

SECTION IV

Known Problems and Systemwide Reform

Many of the problems at the BOP require systemwide reform not piecemeal solutions. Government departments and firms tend to focus on subsystems with which they are familiar or have control over. In this section we examine several examples of firms approaching systemwide reform.

The movement of grain from the farm to the table in India, with its subsistence farmers, an archaic system of logistics and trading renders the agricultural processing system very inefficient. Farmers take their produce to a mandi, a government-sanctioned auction market. The traders in the mandi are the intermediaries who buy the grain, aggregate it, and sell it to processors both large and small. The system of movement of grain from the individual farm to the processing plants is complex and also different for different grains. The ITC eChoupal case story describes the traditional system for soybeans as well as the changes made to the system by ITC. ITC, the food processing firm, decided to change the system by going directly to the villages, providing the village with a PC and training the lead farmer (sanchalak) to operate the PC. The farmers are able to check the prices at various mandis (as opposed to the one closest to their village or the one to which they happen to go), and decide when and how much to sell. They are able to realize better prices for their crop. Further, they are now able to dialogue with the company and ask for advice on better seeds, fertilizers, and pesticides. They get paid promptly and their grain is weighed accurately. From the company point of view, they now have a direct link to the farmers (producers), are able to dramatically reduce the costs of aggregation of soybean crops from multiple farmers and villages, and are ensured of good supply. The

efficiencies of the system reduce the total cost per ton by as much as 8 percent. The farmer gets a better price, and the company gets a better supply at lower costs.

Now that ITC e-Choupal has built a network, the network can accommodate other providers of farm inputs, such as financing, crop and rain insurance, better seeds, and farm equipment, to flow through the same system. The farmers are able to use the Internet connections to evaluate their positions. One farmer started to check the prices of soybeans on the Chicago Board of Trade and based his pricing on that information. Farmers learned to connect to the rest of the world seamlessly. The entire process of agricultural inputs, origination, trading, aggregation, logistics, and processing had to be streamlined.

EID Agriline is also a case of the same process, in this case, oriented toward sugar cane. The two examples—ITC e-Choupal in the northern part of India in soybeans and EID Parry Agriline in the southern part of India in sugar cane—are both efforts in changing the total crop-specific agricultural system.

ICICI is involved in a similar attempt to change the system in the area of access to credit for the BOP customers. BOP customers typically had to depend on local money lenders to give them access to credit. The interest rates charged were usurious (as high as 400–500 percent per year). Further, local money lenders could not give them access to modern financial systems. The question is how a large bank accesses BOP consumers and at the same time provides them with cost-effective service. ICICI decided to go through village-level self-help groups (SHGs), which they help organize. Each SHG consists of 20 women from the village, who are taught the disciplines of saving, holding meetings, discussing priorities, and investing. Based on their track record of saving, the bank lends money to the SHG (not to the individuals). The SHGs then disburse the money among their membership, based on their needs and an evaluation of projects. The SHGs become an extension of the bank. They act as evaluators of credit, evaluators of viability of projects, providers of loans, and collectors of dues. The experienced leaders of SHGs became the promoters of other such groups in the neighboring villages. In a very short period of time, ICICI has been able to spread its distribution to 10,000 SHGs. The new systems of distribution totally changed the traditional systems and created a level of transparency and access that would have been impossible in the traditional system.

In all these cases—ITC e-Choupal, EID Parry Agriline, and ICICI's rural initiative—the goal is to understand the existing system and create an alternative system that is more cost-efficient. More important, these systems provide the BOP consumers the tools for them to be better informed and thus able to better negotiate. The new system allows for dialogue among the communities of peers—SHGs and sanchalaks from multiple villages. This also allows the communities and the individuals to decide the level of risk they are willing to take on.

Section IV

Known Problems and Systemwide Reforms

ICICI Bank: Innovations in Finance

The number of people living on less than \$1 per day in India is significantly greater than the entire population of the United States. From a social perspective, this is a humanitarian pandemic. From an economic perspective, these people represent the bottom of the pyramid (BOP). From a commercial perspective, these individuals are not considered a viable market given their miniscule purchasing power. Do the poor of India represent an opportunity for a large, organized financial services company?

THE INNOVATION...

Can lending to the very poor be financially viable for banks? Should leadership training precede access to saving and credit offered by the organized financial sector? Are there alternate models of credit evaluation, contract enforcement, and building trust in large institutions among the poor consumers? The ICICI experience provides insights on how formal banking can convert the poor into customers, at the same time empowering the poor.

ICICI Bank, the second-largest banking institution in India, sees the poor as a lucrative customer class critical to the future of the company. "I think we have to recognize a whole lot of potential is going to come out of the Bottom of the Pyramid,"¹ stated Chanda Kochhar, the Executive Director of Retail Banking for ICICI Bank. ICICI deems the nearly 400 million impoverished people of India as a huge market with real economic potential and commercial viability.

In fact, the mission statement of the Social Initiatives Group within ICICI Bank is “to identify and support initiatives designed to improve the capacities of the poorest of the poor to participate in the larger economy.”² Also, there is a widespread belief within ICICI “that the poor do pay for the services rendered to them and they ought to be viewed as consumers rather than passive beneficiaries.”³ With this idea engrained as a core belief, ICICI Bank has focused its resources and creative thinking toward innovatively serving the bottom of the economic pyramid.

The Nature of the Market in India

Banking in India is very focused on the upper income groups. The breakdown of banking access by income category is shown in Figure 1.

The government of India has been extremely sensitive to this asymmetric access to banking. “Of the 428 million deposit bank accounts in the country, 30% are in the rural areas. With a rural population of 741.6 million, the rural penetration of banks . . . is as low as 18%.”⁴ India has instituted policies to address the rural poor due to the traditionally ineffective banking penetration.

The Reserve Bank of India (RBI), which is the Central Bank and the regulatory arm, has been deeply concerned about access to banking among the rural poor. RBI has a Rural Planning and Credit Department (RPCD) that is directly responsible for encouraging flow of credit to rural, agricultural, and small-scale industries’ sectors, drafting policies on lending to priority sectors, and tracking implementation of poverty alleviation schemes.⁵ The RBI also has

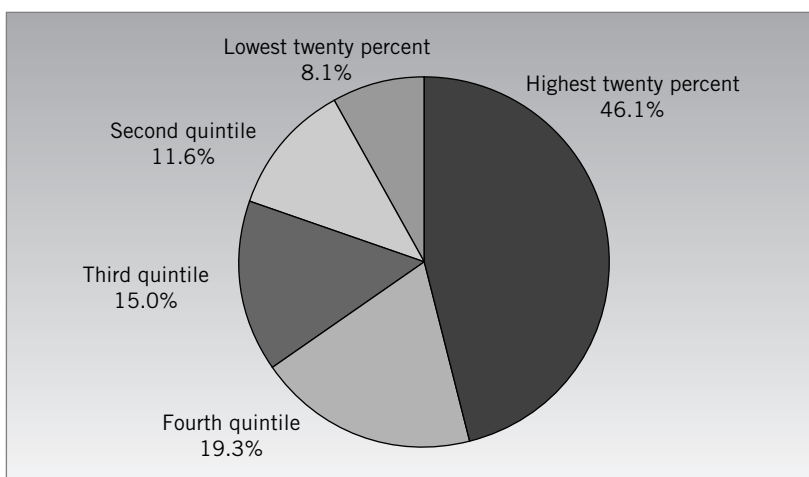


Figure 1 Banking access by income category. *Source:* <http://www.hokenson.biz>.

a fully owned subsidiary named the National Bank for Agriculture and Rural Development (NABARD), which works to provide credit to farmers, encourage the proliferation of rural banking, and coordinate the financing of rural development projects.

The RBI, through the RPCD and NABARD, has instituted several policies to encourage rural banking and the extension of credit to the rural hinterlands. The first was an initiative that required banks to open one rural branch for every three urban branches opened. As stipulated in Section 22 of the Banking Regulations act of 1949, "Private sector banks . . . are required to open a minimum of 25% of their total branches in rural, semi-urban areas as a condition of the license issued to them."⁶ Another initiative required that 40 percent of the net bank credit that commercial banks provide must be allocated to priority sectors (housing, agriculture, rural development, etc.). Eighteen percent of the net bank credit must be allocated toward agriculture-related areas, 13.5 percent of which must be direct to farmers, and the remaining 4.5 percent to agriculture-related areas (tractor companies, seed banks, pesticide factories, etc.).

The RBI, also through NABARD, started a pilot project in 1991 for purveying micro credit to the rural poor by linking selfhelp groups (SHGs) with banks. "A healthy microfinance sector leads to a healthy finance sector in general. This mutual link has to be established by the microfinance institutions/NGOs and realized by the policymakers."⁷ This pilot project was initiated because, despite having 150,000 rural banking outlets, a 1981 RBI survey found that 36 percent of the rural poor still utilized informal sources of credit. The project, the SHG-Bank Linkage Program (see Table 1), encouraged state banks with rural branches to give loans directly to SHGs as opposed to leaving the onus of BOP credit to MFIs (microfinance institutions). As of March 31, 2002, "the number of SHGs linked to banks aggregated 461,478. This translates into an estimated 7.87 million very poor families brought within the fold of formal banking services."⁸ The fact that RBI and NABARD are "devoting significant time, energy and financial resources on microfinance is an indication of the reckoning of the sector."⁹

Table 1 SHG-Bank Linkage Program Cumulative Progress, 1992–2002

Up to end March	No. of SHGs financed by banks	Bank Loans (Rs. millions)	Refinance from NABARD (Rs. millions)
1999	32,995	571	571
2000	114,775	1,930	1,501
2001	263,825	4,809	4,007
2002	461,478	10,263	7,965

Source: <http://www.nabard.org/roles/mcid/nbmf20021.pdf>.

These initiatives, although great for the development of the Indian countryside, were viewed by most banks as developmental and, thus, nonprofitable. Providing credit to poor farmers and opening costly rural branches was seen as a loss-making or a break-even proposition at best. ICICI, however, viewed these reforms as an opportunity. K. V. Kamath, CEO and Managing Director of ICICI Bank, stressed that ICICI “wants to lend in a sustainable way to rural India.”¹⁰ ICICI took a proactive approach when entering the retail banking sector not only to satisfy the RBI regulations but also to go above and beyond. “In the true ICICI style, we said if we have now acquired this initiative, let us see in what way we can actually make this initiative truly scalable.”¹¹ With the entrenched corporate philosophy that the rural market is to become the engine for future growth, ICICI began looking at how rural banking could be done profitably.

History of Microfinance

Microfinance, even in the formal sector, has a long history. However, it has usually been characterized by its nonsustainable donor-led model. The primary focus of MFIs has been access to credit, a very capital-intensive process. The other plank of banking, namely, savings, has been primarily ignored by MFIs. Also, the majority of its lending occurs to segments who do not qualify for the BOP or poorest of the poor.

Despite these hindrances to sustainability, MFIs remain vitally important as a financial gateway to the poor. Access to credit and participation in trustworthy financial institutions are two of the most important steps in securing basic services of everyday life. The poor need these services to save small amounts in a secure manner, to invest in their business or home, to cover large expenditures, and to ensure against risk.

