The SAND system was built on an open source web based architecture. SAND uses ICT tool, radio frequency distribution (RFD), barcode and palm codes to effectively provide the minimum required sand to build a house at reasonable rates. The system helps officers distribute about 5 to 8 loads of river sand from the ghats of the river Kadavu to a household in a neutral and organized manner. SAND has been scaled up to an e-Governance system moving from client server model to a fully web based work flow system for seamless integration of services.

IMPACT

The impact of this system has been felt in the regulation, ecology, mining, transport and supply of scarce resources. Some of these are:

- Sand for construction is available at reasonable prices with reduced interference of middlemen and sand mafia.
- Price of a truckload has been drastically reduced from ₹25,000 to ₹4,750.
- Restricts river sand mining and river bank erosion.
- All activities are carried online and citizens have to only visit once to collect passes.
- Labour charges are regulated and distributed centrally.
- Vehicles are registered and maintained for distribution with smart cards which has reduced the number of accidents.

KEY TAKEAWAYS

The work-flow model of the SAND system is close to impeccable. The system is easy to replicate, scale and sustain. However, the most important feature of this innovation is that it promotes sustainable use of natural resources and achieves the overall public interest.

XVII. Xtended Licensing, Laboratory and Legal Node

FACTSHEET

Place of implementation	Gujarat
Implementing agency	Food and Drugs Control Administration (FDCA)
Sector(s)	e-Governance
Year of launch	2007

BACKGROUND

Issue of sales licences to retailers by Food and Drugs Control Administration was a decentralised process. This was carried out manually leading to multiple illegal enrolments of pharmacists, delays in issue of licences and dissemination of information from head office to circle offices and no information access to public. Therefore, a web-based information technology solution was proposed to tackle these issues.

INTERVENTION

The system is a web-based solution covering various functions of FDCA such as issue of licences, enforcement, laboratory management, monitoring of availability of stock of whole blood and its components with blood banks. The major features of the project are:

- Standardization of procedures of issue of licences.
- Effective monitoring of circle offices through online application.
- Highlight multiple enrolment of pharmacies through the software.
- Reduction in the number of visits by applicants to the circle offices.
- Effective and quick recall of NSQ medicines through mass messaging.
- Provide information regarding medical store/wholesalers and blood banks in public domain.

IMPACT

The system has prevented multiple enrolments of pharmacists working in more than one shop; provided access to status of application for grant of new licences and renewal of licences; generated mass SMS alerts to all stake holders for immediate stoppage of 'Not of Standard Quality Drug' (NSQ) drugs; reduced the time taken to expedite various applications and increased the numbers of sample drawn, tested and raids conducted and informed citizens about sub-standard drugs in public domain and nearest blood bank to get or donate blood. This system has improved the operational efficiency of the department.

KEY TAKEAWAYS

The successful implementation of this system received great compliments during 2010 to 2014, and has been replicated in 8 other states like Maharashtra, Kerala, Karnataka, Andhra Pradesh, Goa, Chhattisgarh, West Bengal and Himachal Pradesh.

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XVIII. e-Jaalakam

FACTSHEET

Place of implementation	Kerala
Implementing agency	St. Teresa's College with Technical Support from State e-Governance Mission Team, Kerala and Kerala State IT Mission
Sector(s)	e-Governance
Year of launch	2012

BACKGROUND

e-Jaalakam was initiated with the objective of generating awareness on various e-Governance initiatives among citizens, particularly among girl students/women by developing a compiled databank on e-Governance services. It also aims at motivating citizens to generate demand for e-Governance.

INTERVENTION

Launched in 2012, e-Jaalakam aimed at imparting e-Governance literacy to citizens. There are 106 delivery centers in 86 schools and 20 civic groups. Beneficiaries include civic groups, higher secondary students, undergraduate and research students, professionals, members of resident associations, housewives and elected representatives of local bodies. In the first phase of implementation, awareness sessions for faculty and students of St. Teresa's College were conducted. A databank of relevant governance sites was prepared so as to include important online services women might generally need in their lifetime. During the second phase, a group of student master trainers shared the databank with various civic groups. Vivara Nidhi – a handbook for citizens was prepared to guide the public in accessing 23 core e-Governance services. A separate handbook for high/higher secondary school students was also prepared. In order to reach a wider audience, St. Teresa's College And Regional Resource Center, IT & School, Ernakulum District launched a pilot project to educate 12,000 students.

IMPACT

e-Governance literacy was imparted 14,000 people/households indirectly covering 56,000 persons assuming an average of four members per household in four districts. It was awarded the National Award on e-Governance (Gold) in 2014-15 under category 'Outstanding e-Governance Initiative By Academic and Research Institutions,' Chief Minister's Award for Innovations in Public Systems 2012-13 and Kerala State e-Governance Awards 2011-13.

KEY TAKEAWAYS

In order to make the initiative successful, different handbooks were developed for different age groups. Malayalam handbooks were designed for those who could not follow English. The option of free download of handbooks and pamphlets from the webpage of Department of Economics, St.Teresa's College and the knowledge repository of

NeGD, India ensured wider public access. The content of these handbooks are also frequently modified with the assistance of citizen watch groups. Linkages to the well-established programme, IT@School Project, Government of Kerala and grooming of student master trainers in higher educational institutions in other districts ensured scalability of the project.

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XIX. Madhura – The Gift of Voice

FACTSHEET

Place of implementation	Rolled out on pan-India basis
Implementing agency	Medical Intelligence and Language Engineering (MILE) Laboratory, IISC, Bangalore
Sector(s)	Social Sector
Year of launch	2000

BACKGROUND

INTERVENTION

Emile Laboratory of IISC, Bangalore has developed a good quality, natural text to speech (TTS) engine for South Indian languages, which will enable and

empower people with visual and vocal disability to learn and communicate easily and more effectively.

The strategy was to create software that would help visually and vocally challenged people communicate freely. The project grew out of the recognition that the kind of speech enabled services that are available for English-knowing population is not available for others, more comfortable

with Indian languages. Moreover, it can also be clubbed with a screen reader application enabling them to read the material on desktop or laptop.

IMPACT

▌ Visually & vocally challenged people can communicate freely.

▌ It enables these people to use technological devices like laptops, phones used by around 1500 blind students in the Braille Section team of Anna Centenary Library, Kotturpuram, Chennai.

KEY TAKEAWAYS

It can be distributed to schools which are teaching blind people and other organizations working in this field.

Moreover, it can be used by hospitals treating vocally disabled people or the post-laryngectomy patients.

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XX. Mobile Based System Enabling Digitisation of Government Data

FACTSHEET

Place of implementation	Sikkim
Implementing agency	Department of Information Technology, Government of Sikkim
Sector(s)	e-Governance
Year of launch	2013

BACKGROUND

INTERVENTION

The challenge before the Sikkim Government was to digitize lakhs of records that were in old book ledgers in a variety of formats with different handwriting styles. All these documents

had to be digitized and converted to searchable content in a time bound manner. Using traditional large and heavy flatbed scanners for this purpose was an arduous task.

Demi Solutions developed a cost-effective system for digitising all kinds of government data to enable citizens have easy, anywhere and anytime access to all kinds of government records and

documents. The system has been implemented for the Sikkim Government and has successfully digitised all government data, including documents and records available only in remote

Government Offices. Instead of using traditional flatbed scanners, this innovative system scans documents utilising a custom-built application on an Android tablet with a very high resolution camera. After the scans are completed, the data is sent and synchronised with the backend server over 3G network. This makes it fast, reliable and efficient.

IMPACT

All citizens of Sikkim are benefiting from this solution. Not only does it enable citizens to access government records and documents easily, anytime, anywhere using their mobile phones, it also enables delivery of all public services at district/sub-district level in electronic format and, thereby, reduces the number of visits of citizens to a government office/department for availing the services and, thus, eliminating harassment.

KEY TAKEAWAYS

The technology involved converts data, cleanses it and accurately takes offline data (usually hand written on paper) and converts it into a digital format that is searchable. This technology has simplified the tedious task of data digitization.

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SECTION 7:
INFRASTRUCTURE|

FACTSHEET

Place of implementation	Madhya Pradesh
Implementing agency	Directorate of Institutional Finance, Government of Madhya Pradesh
	MP Road Development Corporation
Sector(s)	Roads
Year of launch	2006

BACKGROUND

Madhya Pradesh has been the frontrunner in adoption of Public Private Partnership (PPP) as a means of augmenting investment in infrastructure. Besides supplementing government resources, PPPs in infrastructure development offer several advantages like innovative design and construction practices, enhanced private sector efficiencies in project implementation, assured maintenance, etc. Further, adoption of PPPs has also helped the State in availing a significant amount of grant from the Government of India under the Viability Gap Funding (VGF) Scheme notified in 2006 to enhance the financial viability of competitively bid infrastructure projects. The Highway Development Programme through PPP is one of the biggest by a state.

INTERVENTION

For the promotion of PPPs in Highway Development, the State Government has issued detailed guidelines including a model concession agreement aimed at creating a conducive environment so as to utilize the efficiencies, innovativeness and flexibility of the private sector. These guidelines have helped in putting up an effective and efficient institutional mechanism in place for speedy clearances of PPP projects and to create a shelf of projects to be offered for PPP through a transparent selection process. Further, the State Government has set up a PPP Cell in the Directorate of Institutional Finance (DIF), which is the nodal agency for PPP projects in the State of Madhya Pradesh. The PPP Cell under DIF provides handholding in planning and bidding of PPP projects to the implementing agencies.

The State encourages innovative PPP models even beyond the VGF. As a result of the above efforts, several PPP projects have also been awarded by the State Government in other sectors besides roads like storage, energy, urban infrastructure, logistics, solid waste management, etc.

IMPACT

The State of Madhya Pradesh is the pioneer in the construction of roads under the PPP mode. Even before the Government of India came out with the scheme of VGF for PPP projects, the State Government has been providing funds to PPP projects in the roads sector from its own resources to improve their viability. The State Government through its implementing agency, namely, MP Road Development Corporation (MPRDC) has awarded 108 State Highways (SH)/Major District Roads (MDR) Projects under PPP with a length of over 6,000 km. and a total project cost of over ₹11,000 crore. Some of these projects have been awarded based on the Model Concession Agreement (MCA) for "PPP in State Highways" and "PPP in Annuity Projects" prepared in the erstwhile Planning Commission. MPRDC also developed its own innovative models like hybrid annuity plus toll, deemed shadow fee, modified annuity and OMT models which allowed increase in PPP ambit. The framework contained in these MCAs is detailed, comprehensive and is based on internationally accepted principles. The MCAs of Planning Commission and documents for new models provide for a long-term concession with a clear enunciation of rights and obligations and key performance indicators aimed at providing high quality of services at competitive costs.

