National Workshop on Information and Communication Technologies (ICT) for Rural Financial Services held at CAB, Pune from February 05 to 06, 2007 - Summary of Proceedings*

Background: *Financial inclusion of the rural populace in a cost-effective manner has been a major challenge for the banks and other institutions in the formal financial sector. It has been demonstrated both in India and abroad that the use of Information & Communication Technologies (ICT), perhaps, has the great potential to solve this problem. Against this backdrop, the College of Agricultural Banking of the Reserve Bank of India, Pune conducted a National level Workshop on Information & Communication Technologies (ICT) for Rural Financial Services from February 05 to 06, 2007 for 107 officials from commercial banks, co-operative banks, regional rural banks and NGOs engaged in rural financial services from across the country. Several stalls were set-up on the sidelines to enable the delegates to witness relevant products and services.*

Objective & Structure: *The workshop was aimed at exposing the delegates to some feasible technological options and the appropriate business strategies for gainful adoption in the remote areas in the immediate future. The structure of the event included panel discussions, experience sharing, interaction by the delegates, presentations and demonstrations by solution providers and other agencies that have taken various initiatives in the arena. The workshop was inaugurated by Shri.V.Leeladhar, Deputy Governor of the RBI and the Valedictory Address was delivered by Dr. R B Barman, Executive Director, RBI. Several eminent persons from India and abroad chaired or made presentations in the eight technical sessions.*

The workshop was coordinated by S/Shri V.G. Sekar and S.Thyagarajan, Members of Faculty and compering was done by Smt.Uma Shankar, Member of Faculty. Following is a summary of the deliberations during the workshop:

Inaugural Session

Welcome Address:	Shri. H R Khan, CGM & Principal, CAB
Inaugural Address:	Shri. V.Leeladhar, Deputy Governor,RBI
Keynote Address:	Professor P V Indiresan
Vote of Thanks:	Shri. R.L.Sharma, GM & Vice Principal, CAB
Rapporteur:	*Shri. J K Pandey, DGM & Member of Faculty, CAB*

While welcoming the distinguished guests and the delegates, Shri.H R Khan pointed out that despite several efforts, vast population in our rural region is yet to be brought under formal

* Compiled by Shri. V G Sekar, DGM & Member of Faculty and Workshop Co-ordinator

financial inclusion. In the past decade, there is actually an increase of about 5% in the dependence of rural populace on non-formal financial sector. Apart from the basic banking services, there is need for various products like mutual funds, pension funds, insurance and remittances. He felt that the reasons for financial exclusion are four fold: Availability, Affordability, Awareness and Accessibility. Technology can play a major role in overcoming these challenges. Keeping these aspects in view, the RBI's Internal Group on Rural Credit & Microfinance had, inter alia, recommended the use of ICT for both efficiency and risk mitigation in case of agency-based operations of the banks. Shri.Khan observed that most of the IT-based services have bypassed the rural sector and there is an urgent need to bridge this digital divide. On the flip side, there are certain issues on use of IT like cost, control, maintenance and training. However, there are several innovations in the rural technology sphere that have not been seen even in urban areas. Against this background, the workshop organised by the College is aimed at sharing these innovations and experiences to aid in the appropriate implementation by the various stakeholders.

Inaugurating the workshop, Shri.Leeladhar indicated the need for matching rural with urban development. Just as Information Technology (IT) has effected improvement in farming techniques and agricultural production, it is also vital for financial intermediation and efficient payment system. In this connection, Shri.Leeladhar advocated the vast potentials of large-scale use of multi-purpose ATMs with the rural customer as focal point with facilities for regional language based communication. He added that usage of smart cards could be enhanced for credit facilities at different locations by the holders, personal identification, monitoring credit usage by small farmers for availing of facilities, such as, subsidised seeds, fertilisers, as an aid in marketing the produce and availing of medical facilities for both human beings as well as live-stock and also in various requirements of co-operative functions. While outlining the roadmap for the future, he observed that mobile SIM cards could be used as multi-application smart cards. They also make it feasible to facilitate small value based storage of cash in the form of e-cash.