Poor households around the world have demonstrated their ability to use and pay for financial services through longstanding informal agreements such as savings clubs, rotating savings and credit associations, and mutual insurance societies. In India, there are numerous ways in which the poor can access credit through informal and semiformal institutions. The poor, in the absence of formal institutions, often must resort to the informal sector, which is characterized by monopolistic practices and exorbitant interest rates—at times even in the form of human capital. In a paper published by the ICICI Social Initiative Group, Bikram Duggal and Anit Singhal wrote, “Informal systems may be inefficient and even exploitive due to their monopoly power. Interest rates in the informal market vary from 3 to 10 percent a month. Vegetable vendors are known to borrow at even 10 percent *a day* to finance their daily working capital needs.”¹²

In trying to estimate the degree of dependency the poor in India have on the informal sector, data from the All India Debt and Investment Survey of 1992

estimated, “the share of the non-institutional agencies (informal sector) in the outstanding cash dues of the rural households is as high as 36%. The data further reveal the credit dependence on the informal sources was higher in the case of lower asset groups. The dependence on the informal sector was as high as 58% for households with assets lower than Rs. 5,000.”¹³ In other words, a majority of the extremely poor are reliant on extortionist money lenders for living capital.

Yet formal financial intermediaries, such as commercial banks, typically do not serve poor households. The reasons include the high cost of small transactions, the lack of traditional collateral, geographic isolation, and simple social prejudice. “According to Mahajan,¹⁴ the transaction costs of savings in formal institutions were as high as 10% for the rural poor. This was because of the small average size of transactions and distance of the branches from the villages.” Even those institutions that provide financial services to the poor are limited in scale. With more than 400 million poor people and participation rates in formal institutions around 30%, demand far outstrips supply.

Early efforts to provide financial services to the poor tied those services to specific economic activities that were perceived as more financially sound. For example, between the 1950s and 1970s governments and donors focused on providing subsidized agricultural credit to small and marginal farmers in hopes of raising productivity and incomes. During the 1980s, micro-enterprise credit expanded by providing loans to poor women to invest in tiny businesses, enabling them to generate and accumulate assets and raise household income and welfare. The proof that women are more able partners for MFIs is well-documented and rests on a few simple principles. Because women are in charge of the household, the benefits of the money lent are more likely to filter into the family. Therefore, by lending to one woman the bank is helping the lives of at least four or five people. Also, women are more likely to respond to the pressure of the social collateral, which many of the MFIs depend on for repayment.

The world of MFIs is diverse—they exist in various legal forms, including nongovernmental organizations (NGOs), credit unions, nonbank financial intermediaries, and commercial banks. In the most recent meeting of the Micro-Credit Summit in November 2002, there were more than 2,100 MFI entities in various forms that provided information on loans to more than 54 million clients. Their success has shown that poor people can be valuable clients of specially designed financial services.

In 1997, the Micro-Credit Summit was formed to exchange ideas and start a global campaign dedicated to reaching 100 million of the world’s poorest families by 2005. Worldwide, there are more than 7,000 MFIs. Of these, fewer than 100 claim financial self-sufficiency. Each type of MFI faces unique constraints that prohibit its financial sustainability. In the NGO model, they typically lack the resources to build permanent support structures of microlending, such as access to savings institutions. In addition, they face

constraints of the scalability of their operation, and thus individual transactions become too costly.

Most of the problems with MFIs are due to the fact their primary focus has been on access to credit. With such small loans (and thus meager interest payments) the key to sustainability becomes scale. If an MFI could achieve a large volume of loans, then the aggregate interest payments would suffice to cover operating costs. Achieving such scale is very labor-intensive and takes many years. However, the experience with SHGs in India has shown that lending can be profitable without massive scale and without donor dependency as long as it is coupled with saving requirements. The experience with SHGs has shown that savings must precede credit.

ICICI Bank and the BOP

Although most banks struggled to appease the minimum standards of the government regulations, ICICI Bank, the recently developed commercial/retail subsidiary of ICICI Limited, saw this as an opportunity to expand and grow. As a commercial entity with shareholders to satisfy, ICICI Bank could not enter this market aggressively unless it was convinced it could be done profitably. "At the ICICI Bank we were very clear we would not restrict this initiative to be a mere marginal experiment. We decided we wanted to actually develop a model that not only is scalable, but is low-cost and commercially viable."¹⁵ Thus, the management of ICICI entered this market fully convinced it could be a profit-making venture. With this market in mind, ICICI outlined three strategic goals: to increase banking penetration in rural areas through innovative ways of defining distribution points, to prepare rather than react to the increasingly important rural market, and to support the downtrodden as a good corporate citizen.¹⁶ All these goals were aimed toward enabling the poorest of the poor to "become active and informed participants in socioeconomic processes as opposed to passive observers."¹⁷

ICICI was well-situated to take the lead in rural banking as a universal bank providing a wide range of banking services that was technologically driven. For example, ICICI was the first bank in India to launch a Web site (1996), the first bank to launch Internet banking (1997), the first bank to launch online bill payment (1999), and the only bank in India with more than 1 million online customers. ICICI's channel usage reflects this technological approach toward banking (see Figure 2).

"If you are going to gain sustainable competitive edge, you have to leverage technology in a big way. Our aim was to move from physical branch banking to virtual banking. Block by block we slowly built up a clicks-and-mortar strategy."¹⁸ This progressive and imaginative use of technology was a vital key to ICICI's ability to serve the BOP profitably.

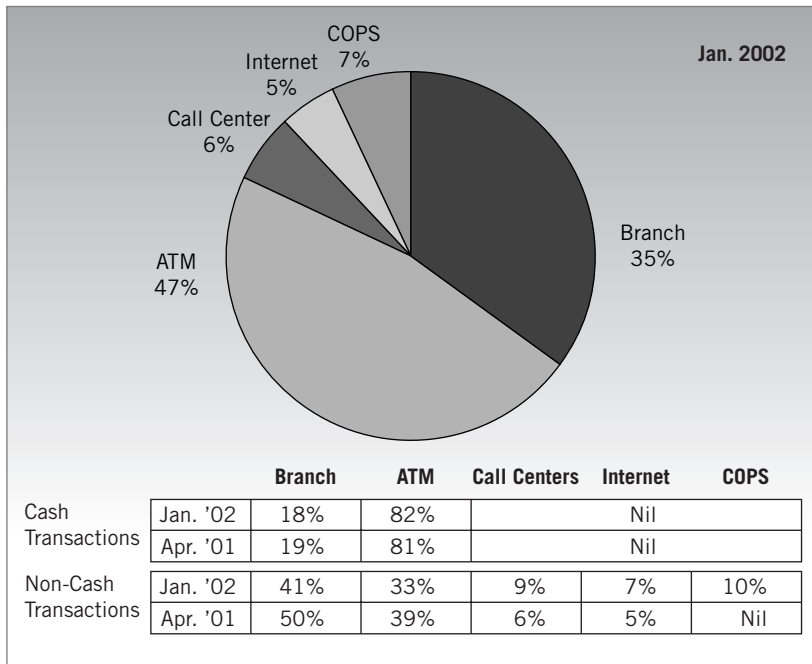


Figure 2 ICICI's channel usage. Source: http://r0.unctad.org/ecommerce/event_docs/monterey/mor-icici-india-EfFD.ppt.

ICICI also was a new entrant to retail banking. ICICI started retail banking under a new and changing regulatory regime that was decidedly more market-based than before. As a new player in this environment, ICICI was not burdened with legacy thinking and could attack the issue with fresh ideas. Additionally, ICICI was not hampered with a large physical branch network, and thus was well-positioned to introduce low-cost banking channels. For comparison, the State Bank of India, one of the oldest and largest banks in the country, had to financially support a network of more than 13,000 branches.¹⁹

As ICICI oriented the banking operations toward the BOP (see Figure 3), it began looking at entering the microfinance field because there certainly was and still is a vast unmet demand for credit in rural areas. "In rural areas, only one million households have received access to microcredit from MFIs."²⁰ Yet the competitive situation was relatively crowded. "India currently boasts more than 500 microfinance institutions."²¹ However, the incumbents in this space were all struggling to turn profits because they were used to working as donor-funded and supported institutions. This dependence often affects scalability and sustainability. Additionally, these MFIs were experiencing low savings to credit ratios, liquidity problems, high capacity-building costs and general

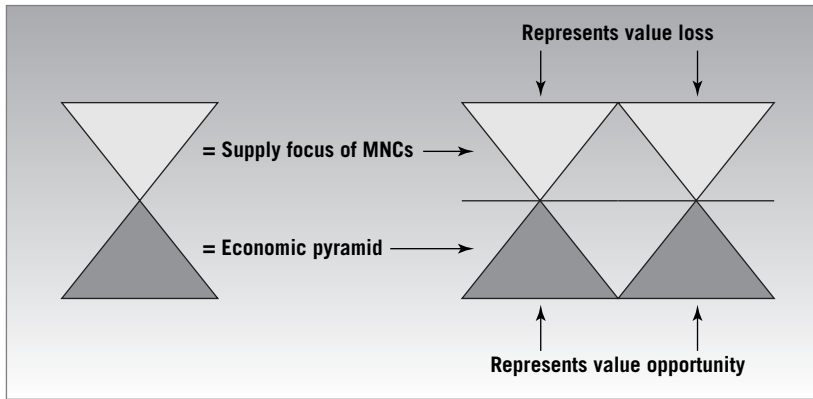


Figure 3 Value opportunity and value loss.

inefficiencies. ICICI saw a real opportunity in this area because many of the problems and risks with microfinance could be alleviated by the capital, expertise, scale, and reach of a major bank. By entering the microfinance field, ICICI has taken on the role of social mobilization as well as financial intermediation.

In addition to looking at microfinance, ICICI also wanted to increase its banking presence in rural areas. To do this, the bank needed to rapidly proliferate its points-of-presence or distribution points. However, the traditional brick-and-mortar approach to expansion is prohibitively expensive given the vast and varied landscape of India. Additionally, it is very difficult to staff rural branches with competent bankers either because educated urbanites do not want to live in these areas or there is a paucity of qualified locals. To minimize the costs associated with expanding rapidly and to gain qualified rural staff, ICICI decided to partner with NGOs and MFIs currently in the field. By “piggybacking” on the established network of these rural-oriented players, ICICI can gain knowledge about the market they intend to serve and eventually increase its banking presence. ICICI has combined the social mobilization strength of NGOs and MFIs with the financial strength of the bank.

ICICI has thus identified two innovative models toward serving the BOP:

1. The *direct access, bank-led model*, which was catalyzed by the merger with the rural banking institution, Bank of Madura, utilizes the power of ICICI to promote and grow SHGs and to dramatically increase the scope and scale of rural savings and lending.
2. The *indirect channels partnership model* leverages the relationships, knowledge, and rural network of organizations in the field to avoid the costly brick-and-mortar expansion process and thus helps efficiently cultivate ICICI's banking presence.

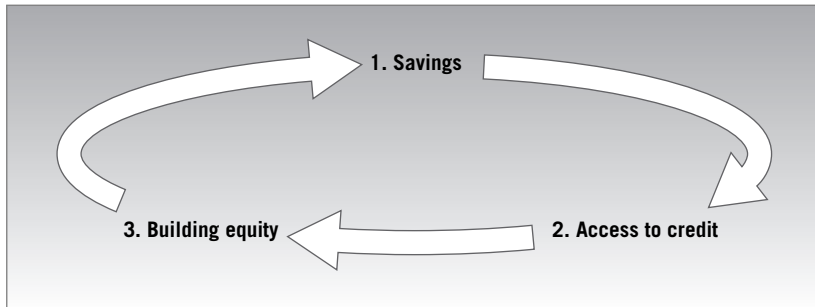


Figure 4 Financial cycle in the developing world.

These models are aimed at “facilitating the participation of the poor in the larger economy,” which can “lead to the creation of a virtuous demand-led growth cycle.”²² ICICI is implementing these models to serve the BOP throughout their financial lifecycle (see Figure 4).

