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BIBLIOGRAPHY OF RESOURCES ON NON- MIS TECHNOLOGIES AND MICROFINANCE

USAID AMAP FINANCIAL SERVICES KNOWLEDGE GENERATION

APRIL 2006

This publication was produced for review by the United States Agency for International Development. It was prepared by Development Alternatives, Inc.

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BIBLIOGRAPHY OF RESOURCES ON NON-MANAGEMENT INFORMATION SYSTEM (MIS) TECHNOLOGIES AND MICROFINANCE

ACCION PORTACREDIT INCREASING MFI EFFICIENCY WITH TECHNOLOGY (IN SIGHT NO. 9).

Barton, S. & del Busto C., ACCION International, May 2004.

http://www.microfinancegateway.org/files/20870_portacredit.pdf?PHPSESSID=3c36fc75d0e16890c0c9e99a08697e1a

ACCION's PortaCredit is a technology that speeds the loan application and approval process by enabling loan officers to collect applicant information on handheld personal digital assistants (PDAs) and directly uploads the information into a central database. This paper presents the achievements, challenge, and lessons learned from the PortaCredit program, based on ACCION's experience at Banco Solidario in Ecuador and BanGente in Venezuela.

AUTOMATIC TELLER MACHINES. IT INNOVATION SERIES: SIX PROMISING NEW TECHNOLOGIES.

Whelan, S., with contributions from Consultative Group to Assist the Poor (CGAP) staff and echange, LLC. CGAP.

http://www.cgap.org/docs/IT_atm.pdf

Describes automated teller machine (ATM) technology, requirements for use, costs, and benefits; provides case studies of three institutions currently using this technology, including lessons for implementation.

AUTOMATING MICROFINANCE: EXPERIENCE FROM LATIN AMERICA, ASIA AND AFRICA.

Campion, A. & Halpern, S. MicroFinance Network (MFN), 2001.

<http://www.ruralfinance.org/servlet/CDSServlet?status=ND0xODQxLjI4MDImNj11biYzMz1kb2N1bWVudHMmMzc9aW5mbw~~>

This article looks at how new capital-intensive technologies are redefining financial services and investigates the opportunities for microfinance institutions (MFIs). Shows:

- That some MFIs already use ATM networks, smart card operations, and credit scoring technology;
- A broad view of innovative banking technologies are relevant to MFIs despite institutional cost structures and capabilities;
- Forward-minded inventions are often more essential than management information software.

BIOMETRICS TECHNOLOGY. IT INNOVATION SERIES: SIX PROMISING NEW TECHNOLOGIES.

Whelan, S., with contributions from CGAP Staff and echange, LLC. CGAP.

http://www.microfinancegateway.com/files/18048_CGAP_Biometrics_Technology.pdf

Article describes biometrics technology, requirements for use, costs and benefits; provides one case study of an institution currently using biometrics, including lessons for implementation.

CATCHING THE TECHNOLOGY WAVE: MOBILE PHONE BANKING AND TEXT-A-PAYMENT IN THE PHILIPPINES

Owens, J. & Bantug-Herrera, A. Chemonics International, Inc., 2006.

<http://www.microfinancegateway.org/content/article/detail/32768>

This paper provides an overview of the Rural Bankers Association of the Philippines Microenterprise Access to Banking Services (RBAP-MABS) program in the Philippines and discusses the developments of mobile commerce in the country. Describes two major mobile commerce service providers: Globe telecom and SMART communication. Explains the text-a-payment and mobile banking applications for microfinance and lists the roles and responsibilities of relevant partners. The paper elucidates the potential impact of mobile phone banking, stating that it provides a wide range of services, including remittances; improves operational efficiency; increases client loyalty; reduces costs; and enables banks to offer lower interest rates and service charges to the clients; and is convenient and fast for clients. Also highlights the challenges for mobile phone banking and describes conditions necessary for its replication in other countries.

ELECTRONIC BANKING FOR THE POOR: PANACEA, POTENTIAL AND PITFALLS.

Cracknell, D. MicroSave, September 2004.

http://www.microfinancegateway.org/files/25231_file_MicroSave_ebanking.pdf

E-banking technology options include personal digital assistants, ATMs, magnetic stripe cards, smart cards, and cell phone banking. This paper briefly considers the options available but does not attempt a detailed comparison of them.

ELECTRONIC FINANCE: RESHAPING THE FINANCIAL LANDSCAPE AROUND THE WORLD.

Stijn Claessens , Thomas Glaessner, & Daniela Klingebiel. *Journal of Financial Services Research*, Springer, Netherlands, August 2002.

