

The Role of Information and Communication Technology [ICT] in the development of Social Enterprise- A Study on SEWA's Initiatives.

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ABSTRACT : *ICTs play a major role in a nation's politics, economy, social and cultural development. Over the years, role of ICTs both established (radio, television, compact disc, video) and emerging (4G, Wi-Fi, broadband) as a powerful tool in the massive scaling up and inter-linkage of development interventions and outcomes has become recognized. ICTs offer enormous opportunities to narrow social and economic inequalities; support sustainable local wealth creation by overcoming obstacles of geographic isolation, lack of access to information and challenges in communication. ICTs are emerging as a powerful tool for the bottom of the pyramid in a developing country like India. Several reports have also discussed opportunities for women empowerment through ICT, e.g. through education and knowledge creation, poverty alleviation and employment generation. Self Employed Women's Association is a member based social enterprise of poor, self-employed women members. SEWA's main goals are to organise women workers for full employment and self-reliance. SEWA has realized the potential of harnessing the power of information technologies in the context of the informal sector at much earlier stage. Its organizational structure and reach gives it the potential to harness such technologies effectively. The broader aim of this paper is to investigate successful practices of ICT related to the management, various economic activities and training for the bottom of the pyramid members in the wake of the large scale implemented "Digital India" bandwagon which has laid up a congenial foundation for conducting similar explorations. Using secondary data and case study method the study understands and reviews the ICT initiatives of SEWA in this paper. It reviews the role of ICTs for income generation opportunities vocational skill development and employability of the rural as well as the urban poor women. It discusses the issues surrounding the development of the ICT and emphasizes the types and the importance of developing ICT initiatives targeting the bottom of the pyramid.*

1. Introduction

The Millennium Declaration adopted by UN in 2000 underscored the urgency of ensuring that the benefits of new technologies, especially Information and Communication Technologies [ICTs] are made available to all. ICTs can be a powerful catalyst for political and social empowerment of women and the promotion of gender equality. ICTs are a diverse set of technological tools and resources to create, disseminate, store, manage and bring value addition. The ICT sector consists of segments as diverse as computer software, the internet, e-mail, telecommunications, television and radiobroadcasting. Across the globe, countries have recognised Information and Communication Technology (ICT) as an effective tool in catalyzing the economic activity in an efficient governance, and also in developing human resources. Given the capacity of ICTs to access, transfer and apply knowledge and information to almost every aspect of human engagement, they are increasingly being recognised for their potential to carry the new global knowledge-based economy. ICTs may reshape, re-organise and restructure working methods. They offer generic advantages of efficiency and productivity gains; information – sharing, storage and communication; faster knowledge accumulation, dissemination and application; in support of the specific purposes for which they are used. It also permits new, collaborative work methods, enabling rapid and continuous transfer of commercial, financial and political information crucial to the development process. ICTs can give a major boost to the economic, political and social empowerment of women, and the promotion of gender equality. Computer illiteracy, poverty, illiteracy and language barriers are among the factors impeding access to the ICT infrastructure, especially in developing countries and these problems are particularly acute for women. Women from the grassroots levels are using ICTs to expand their mission, drive their passion to improve the world. There is growing reality that women's engagement in ICTs is important for multiple forms of development. But, it is commonly held view that women are less engaged with ICTs compared to men. ICTs are for everyone and women have to be an equal beneficiary to the advantages

offered by the technologies, and the products and processes, which emerge from their use. Since there is a high degree of illiteracy, it inhibits the absolute use of ICT. Women especially in developing countries, lacks financial resources to purchase the requisite hardware and software and to connect to the World Wide Web (WWW). They also lack the sufficient elementary computer education and training facilities to develop the needed competencies to seize the opportunities opened up by ICTs. Therefore, the need is to open up the doors of access for women to ICT with user friendly system and relevant indigenous content.

The importance of ICTs is not the technology as such, but enabling its functions in facilitating enhanced access to information and communication across large distances; improved access to governmental as well as quasi-governmental resources and services; opportunities to trade or bank online through kiosks; new opportunities to design, manufacture and market products either through internet or intranet systems; increased and improved computer education; superior medical advice and diagnostic information; information about local resources, opportunities to earn a better living by learning a new skill in the knowledge-based economy, improving agricultural productivity, et cetera., that are essential elements in today's economic and social interaction, conducting businesses, compete in markets and shape developmental priorities (Siriginidi, 2002). However, ICTs cannot solve all the problems; they need infrastructure to be put in place to establish distribution channels and play a role to reduce cost of reaching to the people. To increase income generation capacity of rural economy, enough provisions are to be made for capacity building and to integrate them with the national economy.

A number of innovative experiments already under way indicate that achieving global digital access and reinvigorating development may not be as difficult as many think. About 174 projects in India are using modern ICTs for the benefit of urban and rural citizens. These are initiated by International agencies, private sector, NGOs, Central and State governments and categorized by application or content, e-governance, telecentre, computer-based training or employment, hardware, research or advocacy, et cetera.

