

Case Studies on e-Governance in India

ICT Tools for Education KYAN, West Bengal

Chetan Sharma, *Datamation*



ICT Tools for Education – K-YAN, West Bengal

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About the Initiative

This publication is a part of the Capacity Building initiative under the National e-Governance Plan (NeGP) by NeGD with an aim to draw out learnings from various projects implemented in various States/ UTs and sharing this knowledge, in the form of case studies, with the decision makers and implementers to benefit them, by way of knowledge creation and skill building, from these experiences during planning and implementation of various projects under NeGP.

Conceptualised and overseen by the National e-Governance Division (NeGD) of Media lab Asia/DeitY these case studies are submitted by e-Governance Practitioners from Government and Industry/Research Institutions. The cases submitted by the authors are vetted by experts from outside and within the Government for learning and reference value, relevance to future project implementers, planners and to those involved in e-governance capacity Building programs before they are recommended for publication. National Institute for Smart Government (NISG), working on behalf of this NeGD provided program management support and interacted with the authors and subject matter experts in bringing out these published case studies. It is hoped that these case studies drawn from successful and failed e-Governance projects would help practitioners to understand the real-time issues involved, typical dilemmas faced by e-Governance project implementers, and possible solutions to resolve them.

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TABLE OF CONTENTS

1.0	Abstract.....	1
2.0	Key words and tags:	2
3.0	Notes to Practitioners/Instructors:	3
4.0	Project Context	3
5.0	Project Overview.....	4
6.0	Issues and Challenges faced during Implementation	8
7.0	Key Lessons	9
	Case Fact Sheet:	10
	REFERENCES.....	12

1.0 Abstract

The Government of West Bengal has been implementing the Central Govt. sponsored Sarva Shiksha Abhiyan ever since its inception and has further focused on improving the universalization of the primary and secondary education by combining it with the ICT Tools for Education Programme in the Govt. Schools.

Information & Communication Technology (ICT) is recognized as an important catalyst for social transformation, and an important tool for education. Integration of the ICT in education projects; also popularly called Technology in Education (TIE) started getting implemented in early 2002 in North America & in Europe. The purpose of TIE was generally to familiarize students with the use and workings of computers, and related social and ethical issues, as well as leverage on the power of the ICTs for teaching conventional subjects that get registered far effectively compared to conventional teaching-learning method. The integrated approach to technology in education (TIE) has prerequisites such as student use of technology to create learning arte-facts, integrated with curriculum, focused on learning achievement and teacher designed instruction.

The Department of Education, Govt. of West Bengal, with the active encouragement of the Department of Information Technology, Govt. of West Bengal, introduced computer based learning (CAL) system titled 'KYAN' (Vehicle of Knowledge) in a phased manner through West Bengal Electronics Industry Development Corporation Ltd (WEBEL) mandated ILFS-ETS as implementing agency. The initiative was an effort to utilize ICT tools such as digital content, alternative power supply solutions, and capacity building programs to bridge the digital gulf and ensure sustainability. KYAN has been deployed by the Government of West Bengal in almost all districts.

KYAN modeled on best principles of TIE, was developed in collaboration with the Indian Institute of Technology (IIT), Mumbai, as a Community Computer. It is effectively a digital multimedia device which was designed by Dr. Kirti Trivedi in 2004 and commercialized by IETS in 2007. The device contains a computer with inbuilt projector, content, speakers, and has wireless keyboard and mouse. It combines the computing power of a computer with an appropriate high luminosity, high resolution, and large screen projection system.

Based on the success of the pilot initiative undertaken in 65 government schools across two districts, namely Bardhaman and Bankura of West Bengal in 2007–08 wherein the pilot covered 500 teachers and 40,000 students mostly from marginalized section of the society (Scheduled Caste & Scheduled Tribe communities), the project was scaled up.