The Indian banking system has three distinct tiers. The first tier, where ICICI competes, consists of commercial banks, of which there are approximately 80. In the next tier are regional rural banks, which operate in approximately 200 rural command areas. The last tier consists of cooperative and special-purpose rural banks. There are more than 350 central cooperative banks, 20 land development banks, and a number of primary agricultural credit societies.²³ India certainly has an extensive and wide-reaching banking system. Yet “despite fairly broad banking coverage nationwide, the financial system remains inaccessible to the poorest people in India.”²⁴

ICICI is now the second-largest bank in India with total assets of about 1 trillion rupees (approximately US\$22 billion). With heavy competition among both domestic (State Bank of India, HDFC, Canara Bank) and international banks (HSBC, Standard Chartered, Citibank) for the assets of the urban Indian elite, ICICI executives see the rural hinterlands as the true engine of growth in India and are positioning the bank, through increased distribution points, to be the pre-eminent banking presence in those areas.

Direct Access, Bank-Led Model

The direct access, bank-led model is one of the approaches ICICI is taking toward serving the BOP. This model is aimed at proliferating the points of presence of ICICI through the creation of savings programs for and provision of direct microloans to SHGs. The purchase of the Bank of Madura truly catalyzed this model. Then, ICICI has added a number of innovative layers to what the Bank of Madura had already implemented.

History of the Bank of Madura: The Rural Development Initiative

The Bank of Madura, established in 1943, was one of the premier private-sector banks. However, the least profitable area for the bank was its presence in the rural sector, mostly in the southern Indian state of Tamil Nadu. Presence in the rural sector was important to the RBI, and various stipulations were enforced to ensure banks followed this directive. The government required a certain number of employees, guards, and support personnel to operate in addition to scheduled audits to monitor activity and performance. The overhead and the administrative costs were too high given the low level of banking activity per branch.

Under the leadership of Dr. K. M. Thiagarajan, who assumed the position of Chairman in 1993, the Bank of Madura reoriented its focus toward increasing deposits and consolidating unprofitable branches. The Bank of Madura escaped many of the waves of reform and liberalization due to its small size, which allowed the bank much more flexibility to act without costly bureaucratic impediments. Of its 270 brick-and-mortar branches, approximately one-third were located in rural areas (a branch was considered rural when it was located within a village surrounded by a cluster of hamlets with a population of 1,000 to 3,000 people). To reduce the unprofitable operations, 103 rural branches were reduced to 77. Also, the Bank of Madura became the most automated old private-sector bank in the country by implementing a number of technological improvements, which allowed the bank to eliminate overhead and increase the customer base. With the branch consolidation and technological changes, Bank of Madura deposits had increased to 37 million rupees (US\$740,000); the bank was showing profits just prior to the merger with ICICI Bank in 2001. Rural branches tended to be neglected. It was difficult to attract talented, educated, and motivated personnel. Managers were incredibly reluctant to move to these rural areas because of the poor lifestyle. Originally, tenure of about two years in a rural branch became part of the career track for a manager eligible for promotion. Even with the incentive of eventual promotion, Bank of Madura found it difficult to attract managers.

The Bank of Madura's executive team began to realize there were many more issues than just the low level of economic activity in these rural areas that prevented the branches from reaching profitability and extending their presence in the communities. The low level of economic activity was in fact misleading. The informal and semiformal money-lending sectors were incredibly active and used by many families in the villages, especially in southern India where people inherently believed in implicit contracts. Although the high interest rates precluded the possibility of true economic development for the recipients, the informal and semiformal sectors were well-established and formidable. In

addition, the banks had difficulty establishing a trusting relationship with the communities and stimulating new economic activity. Dr. Thiagarajan felt that to increase profitability in these rural branches, the banks would first have to establish a reputation of trustworthiness and credibility to stimulate more economic activity. Integral to this mission was being able to attract personnel who had an interest in working with the economically impoverished, not only in their financial standing but also with issues of education, health, civil, and social rights.

Thiagarajan became familiar with the Grameen Bank model started in Bangladesh, providing small loans to clients below the poverty line. Executives at the Bank of Madura felt the efforts in Bangladesh could be replicated in India. In 1995, they developed and implemented the Rural Development Initiative, focused on economic empowerment of the poor in rural areas. To begin, they had to find the right people. Word spread quickly throughout the organization of the new and prestigious program. Thiagarajan reversed the negative perception of the rural managerial positions by creating a lengthy interview process for what was previously deemed a marginal job. Applicants were turned down if they expressed the slightest hesitation about the demands of the job or the time window the post might require. In addition, existing personnel in the rural branches were reviewed, and those who did not match the profile were weeded out. The applicants had to have the desire to help the poor and become personally involved with their economic development.

The interview process produced a team of 325 individuals and a core executive team of 15. The bank also initiated a new policy that stipulated that any individual working in the rural sector could request a transfer at any time. This was a perk for the rural field agents and added to the allure of the position. Next the team had to learn the intricacies of microfinance and how to make it successful. It began a serious study of microfinance with experts around the country, because many NGOs and academics were already active in this area in India.

After a number of consultations with outside experts, the core team held its own two-day retreat and decided on the strategic and organizational directions the bank would take next. Some limits the program was placed under were that there were to be no additional expenditures, including new staff. The operational costs were to remain the same. Over the course of the retreat, the team had decided that the clients, bank, and program would be better served with its own unique program. Of course, the team members drew on many important lessons they had seen in the field from other players; however, with the financial backing of the savings institution they represented, they saw a new opportunity for themselves. The essential strategic design of their program was to form, train, and initiate small groups of women into formal savings, banking, and lending. The vehicle conceived for this was the SHG. The Bank of Madura's conception of the SHG was as follows:

1. A group of 20 women from the same village whose individual annual incomes placed them below the poverty line. Multiple groups could be formed in the same village.
2. The members did not participate, as of yet, in the formal banking sector.
3. Leaders should be selected from within the group to bear responsibility for collecting the savings, keeping the accounts, and running the monthly meetings.
4. On formation of the group, the bank will undertake to educate these women with the basic concepts of banking and encourage them to begin a savings program for themselves, thereby creating new customers for the bank.
5. After one year of training and monitoring the regularity of meetings, loans were dispersed to the group in the average size of 10,000 rupees (US\$200) per member. This was a considerable loan, above the amount normally given for consumption purposes, to begin a small business or expand an existing operation in agriculture, for instance.
6. The loans would be given based on need, not in ratio to existing savings deposits.

The Bank of Madura's SHG vehicle allowed for many other positive intangible changes in the women's self-esteem and confidence to decide on and influence events in their own homes and villages. The maturation of an SHG followed the general pattern shown in Figure 5.

At the time of the merger in 2000, there were 1,200 SHGs formed; a social vehicle had been created with considerable power. Women participating in the SHGs found themselves becoming more articulate, more confident, and empowered. The focus of the SHG movement was on the maturation of the

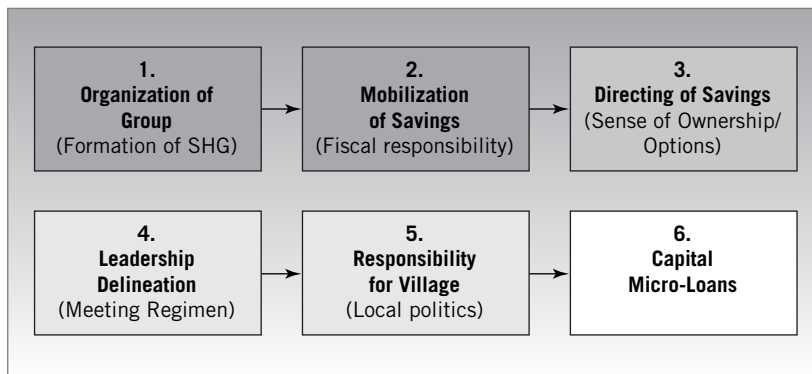


Figure 5 Maturation of a self-help group.

individual and thus the group as a whole by enforcing a strict meeting schedule and savings regimen. Ultimately, federations were formed, representing large numbers of SHGs that included thousands of members. The rapid spread was due in part to the training structure the Bank of Madura provided.

The greatest difficulties the SHG program would have to face first were intangible. How would a bank raise the confidence and motivation of a group of women without familial relation, without incentive to trust one another, and without any formal participation in the financial sector? Further, there was a stigma attached to formal banking as an untrustworthy institution. This mistrust was based on prior experiences some of the women had with bank loan officers, who demanded bribes and wrapped the entire savings-and-loan process in obscurity to confuse the locals.

The potential candidates for the SHGs, of course, understood their needs very well but had not been actively seeking alternatives. The answer to developing the group dynamic lay in the composition of the groups, so that a feeling of mutual dependence was immediately created, not merely financial but also psychological. Additionally, the framework that created a joint guarantee for the loan of all the members was also vital. This forced a rapid development of interaction between women who formerly would not have had any or very little reason to engage with one another. Eventually, a small number of groups began forming and the members soon felt the benefits initially in the form of increased confidence, the mutual benefit of cooperation, and other externalities of a diverse and established support network. Concepts of citizenship were developed where members began to recognize their duty to the communal setting in which they played a role. With the passing of time, established groups and their most proactive members were trained to form new groups, which spread the SHG movement at an accelerating pace.

To date, there have been many instances of total transformation, not only of the individual's self-confidence, but also of village politics, ethics, and social norms. The SHG units began to develop a fierce identity both for themselves and within the context of the larger SHG network. Members of the SHGs adopted a certain color and style sari to demonstrate their solidarity. The hustle and bustle at the local bank offices has become a flurry of blue, maroon, and yellow robes as the women go about their daily business. Songs and ceremonies have emerged, celebrating the SHG unit. These songs are offered at the commencement of each meeting to bring the members together in thought and act.

Merger with Bank of Madura

As they entered the new millennium, ICICI's executive team identified three areas as the next sectors of growth: international, urban retail, and rural retail. With the rural sector targeted as an important driver of growth, Executive

Director of Retail Banking Chanda Kochhar began looking for a suitable partner to help avoid the time and cost of Greenfield expansion. They identified the Bank of Madura as a profitable, well-capitalized, private-sector commercial bank in operation for 57 years. The main advantages for ICICI were the addition of 1.2 million customers and the Bank of Madura's rural branch network. The Bank of Madura's most significant presence was in the southern states, with 77 branches in the rural area of Tamil Nadu. The Bank of Madura was especially strong in small- and medium-sized corporate banking, which would help ICICI expand its corporate business. An additional strength was the Bank of Madura's microfinance initiative. ICICI made it clear it intended to aggressively develop this initiative. P. H. Ravikumar, Senior Executive Vice President of ICICI Bank, stated that in "the area of micro-credit lending they also have a strong presence, especially in those areas where the lending is to self-help groups involved with handicrafts, weaving, etc. We will evaluate the micro-credit areas and wherever possible will try to grow them."²⁵ The merger was approved on March 10, 2001, by the RBI. With the merger, ICICI Bank Limited became one of India's largest private-sector banks with total deposits of Rs. 13,460 crores. After the merger, ICICI became the most visible bank in the state of Tamil Nadu with activity in 23 of the 28 districts.