Social enterprise is a model that has been gaining momentum in recent years as an answer to social, cultural and economic problems on a global scale. Social Enterprises apply business principles and leadership skills to address social issues. They build mission-driven businesses aimed to solving social problems through the management techniques and skills and engage in capacity building of people in need by training people, or use their entrepreneurial skills in profit or non-profits innovative business models. SEWA, a member based organization of poor, self-employed women is one of the first organization to successfully organize rural women and women working in the informal sectors. SEWA equips grassroots women with management skills to successfully run small enterprises and businesses. The members share their experience over the course of more than three decades of building members own economic organizations such as self help groups, producer collectives, associations, non-profit companies, for profit companies et cetera. SEWA also serves as a managerial capacity building institution, facilitating economic self-sustainability by developing a cadre of grassroots managers like-The Shree Rachaita Bandhkam Mahila Sewa Sahakari Mandli Ltd.-- synergizing the strength of women construction workers, Micro financial products at Sewa Bank, Sewa Trade Facilitation Centre (STFC), Rudi Products & Rudi Multi Trading Co. Ltd., Lok Swasthya SEWA--Ayurvedic & Herbal products, SEWA Nirman, et cetera.

SEWA has realized the potential of harnessing the power of information technologies in the context of the informal sector at much earlier stage. Its organizational structure and reach gives it the potential to harness such technologies effectively. In order to optimally utilize the power of ICT at the grassroots level, SEWA has launched various integrated development programmes and has demonstrated the capacity to deploy ICT and mainstream it effectively. SEWA has pilot tested various ICT tools for poverty alleviation, micro-enterprise development and even disaster mitigation, with remarkable success. SEWA has been using technology for its grassroots producers to enhance their livelihoods and trade. SEWA's ICT efforts focus on the following aspects: -capacity building, livelihood generation and security, knowledge sharing.

This paper looks at the avenues and initiatives created SEWA for ICT enabled networking processes for women's development. It highlights the opportunities available for the urban and rural poor women through ICTs and reviews and discusses the issues and challenges.

2. Literature Review

Heek (2002) identifies and suggests areas of new economic activity produced through ICTs which includes ICTs as follows: -

- (i) An enterprise output: production of software, telecommunications products and hardware.
- (ii) ICTs as a primary processing technology: provision of ICT based software customisation, data entry services, business services, et cetera.
- (iii) Other ICT related support activities: provision of computer training, ICT based distance learning, consultancy and other services.

However, those can only be harnessed to achieve development objectives if ICTs are approached in the right way. To do this, we need to move away from concepts of 'electronic development' that place ICTs centre stage. Instead, as described above, the approach to ICTs must be information centred, integral to its environment, integrated with development objectives, intermediated, interconnected, and indigenised. Above all, it must be intelligent. Our development priority for the future must therefore be i-development, not e-development.

McMahon & Bruce investigate the components of "information literacy" that are a prerequisite for effective use of ICTs in developmental projects. Schech investigating the sociology of knowledge in development, identifies its relation to power and reminds readers that communication is not just about delivering information to the poor and oppressed; it can also be about transmitting information and knowledge from these groups to a wider audience. He promotes the idea that developmental initiatives—in placing information first and technology second—so that the audience can choose from a range of possible technologies that best meet current information needs.

Avgerou (2010) suggests that the discourse on improvements through locally situated action is formed by combining the socially embeddedness perspective of ICT innovation and organizational change with the progressive transformation perspective of development. It assumes the capacity of ICT to contribute to improving life conditions, but sees the form and processes of improvements as being worked out primarily locally, in accordance to historically shaped meanings and power relations.

Sein and Harindranath (2004) takes a comprehensive view to describe how ICT should be viewed, used and what effect(s) to observe. They propose integrative framework for ICT use, views and impacts and paradigms of ICT in development. They argue that the extent of success or failure of ICT interventions to enable development will depend on how national and local governments, national and international development agencies, non-governmental organisations (NGOs) and public agencies conceptualise ICT and development.

Ranga and Pradhan (2015) argues that using ICTs for women entrepreneurship in India is a potentially powerful, but as yet unrealized market opportunity. To fulfil the promise of ICTs for women's business growth in countries like India, active investment and engagement by the relevant stakeholders is required.

Narayanan (2003) confirms that on the whole subsidized computer education appears to have tremendous scope to enhance poor people's opportunities by improving their access to markets. The analysis presented by him reiterates the findings of earlier studies that access to markets can make a small beginning and can be a part of the development initiatives in a world of information revolution and participatory economic development. This, in turn, would go a long way to reduce the digital divide that threatens the foundations of all round economic development.

Rao (2010) points out that grassroots interventions should demonstrate local-specific adaptation of ICTs. The local-specific extremes demand fabrication of hardware such as Intel-powered community PC platforms to be deployed in rural kiosks and software devices such as making available local language software tools and fonts, according to geophysical environments and requirement of extraordinary mechanisms for citizens with different levels of educational attainment, informational capacity, initiation, age groups, gender, et cetera.