[http://www.springerlink.com/\(pd1nmc45s543la45t2no44yo\)/app/home/contribution.asp?referrer=parent&backto=issue,2,9;journal,18,82;linkingpublicationresults,1:102934,1](http://www.springerlink.com/(pd1nmc45s543la45t2no44yo)/app/home/contribution.asp?referrer=parent&backto=issue,2,9;journal,18,82;linkingpublicationresults,1:102934,1)

In recent years, the emergence of electronic finance—especially online banking and brokerage services, and new trading systems—has reshaped the financial landscape around the world. This paper reviews these developments and finds that they are greatly affecting the structure of competition in financial services industries and will have a large impact on incumbents. Its assessment of how e-finance, and globalization more generally, affects countries highlights the need for changes in four financial sector policy areas (safety and soundness, competition policy, consumer and investor protection, and global public policies) to mitigate risks and reap as much benefit as possible from e-finance.

EXTENDING BANKING TO THE POOR IN INDIA.

Singal, Amit & Bikram Duggal. ICICI Bank, March 2002.

<http://www.finmarktrust.org.za/documents/2005/JANUARY/MMW4P.pdf>

The paper articulates the key issues in extending banking to the rural and poor populations in the country and provides recommendations for the Reserve Bank of India and the Government of India.

While extension of banking services to the poor and rural populations is essential, it is also important to view banking in a new perspective with the advent of new technology.

FUNDING MICROFINANCE TECHNOLOGY (DONOR BRIEF NO. 23).

Ivatury, G. & Pasricha, N. CGAP, April 2005.

http://www.cgap.org/docs/DonorBrief_23.pdf

New technologies are available to help microfinance providers improve efficiency, track operations more accurately, increase transparency, and reach new customers, yet MFIs struggle to select the right technologies and get the most from their investments. This publication offers guidance on how to ensure microfinance providers follow good investment and management principles when choosing and implementing new technologies.

HARNESSING TECHNOLOGY TO TRANSFORM FINANCIAL SERVICES FOR THE POOR.

Ivatury, G. Intermediate Technology Publications, December 2004.

<http://www.microfinancegateway.com/content/article/detail/25234>

MFIs with the potential to grow and to attract commercial investment are likely to be those with sound information systems. This article starts by identifying some technology options that are being adopted by banks to reach low-income customers. Criteria are listed that will make innovations attractive to such customers. A survey conducted by CGAP of 153 MFIs worldwide revealed that many MFIs do not use computer-based MIS, and it is this lack of a core information systems that needs to be addressed before other technology options are explored. The article finishes with 10 questions for managers to guide the process of choosing new technologies.

ICICI MICRO-BANKING INDIA.

Markson, T. & Hokenson, M. University of Michigan Business Case Study, December 2003.

<http://www.bus.umich.edu/BottomOfThePyramid/ICICI.pdf>

ICICI Bank, India's second largest financial institution, is leveraging new partnerships and innovative uses of information and communication technology (ICT) to profitably market banking services to the poorest of the poor. The bank has combined its capital and expertise with the social mobilization strength of existing microfinance organizations and self-help groups to help such groups scale up their activities. To further increase their rural presence, ICICI has also partnered with several internet kiosk networks that will utilize ICTs to provide online banking services.

INNOVATIVE PRODUCTS AND ADAPTATIONS FOR RURAL FINANCE.

Buchenau, Juan. USAID, U.K. Department for International Development (DFID), World Council of Credit Unions (WOCCU), BASIS, June 2003.

<http://www.microfinancegateway.org/content/article/detail/20076>

This paper presents new financial products along with innovations that improve management, using examples from various countries. Discusses products designed to finance farmers, such as agricultural investment loans or loans against warehouse receipts, and products geared to serve rural households, including adapted microenterprise loans and savings and remittances. Explores innovations in lending procedures (credit bureaus and credit scoring), savings (outsourcing, SafeSave), and processes based

on new technologies (handheld computers, ATMs). These innovations are evaluated according to their contribution to rural financial market development by reducing transaction costs, mitigating risk, and/or increasing investment capacity.

INTERACTIVE VOICE RESPONSE (IVR) TECHNOLOGY. IT INNOVATION SERIES: SIX PROMISING NEW TECHNOLOGIES.

Frederick, L., with contributions from CGAP staff and echange, LLC. CGAP.

http://www.cgap.org/docs/IT_ivr.pdf

Article describes IVR, requirements for use, costs and benefits; provides case study of one institution currently using this technology, including lessons for implementation.

IT INNOVATIONS FOR MICROFINANCE.

Ivatury, G., & Reille, X. CGAP, October 2003.