Shri.Leeladhar called for the need to address issues like electric power through alternative technologies as has already been demonstrated by some banks by computerising their rural branches. Further, co-operation and collaboration amongst the financial institutions including banks are essential to share costly ICT infrastructure for the common benefit of themselves as well for their customers, while at the same time providing for competition as well. He also added that educated unemployed rural youth could be involved in setting up of facilities, such as, telephone kiosks where conglomeration of facilities like computers, smart card facilities, etc. could exist. Sounding a note of caution, he said that the security of the

operations should be kept in mind while introducing new applications and devices. Shri.Leeladhar concluded his address by drawing the attention of the audience on the need to handle critical change management issues ushered in by technology-oriented operations.

Professor P.V.Indiresan began his keynote address by stating that rural technology is not any different from the urban technology. For a product to be successful, the two important parameters are number of customers and their purchasing power. Rural customers would buy a product even at higher per unit cost though the quantum needed could be lesser. To stress the point, he cited the example of the demand for shampoo in sachet though it is costlier in per unit terms. Shri.Indiresan observed that the wide disparity between the rural and urban credit (1:24) has to be removed. He felt that greater credit sanctioning powers to rural branches of banks are essential. By way of ending note, Shri.Indiresan suggested the use of simpler technologies like smart cards that could facilitate easier and simpler transactions for the rural folks.

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Technical Sessions

Session I
Theme: Feasible Rural Financial Services – Enabling Technology Solutions & Support Services

Chairperson:	Prof. H Krishnamurthy, Principal Research Scientist, IISc., Bangalore
Panelists:	Shri. Arvind Sharma, Director, IDRBT, Hyderabad
	Dr. (Mrs.) Smita Totade, National Insurance Academy, Pune
	Dr. Tim Drye, Data Talk Solutions Ltd., UK
	Shri. Manoj Sharma, Senior Financial System Specialist, Microsave India
Rapporteur:	*Shri. J K Pandey, DGM & Member of Faculty, CAB*

Initiating the discussion, the Chairperson identified the following five pillars for successful ICT implementation: Performance and Scalability, Availability, High fault tolerance of the system, Security & access control and Interoperability.

While speaking on the subject, Shri.Arvind Sharma observed that though bandwidth and connectivity in the hinterland still continue to be developing in our country, technical issues do not appear to be posing major constraints in e-financial services in the rural areas. Therefore, it is more a question of designing products that offer a balance between competitive pricing, functionality and sufficient access points for basic transactions like

deposit and withdrawals of cash. In particular, rural areas would require various kinds of message switching and multi-channel delivery model – smart cards, biometrics, simputers, mobile banking, etc. Keeping in view these considerations, the IDRBT is launching an ICT-based pilot project in a district of Andhra Pradesh. The business entities in the IDRBT project include Customers, Banks, Business Facilitators, Business Correspondents, Merchants, a Service Processor Agency and Third party service providers like telcos, FINO, A Little World, INDIPAY, Atom Technologies, etc. The technology would include a smart card with the card reader device installed at the merchant establishments. Contact-less cards are also proposed. Importantly, banks may not need additional infrastructure for their backend services.

Shri.Sharma informed that IDRBT as the proposed Service Processor for the pilot initiative would offer several services, such as, provision of total card management solution, maintenance of card host and transaction details, facilitation of transaction processing, enabling connectivity to various channels and ATM, ECS, NEFT, EFT, RTGS or any other future payment systems, rendering of settlement service and settlement data, setting and monitoring of transaction limits, supply of compliance and management reports and handling grievances and redressals pertaining to transactions.

Smt.Totade cited some recent ICT-based initiatives of the life insurance industry like the issue of premium notices through SMS, Online premium payments, Info/Call centres and the SMS based information and query services with response time of only 30 minutes. She observed that there is need for technology not only to facilitate insurance, but also for cost reduction (cost $0.45 vs. $19 by human intervention). According to Smt.Totade, the quality of data about the rural people has been a major constraint for the insurance industry. She felt that People, Process & Technology are the three dimensions that need to be addressed in reaching out. She concluded her presentation by stating that there is an imperative need to focus on People.