According to Samiullah & Rao (2002), ICTs can play a significant role in combating rural and urban poverty, fostering sustainable development by creating information-rich societies and supporting livelihoods. Successful ICTs intervention relies on an enabled environment, the participation of the private sector and NGOs, free flow of information, access for women and capacity building. The challenge for governments is to ensure the convergence of their initiatives and those taken up by various NGOs, to address the digital divide.

Richard Heeks of the Institute for Development Policy and Management in the UK's University of Manchester suggests that "intermediaries" are organizations or individuals "who own ICTs and who can act as gatekeepers between cyberspace and the organic, informal information systems of those on the wrong side of the digital divide." He suggests that good intermediaries bring more to the process than connection to information and communication data and hardware. Motivation is a key element. For example, in India there are thousands of women's self-help groups (SHGs) involved in a wide array of micro-economic enterprises. Many have been mobilized by NGOs and Social Enterprises that have a commitment or mandate to improve the welfare of their constituents. He explicitly exemplifies the Self Employed Women's Association (SEWA). SEWA helps these members organize into groups or cooperatives so that they can cooperate to build stronger enterprises. SHGs are now recognized as a key transmission belt for development efforts by the state and the civil society. Such village level collectives are a preferred institutional mechanism because they are gender sensitive, participatory, cost-effective and grassroots organizations. For broadening their access to ICTs, he suggests to have representatives in SHGs trained in ICT use-in "information seeking" on the web, using e-mail, and working with self-learning and distance learning multi-media packages. A group of SHG representatives are trained to use ICTs, with the training material built around micro-enterprise management. The SHG representative(s) would then perform four roles: -

(1) Serve as an information source on micro-enterprises,

(2) Be the group's and individuals' liaison for obtaining information on other issues and for communicating for them,

(3) Facilitate distance and self-learning programs for its individual members, and

(4) Carry out informal ICT peer training within its groups so that SHG members might be motivated and empowered themselves to use ICT services directly.

This sees the representatives as linking SHGs and the information resources available through ICTs and open paths to such newly emerging ventures as e-commerce and e-governance.

We analyse the ICT Initiatives of SEWA within the above aforementioned framework, as integrated and participatory approach for development and access to the women members. This sees ICTs as a means to an end, not as an end in themselves. In other words, this approach has three steps for a development project and initiative:

1. Identification of the development objectives for the project.
2. Identification of the new and/or reengineered information requirements needed to meet those objectives.
3. Identification of the role that ICTs and other information handling technologies have to play in meeting those information requirements.

3. Objectives

- To study and examine the ICT initiatives of SEWA for their rural and urban poor women members.
- To understand the incorporation of various ICT tools and review their role and importance for their development.

4. ICT Initiatives of SEWA – to bolster the bottom of the pyramid

The paper follows Case Study method to understand the organisation and its ICT initiative. The authors interviewed the CEO and IT team of SEWA, their district level supportive staff and members. A check it was prepared for interview and group discussion with the team. Moreover, secondary data was also studied and reviewed. Over the past decades, SEWA has experimented with and successfully used myriad forms of technology. SEWA has made an effort to apply technology for the benefit of the members and more importantly all the applications are initiated and implemented by the members themselves; where SEWA remains as a hand holding support and a facilitator. Technology is used in different ways to ensure facilitation of the services and activities to SEWA members. The ultimate benefits of the use of technology go to the poor self-employed women members of SEWA. SEWA set up 50 SEWA Sanskar Kendras (SSK-Community Learning Centres, CLCs) running in eleven different districts of Gujarat, apart from three centres running in semi urban catchment areas of Ahmedabad. Each SSK addresses information and communication needs of poor and rural communities for a cluster of 15-20 villages. These SSKs offer a gamut of services especially ICT training, hub for village database, capacity building, skill up gradation, childcare, disaster mitigation, et cetera. SEWA collaborates with local self-government bodies like village panchayats, district rural development authorities, government schools or institutes and other like-minded organizations to set up these SSKs. These local bodies or the district association premises of SEWA provided a small building or room to house the SSK and some basic amenities, with a rental understanding at many places. The SSKs were equipped with the necessary hardware—desktop computers, printers, scanners, digital cameras and local area network (LAN)—to connect these pieces of equipment. LAN networking at the SSK has been made a part of the basic set up, as it allows sharing of practice sheets and course content among the training participants, resulting in inspired group work. This arrangement particularly helped in showcasing of technology as women members used to visit district association offices at all times for their work and were exposed to the SSK concept and were encouraged to try out and use the SSK for their routine work. The local village member of the SSK was selected in consultation with the local communities. The tools and technology available readily at the SSK, along with trained members accelerated the pace of information dissemination. Thus, the structure and process flowing out of a tangible construction like SSK enables hardcore data based decision-making and instils confidence and motivation at the grassroots. This brings about greater efficiencies in the work of spearhead team leaders and organizers of SEWA. There are about four to six desktop computers at each SSK allowing training participants to use them without much resource constraint. Laptops are also provided to some SSKs to provide computer access at fields to collect data and necessary details from villages. The central IT team of SEWA takes care of troubleshooting and maintenance of the computers. Local SSK staff is also trained to troubleshoot & basic maintenance of the equipment. Penetration of basic telephony system in the state of Gujarat is fairly adequate. This allowed the SSKs to be equipped with internet connectivity, which is primarily used for mailing, data transfer across locations and accessing the web. Some of the SSKs have linkages to satellite for communication; they are usually referred as VRCs (Village Resource Centres). Its main aim is to use a combination of telecommunication and satellite communication to conduct educational programs, cutting across a range of themes that will lead to community development such as organizing, leadership, forestry, water conservation, health education, child development, financial services, et cetera.