Of the 108 projects awarded so far, 92 projects with a length of over 5,000 km and total project cost of over ₹9,300 crore have already been completed while the other 16 projects are under construction. The State Government has received a VGF amount of ₹709.10 crore from the Government of India for 20 of these road projects.

KEY TAKEAWAYS

The model has delivered superior results in the state and it may be replicated in other states.

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II. Storage Development through Public Private Partnership

FACTSHEET

Place of implementation	Madhya Pradesh
Implementing agency	Directorate of Institutional Finance, Government of Madhya Pradesh
	MP Warehousing & Logistics Corporation
Sector(s)	Storage, Energy, Urban Infrastructure, etc.
Year of launch	2014

BACKGROUND

Madhya Pradesh has been the frontrunner in adoption of Public Private Partnership (PPP) as a means of augmenting investment in infrastructure.

It is the first state to adopt PPPs in construction of sites to meet the storage requirement for food grains in the state.

INTERVENTION

For the promotion of PPPs in infrastructure development, the State Government has issued detailed guidelines including model concession agreements aimed at creating a conducive environment so as to utilize the efficiencies, innovativeness and flexibility of the private sector. These guidelines have helped in putting up an effective and efficient institutional mechanism in place for speedy clearances of PPP projects and to create a shelf of projects to be offered for PPP through a transparent selection process. Further, the State Government has set up a PPP Cell in the Directorate of Institutional Finance (DIF), which is the nodal agency for PPP projects in the State of Madhya Pradesh. The PPP cell under DIF provides handholding in planning and bidding of PPP Projects to the implementing agencies.

State encourages innovative PPP models even beyond the VGF. As a result of the above efforts, several PPP projects have been awarded by the State Government in different sectors including roads, storage, energy, urban infrastructure, logistics, solid waste management, etc.

IMPACT

The State Government through its implementing agency, namely, MP Warehousing & Logistics Corporation (MPWLC) has awarded nine Silo Projects under PPP mode with a total storage capacity of 4.50 lakh tonnes and a total investment of ₹270 crore. The nine locations are Mungalia Kot (Bhopal), Barlai (Indore), Manpura (Ujjain), Durgapur (Dewas), Murli (Sehore), Pathari Haweli (Vidisha), Juneta (Hoshangabad), Bagwad (Harda) and Mouhari (Satna).

The above projects were awarded based on the MCA prepared in the erstwhile Planning Commission. The MCA provides for a comprehensive policy and regulatory framework. Under the PPP framework, the concessionaire is responsible for design,

KEY TAKEAWAYS

Due to excessive wastage of food grains this model maybe replicated in other states reeling with similar issues such as in Punjab and other regions of Madhya Pradesh.

finance, construction, operation and maintenance of the Silos. The Public Authority makes payments to the concessionaire in the form of storage charges, handling charges, etc. Further, these Silo Projects are eligible for support under the VGF scheme of the Government of India, which helps in reducing storage charges and brings them at par with the costs of conventional storage.

All the nine Silo Projects have been completed within the stipulated time-period of one year and are presently under operation. The State Government has received a VGF amount of ₹15.21 crore from the Government of India for 7 projects while the other 2 projects fetched a premium.

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III. Development and Execution of HVPNL Transmission Project PPP

FACTSHEET

Place of implementation	Haryana
Implementing agency	Government of Haryana in PPP with M/s Jhajjar KT Transco Pvt. Ltd., a Special Purpose Vehicle
Sector(s)	Infrastructure
Year of launch	2008

BACKGROUND

All Transmission Projects up to the year 2000 in Haryana were normally executed departmentally but the increasing volume of work, limited in-house capacities, cost and time-line slippages in many projects warranted a review of mode of project execution. Haryana Vidyut Prasaran Nigam Limited (HVPNL) in the year of 2008 preferred to develop and execute the HVPNL 400kV Transmission Project for the evacuation of power from 2x660 MW Mahatma Gandhi Thermal Power Plant located at Jharli (Jhajjar) on Design, Build, Finance, Operate and Transfer ("DBFOT")

basis in Public Private Participation (PPP) mode.

The Project comprises of about 100km of 400kV D/C Quad Moose Conductor line (from Jharli to Dipalpur (Sonipat) via Kabulpur (Rohtak); about 1.0 Km LILO at Dipalpur of one circuit of Abdullapur – Bawana 400kV D/C); and the establishment of two (2) 400kV substations having an installed capacity of 2x315 MVA, 400/220kV+2x100 MVA, 220/132kV Substations at Kabulpur and Dipalpur.

INTERVENTION

Central Transmission Utility (CTU) has preferred a Build, Own & Operate (BOO) model for the development of inter-state transmission systems evolved by MOP, but HVPNL and State Transmission Utilities (STUs) would rather prefer a Build, Own, Operate & Transfer (DFBOT or BOOT) model to meet the short term and long term needs of developing an intra-state system essentially having multiple upload/download nodes. The Model Transmission Agreement (MTA) developed by MoP was available; but it was preferred

to have a Transmission Agreement suitable to the needs of STUs to own the transmission system at the end of the specified concession period and to facilitate Viability Gap Funding (VGF). HVPNL opted for the Special Bidding Document (SBD) of Ministry of Finance and the erstwhile Planning Commission, Govt. of India, was requested to provide necessary guidance and support to HVPNL during the entire process including preparation of project specific bidding documents; namely, Request for

Qualification (RFQ), Request for Proposal (RFP) and a new Transmission Agreement (TA) to suit its requirement and needs. The erstwhile Planning Commission drafted a TA (for 25 years; extendable by additional 10 years) after discussing its provisions clause by clause extensively over several meetings with stakeholders. The painstaking exercise was worth the effort as a draft Transmission Agreement suitable for use by HVPNL for its Project after approval by the Haryana electricity Regulatory Commission (HERC) was made available. It has all the enabling provisions to qualify for financial support by Central Government and satisfies requirement of STUs and transmission utilities.

While all other eligible sectors have been availing the VGF support available as per the Central Government scheme to provide financial support to PPP infrastructure projects, Power infrastructure sector was not able to do so, primarily due to the non-availability of an appropriate model. HVPNL decided to tap into this opportunity and file an application for a grant of VGF support to its Project based on Draft TA developed by the erstwhile Planning Commission. The Empowered Committee (EC) on VGF of DOEA, MoF, Government of India appreciated HVPNL's stand by extending its support to the project and approved an in-principle grant of VGF up to 20% (₹76.4 crore) of total project cost (₹382 crore) as equity support.

IMPACT

A bid process was initiated on 13.01.2009. In response to the invitation, competitive bids were received on expected lines. HVPNL stand on the project has been vindicated by outcome of the bid and successful completion of bidding process. The project was awarded to the consortium of M/s Kalpataru Power Transmission Limited Mumbai (Lead Member) & M/s Techno Electric & Engineering Co. Ltd., Kolkata on 15.04.2010. The project was put in to operation on 12th March 2012 and has been working successfully.

KEY TAKEAWAYS

The project was completed within 480 days after Appointed Date. Since then, the project has been in successful operation. It is significant to mention here that 400kV transmission lines (about 103km.) covered under this project have been routed through the highly urbanized area of NCR (National Capital Region).

HVPNL is proud to announce that through the provision of catalytic grant assistance of up to 20% (₹76.4 crore) of the Total Project Cost (₹382 crore), the HVPNL 400kV PPP-1 Transmission Project for evacuation of power from 2x660 MW Mahatma Gandhi Thermal Power Plant located at Jharli (Jhajjar) is the first transmission project of its kind in India. It is a pioneer and pathbreaking project which has opened the way for similar projects becoming bankable and has helped mobilize the much needed private capital and efficiencies.

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SECTION 8:
SOCIAL JUSTICE AND EMPOWERMENT

I. Electronic Payment and Application System of Scholarship (E-Pass system) for Post-Matric Scholarship (PMS)

BACKGROUND

Post-Matric Scholarship scheme is a Centrally Sponsored Scheme implemented through all States/Union Territories to provide financial assistance to Scheduled Caste (SC) students studying at post-matriculation level. The system faced some limitations due to the manual process - having no account of the number of students and institutions, verification system and admission into fake colleges/un-recognised institutes. The estimated central liability under PMS in 2015-16 was about ₹6000 crore.

INTERVENTION

An online portal for Registration, Processing and Release of Scholarships has been created to alleviate the shortcomings of the existing system:-

Step 1: Institutes have to register in e-Pass Portal giving all the details of its courses, recognised courses and bank details.

Step 2: After registration, a student has to submit his application online indicating details of caste, parental income, intermediate/SSC data, Aadhaar Number, bank account etc. against the selected college and the course.

Step 3: The colleges/institutes are then required to submit scanned copies of the income certificate, caste certificate, photograph, copy of the first page of the bank account passbook, Aadhaar card and marksheet of last examination on the portal.

Step 4: The Verification Officer at the District level i.e. District Welfare Officer further cross-checks the details of the students/institutes by comparing details with Aadhaar number, Common Entrance Test (CET) database and intermediate board/SSC database. The details provided by the students are compared with the Aadhaar data through Remote Aadhaar Seeding framework. The applications are then released to the concerned colleges/institutes.

Step 5: The Principal of the college after

scrutiny of the application with original documents, does the Aadhaar authentication after which a bar code is generated. The applications are then released to the District Welfare Officer online followed by a set of hard copy of applications for the sanction of scholarships.

Step 6: After the sanction of scholarships, online bills are generated and submitted to the treasury both in soft and hard copies. The treasury then sanctions the bill and transfers the funds to the bank.

Step 7: The bank credits the amount to the Corporate Internet Bank Account through which the maintenance amount is released to the student bank account and tuition fee to the college account.

IMPACT

The implementation of the new system has led to:

❚ Shutting down of about 125 fake colleges/institutes.
❚ Reduction in duplicate claims.
❚ Time-bound processing and release of scholarships.
❚ Scholarships being released directly into the bank accounts of the beneficiaries.

KEY TAKEAWAYS

The learning from implementing an online portal is that it drastically reduces counterfeit entities to take advantage and increases efficiency. If a similar system is adopted across both Central and State Governments, many liabilities will be reduced under PMS Scheme for SC students. Similar pattern could be followed in other scholarship programmes of both Center and States/Union Territories.