<http://microfinancegateway.com/content/article/detail/13421>

CGAP presented this PowerPoint document in Costa Rica as part of a workshop titled “Innovative Technologies for Microfinance in Latin America.” Themes covered include:

- The limited growth of microfinance in certain markets in Latin America;
- New microfinance delivery channels, including examples from other parts of the globe;
- Product development cycles;
- Lessons from innovators; and
- Building the information infrastructure.

LESSONS FROM THE FIELD: ICTS IN MICROFINANCE.

World Resources Institute, Digital Dividend. October 2004.

http://www.digitaldividend.org/pubs/pubs_05_overview_microfinance.htm

Website discusses ATM, smart card, and palm and biometrics technologies, with descriptions of implementation by PRODEM FFP in Bolivia, Voxiva in Peru, ICICI Bank in Asia, and BASIX in India.

MAINSTREAMING MICROFINANCE – APPROPRIATE TECHNOLOGY SOLUTIONS FOR A BREAKTHROUGH IN THE SCALE OF MICROFINANCE.

Hewlett-Packard Development Company, L.P., 2005.

<http://www.hp.com/e-inclusion/en/project/microfinanceweb.pdf>

MAKING FINANCIAL MARKETS WORK FOR THE POOR.

Porteous, David. FinMark Trust, 2004.

<http://info.worldbank.org/etools/docs/library/128740/Making%20financial%20market%20work%20for%20the%20poor.pdf>

This paper aims to deepen and extend the “Making Financial Markets Work for the Poor Approach” by applying it to a specific sector (financial services) and geography (South Africa), based on the experience of the FinMark Trust program.

MICROSAVE BRIEFING NOTE #21: MEETING THE CHALLENGE – THE IMPACT OF CHANGING TECHNOLOGIES ON MICROFINANCE INSTITUTIONS.

Ketley, R. & Duminy, B. Microsave, 2003.

<http://www.microfinancegateway.org/content/article/detail/3771>

This paper argues that changing technologies drastically reduce transaction costs and therefore have the potential to make providing financial services to the poor more profitable and therefore attractive to commercial banks. Outlines the impact that ATMs and plastic debit cards have had on banking in Africa. Examines the potential role of mobile phone banking, whereby transactions are executed on the screen of the mobile phone, to bring about financial services to the poor in Africa.

MICROSAVE INNOVATIVE MODELS TO ADDRESS RURAL NEEDS.

Parrott, L. Small Enterprise Education and Promotion (SEEP) Network, October 2004.

<http://www.microfinancegateway.org/content/article/detail/22859>

This presentation discusses the potential for technological innovations in rural areas and the impact they have had on development. It discusses ATMs, mobile phones, biometric technology, and PC banking. The presentation discusses innovations in delivery channels and presents an in-depth case study of Kenya’s Equity Building Society, stressing its market-led approach.

MOBILE PHONE BANKING EXPANDS INTO RURAL PHILIPPINES

Chemonics International, Inc., 2006.

http://www.chemonics.com/projects/default.asp?content_id=%7bD4EE9FE8-D174-471E-A1A1-20898BC6C029%7d

This article discusses G-Cash, an electronic banking system in the Philippines that allows the use of cell phones for conducting financial transactions. The article describes collaboration between the USAID program, Rural Bankers Association of the Philippines Microenterprise Access to Banking Services (RBAP-MABS), and Globe Telecom (one of the largest mobile phone companies in the Philippines) in designing and implementing G-Cash.

PERSONAL DIGITAL ASSISTANTS. IT INNOVATION SERIES: SIX PROMISING NEW TECHNOLOGIES.

Waterfield, C., with contributions from CGAP Staff and echange, LLC. CGAP.

<http://www.microfinancegateway.org/content/article/detail/18045>

Article describes PDA technology, requirements for use, costs and benefits; provides case studies of institutions currently using PDAs, including lessons for implementation.

POINT OF SALE (POS) NETWORKS FOR MICROFINANCE.

CGAP, 2004.

<http://www.microfinancegateway.org/content/article/detail/19053>

Presentation on POS technology given at Africap IT Conference in Nairobi, April 2004.

PRESENTATION OF FERLO: INTRODUCING SMART CARD TECHNOLOGY INTO MFIS.

Byte Tech, Senegal. Africap IT Conference, Nairobi, April 2004.

<http://www.microfinancegateway.org/content/article/detail/19054>

PRODEM FFP'S MULTILINGUAL SMART ATMS FOR MICROFINANCE.

Hernandez, R. & Mugica, Y. Digital Dividend Business Case Study, August 2003.