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SatCom programs are held once in a month on a pre-determined theme. The rural development coordinators, based on the inputs received by them from the districts, decide a particular theme and inform the same to all the members. SEWA has twelve receiving terminals across the state of Gujarat, with one terminal used per district. Further in this direction, SEWA developed an ICT Cell commonly referred as the IT team, which was pivotal in creating awareness and providing access to tools and equipment of ICT in the hands of poor and rural communities in remotest villages of Gujarat. Members in their routine work are utilizing ICT at villages, village clusters, districts and main offices of SEWA. The ICT cell also provides guidance to the members in the use of information technology, organizes trainings for the women members, provides technical support and the required tools and applications.

CLCs in areas where the demand for vocational and livelihood support is particularly high, have now been upgraded as Community Learning and Business Resource Centres (CLBRCs). Here, SEWA has helped forge linkages between the youth, local industry, and businesses to find jobs in the region. While this solves problems of unemployment, it also controls migration by enabling youth to find work locally. In offering these services, the CLBRCs charge a small fee thus making it possible for the centres to become sustainable. CLBRC is a community-owned, community-managed resource centre that enhances employment and livelihood activities of the rural poor. The goals of a CLBRC are to increase outreach of its services within a community and to help increase user income through technology.

SEWA has set up 15 CLBRCs in five Indian states. Before establishing a centre, a spearhead team from SEWA conducts a participatory rural appraisal in the villages to understand the needs and aspirations of the people. The team assesses the motives behind migration that compel people to leave their village or region. The centre that is established seeks to address the issue of migration and helps find solutions at a local level. Because of the contextualization, the centre becomes demand driven, need-based, and caters to a regions particular needs and community. Training in the areas of ICT, agriculture, animal husbandry, and sewing rely heavily on the participation and organization of the communities themselves. The backbone of the centre is its members. Through the CLBRC and their SEWA membership, many women have been able to secure loans to start their own micro-enterprises. The in transition agriculture and government schemes are important components that are implemented through most CLBRCs initiated by SEWA. A community radio commonly known as “Vali no radio” is used for awareness. The ICT initiatives of SEWA are with participatory approach as suggested by Heek - an intermediary and integrated approach. The ICT solutions and operations are customised to the requirements of the grassroots members which can be summarised as per Table 1.

Sr.No.	Coverage	ICT Infrastructure & Operation	Services Provided	Beneficiaries
1	Bodeli taluka	Geographic Information System (GIS) Survey with ISRO; Cadastral & Topographical maps, Mass SMS texting on price and trends for commodities; Hand held Global Positioning System (GPS) device	Natural resource management and agricultural productivity, water source, soiltypes & cropping patterns	5 villages: - Simaliya, Bodeli, Muldhar, Chachak & Alikherwa
2	Anand, Mehsana & Surendranagar districts	Vali no radio (Community radio)	Agents of social change and empowerment, business promotion & sales	4 villages: - Nandasan, Ganeshpura & Visnagar
3	All districts - Pilot Project at Bodeli	The MasterCard digital money with Android Technology Digital Money wallet (real-time financial transactions).	Daily village transactions through applications on Android smartphone to district bank account, sales of smokeless cook stoves & instalment of solar lights	SEWA members in various districts Flagging of Hariyali Mulya green livelihood initiative
4.	All districts	The village commodity board - spot and future selling & Weather insurance -Rainfall insurance	Weekly posting of the real time prices of cotton, castor, gum and other crops of National Commodities Trading Exchange (NCEX) to the village board; Villages near weather stations	SEWA members & non-members
5	Pan India	Membership management system – Decentralised database of the members & Portal Customised job portal for the members	Database elements demographics, occupation, economic status, services like trainings, learning multiple languages, et cetera; Employment	All SEWA members & new members
6	Patan & Kutch	Membership Management System (MIS) – Website	Bar coding system for marketing craft products, local language & voice based e-mails	Semiliterate & illiterate women artisan community

Table 1 - SEWA's ICT initiatives, Source: Interviews at SEWA

1. *The Bodeli GIS Initiative - Space age technology for ground-level planning*

With help from the CLBRC, the tribal farmers in rural Vadodara are now looking to satellite imagery for solutions to local water and land use issues. GIS surveys the local terrain to bring new views to old land use issues. The GIS initiative began as a joint venture between the Bodeli CLBRC and the Indian Space Research Organization (ISRO). The Bodeli GVK counts 45,000 SEWA members from Vadodara district. It expects that number to soon grow to 60,000.