II. Mahila Samriddhi Yojana (MSY)

FACTSHEET

Place of implementation	Bolepur, Birbhum, West Bengal
Implementing agency	National Schedule Castes Finance and Development Corporation (NSFDC)
Sector(s)	Artisan Cluster
Year of launch	1993

BACKGROUND

Birbhum is well known for handicrafts wherein a sizable proportion of SC/ST population of the District is involved in three trades – Kantha Stitch (Hand embroidery), Batick - Tie & Dye, Bamboo & Woodcraft. They face certain setbacks such as the use of primitive and commercially not viable technologies, drawbacks in design, style, variety, etc. They mostly depend on local demand/market and the margins are small which poses a threat to the sustainability of livelihoods.

INTERVENTION

The intervention strategy adopted by NSFDC under its Mahila Samriddhi Yojana.

Loan facility through State Channelizing Agencies (SCAs), are as follows:

Repayable within three years in quarterly instalments including the moratorium period of 120 days for fund utilisation.

Primary level training to around 900 selected candidates during August 2014-Sept 2015 based on a curriculum developed with assistance from Apparel Training and Design Centers (ATDC) under Apparel Export Promotion Council (AEPC), National Institute of Fashion Technology (NIFT) and Development Commission (DC) Handicraft.

Advanced training and production orientation wherein their capacity is built to select appropriate technology, machines and tools and to acquire knowledge of various raw materials used in the trades, fabric dying with different designs, pre-treatment and processing, contemporary design, style and fashion, sourcing of raw materials, quality aspect, pricing of finished products, sessions on negotiation and communication skill, handing of computers, exposure to e-marketing and actual hands on training etc. Nearly 300 artisans have so far been covered out of targeted 900 in the first phase. Products developmental in this phase were released under the brand "DESAJ" in a Government fair in Kolkata.

Development of market linkages for the products from three outlets. E-commerce tie up is also expected within a couple of months. Soon products under "DESAJ" brand will be available in Flipkart and Jabong. Artisans have also been supported to participate in the local mela, fairs etc. organised by Government and non-Government agencies.

Providing financial assistance to artisans. Close to 168 artisans have established themselves as independent entrepreneurs About 39 artisans have been provided loans under Mahila Samridhi Yojana of the NSFDC in 2015-16 and loan applications of around 50 artisans are under consideration for assistance under NSFDC schemes.

IMPACT

Products of worth ₹15.0 lakhs have so far been marketed. Sales proceeds have been shared with artisans of advanced level training i.e. trainees have been earning during their learning process. The identified cluster was revisited after one and half year of the intervention particularly to see whether this initiative has been able to change the income scenario or not. It revealed that the percentage of artisans having negligible income has reduced to 22% from 63%. Around 15% artisans are earning around ₹1000/- per month, 21% artisans are earning around ₹2000/- per month. Around 33% artisans are earning around ₹3000/- per month as compared to 9% earlier. Around 9% artisans are earning more than ₹4000/- per month as compared to 3% earlier.

KEY TAKEAWAYS

The handicraft and artisan culture in India can be revived and made successful through concerted efforts. Handicrafts and artisans can be promoted by providing training, product orientation and knowledge, financial assistance but most importantly developing and strengthening market linkages. E-commerce tie ups will further enhance market linkages and demand for the products of the artisans.

Figure 33: Training of Women

Picture Gallery

Jail Vaarta: Prisoner Video Conference with Relatives

Place of implementation	Himachal Pradesh
Implementing agency	Directorate of Prisons and Correctional Services –
	Himachal Pradesh
Sector(s)	Social Welfare
Year of launch	2013

BACKGROUND

The initiative lets prisoners and their relatives or visitors interact visually with dignity through video conferencing. Using this innovative and unique application, the visitors or relatives can talk to the prisoner from their homes anywhere in the world.

INTERVENTION

Jail Vaarta is a video conferencing (VC) facility in all 20 prisons in Himachal Pradesh, used for interaction between the prisoners and their relatives or visitors. This low cost solution having high impact uses NIC Vidyoportal software to conduct the VC. The prisoner's relative can use this facility using any PC with a web cam, microphone and speaker/headphone connected to it, along with internet connectivity. The access could be directly from the home of a relative or visitor or from a Lok Mitra Kendra (Citizen Service Center) which is located in all of the 3243 Gram Panchayats in the State and is operational in about 2500 locations. An online interface at http://hpprisons.nic.in is used to schedule a VC session.

IMPACT

The initiative has reduced the cost and hassles for prisoners, their relatives as well as the prison administration. Since implementation, 661 VC requests have been received and 428 VCs have been conducted successfully. The number of VCs booked and arranged comes to more than 31% and 25% respectively of the total number of approximately 2428 prisoners in the State. The initiative is a first of its kind in India, and second in theworld after Singapore. It has also received the Manthan Award in 2014.

KEY TAKEAWAYS

This innovative initiative requires minimal resources. Therefore, it can be introduced in other prisons across the country to facilitate the interaction of prisoners with their families.

SECTION 9:
RURAL
DEVELOPMENT

I. Nadia - An Open Defecation Free (ODF) District, West Bengal

Place of implementation	Nadia, West Bengal
Implementing agency	Gram Panchayat
Sector(s)	Sanitation
Year of launch	2013

BACKGROUND

3,09,881 (about 33%) households in Nadia district did not have access to toilets and were defecating in the open in 2013.

INTERVENTION

A campaign was launched by an enterprising District Collector on 15th July, 2013. A strategy focusing on behavioural change, provision of universal access to sanitary toilets and their usage to bring improvement in health indices was put in place.

Figure 34: Campaign for Behavioural Change

The building blocks of Nadia were:

▌ Analysis of baseline survey data, intensive planning activities.

▌ Behaviour change communication involving people from all walks of life.

▌ Initiatives in human resource development, especially skill upgradation of masons.

▌ Strengthening the service delivery mechanism and induction of partners.

▌ Convergence, co-ordination and monitoring by Zila Parishad and district administration.

▌ Gram Panchayats designated as implementing agencies. Anganwadi workers made focal point.

▌ Rural Sanitary Marts (RSMs) delivered the materials.

Stakeholder participation was expanded through a campaign of pledging in schools. Students were used as change agents. Self-Help Groups (SHGs) were also used for mobilization. Faith-based organizations were motivated to spread awareness. Doctors were sensitized to prescribe toilets and safe hygienic practices to patients. It involved capacity building of various stakeholders, including teachers, SHG leaders, Rural Sanitary Marts and masons. Intensive Information Education Communication (IEC)/Behaviour Change Communication (BCC) campaigns were undertaken - a mini-marathon, hot air balloons, a human chain of 122 km (with 3.5 lakh people throughout the district participating). Para Najardari Committees were also formed in each habitation to monitor the ODF district.

IMPACT

The intervention led to the district achieving 100% Open Defecation Free (ODF) status on 30th April, 2015. The movement has reported improved health indices, reduction in water-borne diseases, empowerment of women through greater participation and increased livelihood opportunities, collective behavioural change among communities towards toilet use, and decentralized institutional capacity for sanitation programme service delivery.

KEY TAKEAWAYS

Behaviour Change Communication plays a pivotal role in attaining ODF status for other districts. The involvement of Gram Panchayats as an implementing agency and, Anganwadi workers may push the ODF drive and ensuring its sustainability.

II. Innovations in Drinking Water Management - Gujarat

FACTSHEET

Place of implementation	Village Shirva, Taluka - Mandvi, District - Kutch, Gujarat
Implementing agency	Pani Samiti (Community Managed Water Supply Systems)
Sector	Drinking Water
Year of launch	September, 2004

BACKGROUND

Shirva, a village situated 7 km. away from the Mandvitaluka of Kutch district has 471 households from a mixed community. For several years, the village depended on water supply from a borewell constructed and maintained by the Gujarat Water Supply and Sewerage Board (GWSSB), through stand posts. But this system was badly damaged during the earthquake of 2001. The quality of the water from the borewell was not potable due to very high total dissolved solids (TDS) (3,500+ ppm) levels, which resulted in the community suffering from problems of kidney stones, digestion and other stomach ailments.

INTERVENTION

Under the programme of Water and Sanitation Management Organisation (WASMO) for community managed water supply systems in earthquake affected areas, the village came together to form a representative Pani Samiti as per the Government Resolution. A Reverse Osmosis (RO) plant of 1,250 litres capacity was installed to cater to the demand of 5 litres per capita per day (lpcd) on an average. The community came forward to contribute towards this by bearing 10% of the capital cost and the Pani Samiti owning the responsibility of operation and maintenance (O&M). The capital cost of the Village Action Plan for water supply & sanitation works was ₹13.44 lakhs, against which the community contributed ₹1.30 lakh. With the installation of the RO plant, the TDS of water reduced to 450-500 ppm. A separate committee has been constituted to manage the RO plant and the daily distribution of the water.

The charges are 30 paisa/litre if the quantity is more than 100 litres and 40 paisa/litre if it is less than 100 litres. The distribution of water has become a source of income for the Pani Samiti. 80% of the families are availing the RO plant water for drinking purposes. Water is being provided free of cost to the Primary schools & Anganwadis.

To manage the problem of 'reject water' from the RO plant, the concept of Water Pyramid was initiated in Shirva village. Invented by a group of engineers from Netherlands, Water Pyramid technology

provides different ways to produce distilled water and salt which has developed new business opportunities for the village. The Water Pyramid is uniquely designed with eco-friendly foil structure which utilises energy from the sun to evaporate dirty or polluted source water.

The Pani Samiti was able to complete the water supply works including Elevated Storage Reservoir (1,00,000 litre capacity), sump (1,00,000 litre capacity), distribution line (1278m), pump room, power connection, repairs and reconstruction of washing ghat and cattle trough and pond deepening.

IMPACT

80% of the families are now availing the RO plant water for drinking purposes. Water is being provided free of cost to Primary schools & Anganwadis. Now, the community has access to a sustainable supply of safe drinking water.

KEY TAKEAWAYS

'Community Participation and Community Ownership' are the ways to make the initiative sustainable through constant monitoring and operation & maintenance by the community itself. The model can be replicated in the other parts of the country.

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III. Gram Laporiya: Internationally Known for Water Conservation.

FACTSHEET

Place of implementation	Gram Laporiya, District - Jaipur, Rajasthan
Implementing agency	Gram Vikas Navyuvak Mandal
Sector(s)	Drinking Water
Year of launch	1987

BACKGROUND

Laporiya is a small village near Jaipur in Dudu Block. 30 years ago, the villagers faced a severe water problem. Most of the rain water remained badly utilized and people were not aware of optimum and sustainable use of natural recources.