The project has resulted in significant improvement in the class-room teaching learning practices apart from improving the morale of teachers, enhanced attendance, and improved retention of the core academic concepts as well as better recall. Early empirical testing and assessment carried out amongst the Upper Primary students from Class V through Class-VIII has shown increase in the academic achievement of the students as is evident from the comparative weighted average scores of the last examination results compared with the previous time series

examination results-prior to KYAN introduction viz. Bangla-60.29%, Geography-72%, English-83.82%, Math-85.29%, Urdu-61.76%, Chemistry-69%, EVS-69%, Biology-77.94%, History-72%, Physics-85%

TIE enabled models such as KYAN, have led to large scale replication in many states of the country for e.g. in Gujarat, Rajasthan, Karnataka there has been an active integration of the teaching and learning outcomes driven technology model that is housed within the existing Educational System. KYAN project has also taken a directional shift from many Public Private-Partnership (PPP) initiatives mushrooming in the country as is evident from the following:

- *Karnataka (with Aptech, NIIT, and Educomp)
- *Assam (Educomp and NIIT)
- * Gujarat (with NIIT and Educomp)
- * Tripura (Educomp and NIIT) ,
- * Delhi (Educomp)
- * Orissa (Educomp) ,
- * Andhra Pradesh (NIIT)
- * West Bengal (Educomp and NIIT)
- *, Himachal Pradesh (EDUSATand NIIT)
- * Chhattisgarh (NIIT)
- * Maharashtra (NIIT)\
- *, Punjab (Gemini Communication Ltd, Everonn)
- * Haryana (Educomp, Everonn and NIIT)
- *Tamil Nadu (NIIT)

2.0 Key words and tags:

- *ICT tools for Education
- *KYAN
- *CAL
- *Class-Room Teaching Learning Practices

3.0 Notes to Practitioners/Instructors:

Tools such as digital content, alternative power supply solutions and capacity building programs must be integrated effectively in order to bridge the digital divide and ensure sustainability in spatial distribution of knowledge leading to improved academic achievements.

- Participatory management practices with change management at the nucleus of the school governance structure need to be strengthened in order to ensure successful ICT Tools in Education programmes.
- Significant motivation and morale build-up of the teachers is necessary in order to ensure successful delivery of CAL and ICT enabled teaching-learning systems. Teachers are the catalytic agents of change in the class-room hence it is very important to bring them on board first and foremost with adequate training and capacity building.
- Adopt a minimalist hardware implementation model at the classroom level or a group of classroom level as opposed to setting up of computer labs due to ease of management, lesser investments and ease of repair.
- Innovative and extensive CAL pedagogy skills in the development of the content amongst the teachers and instructors need to be strengthened in order to effectively supplement text-books in tandem. CAL and ICT for education have to supplement text books effectively.

4.0 Project Context

There is a growing awareness amongst the policymakers globally as well as across India on the emerging and pivotal role of ICTs in the education sector. There is a wide recognition for addressing digital divide issues. The integration of ICT at the school and classroom, warrant significant changes in the educational delivery mechanism, both at the school and classroom level. The Government of West Bengal has been implementing the Central Govt. sponsored Sarva Shiksha Abhiyan ever since its inception, and has further focused on improving the universalization of the primary and secondary education by combining it with the ICT Tools for Education Programme.

In 2007–08, Government of West Bengal took up the scheme for implementation and introduced computer education in 543 government aided higher secondary schools at a cost of INR 0.4 billion. The state engaged full time computer teachers in these schools and encouraged computer education. In 2008–09, 2,418 more schools were brought under the ambit of the scheme with training being provided to other subject teachers to utilize ICTs in the teaching learning process. In 2008–09, under the central scheme for universalizing secondary education, the Rashtriya Madhyamik Shiksha Abhiyan (RMSA), five states including West Bengal were selected to implement ICTs in schools.

1,400 schools in West Bengal were each provided with 10 computers, 10 UPSs, 1 scanner, 1 web camera, 1 projector, and 1 printer at a cost of INR 0.9 billion. Further, the Department of Education, Government of West Bengal, constituted a committee with the Director of SCERT (State Council of Education Research and Training), West Bengal, as the chairman to develop strategies for utilizing media resources like TV and radio to educate students and teachers. KYAN (Vehicle of Knowledge) was one of the many initiatives of the Govt. of West Bengal.

Many of the evaluation studies of ICT Initiatives in the schools have relied heavily on individual stakeholders self-report, to indicate the success of the programme and identify outcomes for students. However some caution needs to be must be exercised in using attitudes as an indicator unless positive attitudes or attitudinal change can be shown to relate to improved learning outcomes. This is not necessarily the case. Parr (2000) noted that attitude has been shown to have no significant connection to learning outcomes in relation to integrated learning systems (Wood, Underwood, & Avis 1999).