Scaling SHGs

When ICICI inherited the Rural Development Initiative from the Bank of Madura, the SHG program was still not financially sustainable. To reach profitability, the number of SHGs had to expand exponentially without increasing ICICI's costs of managing these groups. ICICI developed a simple three-tier system. Under this system, the highest level was a bank employee called a *project manager*. The project manager oversaw the activities of six *coordinators*, approved loan applications for the area manager, and helped with the development of the SHGs. The coordinator was herself an SHG member who had a contractual relationship with the bank. She was overlooking the actions of six *promoters*. The promoters' primary responsibility was the formation of new groups. Within a year of election to promoter, the woman then becomes a *social service consultant* (SSC) and must form 20 groups within 12 months. If the groups are formed, she is financially compensated by the bank and becomes part of the pyramid structure of creating and monitoring the SHGs.

Under the ICICI model, SHGs form and expand in a pyramid structure. In early 2001, at the time of the merger, there were 1,200 SHGs that had been formed under the Bank of Madura structure. By March 2003, more than 8,000 SHGs had been formed. The acceleration and success of the program depended on the training and empowerment of the women participating in the existing SHGs. At a certain degree of maturity, existing members who have

demonstrated leadership ability are trained by the bank to become SSCs. The SSC's primary responsibility is to form new SHGs in neighboring villages and thus expand the SHG network. ICICI provides a small financial incentive of 100 rupees for each new group formed, and the SSCs must fulfill certain quotas to retain their status. The SSC must travel to villages within a 15-kilometer radius and form five new groups within two months and 20 groups within 12 months. ICICI has set strict guidelines for the member formation:

- All members are from the same village.
- They are all married to ensure there is a family that receives the benefits as well.
- Members are between the ages of 20 and 50.
- SHGs must focus on the illiterate and those existing below the poverty line.

NABARD created a list of questions that determine the poverty level of a certain family and tries to assess its eligibility for SHG participation:

- Is there only one source of income for the family?
- Are there any permanently ill members of the family?
- Do you regularly borrow from money lenders?
- How far is your drinking water source?
- Do you belong to a scheduled caste or scheduled tribe?²⁶

If they answer "yes" to three or four of the questions, they are considered good candidates for the SHG. After a series of visits with multiple families, plans for group formation begin. The most successful groups have members who share some sort of similarity, whether they are from the same caste or have had a similar experience of poverty. Before the first SHG meeting, the SSC meets again with the village elders and gets their permission to work on a more significant level with the village to aid its development.

NABARD estimates that the process of group formation can take five to six months. In the first few meetings, it is not unusual for members to leave and new members to arrive. Once a core set of members has been established, a leader must be selected along with two animators. These three women are agreed on by all members and will share in the duties of running the group and keeping the accounts. The animators keep the minutes book, which details the proceedings of the meetings, the savings and loan register, the weekly register, and the members' passbooks. Proper documentation of the activities, especially of the internal lending, will help the approval process from the bank. The preliminary meetings also include Basic Awareness Training (BAT) given by an

SSC, coordinator, or project manager. The SHG also must agree on the meeting times, penalties for missed meetings, and repayment habits.

The motto of the SHG becomes "Savings first, credit later." The members are taught that the savings habit is crucial to their rise out of poverty by reducing their vulnerability to consumption and medical emergencies. Once the group has gone through training and begins to gather its own momentum, the SSC will leave to go form new groups, yet will still be responsible for a certain degree of monitoring and assistance in training. After the SSC has formed 20 groups, she will have earned 2,000 rupees (US\$40) from ICICI Bank and will then become a promoter. During this process, she will have reported her activities to the coordinator, who is responsible for multiple SSCs.

In the SHG hierarchy, a coordinator overlooks the activities of six SSCs or promoters who have fulfilled their quota of forming 20 groups within one year. Similar to the SSCs, the promoters are selected on the basis of talent and skill. With each promoter in charge of 20 groups, the coordinators are overlooking the activities of 120 groups. ICICI provides them with an annual salary of 2,400 rupees (US\$48) for the 120 groups or some proportional piece thereof, depending on how many are formed. The coordinators and the promoters work closely with the bank personnel who support their efforts. They are not considered official employees of the bank but rather like contracted agents that perform a very particular function. These women have passed through various levels of election and are considered to be the most talented and motivated members. They, of course, began as members within a particular SHG and continue with their duties to that original vehicle. Within the official hierarchy of ICICI, there are managerial positions that support the efforts of the SHGs and their various executives (see Figure 6).

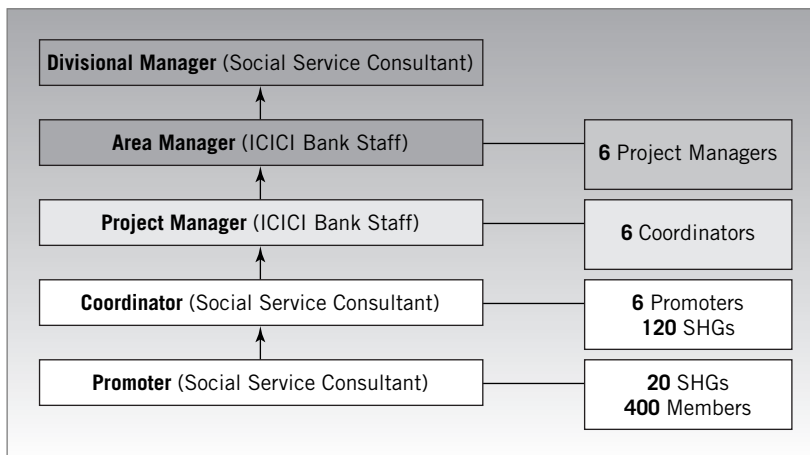


Figure 6 Structure for SHG promotion.

Learning to be Financially Smart

The SHG process is oriented toward building new disciplines and capabilities. Collective responsibility and group pressure act as social collateral. Toward this end, the process has three essential steps:

1. Learn to save.
2. Learn to lend what you have saved.
3. Learn to borrow responsibly.

Beginning with the first monthly meeting, each member must bring 50 rupees (US\$1) to each meeting to contribute to a joint savings account with the other members. The leader and representatives are responsible for collecting this money and opening up the savings account for the group. Instructions have been issued by the RBI to all commercial banks to allow registered and unregistered SHGs to open savings accounts in their group's name. It is imperative that each woman contributes and participates each month. This begins to build the momentum of savings that ICICI believes is essential for greater economic independence.

After six months, they have amassed 6,000 rupees (US\$120) plus interest. At this point, the idea that they are contributing to something that is able to expand beyond their individual means is evident. The savings are converted into a fund. The group can access this fund and use it for emergency lending to an individual within the group. This marks the first step in a transition into formal lending and a departure from the dependence on the local money lender. Emergency lending can be defined as immediate payment of a medical emergency, short-term borrowing for consumption purposes, or other health reasons. This emergency loan is very short term, and the women pay an interest rate of 24 percent per annum to the account. The members know, even if they have little or no education, that this is desirable compared to dealing with money lenders. They compare the internal rate of the SHGs with the informal rate, which can be as high as 10 percent a day.

Often, monthly meetings take on a completely different agenda. Here, the activity revolves around the needs of the village and other concerns of women. In Tamil Nadu, water availability and purification, transportation, and electricity were the most highly debated topics. The SHG allows women to stand together as thousands, and local politicians take them very seriously. Chanda Kochhar, the Executive Director of Retail Banking at ICICI, related stories of women who rarely stepped out of their homes before joining the SHG. Through working with their peers, they gained such a degree of confidence and esteem that they were debating with local politicians on such issues as the construction of a dam and the digging of a well. The group also focuses on literacy training.

One year after formation of the SHG, the group is ready to submit a loan proposal to the bank manager. The proposal process is relatively paper-intensive. There are certain key supportive documents in the process, including loan agreements signed by each member of the SHG, an updated family survey, a No Due certificate that guarantees that there are no outstanding loans owed by any member, and a Letter of Sanction approved by the area manager. The size of the total loan to the SHG is 250,000 rupees (US\$5,000) with a distribution of 12,500 rupees (US\$250) to each member. Activities that can be funded with this amount would include purchase of livestock, leasing of land for agricultural purposes, the opening of a small tea shop, candle manufacturing, and the purchase of a home. These loans are noncollateralized. The savings account cannot be held as collateral against the loan because the bank wants to continue encouraging the internal lending process. However, the SHG as a whole is responsible for each member's loan, which builds a strong degree of social collateral. This social collateral has proved able enough to achieve a repayment rate of 99.99 percent, making the rural sector one of the most credit-worthy in the banking industry. To fulfill the repayment terms, each member must pay 400 rupees (US\$8) to the bank for 43 months, an effective annual interest rate of 18 percent. Within India this is higher than most home loans, which are in the area of 9 percent, and other commercial lending at 12 percent. ICICI charges this rate to cover the training costs and salaries of the promoters and coordinators who make this operation sustainable.

The NABARD journal published for bank managers described the steps to successfully deal with the SHGs from the institution's perspective.²⁷ An assessment by the bank is encouraged. NABARD has assembled several checklists that correlate with high repayment rates and characteristics of the SHGs. These include the following:

- Is the group size between 15 and 20 members?
- Are all members considered very poor?
- Was there a fixed amount of savings collected each month?
- Is there more than 20 percent literacy?
- Have they used their savings for internal lending purposes?
- Have the members kept a high level of attendance?

If the SHG meets a certain number of these criteria, the loan officer is instructed to grant the loan immediately. If the SHG is lacking in many areas, the loan application is suspended, and the group is granted four to six months to improve its operation. The officer is also encouraged to examine the books of the SHG and determine their accuracy and appropriate depth of content. Although the accounts are relatively small, these small savings of many SHGs

grow into valuable large accounts. Cost savings occur because, although the savings account and loan represents 20 people, only the three elected officers interact directly with the bank officers, saving time and labor of the bank. In addition, because there is internal monitoring for repayment, the bank incurs very little cost in appraisal and monitoring of the loan. Further, the bank's reputation increases its social base of recognition within the village and attracts more business within other sectors.

In a continuation of the first monthly meetings, individual members report progress on the various business enterprises to the group. The members also bring their personal monthly loan payment. These payments are collected by the animators, recorded in each member's passbook, and brought to the bank the next business day. If a member misses a payment, a penalty is assessed by the SHG, which is added to the shared savings account. If the first round of lending is successful, the SHGs can approach the bank for a second round with an increased credit line of 15,000 rupees (US\$300) per member.

Far from just creating a financial partnership with the women involved with the SHGs, ICICI Bank also sponsors additional activities and annual events that celebrate the progress of their direct access, bank-led model. A yearly celebration called Women's Day is held each spring. Here, many SHGs participate in singing and sporting activities, representing their groups with their dedicated saris and original songs. ICICI awards 5,000 rupees (US\$100) to the group with the highest literacy rate. The bank also has partnered with the Aravind Eye Hospital to hold medical eye clinics for cataract surgery. The bank pays the traveling expenses of the surgeons and their staff, and Aravind performs the necessary surgeries free of charge for the villagers. To date, ICICI has been involved with 70 eye clinics, and Aravind doctors have tested 68,000 villagers and performed 4,000 surgeries. Veterinary camps also have been conducted.