The centre earns 39 percent of its income from savings and credit, 0.83 percent from RUDI, and 60 percent from other activities, such as the sale of solar lights of which it has sold over 6,200 across the district. The centre has almost 300 savings and credit groups, and, because of SEWA's fair lending, many members have reclaimed land and belongings from unscrupulous pawn dealers and money lenders. Repayment of loans is over 95 percent.

Farmers grow mostly cotton and castor, and the centre has worked to link their produce sales directly to buyers, avoiding middlemen. This has turned pricing in favour of the farmers. The centre often uses mass texting to update farmers on prices and trends. Most farmers have one or more cell phones to keep them connected. This doesn't just benefit the farmer—as one centre staff said, “What used to take us all day by calling, we can now do in 15 minutes.”—it benefits all of its stakeholders. The team decided on five villages as potential pilots. Simaliya, Bodeli, Muldhar, Chachak, and Alikherwa. The SEWA team met with villagers to learn about the type of crops farmers planted in different seasons, the cropping patterns, the sources of drinking and irrigation water, and other agriculture issues such as seeds and fertilizers. They discovered that water ranked among the most pressing concerns. Water levels in wells were dropping because of over-drawing, and rivers were receding because of sand mining. The team singled out Simaliya village. They collected statistical data about cultivation areas and areas under rivers, pastures, and forests. The team also counted the number of bore wells, wells, hand-pumps and other structures, and examined soil types and crops planted. ISRO provided cadastral and topographical maps. With hand-held GPS devices in tow, the team walked the entire Simaliya area to mark every water source—wells, bore wells, pumps, and water tanks. Each time they found a source, they clicked the device, which recorded longitude and latitude coordinates of the spot. These would be registered as the ground control points (GCPs). Then, using ArcGIS software, the Bodeli team overlaid the coordinate data on a village cadastral map before imposing the cadastral map on a satellite positioning of Simaliya village which produced a cadastral map with GPS points. Finally, the map is rectified to reflect what the GCPs recorded. GIS mapping helps villages with other land use issues—for example, soil types and cropping patterns.

The Bodeli centre has shared the technology solutions with the village council (panchayat), the block development officer, and villagers. The centre plans to add other indicators to the GIS on demographics, health and childcare centres, schools, and essential services. They will also make GIS information available online.

With the GIS information, village councils now have a brilliant land-use planning tool. By merging cadastral maps with satellite maps, panchayats can pinpoint who, for example, has access to water and who doesn't. They can see and compare regions with the most water shortages, and separate the households facing the most hardships. Then, with the data analysis, village leaders can press ahead to address the local water scarcities with local solutions. This may mean constructing check dams, de-silting existing check dams, farm ponding, or contour building. These projects create employment for local villagers. With the help of SEWA, leaders can tap into government programs like NREGA to fund such local public works projects.

Many of the Bodeli area's land use issues started out as resettlement issues. To help with the resettlement process the government invited SEWA to help organize. As usual, SEWA first surveyed the local needs, of which the most critical were ration cards and water. SEWA then began linking the villagers with government programs and arranged for irrigation to bring in drinking water. SEWA began brainstorming for trainings that added value to farming. As many of the women from the six villages joined SEWA, it later helped them to register their own tribal association—Vadodara District Sukhi Women's SEWA Association (part of the SEWA's banyan tree)—to keep their tribal culture and traditions strong.

2. *“Vali no Radio” - SEWA's community radio initiative tuning into grassroots needs*

Community radio which is a locally managed radio service supplies the perfect dissemination tool for vital community news and would be crucial in spreading word on centre activities in agriculture, health, education, microenterprise, and other programs. More important, community radios have proven themselves to be agents of

social change and empowerment for the grassroots. As SajanVenniyoor, founder of the Community Radio Forum, stated, "Community radio has the ability to bring about a revolution in society."

SEWA began the process by surveying the local populations. They asked about radio listening habits—that is, when and how long people tune in and which programs they follow. The survey also queried listeners on what the community radio should offer once it was up and running. This part of the survey was meant to spark interest in the coming community radio or Vali no radio as it became known. In 2010, SEWA applied for licenses for community radios for four CLBRCs in Mehsana district (a) Ganeshpura, (b) Nandasan, (c) Visnagar, and (d) Anand; and the Vivsavdicentre of Surendranagar.

As part of the business plan, SEWA recruited a number of local businesses who committed to advertising on the stations. Advertisers range from educational institutions and Ayurveda treatment centres to soap, dairy, and mining companies. The tourism industry also promises to reach out to the public through community radio. As well as small and large local businesses airing their products and features, people want to sell things: animals, seeds—anything. Government, too, has need of local outreach to publicize workshops and community service messages. They pay as much as four rupees a second for airtime.