For this reason Parr excluded attitude as an indicator of learning outcomes in her review of the outcomes of computer-assisted learning. This debate is relevant to the use of ICT in schools in general. Indicators that are specifically tailored to the goals of an initiative and to the way ICT is being integrated into the classroom, such as the ability to handle mathematics and science data (as developed by Passey et al., 2001), appear to be more valid indicators of the impact of a ICT innovation than generic achievement tests.

International best practices were kept in mind in the conceptual design framework for understanding the impact of the ICT tools for Education. The indicators were tracked every six months based on a rigorous data-collection template and these have been used to “realign educational practice with reform expectations for the ICT Tools for Education”. These indicators developed for KYAN monitoring and tracking were:

- Student retention and satisfaction.
- Academic skill development and contextual problem-solving, that is, how students can apply academic skills to real-life situations.
- Career exploration and skill development.

According to Principals of schools where the project ICT tools for Education Project have been introduced, the attendance in the class and pupils attentiveness had increased to 81%. Quality of teaching improved significantly, which also played a significant role in covering syllabus. There was also improvement in Math, Science Subject and in English by 81%, 87% and 78% respectively. One interesting fact which emerged was that the 69% of parents were taking much more interest in the school affairs.

5.0 Project Overview

The project has been implemented successfully in all districts of West Bengal after successful completion of the pilot project.

Phase wise deployment of KYAN project in various districts was as follows:

Phase I (2007)—65 Schools in Bankura and Burdawan

- Phase II (2008)—51 schools in North 24 Parganas
- Phase III (2009)—90 schools across 6 districts (15 each in Cooch Bihar, Malda, Nadia, Purulia, Howrah & South 24 Parganas)
- Phase IV (2009)—115 schools across the state

Every Govt. school has been given following equipment under the ICT Tools for Education Programme:

- Two units of KYAN (PCs with Microsoft windows operating system) acronym used for Knowledge-Gyan.
- Two units of UPS
- Two units of Trolley Cabinet
- Two sets of 1090 units of concept based audio-visual teaching aids, locally sourced content, CBT, Learning English
- Two units Web Cam and One unit MFD

--Consumables:

--2 reams of A4 size paper, Blank CD-10 units

--Printer Cartridge 2 units

The equipment based on various rounds of inspection carried out by third party audit (TPA) and evaluation agencies, was found to be in good working conditions and as well as the equipment was received by the school contact persons in appropriate condition. All schools were inspected twice a year by TPA. The TPA also filed their reports on continuing basis to the Project Management Unit (PMU) comprising of officers from the WEBEL and Department of Education.

Understanding the crucial role of the teachers in bringing out a fundamental change in the teaching-learning paradigm, the teachers were brought on board. The content in the KYAN, developed by IETS, consists of 1,090 lessons on various hard to teach topics in all the subjects from kindergarten to Class X. These lessons are preinstalled in the machine. After the first phase it was realized that the lessons needed to be mapped to the topics of the textbooks as per the curriculum, and hence IETS did an extensive study and with the help of the teachers mapped the topics in the textbook to the lessons created by IETS. The content generation for KYAN has been a continuous process.

The content is updated in all the KYANs installed in all schools of the state as and when required. At the time of installation, representatives from IETS conduct one-day orientation training for the

head of the institute, followed by a two-day teacher training. On the first day, the teachers are given basic computer training and the fundamentals of using the KYAN, and on the second day, they are taught how to navigate to find lessons; they are given a demo of a class and finally as an evaluation process the teachers are asked to take a small KYAN class, for other teachers giving rise to a healthy competition among teachers.

After these trainings, the teachers are asked to practice delivering classes with KYAN and once they are comfortable using the machine they were certified for giving classes to the students. This process brings a sense of ownership in the teachers. IETS established a call center to address technical, logistical and administrative issues with the machine, and representatives of IETS also visit the schools to monitor the progress of KYAN implementation. Amongst the teachers selected in the training, one of them is assigned the responsibility as an ICT coordinator for the initiative.

This selection is done by the Head Master on the basis of interest and previous knowledge of computers. The job of an ICT coordinator is to coordinate and encourage teachers to effectively utilize KYAN and to train other teachers in the school as well. Imparting of soft skills training to the Head Teachers & Class teachers: This was done rigorously in order to improve the capacities of the stakeholders, and was undertaken by the Department of Education-Govt. of West Bengal:

- Orientation for Head Masters/Head Mistress.
- ICT and Soft Skill training has been imparted to 6 selected teachers from each school who in turn are supposed to train other teachers of the school
- ICT coordinator training for 2 selected teachers from each school has already been imparted.
- School-based handholding support to teachers @ 2 visits per school bi-annually has been given.