Dr.Tim Drye observed that there is extensive scope for usage of technology for credit scoring and referencing. In his view, the requirements to enable the implementation are resilience, reliability and appropriate interface. These need to be matched with distributed database broadcasting ability and assessment based on scoring of behavioural context keeping in view various factors, such as, environment of behaviour, medical & familial shocks, etc. and local environment.

Analysing the recent trends, Shri.Manoj Sharma opined that there is increasing competition in the arena and reducing cost of technology. Against this background, the key challenges are to give a value proposition to customers in the form of flexibility and accessibility of cash and functionality of the product. Elaborating further, Shri.Sharma said that success in the endeavour depends on how the various players are able to tackle strategic issues (pricing policy, regulation, etc.), technology issues (cost of infrastructure, communication infrastructure), social Issues (acceptability of e-money and its methods of usage), practical issues (training of customers & staff) and marketing & communication issues (e-banking reduces costs, yet it will be rejected if no value is added to customer needs). The key question is what product features are essential to create a value for the customers. Experiences in Philippines, Kenya, etc. have shown that mobile handset-based financial services have tremendous potential for financial inclusion. Shri.Sharma rounded-off his speech by calling for the need to create enabling regulatory environment and convergence of stakeholders, IT support providers, Government Departments, regulators, etc.

In the Chairman's closing remarks, Prof.Krishnamurthy declared that for a successful ICT penetration, the solution has to be cost effective, it should address social issues, the customers and service providers need to be trained and there is need for improvement in data quality, accuracy and authenticity.

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Session II
Theme: Reaching Out by Looking Out

Chairperson:	Shri. S Ramakrishnan, Director General, C-DAC
Panelists:	Dr. Krishna Reddy, Associate Professor, IIIT, Hyderabad Shri. Y Subhramaniyam, CEO & MD, CoOptions Technologies Ltd., Hyderabad Shri. Alok Bhargava, Executive Director & COO, IL & FS Education & Technology Services
Rapporteur:	*Shri. J K Pandey, DGM & Member of Faculty, CAB*

As part of the Chairman's opening remarks, Shri.Ramakrishnan pointed out that we have large number of projects but not many such projects have been scaled up to larger levels. Therefore, there is need to have different perspective to enable reach of technologies. We need more entrepreneurs for technology dissemination.

Dr.Krishna Reddy began his presentation by stating that it is imperative to have systems in place that enable technology to reach the farmer rather than vice-versa. There is need to

have cost effective, IT-based and personalised agro advisory services. To stress the point, he cited the example of the web-based “e-Sagu” solution developed under the aegis of IIIT, Hyderabad. Dr.Reddy went on to elaborate the various benefits of the query-less feedback-based “e-Sagu” solution that included higher productivity and better disease control. Without any need for physical presence (save through the authorised agents who provide the field inputs using technology), scientists can advise about 150-200 cases per day.Shri.Y. Subhramaniyam, the next panellist, made a forceful case for identifying rural hubs that could have a multiplier effect at the grass root level to enable maximum reach impacting the livelihood. According to him, IT-enabled PACs can act as these rural hubs to provide multiple financial and extension services. While on the subject, he gave a detailed account of "Karshaka Pragati” (For the progress of the Farmers) project of the Govt. of Andhra Pradesh and CoOptions Technologies Ltd. as a Public-Private Partnership (PPP), implemented in four districts of Andhra Pradesh on pilot basis. The project involved deployment of IT infrastructure in 150 PACS and the solution is customisable for RRBs and MFIs as well. Training and other maintenance services are also provided to the users. Smart cards are issued to the member farmers of the PACS and a database containing details of about five lakh farmers has since been built-up. The benefits of the project included generation of audited balance sheets of the PACS in compliance with various accounting standards, reduced lending and audit cycles, growth in business and reduced cost and NPA of the PACS. It has also facilitated procurement, production, marketing and credit needs of farmers.