Daily topics include agriculture, education, health, environment, women's empowerment and community development. Content teams in all the centres have begun "narrow-casting," which means finding temporary facilities from which they can broadcast pre-recorded material, including traditional music to a limited radius. They broadcast two or more times a week and post it on a community calendar. They've organized listening clubs for children, young people, or the elderly who gather to listen then provide feedback. Children have lobbied hard for lots of afterschool programming with stories and news for kids. Older people want traditions kept alive, and youth ask that the community radio cover popular culture and technology. These sessions generate lots of visibility for the Vali no radio brand. Radio has also played a vital part in local awareness campaigns, especially about diagnosis and treatment of illnesses, such as polio, where vaccination and other campaigns can be made known quickly to the public.

3. *The MasterCard digital money project - A Cashless World*

First, it was the barter system. Then, coins changed hands as the standard expression of commerce. When that became cumbersome, paper money and later credit cards were introduced. Now the latest platform of exchange is upon us: digital (or electronic) money that works through your smartphone like a digital wallet; and SEWA women have embraced it. Within SEWA, the trail started with the spear team leaders, or grassroots leaders. The spear team leaders sit at the crossroads of SEWA interventions, linking the villages with the district associations and the CLBRCs. As part of their functions, the spear team leaders must visit every village within their purview several times a month to call on multiple households within each village. They make these visits to collect membership fees, sell RUDI products, collect instalments on microloans or insurance policies, share new information, and organize meetings.

"My dream is that the SEWA model becomes the global model for MasterCard..." as said by the spearhead leader.

Electronic money works through the smartphone like a digital wallet. It's a full agenda that requires keeping track of any number of financial transactions, which includes gathering cash that has to be turned over to their district associations once a week. The district associations then set a deadline by when they transfer the funds to the central SEWA body that manages the program—such as, SEWA Bank for loans, Vimo SEWA for insurance, RUDI Company for RUDI products, and others. The slow transfer process extends travel time and ties up bookkeeping. SEWA agreed to the partnership and, with MasterCard, piloted the digital money initiative. As there can be a synergy between the efforts at "electronification" of money and SEWA's activities. Under the new program, the spear team leaders record and updates her daily village transactions through mobile applications on an Android smartphone. Once she enters the transaction, an account linked to her instantly transfers the amount to the bank account of the targeted program. The spear team leaders have a grace period of 15 to 30 days to deposit the cash collected into her bank account—the same as using a credit card.

4. *Hariyali Mulya – SEWA's Green Livelihood Initiative*

SEWA's Hariyali Mulya green livelihood initiative shows how digital money works for asocial enterprise. The Hariyali Mulya's initiative sells smokeless cook stoves and solar lights to members on instalments. Members usually pay an equated monthly instalment of ₹200/- for solar lights and ₹300/- for stoves over a pre-determined period, usually 10 months. To keep instalments current, the spear team leaders normally treks to the buyer's home, collects the fee and, several days later, relays it to the district association. The district association in turn deposits into the Hariyali Mulya bank account. Under the new system, the spear team leaders collect the

instalment then keys the transaction's details into her smartphone, which instantly updates the database. The system automatically deducts the amount from the spear team leaders' account (MasterCard) and deposits it in the Hariyali Mulya account. The leader will have a certain grace period to deposit the collected cash in her account. SEWA sells the smartphones to the spear team leader on instalment. The women receive cash incentives based on the number of recorded transactions so that they maintain and use the smartphone faithfully.

SEWA expects this initiative to improve planning, efficiency, margins, and outreach. It was clear that such an electronic money system could bring greater efficiency for the organization and more security, wealth creation, and a sense of dignity of participating in a wider economic transference system for members. It was good for them and good for our strategy. MasterCard's collaboration with SEWA fulfilling another corporate goal bringing broader segments of society into the formal financial system.

The use of digital money through the mobile allows SEWA to process real-time financial transactions. According to the women who use the MasterCard application, it makes processes clear and efficient. The SEWA pilot shows that the savings of this system far exceed the small costs. For example, the number of trips the leader makes to collect fees in villages and make deposits in banks each month drop off dramatically.

Currently, SEWA is looking forward to optimally utilize the absolute potency of Android Technology by transposing Hariyali Mulya's initiative through Android based application known as the Hariyali Mulya Android Application. This application fundamentally conducts a survey of poor, self-employed women workers regarding the earnings they spent on the usage of non-renewable resources of energy and how to reserve the income by replacing those with that of renewable resources in order to improve their livelihood. Predominantly, it also facilitates networking between the administrator and the workers in order to make their sustenance more efficient in all terms. This will in turn make the whole initiative a lot more efficient.

5. *The Village Commodities Board and the Rainfall Insurance for the farmers*
Village Commodities Board

SEWA brings the classic wall street methods to the village square and helps protect farmers against financial wipe-out caused by an erratic weather. SEWA wanted to pilot projects in Gujarat to see the feasibility of farmers using spot and future pricing to determine when to sell their crops; and to see if farmers would take advantage of weather insurance if offered. SEWA would implement the plans through its centres and grassroots leaders, working with an Indian-based research organization, the Centre for Microfinance (CMF).