In addition to the hierarchical structure of the coordinators, promoters, and SHGs, there have been additional affiliations formed to monitor the growing complexity of lending, economic progress, and social development. The federation of the joint meeting committees (JMCs) represent tens of thousands of women and is chiefly responsible for the handling of the emergency funds. Each single JMC is run by three female officers and is comprised of 20 SHGs from 10 to 20 villages within the same area. These three women meet once every three months to monitor the internal lending activities of the 200 to 400 women. This internal fund is created by each member contributing 10 rupees (US\$.20) and is available as petty cash even when the bank is closed. The loan is typically used for emergency medical purposes. The size of the loan must not exceed 300 rupees (US\$6). Terms of the loan are a monthly interest rate of 2 percent and a short-term length of about 10 days. If payment is late, there is a 1-rupee (US\$.02) daily penalty for every 100 rupees (US\$2) borrowed. The JMC also is responsible for the creation of and maintenance of an information booth erected in one of the central villages. The information booth displays events

Table 2 Total SHG and WFS Deposits

Deposits of the SHGs at the Business as of 01/01/2003 (thousands of rupees)	
Savings Bank	26750
Recurring Deposit	7628
Fixed Deposit	17582
Deposit in Women Dev. Trust at Achampathu Br. (Welfare Fund)	
Savings Bank	649
Recurring Deposit	15429
Fixed Deposit	68038

such as births and deaths in the villages and world news. The booth costs 1,000 rupees (US\$20) to create and is also monitored in part by the promoter and coordinator assigned to that area. The executive officers also report on the progress and state of the JMC to the area coordinator and project manager.

Rural India continues to demonstrate a low life expectancy of 63 years by developed nations' standards. To combat the uncertainty in this situation and protect the respective members of the group, SHGs have become sophisticated to the point of developing their own welfare fund scheme (WFS) as a form of life insurance. Its purpose is to cover the remaining principal of an outstanding loan on the death of a member and to help the family pay for the funeral expenses. The SHG as a single entity becomes eligible for the WFS after 11 months of formation and must decide to participate as a whole. Each member contributes 310 rupees (US\$6.20) to a common fund held in a fixed deposit account at ICICI. Currently, the aggregate of WFSs represents 2,873 SHGs with more than 54,000 members and 15.7 million rupees (US\$314,000) in deposits (see Table 2). The interest this account collects is paid to a member's family in case of death to assist with funeral arrangements and other adjustments. The WFS is run by seven elected trustees who oversee the application process. As of March 2003, they received 74 applications for disbursement from the WFS and paid out more than 510,000 rupees (US\$10,200).

ICICI's unique approach has been successful in accelerating the growth of the SHGs in the Tamil Nadu area as seen in Figure 7. ICICI's mission is to extend this program to other needy areas of India and reinterpret microfinance in a wider context to include savings, insurance, banking services, and derivatives. "The momentum of the SHG movement in the country really needs to be accelerated in order to bring about lasting changes in the rural economy and the lives of the poor."²⁸

Many bank loans are used for agricultural purposes. In one instance that illustrates the impact of a loan to enable an agricultural practice, Ms. Pundiselvi in the Nahramalaipthur village used the loan to lease a small parcel of land to

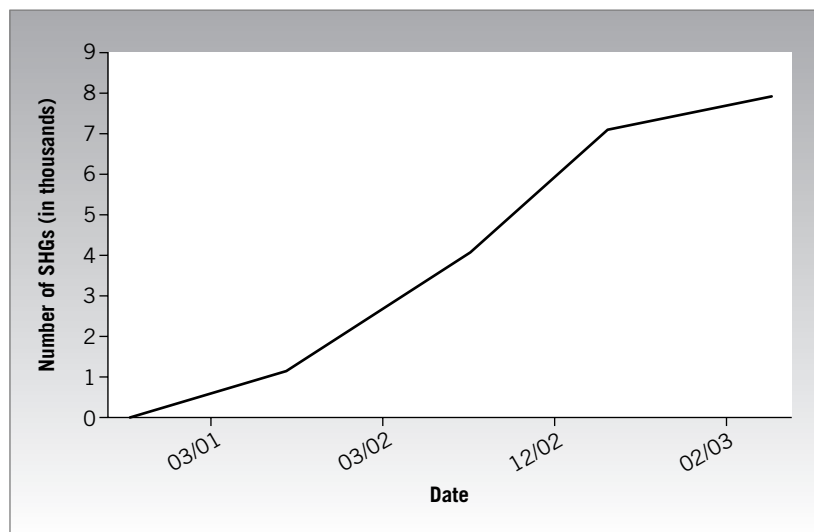


Figure 7 Growth of SHGs under ICICI Bank.

raise chilis for cooking and flowers for decorative purposes. The cost of the land was 10,000 rupees (US\$200) for the season, and the seed inputs cost a few thousand rupees. Currently, Ms. Pundiselvi has paid back 7,000 rupees (US\$140) or 70 percent of the loan due to the produce generated from her land. In the same village, Ms. Saraswathi owned and operated a small grocery shop with a small inventory and limited selection of goods. With the 10,000-rupee (US\$200) loan, she expanded her existing shop and now enjoys an increased monthly income. Ms. Saraswathi has never missed a monthly payment and has paid back 6,000 rupees (US\$120) or 60 percent of her loan. One enterprising woman pooled the money from the loan with other family assets and dug a new well for her village. She charges other farmers and villagers 25 rupees (US\$.50) per hour to pump water for irrigation purposes. The irrigation system the pump fed also increased the yield of her own nearby fields.

The tangible impacts on asset value of the household, income development, working days, and the share of the loan amount by a particular agency have been carefully monitored and measured by NABARD. In a comprehensive study released in 2002, NABARD studied the effects of SHGs and bank linkages of more than 560 member households belonging to 220 SHGs across 11 states. The report favors the view that microlending has significant positive impact on income levels and income-generating activities. It also reports that the involvement of the members in SHG activities has contributed to their self-confidence and communication skills. Figure 8 includes several charts assembled by NABARD that speak to these points.

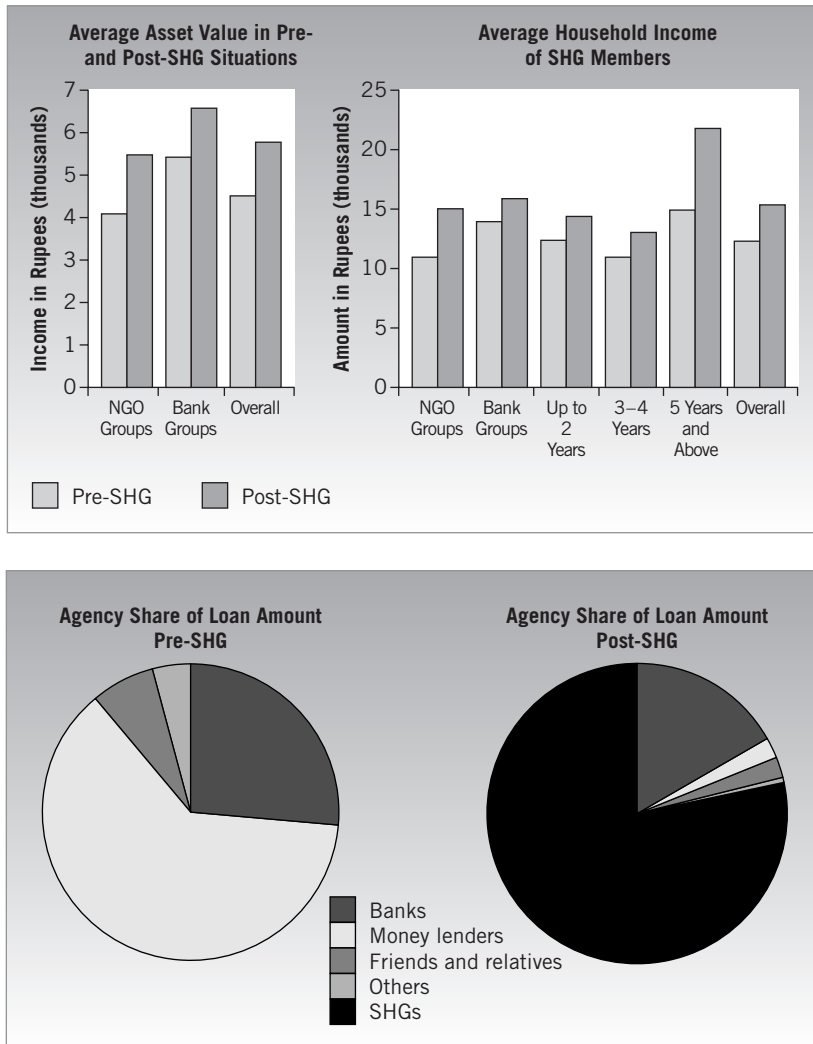


Figure 8 Benefits of self-help groups. Source: Badatya, K. C., & Puhazhendi, V. (2002). SHG-Bank linkage programme for rural India: An impact assessment. NABARD 27, 33, and 39.

ICICI's dedication to the SHG program has a dual inspiration. The first is that ICICI believes the rural sector will be the next area of growth for India and that the SHG movement, if properly scaled and managed, makes good business sense. The bank expands its customer base and receives new deposits while reducing the cost of single transactions with the use of the animators and SHG leaders. The second positive aspect of the SHG program comes from ICICI's

sense of corporate social commitment to the development and enabling of the rural poor. The NABARD research concluded that SHG participation had significant impact on various aspects of confidence, communication, and decision-making. One of the most important objectives for the SHG program is to improve the assertiveness of the SHG members, which NABARD measured in a survey published in their series on microfinance.

The study conducted by NABARD questioned 115 members on their experience with certain psychological aspects and social ills associated with poverty, such as domestic violence, gambling, and drinking. They saw a noteworthy reduction in these social evils, as measured in Table 3. Other positive indicators of change in confidence, freedom of communication, and the woman's role in decision making for the household also showed considerable gain. "There have been cases where the ladies were not even stepping out of their houses. But today they have the confidence of not only sitting in groups but actually debating on some of the social and economic issues of the village: whether a dam should be constructed or not, whether water should be allowed, whether electricity should be allowed. That is the movement in the confidence levels we see."²⁹ In Table 3, the left column is the indicator of change. The numbered columns show the percentage of SHG members responding affirmatively to the psychological benefit.³⁰

Table 3 Positive Effects of Self-Help Groups

Indicator of Change	Pre-SHG %	Post-SHG %
Self-confidence and self-worth		
Respondent exudes confidence	21	78
Can confidently meet financial crisis	33	85
Respectful treatment from family members	40	89
Comes out to help neighbors/others	51	95
Decision-making		
Joint decision-making on purchase of household assets	39	74
Makes joint decisions on social matters such as education of children and marriage	42	69
Communication skills		
Speaking out freely	23	65
Talks only if asked	40	9
Behavioral changes		
Protests drinking and gambling	37	81
Protests wife-beating by husbands	52	78
Domestic violence	67	49
Increased mobility	45	75

The impact of the ICICI microfinance program has been to fundamentally change the lives of the SHG members with long-lasting economic solutions while achieving break-even costs in the operation at its present scale. ICICI's plan is to continue the accelerated growth with the proliferation of its pyramid model and its three main constituents: the area manager, the coordinator, and the promoter.

Indirect Channels Partnership Model

“Our vision is to attain national outreach. To reach out to rural areas where we do not have branches, we have developed the partnership model. Our aim is to combine the social mobilization strength of NGOs and MFIs with the financial strength of the bank. The partnership model helps overcome the constraints faced by NGOs and MFIs in scaling up their activities.”³¹

The indirect channel partnership model is another approach being taken by ICICI Bank in its effort to increase distribution points and to cost-effectively serve the BOP. The model looks to leverage the current infrastructure and relationships that microfinance institutions and NGOs have in place to deliver banking services to the rural poor. By piggybacking on this network, ICICI does not have to implement a costly brick-and-mortar expansion model. Also, ICICI can learn from these organizations, whose sole focus is to serve this customer class, thus minimizing their learning curve costs.