<http://www.digitaldividend.org/pdf/prodem.pdf>

PRODEM FFP targets low-income communities and the entrepreneurs and micro- to medium-size enterprises that constitute Bolivia's informal economy, offering a wide range of savings, credit, and money transfer services. Its network spans urban and rural areas. To overcome barriers such as illiteracy, PRODEM has created a solution that employs smart cards, digital fingerprint recognition technology, and Smart ATMs, as well as stand-alone, voice-driven Smart ATMs in local languages with color-coded touch screens.

REACHING THE UNBANKED: LEARNING FROM SOUTH AFRICA'S FIS.

Kitten, Tracy, ATM Marketplace.com News, April 2005.

http://www.atmmarketplace.com/news_printable.htm?id=22917

Discussion of technologies used by banks in South Africa, including portable banks, ATMs, POS, and cellular network phone booths.

REDUCING MICRO-CREDIT COSTS THROUGH INFORMATION TECHNOLOGY: THE CASE OF SKS.

Grameen Foundation, *Grameen Connections* 4 (2), April 2001.

http://www.sksindia.com/Media-Grameen_connections_the_newslett.htm

This report looks at the use of palm pilots and smart cards at Swayam Krishi Sangam in Andhra Pradesh.

REMOTE TRANSACTION SYSTEM – SOLUTION BRIEF.

http://www.hp.com/e-inclusion/en/project/microfin_brief.pdf

Hewlett-Packard Development Company, L.P, 2005.

RTS UGANDA PILOT: REMOTE TRANSACTION SYSTEM.

Firpo, Janine. Hewlett-Packard, 2004.

<http://www.microfinancegateway.org/content/article/detail/19145>

SMART CARD SYSTEM: INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) PLUS FINANCE MODEL FOR RURAL POOR.

Gupta, S. BASIX India: Intermediate Technology Publications, June 2002.

<http://www.alternative-finance.org.uk/rtf/sudamasmartcard.rtf>

This article introduces the pilot Sudama project of BASIX (India), where low-interest loans are available in remote rural areas through a new computer-based transaction recording system. The new lending model supported by ICT allows a low-cost and reliable form of rural lending for microfinance.

SMART CARDS. IT INNOVATION SERIES: SIX PROMISING NEW TECHNOLOGIES.

Whelan, S., with contributions from CGAP Staff and echange, LLC. CGAP.

http://www.cgap.org/docs/IT_smart_card.html

Article describes smart card technology, requirements for use, costs and benefits; provides two case studies of institutions currently using smart cards, including lessons for implementation.

SMART MONEY GOES MULTILINGUAL.

Enever, A. Fundacion para la Promocion y Desarrollo de la Microempresa – PRODEM. BBC, June 13, 2001.

<http://news.bbc.co.uk/1/hi/business/1386310.stm>

News article that addresses how PRODEM is introducing new smart card technology in Bolivia. Discusses the cost, security, and language features enabled by fingerprint technology.

TECHNOLOGY FOR THE POOR: CHALLENGES AND BENEFITS OF PDAS, ATMS, AND MORE FOR MICROFINANCE INSTITUTIONS

Liu, A., Pertet, R., & White, V. DAI, K-Rep Bank, ACCION International, June 2006.

http://www.microlinks.org/ev_en.php?ID=10656_201&ID2=DO_TOPIC

PowerPoint presentation from USAID's June 2006 Learning Conference. Explores the challenges and benefits in implementing ICTs from both the institutional and client vantage point. DAI and ACCION presented findings from a survey of MFI usage of client-focused (non-MIS) technologies, specifically PDAs, POS/smart cards, ATMs, and mobile phones. Representatives from ACCION and K-Rep Bank discussed their experiences implementing these technologies, the reaction of their clients, and the technologies they foresee using in the future.

USING TECHNOLOGY TO BUILD INCLUSIVE FINANCIAL SYSTEMS.

Ivatury, G. CGAP Focus Note, January 2006.

<http://www.microfinancegateway.org/content/article/detail/31756>

This Focus Note addresses the following questions: Can banking technologies, applied innovatively in developing countries, make microfinance profitable for formal financial institutions? Will they reduce costs to such an extent that banks could profitably serve even those whom MFIs have mostly excluded to date, such as very poor and remote rural customers? Will these customers be comfortable using technology?

WHAT WORKS: SCALING MICROFINANCE WITH THE REMOTE TRANSACTIONS SYSTEM.

Magnette, N. & Lock, D. Digital Dividend Business Case Study, August 2005.

<http://www.digitaldividend.org/pdf/rts.pdf>

Case study on Remote Transaction Systems (RTS), a combination of technologies and business process that allows institutions to cost-effectively reach greater scale. RTS was designed through a partnership between Hewlett-Packard and a number of MFIs with support from USAID, academic institutions, and a management consulting firm.