Shri.Subhramaniyam felt that the banks and other financial institutions can effectively leverage these IT-enabled PACS for offering their services and the necessary software interface has been incorporated as part of the application. For scaling-up the "Karshaka Pragati" project, UTITSL, a Govt. of India enterprise, has embarked on a joint venture with CoOptions Technologies Ltd. He ended his presentation with the vision of an enabling structure that would have a National Data Warehouse at NABARD at the apex level, a State Data Warehouse at the SCB, a District Data Centre at the district level and the village level computerised PACS with smart card-empowered customers.

Shri.Alok Bhargava spoke about the Common Service Centres (CSC) Scheme which is a part of the ambitious National e-Governance Plan (NeGP) of the Department of Information Technology, Govt. of India and approved by the Union Cabinet in September, 2006. IL & FS Education & Technology Services has been designated to act as the Programme Management Agency. NeGP has a three pillar model comprising of: (i) The State Data Centres at the backend for provision of the various e-Governance services; (ii) Inter-connection of the State Government offices upto block level through the State Wide Area

Network (SWAN) and (iii) Establishment of a network of access points for e-Government services through the Common Service Centres (CSC) at the door steps of the citizen. It has been planned to set-up one lakh CSCs in rural areas and ten thousand CSCs in the urban areas. These CSCs are expected to act as the interfaces at the field level to facilitate G2C, B2C and B2B / G2B access for the people.

The PPP Architecture of the NeGP involves the following entities:

- National level: GoI with IL & FS E&TS support
- State level: State Centre Agency (SCA) as the franchise selected by the State Government concerned through competitive bidding
- Local level: Village Level Entrepreneurs (VLEs) owning & managing the CSCs – total estimated cost per CSC: Rs.1.25 – 1.50 lakh

Shri.Bhargava opined that CSCs need to be part of the banks' business plan – banks can fund the VLEs as small loans and consider extending project finance to the SCAs. The VLE-manned CSCs could be used as retail extension outlets for banking products and services - need to utilise them as Business Facilitator. The SCAs may be used as the business correspondents. He said that the pilot of the CSC-oriented Business Facilitator model was tried at Baramati in collaboration with Union Bank of India and the bank has already sanctioned some loans to the villagers. UBI has also provided credit cards to the VLEs for enabling them to book railway tickets, small shopping services, etc. for the villagers. According to Shri.Bhargava, several other institutions like the SBI, ICICI Bank, Canara Bank, Indian Bank, Reliance Money, Bajaj Allianz, Alliance Prudential and HDFC Chubb have already expressed interest for tie-up with the project.

Concluding the session, the Chairman said that vision, planning and technology without effective implementation benefiting the target populace is worthless. Therefore, there is need to have convergence of technology, vision and planning. Regulators, solution providers and entrepreneurs should come together in this exercise.

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Session III
Theme: Extension of Financial Services to the Hinterland – The FINO Way

Speaker: Shri. Manish Khera, CEO, Financial Information & Network Operations (FINO)

Rapporteur: Shri.V N Sethuraman, DGM & Member of Faculty, CAB

In his presentation, Shri.Manish Khera observed that among the several missing links in ensuring effective delivery of financial services, the absence of a unique identification for

each citizen of our country, is a critical one. Further, there exists a gap between the needs of the customers and the institutional responses. A significant step is the policy intervention, based on recommendations of the Khan Committee, of allowing Business Correspondents & Business Facilitators, to take banking to the doorsteps of the poor. FINO develops Financial Services Delivery Systems to enable the Financial Institutions to lower transactions costs, increase their outreach, and to bring more transparency in their business. He said that FINO's philosophy is to offer Indianised solutions to an Indian problem with genuine business intent; charity cannot help scale and growth in the long run.

Shri.Khera stated that the core business of FINO is to design and implement innovative technology solutions (systems, services and networks) to enable financial service providers to reach billions of underserved clients by providing them with a greater range of services at a lower cost. FINO's approach is to provide solution to grass root level institutions for "inclusion", common solutions to enable "sharing" and open solutions to allow "inter-operability. The mobility solutions by FINO include biometric enabled smart cards for the customers, Point of Transaction (POT), PC and menu-based applications for the business correspondents and middleware and core banking system for the banks/MFIs. He said that FINO has been working with hundred micro-finance partners of the ICICI Bank facilitating their businesses operations. Besides, FINO is currently executing pilot projects for some of the banks like the United Bank of India, Central Bank of India, Union Bank of India and the Corporation Bank. While concluding his presentation, Shri.Khera informed that FINO is also working on other verticals like Insurance (with ICICI Lombard) and payment applications like ITC-e-Choupal.