6.0 Impact of KYAN

KYAN has been making positive impact on the teaching-learning process and also in covering class syllabus. This has been established conclusively from the evaluation data, in comparison to show that the teaching has improved and this improvement can be quantified in percentile terms as 4% every quarterly cycle, in comparison to the earlier rounds of field evaluations conducted. From various rounds of the evaluation it has been safely concluded that the syllabus was covered far more easily on a fast track basis under KYAN implementation, due to higher retention amongst the students and with improved teaching-learning outcomes in comparison to a conventional class-room approach.

Competition was considered as one of the best ways to judge the knowledge of the student, and to maintain the curiosity of the student. Introduction of KYAN in the classroom resulted in 79% teachers organizing competitions on monthly basis. In order to keep the class attentive as well as

for enhanced learning achievement, questions were asked proactively by the students. This is a well-established norm even from conventional teaching methods and more so in the case of KYAN where the curiosity enhances substantially. On a comparative scale during various KYAN evaluation rounds it was found that the KYAN class students were asking more questions.

After implementation of KYAN there has been a significant increase in the group activities; which have shown an increase from 67% (before) to 78%. Possible reasons for this outcome were expeditious completion of the syllabus prior to the stipulated period, allowing the students to get more time for the leisure as well so that they can be involved in certain other creative group activities. The students are also getting more time for doing revision in their syllabus after the introduction of the KYAN. .

During the process of evaluation, 75% parents reported the students had reduced their addiction towards the TV. The parents have also responded affirmatively regarding enhancement in their learning achievement viz. in Maths 85% enhancement in learning achievement, in Biology 77%, in Physics it is 85%.

Example of KYAN implementation: Achana High School, District South 24 Parganas

Achana High School is one government-aided school in the district of South 24 Parganas with around 800 students, where KYAN has been running.

The selection of schools for the deployment of KYAN is based on the number of children from disadvantaged communities in those schools. Achana High School has more than 90% of the children belonging to backward communities and hence as per the recommendations of the District Administration two KYANs were installed in the school in August 2009. This was preceded by a meeting with Heads of Schools to gauge the interest of the Head Masters in the initiative and a pre-installation survey was undertaken by the IL&FS team. It is believed that the success of running KYAN in a school predominantly depends on the will of the Head of the Institution. After the installation of KYAN in the school along with a UPS for backup power supply, six teachers from the school were provided training to use the machine. Among the teachers selected in the training one has been selected as an ICT coordinator for the initiative.

This selection has been done by the Head Master on the basis of interest and previous knowledge of computers. The job of an ICT coordinator is to coordinate and encourage teachers to effectively utilize KYAN and to train other teachers in the school as well.

The Achana School, with its two devices, has managed to provide 2–3 KYAN classes to a class in one day. The KYANs have been kept in rooms called the Audio Video (AV) rooms. As per the Head Master, the KYAN classes are extremely popular with the students, and students often prefer to attend a KYAN class as opposed to a lecture-based class. This holds true not only valid for the high achievers in the class but also the academically weaker section of the class. KYAN classes have brought interest in the students and have increased class participation and student attendance.

Hence KYAN has improved the learning experience of the students and has brought more interest in the students. However, there are certain issues involved with the use of KYAN. One major concern is the security of the machines; the Audio Video rooms have to be secured to keep the machine safe as there have been instances where the machines have been stolen. Given the poor physical infrastructure in rural school, this is a significant challenge. Further lessons are in English and IL&FS has been working on translating the lessons to Bengali (local language of West Bengal) and Urdu. According to the teachers, the classes will be much more helpful if they are in Bengali. There are also several issues with the comprehensiveness of the content and several teachers felt that some topics were not covered in adequate details. Moreover, the set of 1,090 lessons does not always match to the exact lessons in the West Bengal School Education Curriculum. The technical support has also been a cause of concern as the schools are situated in very rural areas and getting local technical support is nearly impossible and hence in case of any technical problem the school has to depend on the support from IL&FS for troubleshooting, which sometimes takes more time than expected.