The village commodities board-spot prices are the current selling price of a commodity. Future prices are what traders speculate the commodity will sell for at a future set date. Commodities sellers consider these prices when deciding when to sell their goods—now or later. Commodities boards also list past prices. Sellers may use these to detect trends. Gujarat's small farmers traditionally took their crops to markets and took the best price offered. For farmers, it was complete speculation. They only knew what they had received the year before and had no idea how current prices stood. The village commodities board has changed all that. Tapping into the real time prices of India's National Commodities Trading Exchange (NCEX), the SEWA centres now post weekly prices for cotton, castor, gum, and other locally grown crops on a board in the village square. Farmers from the surrounding area gather to appraise market conditions. Should they sell now or sit on their crops based on optimistic future guesses? Or, based on past and future trends, should they switch to growing other crops??

This service, offered by the local centre, is available to all farmers, SEWA members or not. Every week a designated SEWA "poster" fills in the latest numbers based on the centre's feed from NCEX. The poster then takes a picture of what she's posted with her smartphone and relays the image back to the GVK for verification of accuracy. With this service, farmers save time and transport money. Now, they come and look at the board then decide whether it's worth the trip. And the local information helps them choose plantings for the following year. It took some convincing on SEWA's part—as well as a lot of training—for farmers to trust the system. But, as more of them see better returns on their labour, the number of visitors to the posting boards increases, and SEWA membership grows.

Rainfall Insurance

Farmers invest time, money, and often just hope in the prospect of a good growing season. But if the weather turns against her and the harvest fails, the setback can be devastating, in time lost and in capital spent on seeds, fertilizers, and other necessities. Farmers sometimes lose everything. The rainfall insurance plan for farmers started with a simple premise: if there is life insurance, vehicle insurance, and health insurance, why not rainfall insurance that would protect farmers if crops failed because it rained too little or too much?

SEWA piloted the scheme by selecting villages in blocks where weather stations could record rainfall. Farmers within 30 km of the weather stations were eligible to participate. If rain falls below a certain level in that area, the farmer gets paid. If rainfall rises above a certain level the farmer also gets paid. Insurance pays between two and three rupees per up or down millimetre, with a maximum payment set beforehand. Calculation of rates took into account the holistic (both seasonal as well as the harvesting) timings of the year, including monsoon season, and stages of planting. For example, heavy rains at harvest time paid higher. Parameters are assigned based on the previous ten years' rainfall.

At first, most farmers shied away from paying another fee, especially since the concept of rainfall insurance was unfamiliar. SEWA brought agricultural insurance company representatives into the villages to conduct workshops that explained policies and answered questions. They calculated farmer annual incomes and their potential losses to assess the right kind and number of policies needed. Finally, the representatives, farmers, and SEWA sat together and agreed on a fair pricing policy to be determined by "scratch card". The scratch card was an ingenious price-setting method that assured a fair deal for farmers and insurance companies.

6. *The SEWA Membership Management System & the SEWA Livelihood Port*

The Membership Management System - finding data and consequent jobs for SEWA members-technological solutions that keep track of members and connect them to jobs. SEWA membership is over 1.75 million women and growing fast. Different centres and members implement dozens of interventions across Gujarat and elsewhere, and countless transactions that must be recorded. To cope with this ocean of data, SEWA, launched its Membership Management System. Most districts kept their own manual records or on legacy systems in SEWA's headquarters in Ahmedabad. SEWA's diverse services and programs maintained their own databases, which were manual, ad-hoc, or custom-built management information systems.

This freelance approach prevented SEWA central management from gathering any kind of consolidated view of overall membership data or individual profiles, such as the members' occupation, economic status, or services used. SEWA IT team developed a customized Windows-based system that could enter just the new members, and that could be decentralized so districts could update locally and centrally. Rural memberships are now managed at the district level. The SEWA MMS has the following features:

- Members can access the system in three languages: English, Hindi, and Gujarati.
- Women can view their consolidated profile and history with SEWA. Profiles contain demographic information, occupation, household income, and trainings. Profiles also display which interventions the member has used—microfinance, market linkages, et cetera.
- The system has two versions, online and offline, with a tool to synchronize offline data with an online server database.
- The system uses a simple database model, with simple, intuitive and user-friendly forms that assure easy navigation for semi-literate members.
- The MMS allows managers to compare planned membership of a program with actual realization for any region or time period.
- The integrated data also allows the central management team to manipulate data across regions and programs, monitor progress, assess impact, and plan for the future.

SEWA Livelihood Portal

The graduates of SEWA's training programs now have a window into job opportunities—and employers have a preview of talents and skills of prospective hires. They meet each other through the portal. The portal is an online platform where SEWA training graduates register with information on their education, expertise, personal profile, and any other skills they possess. Companies and organizations then list current openings or skills they need. Each can regularly cross check the other to match skills with job descriptions to fill vacancies. Developing the portal followed closely on SEWA's capacity building efforts. Centres had for years been offering technical trainings across a number of sectors, trades, and geographical areas. It followed then that training was only part of gaining livelihood—finding work completed the action. Thus, SEWA's IT team developed a customized job portal for SEWA graduates.