Microfinance Institutions

ICICI originally began the indirect channel partnership model in a catalytic role. The bank began giving grants and loans to MFIs to spur their credit activities to the rural poor. However, the role as a donor organization and passive lender did not truly fit into ICICI's goal to be a leader in rural banking. Thus, ICICI created a unique lending scheme that attempts to create a more sustainable economic situation for these MFIs and encourages a more commercial approach. “The partnership model essentially is looking at microfinance as a viable business activity, but with the financial institution playing the catalytic role of providing cash flow funding for the initial three years to the service provider.”³² ICICI now provides these MFIs with a line of credit to meet their cash flow deficit for three years. In the fourth year, the MFI will then begin to repay the loan within two to three years. Additionally, ICICI wanted to go further by actively developing rural programs with their partners in the field, making equity investments in these partners, creating technologies that would help penetrate the rural areas, and utilizing their corporate network to funnel resources toward the rural effort.

The first steps in this indirect channel partnership model were taken with the DHAN Foundation (Development of Humane Action) in Karnataka, PRADAN (Professional Assistance for Development Action) in Jharkhand, and CASHPOR (Credit and Savings for the Hardcore Poor) in Uttar Pradesh. ICICI worked with the DHAN Foundation, a regional NGO that assists the poor in microcredit, in researching the idea of kiosks and in looking at “rural information and communication technology (ICT) projects that seek to bring emerging technologies like low-cost computing and Internet access to rural households.”³³ ICICI also partnered with PRADAN to take advantage of their deep knowledge of SHGs. ICICI provided loans to PRADAN so they could expand their SHG lending and, in the process, learned about setting up women’s savings and credit groups. CASHPOR is an association of Grameen Bank Replications in Asia, with SHARE being the CASHPOR representative in India. ICICI partnered with CASHPOR and SHARE, in the form of an equity investment, to catalyze the MFI movement in India and to learn from the innovative Grameen model. Each partnership is designed to build on the unique strengths of each organization and on the context in which they are working.

Rural Kiosks

ICICI has now set up additional partnerships with EID Parry, n-Logue, ITC e-Choupal, and BASIX to take advantage of the rural kiosk network they each have established. Each partnership is designed to build on the unique strengths of each organization and to truly leverage their experience and relationships. These partner organizations receive in return the backing of the second-largest bank in India to help expand their kiosk network. ICICI envisions setting up many more partnerships with MFIs and NGOs that have the expertise and passion for serving the rural poor.

Future Initiatives

Although ICICI has already made a significant impact in providing credit to the BOP, their effort is still in its nascent stages. ICICI is constantly striving to cost-efficiently serve this customer class by developing innovative technologies and novel distribution models. With new initiatives such as rain insurance, venture capital, mobile ATMs, and derivatives, ICICI is always testing, rolling out, and then scaling up innovative ways to profitably serve the BOP.

The rural ATM machine, to be placed in the kiosks, is a simplified version of a regular ATM. With a simple interface and multiple languages, the rural ATM will be accessible by all and will be the conduit through which ICICI delivers banking services to the remote Indian countryside. It is currently in development in the lab of Dr. Ashok Jhunjhunwala and is expected to cost a

mere 3,000 rupees or US\$600 versus the 80,000 rupees or US\$16,000 that it costs for a normal ATM machine. As stated earlier, ICICI envisions placing this rural ATM in the kiosks their partners have already implemented.

ICICI also is investigating the possibility of building a mobile ATM. The ATM machine would be installed in an ICICI-branded truck that would circulate through a number of villages on a specified, predetermined route. Rural villagers would know when the ATM was coming to their village and would be able to take care of their banking needs on that day. With the mobile ATM, ICICI could serve a number of villages with limited capital outlay.

ICICI is constantly investigating other ways to proliferate their banking presence. In fact, one of the key challenges for the future is how to create more convenient and low-cost access points for rural customers. Some ideas include partnering with the Indian postal service to place ATMs within their extensive infrastructure and integrating ATMs with vending machines.

ICICI is also researching the possibility of implementing a smart-card-based payment system to eliminate the costs associated with cash handling. "The two key challenges that must be overcome to extend banking to the rural and poor population are elimination/reduction of cash handling and innovation of low-cost delivery channels."³⁴ Smart cards effectively harness the technology advances of the new economy and apply it to the old economy. "By combining the features of a handy credit/debit card with the advantages of . . . storage capacity . . . the smart card provides secure identification, a store of value and an ability to function off line while maintaining an audit trail of all the transactions."³⁵ Smart cards were launched in October 2000 by ICICI at the Infosys Campus in Bangalore and at Manipal Academy of Higher Education (MAHE) to create a cashless economy.

However, many problems exist with smart cards, such as high cost and lack of technological infrastructure for widespread adoption. The high cost is especially amplified at the rural level. However, ICICI is watching closely what BASIX is doing currently with smart card technology to see if it is cost-effective and viable. Figure 9 shows how the smart card system would work with Farmer Service Centers or MFIs.

Insurance is another product ICICI Bank is investigating for the poor. The high probability of being exposed to risk and thus the vulnerability of the poor leads ICICI to believe that insurance is a crucial product that the BOP will pay for. "Vulnerability is predominantly economic."³⁶ By utilizing insurance to manage risk and "counter structural, market and life-cycle related risks,"³⁷ ICICI can help to create more of a stable life for the poor. Therefore, ICICI Bank is looking at creating an insurance product that would pool, price, and trade the risks of the poor. One unique product in this class is rain insurance, which would allow farmers to collect money during droughts and protect them from fluctuations in the weather.

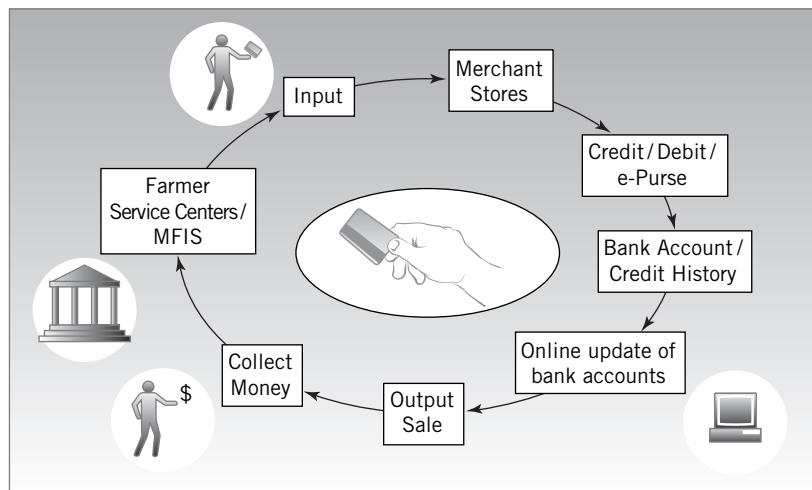


Figure 9 How the smart card would work.

ICICI Bank is also looking at venture capital to share in the risk with the enterprising poor in ventures with the possibility of high return. To break the poor out of the cycle of credit, ICICI envisions implementing a venture capital model that would invest in promising businesses and would hopefully bring “investors’ interest—and with it the promise of professional management—to the management of the enterprise.”³⁸ Venture capital would “enable the poor to invest in long-term assets.”³⁹ This model would spur economic activity and tap into the creative minds of the BOP.

Derivatives are another instrument that ICICI is looking at for the poor. Agricultural crops are a perfect underlying asset on which a derivative could be structured. “The principles of a derivative contract appear to have relevance in the context of commodity markets and indices based on weather and other variables that have a bearing on the livelihoods of the poor.”⁴⁰ In fact, many rural villagers already engage in informal derivative deals by buying and selling crop futures. ICICI is looking at formalizing and institutionalizing this process.

Conclusion

ICICI has made profitable inroads into serving the BOP. “Banking with the poor has undergone a paradigm shift. It is no longer viewed as a mere social obligation. It is financially viable as well.”⁴¹ ICICI’s efforts at growing the microfinance model and of partnering with MFIs and NGOs in the field have been successful. As part of the bank-led model, ICICI has increased the number

of SHGs from around 1,500 to more than 8,000 within the two years since their purchase of the Bank of Madura. Through this model, ICICI has utilized its creative thinking to create a strong growth model and utilized its financial expertise to fashion a model that is economically viable. Additionally, ICICI has created an innovative method of mobilizing rural savings that also acts as a great risk-mitigating factor when eventually providing credit. ICICI's partnership model has led to fruitful partnerships with more than 10 major NGOs and MFIs who all have strong physical presence within the rural areas. This model is poised to take off as the kiosks proliferate. With that said, there is much work to be done. ICICI, however, has positioned itself as a pioneer and leader in looking at creative approaches to serving the BOP.

The innovation that ICICI is exhibiting toward the BOP has a number of ancillary benefits. By focusing on serving the BOP profitably, ICICI developed radical technologies and created whole new strategies.

Additionally, by serving the BOP, ICICI has positioned itself as a socially conscious corporate citizen. This is looked on highly by customers and by investors in the stock market. Such a position also helps ICICI's bargaining power with the Reserve Bank of India and other government institutions.

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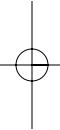


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This report was written by Todd J. Markson and Michael Hokenson under the supervision of Professor C. K. Prahalad. The report is intended to be a catalyst for discussion and is not intended to illustrate effective or ineffective strategies.



Section IV
Known Problems and Systemwide Reforms

The ITC e-Choupal Story: Profitable Rural Transformation

Rural India is a difficult location for business. Transport, power, and information infrastructures are inadequate. Business practices are underdeveloped. Lack of access to modern resources has resulted in an undertrained workforce. Rural society is structured around subsistence incomes. These and a litany of other constraints dissuade most companies from taking on the challenge of rural commerce. Yet, such an engagement can result in a win-win agenda. It can bridge rural isolation and the resulting disparity of incomes and opportunity for the poor while creating a new profit opportunity for firms willing to tackle the inefficiencies. The question is how modern resources and methods can be practically deployed commercially to overcome rural constraints. If done well, what are the social impacts of such an engagement?

THE INNOVATION

The e-Choupals, information centers linked to the Internet, represent an approach to seamlessly connect subsistence farmers with large firms, current agricultural research, and global markets. The network of these, each operated by a local farmer in each community called the *sanchalak*, allow for a virtual integration of the supply chain and significant efficiencies in the traditional system. The farmers benefit by realizing better prices for their crops, better yield through better practices, and a sense of dignity and confidence in being connected with the rest of the world.

ITC's e-Choupal initiative began by deploying technology to re-engineer procurement of soya from rural India. The effort holds valuable lessons in rural engagement and demonstrates the magnitude of the opportunity for private-sector firms. It also illustrates the social impact of bringing global resources and farm and business practices to the Indian farmer.

The Paradox of Indian Agriculture

Agriculture is economically, nutritionally, and socially vital to India. It contributes 23 percent of the gross domestic product (GDP), feeds a billion people, and employs 66 percent of the workforce. A fuller understanding of the sector requires a review of the paradoxes that beset it.

Economically Vital Yet Archaically Regulated

Agriculture's share of GDP has shrunken steadily, but at 23 percent it remains a critical component of the economy (see Table 1). The forecast for the upcoming monsoon is still considered a predictor of economic performance in India.

Table 1 GDP by Sector

Macroeconomic Indicators	1993	1998	1999	2000	2001	2002	2007
Nominal GDP (US\$)	273.93	414.32	444.35	450.68	481.42	500.99	695.78
Agriculture (% of GDP)	28.16	25.42	23.85	22.74	22.76	23.15	19.60
Industry (% of GDP)	23.88	24.33	23.53	24.23	23.59	26.35	30.60
Services (% of GDP)	38.90	42.05	43.59	44.16	44.85	50.50	49.90

Source. Copyright 2003, The Economic Intelligence Unit.