7.0 Issues and Challenges faced during Implementation

The challenges faced in the ICT Tools for Education Project are no different compared to any Computer aided Learning (CAL) scenario wherein there are severe implementations challenges due to resistance of the teachers and the school management; despite obvious advantages evident to the teaching community. Yet change management is one of the most difficult things to implement in traditional settings, apart from the context of power equations in a school environment and deep rooted teaching practices that exist. However shortage of schools, high-student enrolment in the schools, shortage of teachers, falling academic standards in the wake of over-crowding of classes as also emphasis placed on RTE leading to large scale student's enrolment in a very poor infrastructure scenario, electricity failure in the rural areas bores ominous signs for KYAN success.

The pupil-teacher ratio(PTR) in the Urdu-medium schools in West Bengal is adverse due to acute shortage of teachers, yet the Govt. of West Bengal managed to motivate the teachers to get involved whole-heartedly involved with the ICT tools for Education Project leading to the success of the programme.

The breakdown of equipment and servicing of the PC and related equipment in time resulting in down-time of the equipment which in turns results in loss of significant teaching days in the schools. These have ranged from 5-8 down time loss in some of the schools of mofussil districts. Fast track development of content/subjects especially for the secondary classes which can effectively supplement the text-books has also not occurred on desired fast-track basis and that would need to be substantially up scaled in order to enhance the success of the project.

A major area of concern has been the security of the machines since the Audio Video rooms have to be secured to keep the machine safe as there have been instances where the machines have

been stolen. Further the work on translating the lessons to Bengali (local language of West Bengal) and Urdu has not been fully completed. Apart from this, there are also several issues with the comprehensiveness of the content and several teachers felt that some topics were not covered in adequate details. Moreover, the set of 1,090 lessons does not always match to the exact lessons in the West Bengal School Education Curriculum.

Secondly, the real benefit of using in-house trainers to train teachers is the integration and internalization of computer learning; does get defeated to a great extent due to absence of change management and also resistance shown by the teachers in implementing a pedagogical shift despite the teacher trainers being a part of the education support system, have studied education and have taught in schools themselves, and have trained teachers on a variety of subjects and areas; their abilities to contextualize the computer learning within the larger learning arena needs to be sharpened considerably.

This process of contextualized ICT education by teacher support system allowed for teachers to integrate computers into their own regular subjects, converting the computer from being a 'subject of learning' to 'process or tool of learning' which can take the programme to much superior level of quality needs to get further sharpened and reinforced. .

8.0 Key Lessons

Historically the teaching-learning process and the class room practices have been driven by a 'chalk and walk' focus with very little scope for interactivity. The delivery of the curriculum has been noticed in a linear way. The schools of West Bengal were no exception; however with the introduction of KYAN slowly and steadily this process is changing at least in the upper primary classes. The findings of the ongoing monitoring and evaluation process shows a high degree of enthusiasm in the upper primary and secondary classes, even for the mainstreaming of ICT enabled learning; apart from the learning of the new subjects. The higher classes have been seen to be more serious even in comparison to previous data; and they have also shown improvements in subjects such as Mathematics, Science and Geography considered being the complicated subjects.

While measuring the performance of the success of the schools in terms of the quality and scores improvement in the academic session; it was found that while few schools had performed well during the academic year, many schools needed improvement. The parents have shown greater interest and also been actively participating in all school affairs after the awareness process has been completed. The parents expressed satisfaction in the improvement in their ward's scholastic performance through K-Yan. As per the parents, the children now show greater interest in attending the school which in turn has helped increased their regularity in the schools.

The schools also focus much more on extra-curricular activities which were less focused earlier due to paucity of time. Other State Govt's learning from the Govt. of West Bengal experience has already replicated the project in their Govt. schools. For computer education to have any meaningful impact, it requires complete engagement and ownership of the teachers who are

responsible for the basic functions and activities in the schools. Such engagement itself requires that we accord centrality to the role of the teacher in the ICT for Education projects as we have accepted in other areas of the teaching and learning activities.

This means that the basic preparatory processes of training should be handled in-house through the regular system of teacher training. The real challenges in IPSE are pedagogical (how can we integrate computers into the learning processes in the schools and see how that can positively impact learning and how we can avoid the possible negative consequences of such processes) and not technological (installing hardware, software, basic computer training, support), it would but be logical to move towards adopting 'ICT in education' deployment models that actually help teachers engage with these pedagogical issues. The discourse would then shift to 'how can we facilitate teachers to address these issues' through appropriate teacher support systems⁶³. Thus bringing the teacher to the centre stage is an essential requirement for any meaningful outcomes through IPSE.