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Session IV
Theme: Credit Plus Services Riding on ICT

Chairperson: Shri. Neeraj Kumar, General Manager - IT, NABARD, CO

Panelists: Shri. N Subramanian-Head Technology, NCDEX

Shri. Sudesh Puthran, Senior VP-IT,CIBIL

Shri. Suresh Sethi, President-Transaction Banking Group, YES Bank

Shri. D G Halve, Regional Manager, Agricultural Insurance Company of India Ltd, Mumbai

Rapporteur: Shri. V N Sethuraman, DGM & Member of Faculty, CAB

Initiating the discussion, the Chairman underlined the importance of efficient support for input and supply chain management, insurance, remittance services, etc. apart from the basic banking services to the villagers.

Shri.Subramanian observed that a paradigm shift has taken place with the introduction of the electronic online country-wide multi-commodity exchanges by the NCDEX. It has provided a mechanism for determination of the spot & future prices and the price dissemination process happens by using different technologies like web interface, web site, electronic board, kiosks, e-mail, mobile devices, TV Channels, etc. NCDEX has also developed weather data stations in consultation with the various user agencies. ICT-enabled operations of NCDEX include online price quotes, historic price data, online settlement with clearing bankers, warehousing and delivery process, member enrolment – KYC, weather data, research reports, e-learning & video conferencing, CRM solutions, etc.

Citing a survey conducted by the AC Nielson, Shri.Subramanian said that over 78% of the respondents (farmers across 27 centres in 6 States) of a target sample agreed on the benefits of the price discovery mechanism of NCDEX. This has been driven and made possible because of appropriate leveraging of technology. For NCDEX, some of the challenges ahead for more penetration to the interior areas are the wide geography, connectivity, capacity building, information security and infrastructure limitations.

Shri.Sudesh Puthran informed the audience that the CIBIL is now a storehouse of information on 70 million customers which facilitates financial institutions in taking informed decisions (1.2 million enquiries per month as of January, 2007) and provides risk management solutions like credit scoring and fraud detection. CIBIL has an Information Security Management System in place with ISO27001 certification helping to build confidence on data security by the banks.

While the demand for credit in rural India was Rs.1, 330 Billion as per a study report of the World Bank, there are challenges relating to data quality, appropriate technology and the cost of credit report. It should also be remembered that the criteria for tracking credit performance would be different for the rural market. Shri.Puthran told the gathering that the Rural Credit Bureau of the CIBIL would be launched soon. He ended his presentation by referring to CIBIL as being poised to become the “Centralised Information Base for any Industry or Lender” to offer new products/services.

Shri. Suresh Sethi opined that there is need for effective delivery and suitable product design by the banks for the rural areas. These challenges could be overcome with the existing banking infrastructure by leveraging on technology-enabled partnerships. He suggested that initiatives like the National Electronic Fund Transfer system of the RBI may be utilised by the banks to offer services for faster remittances and receipt of funds by the rural populace.

Shri.D.G.Halve, in his presentation, recalled that the Agriculture Insurance Company of India (AIC) is an exclusive organisation set up for implementing the National Agricultural Insurance Scheme. He pointed out that 65% of Indian Agriculture is heavily dependent on natural factors, particularly rainfall. The rainfall variations account for more than 50% of the variability in crop yields. In view of this, rainfall insurance has the potential to enable offer of crop loans at better terms due to the reduced default risk. AIC, on a pilot basis, is offering insurance cover for the wheat crop based on satellite imagery from remote sensing technology. The technology-based insurance product is unique and it takes the parameters of bio-mass/crop vigour and weather (rainfall and temperature). It also ensures that the parameters can be independently verified and accurate and it aids in speedy settlement of indemnities even before the crop is harvested. Looking forward, Shri.Halve went on to add that no claim may even require to be filed by the farmer as the claim process is independent based on the weather data received from the agencies.