District teams contacted organizations in their areas that would benefit from this service. Often they took laptops to their meetings to give a live demonstration. The portal is a web-based application. After completing a basic registration form, the member receives a username and password to access the portal. If a trainee sees a related posted opportunity, she contacts the company, with the support of SEWA. Organizations do the same, providing information on the company and a contact person. A system administrator approves the company registration and sets up access to the portal with a username and password. After login, the organization's representative can browse registered trainee profiles or post company requirements or vacancies on the portal. If the company sees

a qualified candidate, they can coordinate selection with SEWA. The portal follows up every activity through e-mails. This includes confirmation of registration by a trainee or a company, the posting of a company's vacancy, or a trainee's selection of an opportunity. The portal is available in three languages—English, Hindi and Gujarati—and has been designed to ensure optimum security. The livelihood portal can be accessed through all SEWA centres; but SEWA tries to keep trainees linked to their local areas for employment. SEWA believes that rural portals are key to future assurances of livelihood for members.

5. Discussion

SEWA's ICT initiatives follow the premise of the framework by Heek, initially by identifying the development objectives and then collecting the new and old information requirements needed to meet these objectives. Subsequently, identifying the role that ICTs and other information handling technologies have to play in meeting these information requirements. In spite of the major challenges women face in the conceptualisation and implementation various ICT projects like the lack of literacy and numeracy, the language barrier, social and cultural norms, high costs limited infrastructure, geographical location, SEWA has successfully initiated the above projects and are up-scaling them for the larger reach of the women members.

1. The review from SEWA's ICT initiatives suggests the value of multi-stakeholder, participatory approaches in development. While there are ICTs in development projects that are based on multi-stakeholder participation, it is clear that both GIS initiative and the MasterCard projects are grass root level initiatives having participatory approach.

2. The best practice is the inclusion of people's participation at all stages of the project. How to strengthen popular participation is of critical importance given the aspects of planning, implementation and evaluation of information projects.

3. They are preserving and reviving traditions, as well as building and strengthening partnerships, such as public-private partnerships, institutional linkages and linkages to government schemes.

4. They train women with business management, development and technical skills. Women are supported, mentored with necessary expertise by an expert or be trained specifically on these skills.

5. The MasterCard and MMS is a development approach that placed resources into the hands of poor women and empowered them with control and decision making over the use of these. In setting up their system of accountability among their borrowers, they successfully challenged certain cultural norms and entrenched gender power dynamics. Thus, in rural areas, women are generally not perceived to have any meaningful income generation capacities, and hence they are relegated mainly to household duties and cheap labour.

6. As for the rural ICT initiatives are concern, it was found that due to women's heavy workloads and multiple roles that limit their available time to use the ICT centres; male attitudes towards women's use of technology and to women who visit a mixed sex public facility; the lower educational levels of women compared to those of men and therefore their lack of literacy skills; the lack of relevant context for women in their local languages; and their lack of disposable income for fee paying centres, are all gender based factors that contain the way of women empowerment through ICTs. Though the numbers of ICT initiatives are limited, this is a beginning of the silent revolution, especially in traditional rural agrarian region in Gujarat.

7. The SEWA model show that 'giving women voice' alone is not sufficient if there is a commitment to addressing gender quality. The voice expressed must be heard and responded to with substantive affirmative action. Otherwise, even e-government services will lose their relevance to women in the long run.

In the long run, rural ICT projects could prove to be the most effective means of driving changes in rural areas: (i) socially—by ensuring equal access for less privileged groups; (ii) economically—by creating new kinds of work and financial transactions; and (iii) politically—by improving quality, speed and sensitivity of state apparatus to the needs of local citizens. The success of a rural networking initiative depends on how far it progresses down the stages of IT and information diffusion: initiation, adoption, adaptation, acceptance, regulation and diffusion.

6. Conclusion

Drawing on the SEWA's ICT initiatives and business plans, the paper has attempted to show that in order for ICTs and e-governance to make a difference, more is needed than just the requisite technology. There is a need for ICTs for development projects to similarly be 'articulated' by local people through a participatory approach at grass root level. There is a need for the designing of women-centric ICT policies. To keep pace with poverty eradication, the government must participate with social enterprises, NGOs, community-based organizations, civil society organizations, multi-lateral aid agencies, donor agencies, private sector and private organizations. Universities may consider offering vocational training programmes with emphasis on usage of ICT tools to bridge the skill gap. Scalability is also a major issue and it would seem that too many ICTs in development projects still remains as silos.

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Web Links to online materials on ICTs and Development

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- 2) <http://www.sewamanagernischool.org/>
- 3) <http://www.iforchange.net/>
- 4) <http://www.iforchange.net/IGF2006>
- 5) <http://www.infodev.org/> World Bank's Information for Development programme <http://www.undp.org/info21/> UNDP's Information and Communications Technologies for Development programme<http://sdnhq.undp.org/> UNDP's sustainable development networking programme
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