INTERVENTION

In 1987, Shri Laxman Singh thought that people should put as much water as possible, back into the ground to ensure sustainability. He devised a new technique called the CHOUKA SYSTEM for ground water recharge. After years of experimentation, this technique has now become very effective. He received full cooperation from the villagers. In this technique, small rectangular dykes with an entry and exit point are constructed. The rectangular dykes are called CHOUKAS.

CHOUKA SYSTEM

The salient features of the Chouka System are as follows:

❚ This is a purely indigenous and natural technique for pasture land development.

❚ In this technique, maximum benefit with minimum expenditure is accrued.

❚ Moisture is retained in the entire pasture land area.

❚ Rain water is harvested for a definite period.

❚ Water is stored in 10% of the area for groundwater recharge.

❚ This is a good technique for fodder production.

❚ A 9-inch water column is maintained in Choukas for 10 to 30 days, at the most.

❚ All the Choukas are interconnected and water flows from one to another and ultimately the overflow falls into a Talab.

❚ Local flora and fauna is grown in the pasture land.

❚ The entire pasture land is converted into different zones, based on moisture content.

❚ Different varieties of fodder is grown, based on different moisture content.

❚ Every year, the Gram Vikas Nav Yuvak Mandal of Laporiya headed by Laxman Singh holds a Pad Yatra (rally) to create awareness about water conservation. People start walking from their own village and congregate at one place to take the oath of not wasting water, for the judicious use of water and to plant more and more trees.

IMPACT

❚ As a result of Chouka system, social mobilization has taken place and encroachments from pasture land have been removed.

❚ Due to the construction of Choukas, the entire pasture land is divided into zones of different moisture content.

❚ Due to the retention of rain water in 10% of the area, an increase in groundwater level in entire village has taken place, which has resulted in no dearth of water for drinking purposes and adequate fodder production for animals.

❚ Even during the drought, Laporiya produces milk worth lakhs of rupees.

KEY TAKEAWAYS

The low cost intervention and social mobilization may solve developmental issues. The techniques may be replicated in the other parts of country.

CONTACT:

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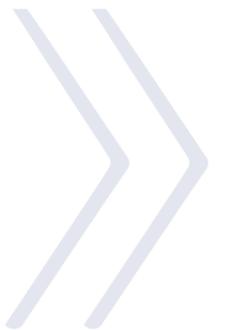
SECTION 10:
SKILL DEVELOPMENT AND URBAN MANAGEMENT

I. Kaushalya Vardhan Kendra (KVK) - Gujarat

BACKGROUND

This initiative focuses on improving access and outreach in Gujarat. All the villages of the state having a population above 5000 are covered with Kaushal Vardhan Kendras (KVKs).

INTERVENTION

The KVK model adopts a decentralized, cluster-based approach towards skill development that is responsive to local cultural and traditional skills. The underlined approach is that of institutes approaching trainees instead of trainees going to the institutes.

KVKs increase access to skill development and harness the potential of rural youth, school dropouts, adolescent girls, housewives etc. to promote self-employment and entrepreneurship. The unique features include:

- Flexible Approach - In terms of course selection and institute timings.
- Efficient Utilization of Resources - Utilized available infrastructure in rural area, including school buildings, Panchayats buildings, PHC buildings etc. There has been no need to create new infrastructure.
- Limited Liability - Only one coordinator is a regular Government employee - other staff is outsourced.
- Increased Outreach - At least one KVK in a 15km cluster area of villages.
- Highly Subsidized Training - No fees for SC/ST/Women/PH & BPL candidates and a nominal fee of ₹50/- for General Candidates.
- Liberal Admission Norms - No upper age limit, minimum education qualification (Class 5).

500 KVKs have been established in 4 phases. A total of 455 industry approved courses addressing the local needs, and another 1980 Life Skill courses have been added. The courses are selected based on WISH concept: W - Women Oriented Courses; I – Industry Oriented Courses; S - Soft Skill and Service Sector Related

Courses; H - Hard Core Traditional Courses.

Within KVKs, to generate in-house skills to meet the standardized benchmarks of the industry, the Government of Gujarat has introduced innovative Industry led Skilling Centers (i-KVK) scheme in 2014-15. This provides a win-win scenario for all the stakeholders viz. Government, industries and workers

136 course modules in 22 sectors have been developed with the help of industries (related to sectors like Manufacturing, Textile, BPO, medical, hospitality, pharmaceutical, automobiles, non-renewable energy etc.).

IMPACT

From August 2010 to March 2015, a total of 13,32,769 youth trained out of which 8,39,396 are women (62%). For interior and far-flung areas, 4 Kaushalya Rath (Mobile KVKs), have been started especially for the

benefit of candidates residing in remote areas. The scheme has won the PM Award for Excellence in Public Administration for the Year 2011-12.

KEY TAKEAWAYS

A cluster based approach to skill training can significantly improve access to vocational education by taking the training to the doorstep of people.

Community involvement in course design ensures high enrolment and low drop out.

Need based, industry responsive courses enhance the opportunities of employment and self-employment.

KVK Programme has been able to break some of these barriers by offering courses such as motor driving and basic computer education which are equally popular among men and women. The Programme has the potential to encourage participation of women in non-traditional occupations.

II. Livelihood Colleges - Chhattisgarh

FACTSHEET

Place of implementation	Chhattisgarh
Implementing agency	State Project Livelihood College Society
Sector(s)	Skill Development & Employment
Year of launch	2012

BACKGROUND

Reaching out to the large population of unemployed youth/tribal population living in remote and under-served areas in States like Chhattisgarh, and provide them with some kind of livelihood training to increase their employability/ability to earn a livelihood.

INTERVENTION

The Livelihood College lays thrust on those unemployed youth who could not complete their schooling and left school at different levels. Such unemployed youths are provided short-term training of 2-3 months in MES courses in trades that are relevant in today's competitive market.

In addition, training courses like Diploma in Computer Application (DCA) and Post-Graduate Diploma in Computer Application (PGDCA) is also made available to educated unemployed youth free of cost. The salient features of Livelihood Colleges are:

▌ Skill Development facilities under one roof;

▌ Short-term, market-oriented and demand-driven MES courses;

▌ Multi-skilling, multi-entry and -exit, and linkages to future upgradation opportunities;

▌ Less entry barriers as there is no minimum educational qualification, transportation cost, loss of wages, language problem or fees;

▌ Residential facility for 75% trainees in LWE districts and 50% trainees in other A stipend of ₹300 per month;

▌ Assistance for post-training placement and one time settling allowance of ₹2000 per trainee.

Pre-counselling Session: To ensure quality training a pre-counselling session of beneficiaries is conducted at Livelihood Colleges at the District Level. This has been implemented with the help of trained counsellors and partners for the Training of Trainers. Through this, the beneficiary gets information about the course curriculum, employment opportunities, assessment criteria, skill requirement, financial support from the Government, training methodology etc. This also improves the retention of candidates.

Training Manuals: Hindi Training Manuals have been developed for seven sectors as of now - and the number is being increased constantly.

Chhattisgarh proposes to start such livelihood colleges in all the 27 districts.

The first such college was started in Dantewada in 2011 to provide residential training free of cost to unemployed youth in various employment-oriented trades with the objective to provide them with employment and self-employment opportunities in the worst LWE affected Districts of the Country.

— Figure 37: Livelihood College - Dantewada —

IMPACT

The Dantewada Livelihood College has the capacity to train 1000 trainers at a time, and by running three batches in a year, it is providing training facilities to a total
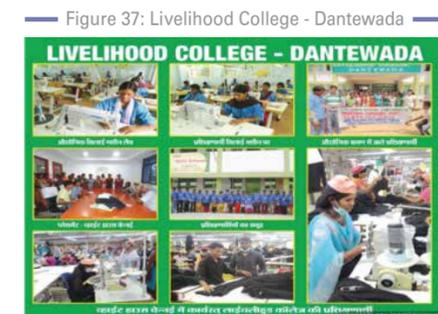
3,000 youths in a year. To date, about 9,000 youths have been provided training in the Dantewada Livelihood College.

KEY TAKEAWAYS

For difficult areas such as those which are LWE affected, hilly as well as other regions of conflict, it is very important to provide residential training free of cost to unemployed youth in various employment-oriented trades with the

objective to provide them with employment and self-employment opportunities. This will not only enhance their livelihood opportunities but also give them an avenue to channel their youth labour force.

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III. ICT Academy - Tamil Nadu

FACTSHEET ---

Place of implementation	Tamil Nadu
Implementing agency	NFP Society as an Initiative of Government of India, Government of Tamil Nadu and Industry
Sector(s)	Skill Development and Employment
Year of launch	2009

BACKGROUND

INTERVENTION

There is a huge shortage of well-qualified trainers in the country. This Academy aims at quality improvement of the ICT faculty at various higher educational, technical institutions to produce trainees who are readily employable in the ICT sector.

Key features of ICTACT are:
- All courses are endorsed by the Industry.
- Priced at ₹1250 to ₹1500, which is considered to be the lowest.
- Course Material Assessment & Certification included.
- Advanced and Emerging Technology Courses included.
- Promotion and marketing through relationship team.
- Membership Model strongly promoted across the state.

ICTACT at its commencement received a GOI grant of ₹6 crore on a project basis for the first three years to train 5000 higher education teachers on cutting edge ICTs. This project from Deity was under the scheme of Manpower Development for Software Export Industries. During the first three years:

- ICTACT offered 8 days Faculty Development Programme (FDP) for faculty members in the ICT domain.
- The FDP was offered to teachers of UG and PG in the ICT Streams including computer science, computer applications, electronics etc., from all engineering streams.
- ICTACT forged partnerships with all state universities as nodal universities through which the nominations for programs were received from the faculty who met the pre-requisite of the programs.
- All courses were developed with the support of Industry. Some courses were fully developed by the Industry and some courses were developed by ICTACT with inputs from the Industry.

A board of studies comprising of members from the Industry were roped in to vet the content and courses.

ICTACT completed training 5000 students within three years.

ICTACT has developed "student training" for each of its "Faculty Development" Programmes, thereby conducting assessments and certification for trained students. This has enabled ICTACT to measure the impact of knowledge transferred.

On completion of the project, during the first three years, ICTACT built several models for sustainability. ICT Academy has forged relationships with leading corporates across the globe including Microsoft, Intel, EMC and NI. It has also forged relationships with all State universities as nodal institutions and academic institutions across the state.