Until recently, agriculture was heavily regulated. Legislation, a remnant of government intervention in days of production shortfalls, controlled land ownership, input pricing, and all aspects of product marketing. Produce could be sold only in government-recognized locations to authorized agents. Processing capacities, private storage, forward trading, and transport were restricted. The result was corrupt, ineffectual, and archaic systems. At one end, routine starvation existed alongside granaries overflowing with food-stocks of over 60 million metric tons. At the other end, the unprofessional business environment made the sector uninviting to most modern companies.

High Production Yet Impoverished Producers

Suboptimal farming practices and vicarious weather patterns left post-Independence India with an underperforming agricultural sector and acute food shortages. The goal of self-sufficiency in food brought agriculture into the mainstream of political and social consciousness. The ensuing “green revolution” has made great strides in agricultural productivity in India. Starting post-Independence (1947) as a food importer, the green revolution in the 1960s made India a net exporter of most food grains by the mid-1970s. The Indian farmer did not progress accordingly. After independence, the government parceled and redistributed larger land holdings to correct historical inequities and entrust ownership to end cultivators, thus encouraging productivity. In subsequent years, ownership ceilings were legislated and inherited land was partitioned into smaller lots. The combined result is that the Indian farm is a very small-scale operation measured in fractions of acres. The obvious result is that the typical Indian farmer is very poor.

As can be seen from Figure 1,¹ in 1993, agricultural laborers in most states made barely enough to keep a three-person family above the poverty line.

Proportion of GDP to Employment

The economy is growing far more rapidly in nonagricultural areas. The recent growth spurt in the Indian GDP has been led by the service sector. This is where the new and better jobs are. While 66% of the Indian population earns its livelihood through agriculture, it makes up only 23% to the Indian GDP. Most of the agrarian workforce is based in rural India. There is a vast disparity in access to education and opportunities between urban and rural India. This means the farmer rarely knows of nonagricultural opportunities. A subsistence existence means he does not have the resources to pursue opportunities even when he knows about them. Denying two-thirds of India a place in the emerging economy will result in inequitable and therefore unsustainable growth, even as agriculture runs out of viable employment for rural India.

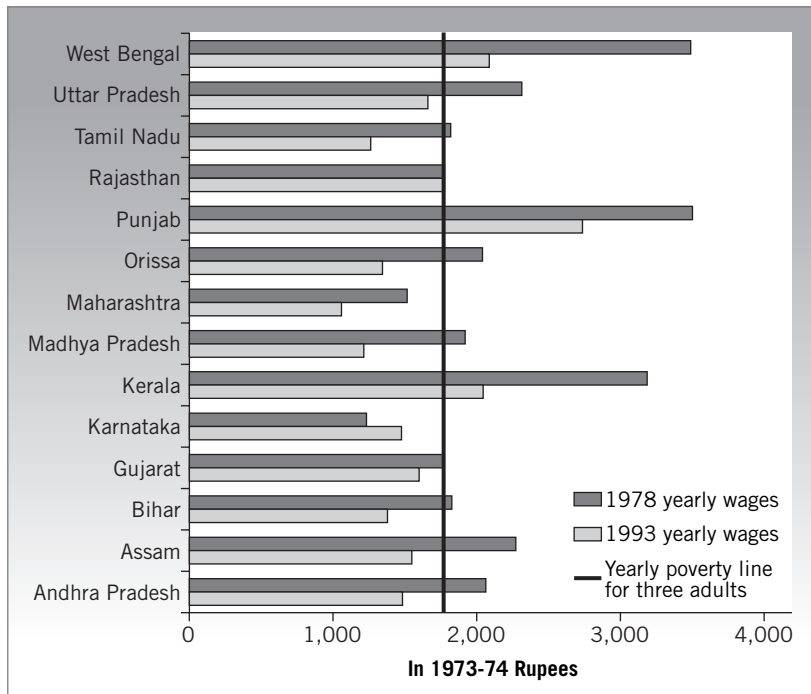


Figure 1 Average real wage and poverty.

Solution Essentials

Any remedy for the asymmetry of opportunity must provide rural India with both the knowledge of opportunities and the ability to pursue them. Sustainable commercial engagement in rural India is a channel that can serve as a foundation for the greater social agenda. Such an interchange can bring global resources, practices, and opportunities to the Indian villages while better compensating the farmer and helping alleviate his subsistent myopia. Pioneering engagements also can create a commercial environment where many more enterprises enter and operate.

In this context, we study an experiment in change in rural areas of central India.

The Oilseed Complex²

Edible oil from vegetarian sources is a fundamental part of the Indian diet. *Oilseed complex* is the term used to refer to the class of crops from which edible oils are extracted. The complex is further classified into traditional (groundnut,

rapeseed–mustard seed, safflower) and nontraditional (e.g., sunflower, soya, cottonseed). The process of oil extraction varies by oilseed. At a high level, the process consists of two stages. The crushing stage involves the mechanical pressing of seeds to extract oils, leaving behind cakes with varying residual oil content depending on the efficiency of extraction. The solvent extraction phase consists of the extraction of the remaining oil content using an organic solvent. The residue, called deoiled cake (DOC) is sold as animal feed. Because of its low oil content, soya-oil extraction is done almost exclusively by the solvent extraction process. The extraction is carried out by the crushing industry. The oil is sold locally in India, and the DOC is exported.

Oilseed production was stagnating in the 1970s with demand outstripping supply, so that by 1979–1980, imports accounted for 32 percent of the domestic supply. Heavy reliance on imports was considered undesirable from a food security and price management perspective. Following the green revolution in wheat and rice, the Indian government turned regulatory attention in the early 1980s to oilseeds. The protectionism brought substantial gains on the production side by doubling oilseed output to 21 million metric tons in 1993–1994. Equally vital from a food security perspective, variability in oilseed production had been reduced, thereby increasing reliability of supply. Forty percent of the increased output was attributable to the introduction of new crops (soya and sunflower). Soya therefore represents an important innovation in the Indian oilseed complex that is resulting in better utilization of scarce resources and greater cropping intensity. Soya was exempted from the Small Scale Industries Act in its crushing sector to allow for processing in large-scale, modern facilities.

Marketing Prior to the e-Choupal

It is essential to note that the system described in Figure 2 varies in details among states, crops, and even districts. Also, the percentage of produce going through the channel depends on the state and crop in question. The only norm is that 90 percent of the produce went through traders and *mandis* (government-mandated marketplaces).

There are three commercial channels for the products: mandis, traders for eventual resale to crushers, and producer-run cooperative societies for crushing in cooperative mills. The farmers traditionally keep a small amount for their personal consumption and get the produce processed in a small-scale job-shop crushing-plant called a *ghani*.

The Mandi

The mandi is central to the functioning of the marketing channel. The Agricultural Products Marketing Act legislated the creation of mandis to enable

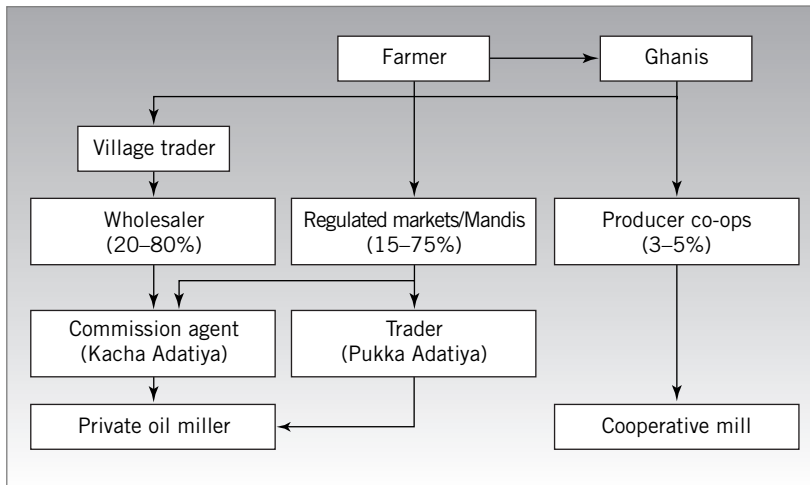


Figure 2 Marketing prior to the e-Choupal.

a more equitable distribution of the gains from agriculture among the producer, consumer, and traders. The mandi acts as a delivery point where farmers bring produce for sale to traders. The area served by a mandi varies by state. In the soya-growing areas of Madhya Pradesh, the average area served by a mandi is around 700 square kilometers. A large portion of traditional grains is used by the farmer or bartered for different crops. Soya, however, is not native to the Indian palate. Its major outlet is the crushing plant. Thus, nearly the entire crop must be marketed. This makes the mandi a vital part of the soya chain.

The Commission Agents

Mandi trading is conducted by commission agents called *adatiyas* (brokers who buy and sell produce). They are of two types: *kachha adatiyas* and *pukka adatiyas*. *Kachha adatiyas* are pure purchasing agents and buy only on behalf of others. *Pukka adatiyas*, on the other hand, finance the trade as representatives of distant buyers and sometimes even procure on their own account. All the *adatiyas* belong to the Agarwal and Jain community, which manages grain trade across the entire country, an amazing fact considering the vast cultural and social diversity across the nation. It challenges the assertion that rural India is culturally unfathomable. An *adatiya* is as distinct from most rural farmers as any executive.

The lack of professional competition combined with the communal stranglehold on rural trading has made commission agents extremely wealthy. The commission agent we spoke with belonged to a medium-sized mandi. He

talked casually of assets and incomes in crores of rupees (millions of dollars). This is counter to the notion that there is no money in rural India. The adatiyas established the soya industry and expanded it on the basis of familial and community trust, not professional norms. Buying and selling were based on oral agreements, mutual understanding, and community norms. Their network within this industry and their financial might made them a formidable presence.

Mandi Operations

Figure 3 shows the process of how the mandi operates.

Inbound Logistics

Based on local information within the village, the farmer will decide which of the nearby mandis to sell in. The crop is taken to mandis in trolleys drawn by animals or tractors. Very often, to avoid peak-season crowds, the farmer will go to the mandi the night before. Peak-season mandi volume can be around 2,000 to 5,000 metric tons per day.

Sources of Inefficiency

- The farmer does not have the resources to analyze or exploit price trends. The timing of the sale is therefore not optimal.
- The selling decision is not always geographically efficient. The actual price of his produce will be determined only at the auction. The selection of mandi is based on often dated and unreliable information as opposed to a quoted price. By the time the farmer gets his price, it is too late to change his selection of mandis.
- The overnight stay costs the farmer.

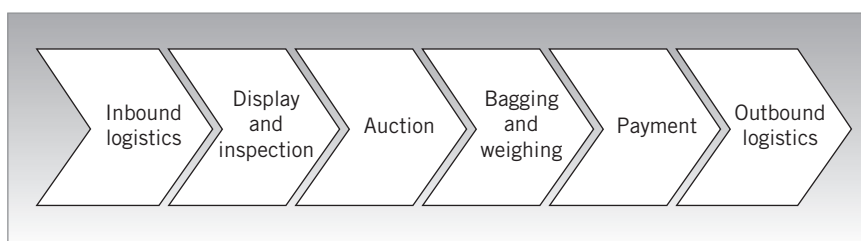


Figure 3 Mandi operations.

Display and Inspection

When the mandi opens in the morning, farmers bring their trolleys to display areas within the mandi. The inspection by buyers is by sight. There is no formal method of grading the produce, and the only instrument used is the moisture meter. Formal testing for oil content is not performed and global safety checks are not performed in the mandi.