In his sum-up, the Chairman observed that the presentations during the session have provided insights on several new initiatives by different agencies that hold out a lot of promise for the near future.

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Session V
Theme: ICT-based SHG Linkages: A Win-Win Proposition

Speaker: Shri. Vijay Pratap Singh Aditya, CEO, Ekgaon Technologies

Rapporteur: Shri. C V Alexander, DGM & Member of Faculty, CAB

Shri.Vijay Pratap Singh Aditya began his presentation by introducing Ekgaon Technologies as an organisation which provides technical, managerial and strategic support to community-led initiatives in rural areas by the SHGs/MFIs. Their flagship “CAM” technology solution enables online MIS of SHGs using mobile camera. It provides for a web-based, real time cost-effective MIS with secure access. The technology and related components of the “CAM” solution include a CAM browser for capturing the bar codes printed on paper forms, CAM forms containing the accounting information and a CAM server which gets the captured details through wireless interface or the Internet (SMS/MMS/SMTP).

A notable feature of the application is its language independence for illiterate or non-English speaking users. It also has the facility to provide audio guide to the users. Shri.Aditya felt that the solution could be used by a business correspondent/business facilitator to capture the activities of the SHGs for the banks to understand the operational direction of the SHGs for timely interventions.

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Session VI
Theme: ICT for Rural Reach – Approach & Experiences

Chairperson:	Shri. Kaza Sudhakar, CGM, Customer Services Department, RBI
Panelists:	Shri. Brajesh Mishra, DGM – Rural & Agri-Business, ICICI Bank
	Shri. K A Salim, DGM – Micro-credit & Financial Inclusion, SBI
	Shri. Prabhat Labh, Fund Manager, CARE India
	Shri. M Krishna Rao, GM, A.P Grameena Vikas Bank
Rapporteur:	*Shri. C V Alexander, DGM & Member of Faculty, CAB*

In his opening remarks, the Chairman sensitised the delegates on the need for cost-effective fund transfer facility for the poor. He also reminded the service providers that the new technology rolled out by them should adhere to international standards, capable of talking to each other and be scalable.

Sharing his thoughts on the subject, Shri.Brajesh Mishra observed that, in general, the banking industry attempts to cater to all customer segments through the same delivery channels. The narrow product suites lead to lack of integration. Keeping these in view, the redefined strategy of ICICI Bank for low income group focuses on using hybrid channels (branches, kiosks, franchisees & MFIs), creation of customer driven, technology intensive multiple products (both financial & non-financial) and penetration of a cluster (a district or geo-economic continuum) with all channels and products.

The ICICI Bank's technology landscape encompasses unified product processors & workflow engines, delivery channels powered on a Service Oriented Architecture, provision for delivery of all the products through all the channels, single token for access across channels, third party based transactions (BC/BF based models) with local cash management and use of PoS devices in store and forward mode. He also stated that the bank has started moving towards smart card oriented transactions to enable use of laptop computer-based offline technology to issue biometric cards to rural customers at their door steps, virtual bank in pocket, single customer id across channels/systems, standardised multi-product delivery platform, offline secure banking and origination of Straight Through Processing (STP) at the customer last mile. The authentication device for performing the transactions using the smart cards would have the features like GPRS, GSM, PSTN or upload through connection to USB port on PC, integrated smart card reader, biometrics & printer, higher capacity (8 MB SDRAM, 32 MB Flash Memory) and 8 hours + rechargeable battery life. Presently, it averages more than 200 transactions.

Speaking on the occasion, Shri.K.A.Salim said that SBI intends to take banking to one lakh villages by March, 2008 by adopting multi-pronged initiatives like use of rural ATMs and kiosks and greater partnership with NGOs/MFIs/others as business correspondents/ business facilitators. SBI initiatives focus on the non-farm sector as well in the rural areas since the contribution by this rural sector to the GDP is more than that of the farm sector. SBI's strategy is to reach out to the needy though micro-credit/SHGs (SHG-based financing by all the commercial banks – SBI's market share: 43%), use alternate channels and dispense affordable services by best use of technology. He added that SBI targets ICT-based financial inclusion by various strategies such as offering an array of financial products, aiding in launching of the Common Service Centres of the Govt of India, social obligation services like e-ticketing, etc.