Course Development: All skill development courses are delivered through the faculty in respective colleges. ICTACT Student training framework is developed with TOT, Student Training followed by assessment and certification. A Board of studies comprising eminent members from the Industry support the selection and design of the Courses and are involved in the review of courses at regular intervals.

Figure 38: ICT Academy

IMPACT

19632 Teachers Trained; 832150 Students Benefited; 697 Programs Conducted; 1555 Institutions. Till 31st March 2015 ICT-ACT has collaborations with 10 Nodal

Universities, 279 Engineering College, 145 Arts & Science College, and 64 Schools.

KEY TAKEAWAYS

India has a huge target of skilling 500 million by 2022 but availability of quality teachers is a constraining factor. The ICTs enabled training programmes to create skilled/employable faculty in various higher education and technical

institutions which would go a long way in addressing the shortage of trainers. Tie-ups with this university to take up such programmes across the country needs to be explored.

IV. Gram Tarang - Odisha

BACKGROUND

The practice focuses on giving the most disadvantaged sections of the society in the most difficult-to-work-in areas of the country an opportunity to earn a sustainable livelihood and navigate equitable growth. The key to the success of this programme is industry involvement in the process to assist in the setup of state-of-the-art, industry-standard workshops & labs with all relevant machines, tools & equipment. The intervention provides post placement support & work integrated learning through implementation of NSQF.

INTERVENTION
REVENUE MODEL

Traditional models adopted by training institutes, NGOs etc depend on students paying for their training or on government subsidies. The 1/3 x 1/3 x 1/3 revenue model that has been adopted depends on training costs being paid for by the three key stakeholders involved: Individuals, Government and Enterprises.

Government Schemes: Gram Tarang has been linked with various government schemes through the Ministry of Rural Development (DDU GKY) and Housing Urban Development Department (SJSRY – NULM), to subsidize the training costs for BPL (Below Poverty Line) candidates and SC/STs.

Industry Sponsorships/CSR: The industry is also now involved in the training cycle by funding some portion of the training costs of the youth. These partnerships ensure that those specific skill-sets are imparted to the trainee and they are partly or fully sponsored by the hiring company

Student fee: Students paying their own fee entirely or through one of the following means:

a. **Pay as you earn:** Gram Tarang encourages trainees to undertake training on credit and pay by instalments once the candidate gets employment.

b. **Training cum Production:** GTET also operates a small scale production unit where some of the trainees for Welding, Fabrication & Fitter are employed as interns to enhance learning in a live production environment.

Some of the key initiatives are:

Proven track record in community mobilization from difficult to reach regions where the ability to pay for training is limited and education levels are poor.

Partnership with DGET: Institute of Training of Trainers (ITOT), Testing Center for Testing the Competencies of Assessors of Empanelled Assessing Bodies under the SDI Scheme.

Industry partnerships to create state of the art workshops & labs for experiential based learning.

Launching skill training for deaf and mute (they are termed as Kids of Wonder of Silence), in partnership with CCD.

Gender sensitivity was visible both in training and engagement of trainers.

Pioneered a qualification framework - Centurion Vocational Education Qualifications Framework (CVEQF), aligned to NSQF.

Figure 39: Tools Rooms for Training

Trainers: University Teachers are sent to Industry/NTTF/Tools Rooms for training on real-time basis. Technicians or experts in the industry who want to return home and Ex-servicemen are also recruited as trainers.

IMPACT

Gram Tarang has trained over 7,000 youths across various industry sectors with a placement record of 78% through strong partnerships with the industry.

KEY TAKEAWAYS

CUTM is working actively towards establishing a market-driven model that is both sustainable and scalable. The 1/3 x 1/3 x 1/3 revenue model that has been adopted depends on training costs being paid for by the three key stakeholders involved: Individuals, Government and Enterprises.

Training of trainers is a major roadblock in the scaling of skill development; this problem is addressed here by sending University teachers to industry etc.

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v. IL&FS Skills Development Corporation (IL&FS Skills)

FACTSHEET

Place of implementation	Pan-India
Implementing agency	IL&FS Skills
Sector(s)	Skill Development & Employment
Year of launch	2010

BACKGROUND

The setting up of IL&FS Skills in 2010-2011 was triggered by the increasing demand of trained manpower addressing the needs of the Industry and is therefore focused on making students work ready.

INTERVENTION

They have built robust systems and pan India infrastructure which has enabled them to skill 1.5 million people. Delivered through a network of technology enabled, workplace simulated, multi skills Hubs - IL&FS Institute of Skills (IIS) and single skill Spokes - IL&FS Skills Schools (ISS) offer a number of services to the trainees like: placement linkages, training on international standards, assessment & certification, training of trainers & multimedia-based content & ICT solutions.

Their programmes have yielded impact through improvement in income and standard of living for people from different social groups.

Working with the Youth: They cater to the training needs of school drop-outs, X/XII grade pass-outs, vocationally trained students and college graduates (including engineering graduates). For example: their presence in over 15 districts of J&K has linked several Kashmiri youths to jobs in retail, hospitality and BPO sector companies in metro cities. The 'learner centric' approach ensures strong skills and employability foundation and smooth transition into employment for the trainee.

Working in Difficult Geographies: In less than 3 years, they are operating in 83 districts at the LWE affected states of Odisha, Jharkhand, Chhattisgarh, Madhya Pradesh, Bihar and Andhra Pradesh.

Figure 40: Il&FS Skills

IMPACT

❙ 11,700 trainees trained from 22 districts of Jammu and Kashmir.

❙ 9,500 trainees trained from 7 North East states.

❙ 85,000+ trainees trained particularly from Tribal and SC/ST community, belong to 88 Left Wing Extremism (LWE) districts in 9 states.

❙ 5,00,000+ youth have been skilled as part of their 'Skills for Jobs' programme. A number of programmes in sectors impacting growth and their training outcomes are as follows:

❙ Manufacturing (including Textile & Apparel, Leather) – 1,70,000.

❙ Engineering & Construction – 55,000.

❙ Services (Retail, IT/ITeS, Hospitality, BFSI) – 152,000.

❙ Media & Entertainment and Security - 99,000.

KEY TAKEAWAYS

Job Linkage for Trainees
They work with a network of 2,000+ employers to secure placement linkages before the start of the programme. This ensures jobs for trainees acquiring 3rd party skills certification. This ensures that the supply of skilled manpower is in line with the industry demands.

2. Public Private People Partnerships
They work with 10 Central Government ministries and 25+ State Governments to deliver large scale, quality assured trainings. They also work with 50+ top corporates as their training and CSR partner to deliver niche programmes. They engage people through mobilization camps and workshops across the country, including rural villages, to explain the benefits of skills training, and the career prospects they can expect afterward.

3. Industry Ready Training
To ensure that the student is job ready the programme is designed in consultation with industry partners to cater to their requirement. Trainees are exposed to real-time workshops and encouraged to learn by doing. The classes are modelled on simulated workplaces, such as sewing factories, welding workshops, a model restaurant and a full service kitchen.

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VI. Mobile Vocational Education (MOVE), Ammachi Labs

FACTSHEET

Place of implementation	Pan-India (Rural Areas)
Implementing agency	Amrita Multi Modal Applications Using Computer Human Interaction (AMMACHI) Labs, Amrita University
Sector(s)	Skill Development & Employment
Year of launch	2012

BACKGROUND

Skills training is least accessible to those who stand to benefit the most from it. This makes it even more difficult to implement a way to help these communities participate in any formal economic sector, and thereby overcome poverty. Making vocational education mobile may be one solution to this. In an effort to bring quality vocational education to the otherwise inaccessible regions of the diverse geography that India is, AMMACHI Labs conceptualized, designed and built a mobile vocational training center.

INTERVENTION

A solar powered classroom on wheels is what the MoVE project is all about. The future of MoVE is two-fold:

- MoVE-in-a-box where all the IT devices required for conducting a class are packed in a box instead of a vehicle. This would make MoVE further mobile and bring training to the remotest of areas.

- Vehicle housing more heavy duty or emerging vocational tools like 3D printers, laser cutters and welding systems. The first model brings training to the villages and the second model aims to carry innovation to the villages.

Figure 41: Amrita Mobile Van

A MoVE unit is a fully functioning classroom-on-wheels. The technology in the vehicle is powered by solar energy, thereby making it eco-friendly and sustainable and allowing vocational education for sustainable development in logistically and geographically diverse areas. MoVE uses minimal resources and has reduced dependence on local infrastructure. It has increased outreach, reduced operating cost, and helps in teaching at multiple locations. Equipped with the latest computer and communication technologies, the unit typically contains 20 computers, through which students are trained in vocational skills using the SAVE haptic technology applications. It employs Wi-Fi and a local and central database to monitor and assess student performance. Also, A-VIEW, an award-winning Amrita video-conferencing technology platform has been embedded into MoVE providing students instant access to experts in their field of study, for real-time, online interaction.

Figure 42: Technology Interface

IMPACT
KEY TAKEAWAYS

The mobile school currently services remote communities in support of the Empowerment of Women Project and has so far been instrumental in training over 800 beneficiaries in various vocational trades.

This innovative mobile vocational training center promotes skills training in the least accessible areas to people who stand to benefit the most from it. It can be implemented all over the country to reach under served and far fledged areas. It also uses green technology, promoting clean environment, which is a plus.

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VII. Additional Skill Acquisition Programme (ASAP)

FACTSHEET

Place of implementation	Kerala
Implementing agency	Government of Kerala and Asian Development Bank
Sector(s)	Skill Development and Employment
Year of launch	2012

BACKGROUND

It aims at equipping students of Higher Secondary and Undergraduate levels with industry-specific job skills. Increasing the employability of the youth is the prime objective of ASAP and not employment, per say.

It is an Asian Development Bank assisted programme. Major features:

- Involvement of industry professionals in all stages of skill training right from curriculum development up to student placement.

- Students are selected through interview considering their socio-economic conditions. Then an aptitude test is conducted to enlighten them about their thrust areas, but the choice for enrolment to a specific skill course is left to the student.

- The SDCs are functioning as hub and institutions as spokes, where around 10 institutions are coming under one SDC.

- For the management of the programme from the enrolment to final certification, a web-based management tool called ASAP's MIS is used.

INTERVENTION

In these SDCs, skill courses are taking place on Saturdays and Sundays and other holidays whereas the Foundation Module, consisting of Communicative English and IT, training is taking place in their respective institutions on weekdays. The SDCs of ASAP are developed in Government Higher Secondary/Colleges and have well equipped computer laboratories with KSWAN (Kerala State Wide Area Network) connectivity which is connected to the Data Center at ASAP Secretariat. SDCs also have smart classrooms and facilities for skill training in different sectors. On the Job Training (OJT) is also adopted in ASAP wherever necessary.