Methodology adopted for Case Writing

The Case Study is based on extensive literature review and various rounds of field-evaluations conducted in the sampled schools across various districts of West Bengal; wherein every six-months sampled schools were visited and data was collected from various stakeholders viz. School Principals, Teachers, Students, Parents and Community members using following pre-designed questionnaires from every school:

*Schedule S-1 covering Physical Infrastructure of the School administered to the Head Master/Head Mistress of the School.

*Schedule ICT-1 for mapping Teachers Training in KYAN, KYAN Infrastructure and Impact of KYAN on the School from the Head Master/Head Mistress/Principal's perspective.

*Schedule ICT-2 for mapping all ICT and KYAN trained Teachers in the school.

*Schedule ICT-3 for mapping parent's perceptions on their Student's learning achievements before and after KYAN introduction.

*Schedule ICT-4 for mapping Community members' perceptions about teachers and KYAN.

*Schedule ICT-TT for Classroom observations of Teaching-Learning after the introduction of KYAN.

*Schedule ICT-TT-1 administered on the student from the schools with KYAN content and infrastructure for select subjects.

Case Fact Sheet

- 10% schools didn't have enough teachers trained in KYAN.
- Teaching has improved after implementing the KYAN units. Approximately 98% schools have given a positive response.

- The impact of KYAN introduction in the classes has helped the schools increase attendance in the classes as also pupils attentiveness which was 85% and 81% respectively
- 48.52 % teachers said that their confidence has increased in class.
- 98% teachers agreed that e-TLM loaded in KYAN can be a supplement of other TLMs but 24% of teachers have a contrarian view.
- 57% teachers are organizing special competition or exams based on KYAN lessons, 43% teachers are not organizing any special exam or competition for KYAN.
- 79% respondent reported competitions were organized monthly.
- Teacher's attitude is changing and they are more cooperative towards the students.
- After implementation of KYAN, there has been a significant increase in the group activities. It has increase from up to 78%.
- 11% TLM is being purchased from the market. 18% of TLM is student driven. 70.58% is being developed by others method like TTIs, educationalist etc.
- Most of the community members are satisfied with performance of teachers engaged in the KYAN teaching.

Reference was also made to the paper published in the Research Journal of Management Sciences of Prof. Paul P.K. and Prof. Mondal N.K. from the Dept. of Environmental Science, The University of Burdwan, Burdwan, and West Bengal. The paper attempts to analyse the role and performance of Information and Communication Technology (ICT) in enhancing quality of school education in Burdwan district in West Bengal many of them covering KYAN. The study covers 65 senior secondary schools encompassing 100 respondents of West Bengal, and the study has proven that adoption of ICT as a strategic management tool is a welcome sign for all the surveyed schools. The study result indicates that ICT was successful in predicting the future of new technology for the purpose of teaching-learning and transaction of curriculum and thereby enhancing quality of education. The 'Kendell's

Coefficient of Concordance' shows a significant association between ICT and quality of education.

The study result revealed a close association among the factors like 'relative advantage' of ICT and quality of education, and also did not conclusively establish any gender disparity effects of ICT on quality of education. However, the magnitude of quality of education lies in its ability to organize ICT through establishment of proper infrastructure in the school. This study also showed how ICT has received extensive recognition as a strategy for upgradation of quality of education through acquired relative advantage, compatibility, demonstrability and image by overcoming the factors avoidance and complexities of new technology (ICT).

Profile of the Author

Chetan Sharma is the Founder & CEO of Datamation Group of companies one of India's earliest and most reputable Knowledge Management and Information Technology Enabled Services (ITES) company, employing over 3500 whole-time employees, mostly from the marginalized and deprived rural communities. He has served as a member of the National Apex Group on e-Governance constituted by the Department of Information Technology, Govt. of India. In addition, he is also the Founder of Datamation Foundation Trust www.datamationfoundation.org (a non-profit organization) conferred with the National E-Governance "Silver Icon" Awards under the Exemplary Leadership and ICT Achievement Category. He has been an active National and International Researcher in diverse Development areas viz. Rural Development, Education, Health Care, Urban Infrastructure, Tourism, e-Governance and Gender. He has handled International Monitoring, Evaluation and Livelihood projects for the multi-lateral Agencies are from South Asia including Sri Lanka; East Europe and Africa.

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