Shri.Salim proceeded to share the features and experiences of the implementation of his bank's pilot project called "SBI Tiny Cards" through branch-less banking extension in the remote districts of Andhra Pradesh, Mizoram and Uttaranchal for micro-savers having no-frills accounts. Some of the sample services proposed under the solution include cash deposit and withdrawal, micro-credit, Govt. Benefits and payments and EMI payments. The technology features of the solution involve a smart-card (contact as well as contact-less interface using card readers and Near Field Communications (NFC) cell phone, bio-metric capability (fingerprints), web cam connected to PCs for taking photographs for account opening, security certificate system and a handy thermal printer for issue of spot receipts. The project is implemented as a business correspondent model through an NGO which also gives technology support for MIS tools, training of the operators, etc.

Shri.Prabhat Labh started his presentation by mentioning about some of CARE India's experiments with ICT like "Computer Munshi" pilot project with PRADAN, MIS development support for partner MFIs, SHG Tracker software for RRBs and SHG Accountant software for SHGs. He said that the cost of connectivity has come down drastically due to wireless networks, low cost Internet connectivity, new technologies like WLL, etc. CARE India's experience and study on technology adoption in the rural areas has indicated that a successful ICT initiative (i) must be capable of solving real life problem for the users; (ii) should be easy to implement and maintain; (iii) both hardware and software will have to be robust and (iv) shall involve collaboration between domain and technology experts. Further, the study by CARE India has reflected that most MFIs invested in technology for MIS solutions. Shri.Labh concluded his address by suggesting that the MFIs can have fruitful partnerships with banks as most banks have robust back-end technology and the MFIs have customer relationship as their USP.

Shri.Krishna Rao from The Andhra Pradesh Grameen Bank narrated the experience of issuing smart cards to their customers. While he felt that the initiative was well received by the people, there were also certain glitches with regard to the application interfaces and maintaining the system.

While concluding the session, Shri.Sudhakar called upon the various banks and other stakeholders to take the shared lessons into account while proceeding to implement solutions suiting their profile.

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Session VII
Theme: What Technology can do?

Chairperson: Smt.S A Panse, General Manager, Bank of Maharashtra

Presentations: Solution Providers (Agrocom Pvt. Ltd., Nelito Systems Ltd., AureoleInfotech, A littleWorld, Aplab, Value Software Technology, National Innovation Foundation, Gyanada Agro-Services Pvt. Ltd.)

Rapporteur: Shri.Anil Sharma, DGM & Member of Faculty, CAB

The Chairperson outlined the evolving role of technology from supporting to driving the business and onto being the change driver. Technology is becoming the focal point to address various issues like financial inclusion.

The following were the features of some of the presented solutions:

- Local market rates, internet access and discussions on web-based platform in local language
- Weather information, e-mail, market rates, polling, etc., using mobile and hand held devices
- Aggregation software solution with interface in different languages for use in bank branches/PACS across the country
- Software solution for offline data collection using PDA with provision for taking care of information chain requirements from PACS to apex levels
- Knowledge Centre solution for Payment Gateway for utility payments, Project reports, Govt. of India's benefit schemes for the farmers, Railway reservation and Education information
- Managed IT security services - Services to enhance sustainability, such as, handle internal and external threats, high availability & business restoration, infrastructure management, vulnerability assessment & data security and help desk