ASAP has already entered a crucial phase in its fourth year of existence with the major initiatives it has taken in setting up Community Skill Parks (CSPs), the 24 x 7 futuristic skill training centers with advanced facilities that will connect with the neighbouring educational institutions and training centers in a hub and spoke model. Towards realizing the larger goal of establishing one Community Skill Park in every legislative constituency of the State, the programme has already begun the establishment of this in 15 locations. ASAP Community Skill Parks will be of international standards with active linkages with organizations within and outside the country.

IMPACT

ASAP now offers 96 skill courses covering 21 industry sectors to 25616 students spread out in 973 educational institutions across the State. Also, the number of ASAP institutions have increased from 102 in 2012-13 to 973 in 2015-16, the number of Skill Courses from 12 to 96 and the number of Skill Development Centres (SDCs) from19 to110.The enrolment for 2016-17 has begun and around 1200 institutions evinced interest this year.

Figure 43: Skill Development Centres

KEY TAKEAWAYS

Four years of successful implementation of skill courses in the Higher Secondary Schools and Undergraduate Colleges have given the programme a brand visibility in terms of quality skill training in industry sectors. The success of any skill

programme depends among other things on active involvement of industries. When fully functional, the Community Skill Parks (CSPs) will take the programme to a different plane and offer maximum benefits to a larger population.

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VIII. C-PYTE - Punjab

FACTSHEET

Place of implementation	Punjab
Implementing agency	Government of Punjab
Economic sector	Skill Development & Employment
Year of launch	1990

BACKGROUND

The Center for Training and Employment of Punjab Youth (C-PYTE) is the brainchild of the thinkers of Punjab who had the welfare of the youth of the State in mind. It is a unique organisation, which is engaged in inculcating self-discipline, spirit of national integration and secularism besides imparting technical skills for making the youth more employable in various fields including self-employment.

INTERVENTION

The major beneficiaries of the scheme are the rural unemployed who are given pre selection training for joining the Army, Central Para Military Forces, besides imparting technical training to upgrade their skills. Key objectives of C-PYTE are:

- To create awareness among unemployed youth of Punjab, in a phased manner and seeking their absorption into legitimate economic occupations after appropriate training.
- To wean the identified youth away from illicit activities like drugs & liquor consumptions etc.
- To provide an environment which fosters the values of nation building, discipline and social concern among the identified youth.
- To provide employment oriented training.
- To make them better citizens and upgrade their skills and discipline to make them employable.

Present Set-up Initially four Camps were established at Kapurthala. Each camp would normally hold 250 youth. Today, the organization has expanded and established 16 C-PYTE Training camps for boys; all over Punjab with a camp in almost every district and two camps specifically for girls at Mansa and Kairon (Tarn Taran).

Training The training in these camps is organized keeping in view the aim of making/grooming youth to be fit for taking up employment; to create confident, mentally robust and physically fit young citizens, so that they can carve an honourable place for

themselves in society, get gainful employment and be a flag bearer of Punjab State. Besides preparing the youth for their induction into Defence/Para Military Forces, training in different skills appropriate to the talent and aptitude of each youth is provided in various technical institutes besides "On the Job Training" in various Mills/Factories.

Facilities. To attract the youth the following incentives are provided to campers:

    a. Free training for enhancing employability.

    b. Free Accommodation and recreational facilities.

    c. Free wholesome meal - ₹100/- per youth per day.

IMPACT
KEY TAKEAWAYS

About 10,000 youth are selected annually, trained and inducted into various organizations, technical trades and employed gainfully. Till now C-PYTE has

C-PYTE imparts pre-selection training to the youth for entry into the Defense/Para Military/Police forces; prepare those youth ineligible for absorption into services for gaining employment in public sector/private industries; and motivate other youth to opt for self-employment ventures.

trained 194887 youth out of which 102938 youth have been absorbed in various fields especially the Armed Forces.

It is a multi-faceted training institute set-up to resolve the problem of unemployed youth of Punjab in a phased manner and seek their absorption into legitimate economic occupations after appropriate training.

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IX . 24x7 Water Supply

FACTSHEET

Place of implementation	Nagpur
Implementing agency	Nagpur Municipal Corporation
Sector(s)	Urban Management (Water Supply)
Year of launch	2004

BACKGROUND

Nagpur Municipal Corporation (NMC) intends to entrust the realization of full-city uninterrupted 24x7 water supply system in Nagpur through PPP, which it will finance the capital expenditure required to rehabilitate, repair, maintain and to provide for appropriate refurbishing and replacement of water supply infrastructure as required to achieve the objectives of this project.

INTERVENTION

Project Inception:

  In 2008, NMC's General Body passed resolution for city-wide 24x7 water supply.

  Ring-fencing of water supply assets was done by transferring of water supply functions to a separate company i.e. the Nagpur Environmental Services Limited (NESL) as a wholly owned subsidiary of NMC. This was first fully owned water supply company of any ULB and it had to go through legal department of NMC & Government of Maharashtra which resulted in additional time required to complete the process.

  Transparent bidding process was adopted with extensive stakeholders consultations with editors, NGOs, ward members etc.

  Veolia-Vishvaraj consortium was selected through bidding process.

  Orange City water Pvt. Ltd. (SPC) formed by consortium has taken over the operations of full city water supply from 1st March, 2012.

PPP Basic Principals :

  Partnership – (Asset Ownership: NMC) – (Operation: Private) – (Investment: Both Government of India, Government of Maharashtra but ULB share by Private is ₹116 crore).

  NMC to decide tariff, collection by private partner; NMC to decide the Development Plan for city.

Private Partner to operate and maintain the system (almost ₹80 crore per year by private); Private Operator to earn profit through efficiency in implementation and operations against fees

Project Scope

25-year Performance Management Contract (extendable by another 25 years).

First 5-year OCWPL responsible for O&M of existing network and rehabilitation of the network.

O&M of the water supply system for the next 20 years – revenue and collection risk loaded on operator.

Operator's performance to be monitored against performance parameters.

Remuneration based on metered volume that is billed and collected.

Figure 44: O&M customer services
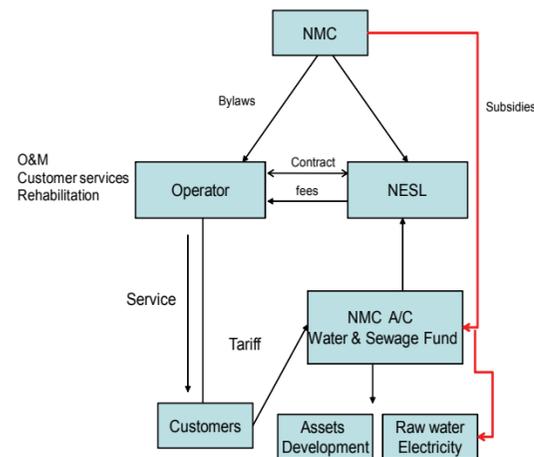
IMPACT

Total 18,000 connections; Additional population – 1,50,000. Over and above demo zone of 2,00,000 in Dharampeth (24x7 since 2010).

Total Population covered so far. About 3,50,000 for 24x7 water supply through appx 25,000 connections (NMC has One building/premises One Connection Policy).

85000 connections replaced 450km of pipeline replaced 35 ESR command areas. Work in advance progress for conversion (out of total 64).

KEY TAKEAWAYS

Investing in a PPP project for 24x7 uninterrupted water supply can improve financial sustainability and operational efficiency of the whole water supply system - operational from raw water intake until its delivery to end customers. The model here is such that NMC is retaining the ownership of all fixed assets required to provide water supply services in Nagpur City. The SPC operates, maintains, repairs, refurbishes and provides for replacing any granted facilities from source to connexion plots and delivers water supply to consumers according to committed service levels/targets.

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x . Land Pooling - Innovative Initiative for Development

FACTSHEET

Place of implementation	Andhra Pradesh
Implementing agency	Capital Region Development Authority
Sector(s)	Urban Infrastructure
Year of launch	2015

BACKGROUND

The Bifurcated Andhra Pradesh state with the responsibility of building a capital city has been on a lookout for a huge piece of land to be acquired to build its ultra-modern capital. As the state is experiencing financial constraints and in view of possible legal obligations involved in the land acquisition process, the Government of Andhra Pradesh has put forward an innovative idea of involving farmers in the building of the new capital city Amaravathi. This has paved the way for Voluntary Land Pooling for the proposed capital city.

INTERVENTION

Voluntary Land Pooling is a process in which the farmers in the notified Capital Development Authority Region (CRDA) join hands with the Government by voluntarily offering their farm lands to CRDA, accepting the developed plots in return, based on the guidelines agreed upon by both CRDA and the farmers. It is probably for the first time in the country's history that nearly 33,000 acres of fertile land was voluntarily given away by small as well as rich farmers for a public cause.

The Capital Region Development Authority (CRDA) has notified 45,625 acres as capital

region, out of which 37,624.15 acres is patta land. After the notification in January 2015, the Government has been able to pool around 33,000 acres of land. Nelapadu was the first village from which the land pooling exercise commenced. The villagers welcomed the CRDA officials with open arms and willingly gave their consent letters. The entire exercise of land pooling for the brand new capital was completed in 3 months. The

unprecedented response from land owners left the observers surprised all the more because desperate attempts were being made to instigate farmers against participating in the land pooling. What turned the tide was the novel scheme in which land owners were made stake-holders in the development of an urban agglomeration, and even the critics admitted the plan worked out well.

IMPACT

The land pooling process had started in January, 2015 and within a short time, the government has managed to convince local land owners to take part in the development process. It was a smooth sail, as 33,811 acres were pooled-in within the stipulated time. However, the

administration was careful in ensuring that the farmers of jareebu lands, who harvested three crops a year, did not feel their loss in comparison with dry-land farmers. The lands with irrigation facility spread across 10 river front villages have been given a better package.

KEY TAKEAWAYS

This is one of the best practices of Government of Andhra Pradesh that successfully converted 'a problem into a solution.' Now, many leading

commentators are suggesting this land pooling model to the nation on land acquisition.

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SECTION 11:
TRANSPORT|

Road Accident Data Management System (RADMS) in Tamil Nadu: Towards Complete Road Safety Management

FACTSHEET

Place of implementation	Tamil Nadu
Implementing agency	Office of the Transport Commissioner
Sector(s)	Infrastructure - Connectivity
Year of launch	2009

BACKGROUND

In Tamil Nadu about 150 accidents take place per day on average. In 2007, Tamil Nadu announced a Road Safety Policy followed by a Road Safety Action Plan in 2009.