- Low cost ATMs with features like hybrid card readers, multilingual screen, connectivity options through CDMA, TCPIP & Wireless Local Loop and availability of security certifications
- "Smart Lend" – Last mile automation solution for remote areas for various banking applications – prospecting, verification, collections & cross selling. The solution uses smartphone or PDA + Mobile Phone with secure data & code and provision for single/multiple online or End of Day Batch transmission to the bank
- "CoRMs" – Computer Research Management solution for remote tracking of all IT assets, their usage levels, elimination of non-compliance risks (software license, etc) and facilitate improved productivity of employees
- A Credit Referencing Solution designed on a Distributed Database System having Oracle as the backend is hosted on a third party centralised server with clients situated at the premises of the networked banks. Each member of the network is given a program that is installed in a PC at the Bank (Client) and this client interacts with the central server to place the credit reference requests and collect the reports from the server
- Bicycle-based mobile chargers to facilitate mobile-based operations and Electronic Talking Board for illiterate customers
- Mobile operated, remote-controlled timer & status systems for irrigation pump sets
- Kiosk-based information system installed in PACS and DCCBs for the benefit of the farmers

Smt.Panse, the Chairperson, concluded the session by stating that the various solutions may need to be considered for implementation after considering their suitability for the individual institutions, their clientele, business case, etc.

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Session VIII
Theme: Working out Feasible Business Strategies for ICT-based Rural Financial Services

Speaker: Shri. Ravi Trivedy, Executive Director, KPMG

Rapporteur: Shri. Anil Sharma*, DGM & Member of Faculty, CAB*

At the outset, Shri.Ravi Trivedy made it clear that the operating model needs a rethink – tweaking and tinkering will no longer help. The chosen business model has to be practical and pragmatic. Financial service providers have to overcome the challenges of poor outreach and adverse cost–return trade off. He suggested that the banks should be concerned about the business prospects of their customers as it directly affects their own business. Therefore, Shri.Trivedy felt that, in a sense, banks may have to "own" and "build" districts and technology can be an enabler for that. He said that technology could improve

the value chain inclusion of the weakest in the chain, reduce cost of transactions, improve efficiencies and support value chain by reducing middlemen and wastages.

Shri.Trivedy felt that more and more private sector involvement in the value chain is necessary. To stress his point, he cited the success of the e-choupals of the ITC. Such private participations are more likely if the risk-adjusted return to capital is reasonably attractive. While on the subject of appropriate technology, he opined that mobiles, RFID, cable network and DTH technologies might be considered for use keeping in view, their growing popularity and sophistication. Further, innovative service offerings like the IFFCO's tagging of insurance products to the fertilizer sold by them are necessary.

Shri.Trivedy floated the idea of having banks' involvement in e-marketing by way of extension of credit as well as other possible interfaces. He drew reference to the e-markets floated in Brazil about 3 years ago that have led to price discovery in the range of 3-4 times the earlier normal price levels. In his suggested e-market model, the participators may involve the input aggregators (seed, tractor, fertilizer, etc. agencies), information aggregators, buyer aggregation agencies and the banks. While the payment may be made to the e-market, recovery commitment may be offered to the banks. Technology has now unfolded all these possibilities. Shri.Trivedy summed-up his presentation by making an emphatic statement that ICT can and will enable the changes.

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Valedictory Session

Remarks on Inaugural & Technical Sessions:	Shri. H R Khan, CGM & Principal, CAB
Rapporteurs' Reports:	*Rapporteurs of the Sessions*
Valedictory Address:	Dr. R B Barman, Executive Director, RBI
Vote of Thanks:	*Shri. V G Sekar, Member of Faculty & Workshop Co-ordinator*

In his closing remarks, Shri.H.R.Khan, Principal hoped that the deliberations during the workshop would have helped in sensitising the delegates on the capabilities and possible implementations of ICT-based extension of formal financial services to the rural areas as a viable business proposition. Sharing the feedback received from the delegates, Shri.Khan stated that the event was well received.

Dr.Barman, while delivering the valedictory address, stressed that operational efficiency through IT-based systems can revolutionise rural credit delivery. Technology leads to revenue enhancement, cost reduction and qualitative benefits. He added that ICT-enabled customer transactions using cards and internet banking, customer relationship management, etc. have great potential for financial inclusion. ICT-based intervention in the value chain has

the potential to positively impact the rural farmers and entrepreneurs. Dr.Barman concluded his address by emphasising that it is the people behind the technology who would ultimately determine how quickly we could bridge the digital divide

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