INTERVENTION

As part of the Action Plan, an easy-to-use bilingual software package - known as the Road Accident Data Management System (RADMS) - was developed. The RADMS software, has been deployed at all the police stations of the State. The GIS-based RADMS software geographically maps all road accidents that take place in the State. The system identifies the most accident-prone spots and displays crash trends and other information at the click of a mouse. The RADMS software, developed after detailed consultations between the police, transport and highway departments have been helping the authorities analyze the 'how', 'where' and 'why' of road accidents, and enabling them to plan and implement remedial measures.

IMPACT

The implementation of road safety measures based on this analytical data brought down the number of accident fatalities in Tamil Nadu from 13.39 for every 10,000 vehicles in 2006 to 10.09 in 2010, exceeding the targets set by the State.

KEY TAKEAWAYS

Each police station could be provided with a hand-held GPS device to enable personnel to enter the details at the accident site itself. The system could be linked with medical facilities for quick attention to accident victims. The creation of a national road accident database along these lines can help markedly improve road safety across the country.

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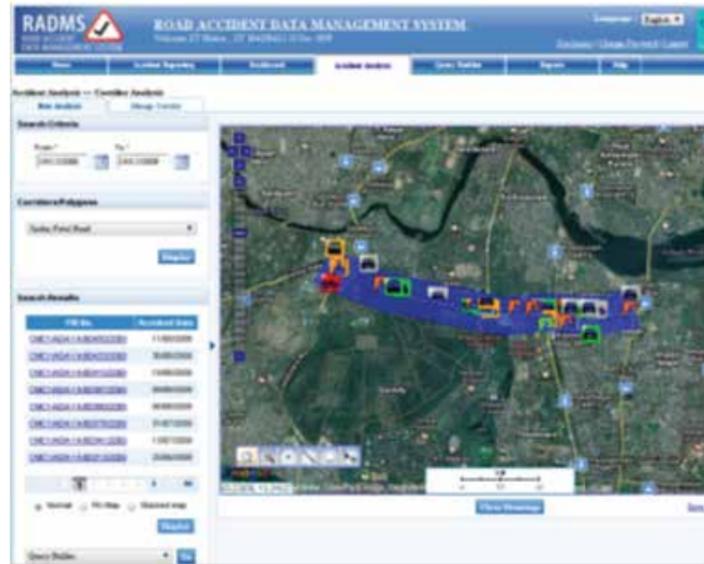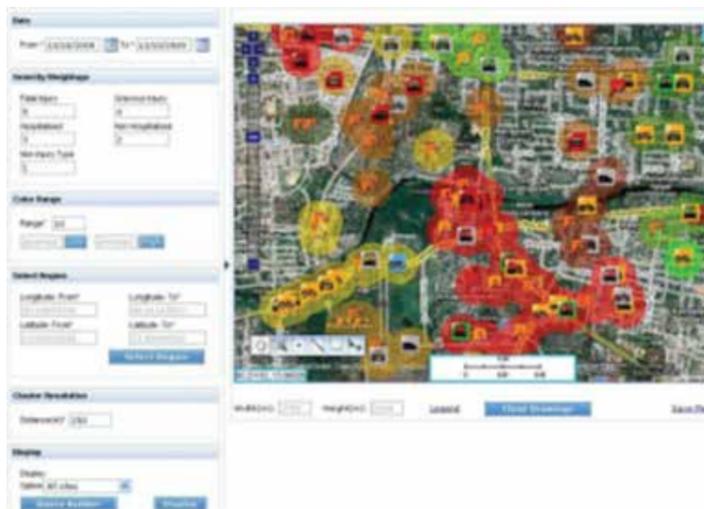II. Intelligent Transport System - Improving Urban Public Transport

FACTSHEET

Place of implementation	Mysuru, Karnataka
Implementing agency	Karnataka State Road Transport Corporation
Sector(s)	Infrastructure - Connectivity
Year of launch	2012

BACKGROUND

Mysuru city faced severe problems of road congestion and lack of information about different bus routes and stops, time, frequency, etc. So, Karnataka State Road Transport Corporation introduced the ITS to deliver high quality services and make the system more passenger friendly through the appropriate use of ICTs by taking into account the operational costs of traffic congestion, maintaining environment quality and promoting traffic efficiency by reducing passenger waiting time, improving the frequency of buses, and ensuring the safety of passengers.

INTERVENTION

The key components of the project are: Real-time Passenger Information System, In-Vehicle Display & Automated Voice Announcement System, Central Control Station, Automatic Vehicle Location System, Enterprise Management System, Network Management System, Application Performance Management System, Helpdesk Management System, Service Level Management, Real-time PIS data access to commuters through SMS, MIS Reports and Training.

IMPACT

28 crew members and seven buses saved from auto scheduling; utilization of buses increased from 247.5 km. to 251.7 km.; Crew utilization increased from 66.3 km./employee to 68.2 km./employee; total savings of 55 operational hours and 26.55 operational time hours; 1,555 non-earning km. of the running time of buses cut down; 2000 km. augmented daily which fetches an average earning of ₹30 per km.

KEY TAKEAWAYS

ITS provides benefits in terms of: reduced waiting time and uncertainty; improved accessibility of the system; enhanced safety of users; declined fuel consumption and emissions; reduced operational costs; improved traffic efficiency; less traffic congestion; enhanced environmental quality and energy efficiency; and improved economic productivity.

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FIGURE 48: Classroom Training of Bus Drivers

III. Ahmedabad's Janmarg - India's first full BRT system

FACTSHEET

Place of implementation	Ahmedabad, Gujarat
Implementing agency	Ahmedabad Janmarg Limited
Sector(s)	Infrastructure - Connectivity
Year of launch	2009

BACKGROUND

Ahmedabad, a city with a population of more than 55 lakh required an affordable public transport network that would enable people to reach their destinations in the shortest possible time and in the easiest possible manner. Thus, the Ahmedabad Bus Rapid Transport System (BRTS) was launched.

FIGURE 49: Ahmedabad BRTS

INTERVENTION

Janmarg Limited started operations in 2009 and has since been expanded to a nearly 89km. network with 120 stations, providing connectivity across the city. Its salient features are: a closed BRTS with median bus stations; specially designed buses with right-hand side doors; matching heights of bus floors and station platforms; the right of way to include cycle tracks and pedestrian facilities; a commercial speed of 25kmph. enabling faster commuting; and off-board fare collection. Janmarg has made several innovations in the planning and designing of the system including a fully 'pedestrian and transit' only street section at one location and a one-way bus lane to manage narrow right of way.

IMPACT

20-22% of the commuters have moved from using their motorcycles to the bus. An average trip length of 7km translates into savings of almost 200,000 vehicle km. per day. 65% of the people who use Janmarg walk to and from the bus station. Typically, these trips are between 0.2-1.5km. This also translates into a reduction of vehicle travel. The widening of the BRTS with new roads and bridges has helped better connect the city and reduce pollution.

KEY TAKEAWAYS

Janmarg demonstrates that BRTS can provide metro-quality service at a much lower cost. Its success has led to an overall improvement in the service quality of the municipal transport service. All old diesel buses with obsolete technology have been replaced with compressed natural gas buses. The routes of these buses are now being operated as feeder services for Janmarg.

IV. Gujarat Maritime Board - Innovative Policies to Promote Trade through Ports

FACTSHEET

Place of implementation	Gujarat
Implementing agency	Gujarat Maritime Board
Sector(s)	Infrastructure - Connectivity
Year of launch	1982

BACKGROUND

Gujarat is the state with the longest coastline. To make economic gains from its geographical location, Gujarat Maritime Board (GMB) was established in 1982. Since then, the state has progressively undertaken successful developmental policies for increasing port operations and revenues.

FIGURE 50: Containers at a Gujarat Port

INTERVENTION

Private companies were allowed to operate their own jetties in GMB ports in 1987. In 1995, PPP in ports was allowed. In 1997, BOOT policy was introduced to provide operational flexibility with tariff freedom and low water-front royalty. SEZ Act was launched in 2004. The Ship Building Policy was introduced in 2010 to allow private companies to develop ship building parks. To promote coastal shipping and trans-shipment, concessions to the extent of 20% (for outside Gujarat coastal traffic) to 25% (for Gujarat coastal traffic) in port related charges is being provided. LNG Terminal Policy, 2012 facilitates setting up of new Greenfield LNG Terminals and Floating Storage Regasification Units.

IMPACT

The Sagarkheru Sarvangi Vikas Yojana has contributed substantially in the development of coastal regions in the state with its work on recharge tanks, spreading channels, anti-sea erosion work, etc. The GMB percentage share in national traffic is growing steadily over the years and stood at 32% in 2013-14. GMB's percentage share in total non-major ports traffic is around 80%. Gujarat has the highest number of operational and commercial cargo ports.

KEY TAKEAWAYS

The policies of Gujarat on maritime trade and area development should be adopted by the coastal states to earn revenue as well as balanced regional development.

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v. Gujarat's Automated Driving Test Track

FACTSHEET

Place of implementation	Gujarat
Implementing agency	Office of the Transport Commissioner
Sector(s)	Infrastructure - Connectivity
Year of launch	2013

BACKGROUND

Bias in issuing of driving licences not only escalates the service cost but also has a social and economic cost. To curb it, Gujarat introduced reforms in the form of automated driving test tracks.

INTERVENTION

The test assesses performance of the candidate on identification of traffic signals and the Serpentine Test. The test on identification of traffic signals evaluates the ability to recognize the mandatory and cautionary road signs. The system picks any four road signs from the question database and displays it to the candidate along with eight choices. The candidate has to match each of the road sign with the correct answer from the choices provided. To pass, he has to answer at least three questions correctly. The Serpentine Test assesses driving skills on a narrow serpentine track with multiple turns. 58 poles are positioned to mark the track edge. As the vehicle crosses the start line, the timer in the dedicated computer gets activated. The computer keeps recording the time during the course of the test. The time limit for this test is one minute. Candidates knocking down not more than 8 poles and completing the test within the stipulated time are considered to have passed.

IMPACT

Before Automatic Test Track, each RTO had a passing ratio of almost 90–99% due to lack of use of technology and human intervention. Now around 50% test results for two-wheelers and 70% for four-wheelers have been recorded.

KEY TAKEAWAYS

All states in India need to devise such assessment mechanisms which do away with bias, and for an efficient and standardized driving licence issuance system.

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M-Wallet App - Doing Away with the Need to Carry Document Physically on a Daily Basis

Place of implementation	Telangana
Implementing agency	Office of the Transport Commissioner
Sector(s)	Infrastructure - Connectivity
Year of launch	2016

BACKGROUND

Realising that it is cumbersome for drivers to physically carry documents like driving licence, registration certification and other vehicle related documents, the Transport Department of Space, Telangana launched the M-Wallet app.

FIGURE 51: M-Wallet App

INTERVENTION

M-Wallet app allows a person to have a one stop digital repository for all the documents issued by the transport department. The freely-downloadable app lets one auto-fetch documents, share documents, have all the documents on one screen and add multiple vehicles owned by a single person. These digitally downloaded certificates are accepted by police and RTA authorities. The documents once downloaded could be saved for future use on the application.

IMPACT

This app would benefit 60 lakh driving licence holders and 80 lakh vehicle owners in Telangana. The probability of losing documents in transit, and associated police and legal formalities would also decline, leading to enhanced focus on other aspects of law and order by the police.

KEY TAKEAWAYS

To ensure good governance, such an app can play a pivotal role. To make it more successful other features could be added such as supporting downloading of documents from the portals of other states' transport departments, learners' licence, slot booking and registration, integrating insurance policy documents and bringing pollution-under-control certificates in its realm.

VII. Nagaland Police SMS Based Vehicle Monitoring System (NPSVMS)

BACKGROUND

With the ever increasing number of vehicles on roads, the cases of vehicle thefts have also increased. In order to address this, Nagaland Police has developed an IT system in the form of Nagaland Police SMS Based Vehicle Monitoring System (NPSVMS).

INTERVENTION

NPSVMS was launched for quick dissemination of information about stolen vehicles. It acts as a common repository of vehicle information. Through this service, registered people can simply SMS the keyword LOST to 8415900400 and the details of their vehicle would be instantly broadcast to all check-posts in the State. NPSVMS is a cloud hosted solution which guarantees 99% uptime and availability. In order to access this service, one must complete a one-time free registration process by filling up a registration form with personal details and submitting it. This is followed by a visit to the nearest police station personally for document verification. After verification, a confirmation SMS is sent on the registered mobile number within few days.

IMPACT

Since its launch, NPSVMS has resulted in substantial reduction in the theft of four-wheelers across the state. More than 100 vehicles have been recovered so far using the application.

KEY TAKEAWAYS

This initiative is worth replication throughout the country to address the menace of vehicle theft. It has advantages for both the victims and the police staff.

The victim need not run to the police station for lodging a complaint for the stolen vehicle. The police can act quickly to restore the lost vehicle.

VIII. Digitalization of Transport Department in Andhra Pradesh - A Giant Leap towards Good Governance

BACKGROUND

Digitalization contributes significantly to ushering-in transparency and accountability besides providing comfort to the citizens. So, the Transport Department of Andhra Pradesh aims at complete digitalization of its citizen services to do away with the practice of middlemen besides reducing paper work and eliminating the need for citizens having to wait in queues to avail the services offered by the Department.

FIGURE 52: Transport Network, APRTA
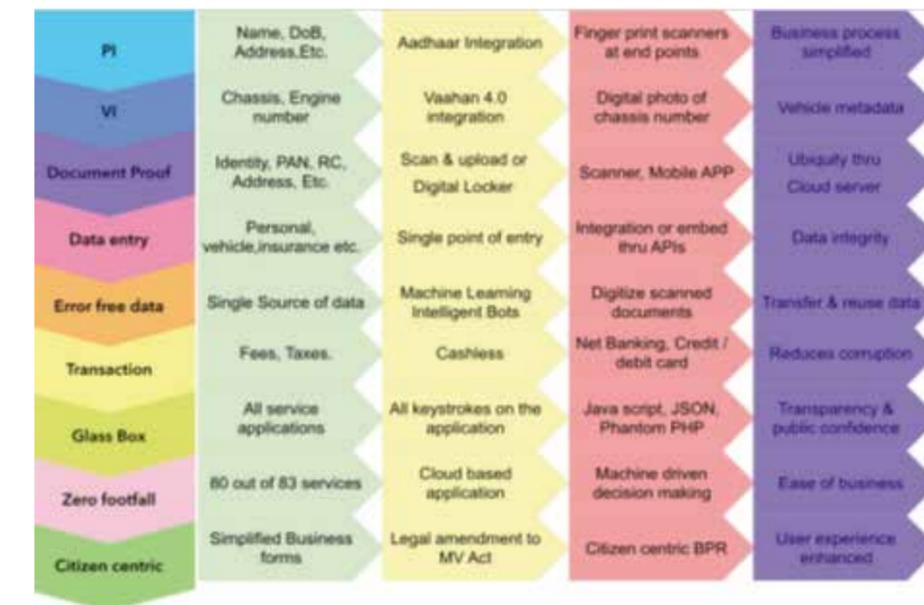
INTERVENTION

The buyer of a vehicle can apply for registration from the showroom itself, immediately after buying the vehicle. A digital photograph of the chassis number, a photograph of the vehicle and a photo of the owner could be uploaded from the automobile showroom itself. The chassis number would be digitally certified by the automobile dealer and the vehicle owner. The Department would generate a 'one time password' for the buyer and a mail would be sent to him to reconfirm the chassis number. The Department would allot and release the vehicle registration number the same day and send it to his email. To capture the driving skills of the

motorists, remote cameras have been installed at the driving track in Vijayawada. A software algorithm runs on this video and determines the mistakes committed during the test. It auto-computes the result and pushes a mail/SMS to the candidate. The police accident history for motorists involved in traffic cases is also being integrated for severe action against repeat offenders. Along with the Police, APRTA is developing a mobile app to digitally capture the vehicle check record/e-traffic challan which is generated during the enforcement drives by the MVIs and traffic police, respectively.

IMPACT

Earlier the minimum number of visits to RTA for obtaining the RC Book or Permanent Number was two and the average time was 79.2 days, which gave rise to the middlemen and agents industry generating ₹4.27 of black money for every ₹1 earned by the Government. Due to installation of automated test track, the errors of human decision making have been eliminated. Earlier 100% of the candidates passed the test and now it is

reduced to 48%. The video recorded is also available to the candidate to enable him to understand the reasons for failure in the test. Linking the system with Aadhaar has reduced the instances of impersonation.

All driving violations are mapped and the drivers are rated based on penalties. There are plans to make this data available online, so that the vehicle owners can hire drivers based on this rating.

KEY TAKEAWAYS

Such initiatives have the potential to facilitate zero footfall of citizens in RTA offices, online tracking of insurance status, profile the drivers, improve road safety, optimize the utilization of HR, reduce

corruption, reduce physical interaction with the Government, improve transparency etc.; besides delighting citizens with 'ease of business'.

IX. i-GeoApproach: Electronic Maintenance of Rural Roads in Madhya Pradesh

FACTSHEET

Place of implementation	Madhya Pradesh
Implementing agency	Madhya Pradesh Rural Road Development Authority
Sector(s)	Infrastructure - Connectivity
Year of launch	2006

BACKGROUND

Application of geomatics could play a pivotal role in increasing connectivity in rural areas by maintenance of roads during all seasons. Thus, the Government of Madhya Pradesh created the Internet Geomatics-based Application for Planning Rural Road Connectivity to Habitations (i-GeoApproach).

FIGURE 53: i-GeoApproach for Planning Rural Road Connectivity

INTERVENTION

i-GeoApproach is a web-based G2G solution based on SOA architecture developed for Madhya Pradesh Rural Road Development Authority under Pradhan Mantri Gram Sadak Yojana (PMGSY). Efforts have been made towards creation of enterprise level spatial GeoDatabase comprising of entire road network (National Highways to village roads), habitation locations railway network, major water bodies, etc. for the entire

State. Several special features characterizing i-GeoApproach include built-in traverse-aid, distance computation, details and display of the nearest road from a selected habitation and computation of utility value for each habitation and road index for each unconnected habitation. It also determines optimal road link for connecting habitations as per the PMGSY norms.

IMPACT

i-GeoApproach not only facilitates a scientific approach in rural road planning, but also supports a wide range of applications like planning the location of schools, hospitals, market centres,

communication networks as well as laying power cables in non-electrified areas. So, it is an effective tool for better management of facilities.

KEY TAKEAWAYS

i-GeoApproach helps achieve not only the desired transparency and easiness in planning process but also facilitates efficient and effective tools for planning rural road connectivity to habitations. It enables a faster response to the changing

ground realities in the development planning, owing to its in-built scientific approach and open-ended design. It demonstrates that Geomatics approach provides replicable solutions for rural road development.

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x. Intelligent Transport Management System (ITMS)

FACTSHEET

Place of implementation	Uttar Pradesh
Implementing agency	Uttar Pradesh State Road Transport Corporation
Sector(s)	Infrastructure - Connectivity
Year of launch	2012

BACKGROUND

To strengthen its service levels and improving its service delivery, Uttar Pradesh State Road Transport Corporation (UPSRTC) launched ITMS in 2012-13.

FIGURE 54: ITMS

INTERVENTION

The ITMS project includes IT enablement of ticketing and Passenger Information Systems. Online reservation through websites and current tickets, on-board sales by conductors through ETMs, MST and pass sales, revenue reconciliation and accounting, passenger information system at bus stations through display boards, automatic announcement systems, IVRS and SMS enquiry, etc are components of the project. The LED displays and automatic announcement systems are installed at bus stations.

IMPACT

UPSRTC is now able to manage the entire fleet operations more efficiently through on-line remote access to vehicle positions, speed, breakdown, accidents etc. and make appropriate decisions using the MIS reports that support all levels of management in decision making. Emergency situations are being managed better as accident management is in real-time. It has also helped in improving the performance by monitoring adherence to schedule, route, missed trips, late trips on different routes, breakdowns and its duration, vehicles offline, accidents – types, impact, losses, improper stops at bus stops, driver behaviour, and deviation in routes and speed violations at different locations and at different points of time.

KEY TAKEAWAYS

Application of ITMS can go a long way in enhancing and popularizing the availability of bus-based transportation in India. Ultimately this would lead to increased connectivity, comfort for commuters, decline in pollution level and congestion, and more revenue to the bleeding state road transport undertakings.
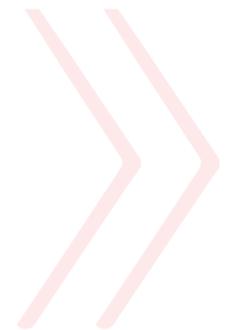
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