Sources of Inefficiency

- Most crops are displayed in the open. Very few covered areas are available for lease by the farmers. As a result, displayed crops are subject to the elements.
- Sight inspection is unscientific and arbitrary, to say the least. The evaluation tends to favor the informed and wealthy buyer, not the poor farmer. Crops are judged on moisture content and presence of foreign matter such as stones or husks.
- The lack of scientific grading does not reward the farmer for better produce generated by investment in better seeds or agricultural practices. Ground conversations indicate that wide differences in quality are rewarded; however, subtle and less detectable differences are not recognized. The farmer therefore does not have an incentive for improving quality. These differences in quality of inputs impact the processors of soya.

Auction

Once potential buyers have inspected the produce, a mandi employee conducts the auction, where commission agents place bids. The auctions we observed were open oral auctions with incremental bidding. The auction offers a stark contrast in perspectives. On one hand, the farmer sees the auction as the assessment of six months of investment and labor. The auction represents the payday for the farmer, maybe one of two per year. His eyes reveal the emotion of the 30 seconds in which the price for his lot is judged. On the other hand is the commission agent, whose margin is ensured regardless of the price. He has many more lots (trolleys of produce) yet to buy and can casually mishandle a handful of grain and comment derogatorily about its quality and laugh while he does so.

Sources of Inefficiency

- By all accounts, the auction is efficient with no overt collusion between the buyers. However, the farmers we spoke to had a largely negative opinion of the auction for nonfinancial reasons. They felt a systematic loss of dignity in the auctioning process. The very fact that their life work is auctioned off

is seen as an insult. They also felt belittled by having to stand by and watch agents raise bids in increments of 25 or 50 paise per quintal (we saw chana (chick peas) being auctioned in increments of Rs. 1, but this can vary between crops). The final indignity is that the farmer cannot refuse the sale at the auctioned price.

- The agents clearly belonged to a close-knit community that is socially and economically distinct from the farmers. Although they might not collude in pricing, they do collude in establishing the practices of the trade. These practices uniformly exploit the farmer's situation. Not surprisingly, the farmers we spoke to did not view the commission agents charitably and felt that all commission agents were the same.

Bagging and Weighing

Once the price per quintal has been established by the auction, the farmer moves the trolley to the weighing area run by the buying commission agent. In most cases, the weighing area is in the mandi complex. In some cases, especially if the mandi is small, the weighing area might be at the commission agent's home near the mandi. Here, the produce is transferred from the trolley into individual sacks. The sacks are then weighed, one at a time, on a manual scale.

Sources of Inefficiency

- The farmer bears the cost of bagging (Rs. 3 per bag at Mandideep mandi).
- Mandi laborers do the bagging and weighing. A traditional compensation for these laborers is the sale of spilled produce. They will therefore ensure that some portion of the produce is spilled in the weighing area. They gather and sell this grain at the end of the day. Estimates of the amount vary, but farmers at Peepalrava suggested that it was 1 to 3 kgs per quintal. The assessment at Khasrod was a minimum of 2 kgs per quintal.
- The weighing, managed by workers called *tulavatis* (weighers), is another source of discontent. Farmers feel *tulavatis* consistently underweigh their produce by applying practiced and timely nudges to the scale. Historical intimidation and long queues waiting behind them dissuade the farmers from protesting (according to a farmer from Khasrod, any complaints were met by a retort that this was not gold being weighed on the scale). One commission agent we spoke to readily acknowledged the systematic underweighing that every agent did. However, he felt the agent community as a whole was being discredited by the excessive greed of a few. He himself would be content with a few hundred grams a quintal.

Payment

After weighing, the full value of the grain is calculated. The farmer goes to the agent's office to collect a cash payment. The agent pays a mandi fee (1 percent of purchase value in Madhya Pradesh) to the mandi.

Sources of Inefficiencies

- The exploitative tone of the interaction also runs through the payment process. The farmer is never paid in full at once. The payments are stretched over time. This must be understood in the context that the farmer often travels many hours to get to a mandi. Repeating the trip costs him time and money. By this time, the farmer is also at the agent's mercy because the grain has already been delivered.
- Apart from the multiple trips to the agent's office, the farmer gets no interest for the delayed payment and bears the cost of the time and travel. Agents, on the other hand, charge crushers usurious rates for the privilege of delayed payments.

Outbound Logistics

The bagged produce is then loaded onto the end buyer's trucks and transported.

Sources of Inefficiency

- Along with the legal loss of value to taxes, there is an unofficial trade estimate of 1.5 percent to 2 percent of the product value being lost in tax evasion. Not all the value lost to tax evasion is illegal. Some of it is incurred when processors move plants to poorly developed zones for government-sponsored tax incentives.
- Multiple points of handling in the supply chain require the seeds to be bagged, a source of inefficiency in the unloading operation at the processing plant. Bulk (unbagged) seeds can be unloaded four to five times faster than bagged seeds.

Other Sources of Market Inefficiency and Their Impact

- Limited storage levels mean traders do not have the luxury of storing and managing different qualities and grades of produce. Different grades are mixed.
- National pricing information is unreliable or unavailable. Prices are set dynamically in mandis. Publication and statistical analysis are made only

for prices at a few major centers. For the most part, there is no information available about local pricing levels and trends. This means pricing is localized and lack of information reduces arbitrage opportunity and leads to market inefficiency.

- Arbitrage restrictions also arise from forward trading restrictions. The 11-day-forward trading restriction implies that for an arbitrage opportunity to be consummated, the product must actually be sold, shipped, and delivered within this window. Thus, arbitrage is limited to a small geographic proximity of the original mandi.

ITC: IBD and the Soya Business

The ITC group is one of India's foremost private-sector companies with a market capitalization of around \$4 billion and revenues of \$2 billion. ITC has a diversified presence in tobacco, hotels, paperboards, specialty papers, packaging, agribusiness, branded apparel, packaged foods, and other FMCG products. Spurred by India's need to generate foreign exchange, ITC's International Business Division (IBD) was created in 1990 as an agritrading company aiming to "offer the world the best of India's produce." Today, IBD is a \$150-million company that trades in commodities such as feed ingredients, food grains, coffee, black pepper, edible nuts, marine products, and processed fruits.

When ITC entered this industry, produce was bought and crushed by small crushers who were also traders. ITC began with buying and exporting DOC. In a year, it realized it needed greater presence in the chain to better understand product dynamics. ITC then began renting processing plant time and buying soya from mandis. ITC's procurement has grown rapidly since, and its initiative has seen the introduction of professional practices, transparency, and formal contractual relationships between agents and buyers. ITC's reputation (as corroborated by an agent in Sonkach) is that of being trustworthy, true to its word, prompt with payments, and interested in only high-quality produce.

A unique set of tactical, strategic, and social imperatives drove ITC to conceive the e-Choupals and re-engineer the entire value chain by deploying them.

The Tactical Imperative

The mandi was not an optimal procurement channel. At first sight, agent commissions would seem to be a source of inefficiency, but this sum is comparable to the salary paid to an employee for rendering similar services. The real sources of inefficiency are the price and quality distortions caused by the agents' stranglehold on the market and ITC's distance from the farmer. Some examples of this are as follows:

- *Distance from farmer.* ITC had no direct interaction with the farmer. This gap created a range of supply-chain issues. ITC's knowledge of its crops, supplier, and therefore supply risks was limited. ITC's ability to improve the quality and quantity of its supply by bringing modern agricultural practices to the farmers was also limited.
- *Daily price inflation.* The agent purchased grain on ITC's behalf. Some produce of good quality would command a premium. Some of poor quality would sell at a discount. The agent purchased a range of qualities through the day at a range of prices. He mixed them at the end of the day and charged ITC a single price near the higher end of the spectrum.
- *Seasonal price inflation.* A corollary effect was that high-quality produce was used to make an entire lot of lower quality produce acceptable. Agents therefore paid an inflated premium for high-quality produce. This drove up the high mandi price for the day. Very few farmers actually got this price, but this price acted as the benchmark for the next day's pricing, thereby inflating the mandi price over a length of time. This created a distortion that inflated the overall seasonal procurement prices for ITC.
- *Capture of intraday price shifts.* Mandi prices were fluid and varied within the day. ITC provided the agent a price range for the day to buy within. If the agent's average buy price within the day was lower than the ITC price, the agent sold the grain to ITC at the ITC price and pocketed the difference. If the average buy price was higher than the ITC price, the agent would still buy the produce, but tell ITC that because its price was not high enough, no grain could be bought. He would then store the grain and sell it to ITC the next day when ITC raised its price to make up for the previous day's procurement shortfall. Commission agents therefore captured the entire benefit of intraday price shifts.

The agent never lost. Officially the agent's commission is 1 percent of ITC's price. In reality, ITC estimated the agent's operating margin at around 2.5 percent to 3 percent. The other insight is that the auction process is transparent in name only. The market is created, manipulated, and managed by the agents. The e-Choupal is an ideal vehicle to communicate directly with the farmer and thereby bypass the inefficiencies arising out of the agents' intermediation.

The Strategic Imperative

Whereas the inefficiency in the supply channel was causing ITC to look inward, a changing landscape was forcing it to look outward. The agricultural commodity trading business was small compared to international players. By

1996, the opening up of the Indian market had brought in international competition. These established, large companies had better margin-to-risk ratios because of wider options for risk management and arbitrage. To replicate their operating model would require a massive expansion of horizontal and vertical presence. The investments for this would be better spent in other sectors of India's liberalizing economy. After exploring sale, merger, and closure in 1998, ITC decided to retain the business. The chairman of ITC challenged IBD to use information technology (IT) to change the game and create a competitive business that did not need a massive asset base. ITC needed to address the following advantages its competitors enjoyed:

- *Horizontal spread.* Presence in dozens of countries allows customer proximity and a diversified supply base.
- *Vertical presence.* Integration allows companies to extract value-chain efficiencies.
- *Old and family-owned.* An intimately managed company has deep knowledge and trading methods developed over the years that enable profitability in commodity markets with otherwise thin margins.
- *Risk management.* Operating in countries where financial and logistical institutions to manage risk (to allow futures trading, etc.) lowers the cost of bearing risk.

ITC devised a strategy to systematically deploy IT to change the game in each area. The horizontal integration deficiency was addressed through customer relationship management (CRM)-based solutions that were used to identify and provide for the nonstandard needs of customers in an industry where the basic services had been standardized. Customized IT application and realignment of business goals and processes were deployed to manage risk and build the organization's knowledge base.

The e-Choupal network was conceived to achieve virtual vertical integration by extending ITC's engagement all the way to the farmer in the field.

The Social Imperative

The social agenda is an integral part of ITC's philosophy. ITC is widely recognized as dedicated to the cause of nation-building. Chairman Y. C. Deveshwar noted, "ITC believes its aspiration to create enduring value for the nation provides the force to sustain growing shareholder value."

This vibrant view of social conscience allowed ITC to recognize the unique opportunity of blending shareholder value creation with social development. The social impact of the e-Choupals as envisioned by ITC ranges from the

short-term provision of Internet access to the long-term development of rural India as a competitive supplier (and buyer) of a range of goods and services to and from the global economy. The sustainability of the engagement comes from the commitment that neither the corporate nor social agendas will be subordinated in favor of the other.

e-Choupal: Vision and Planning

Implementing and managing e-Choupals is a significant departure from commodities trading practices in India. Trading is not capital-intensive because processing is outsourced and commodities are traded for margins that come through arbitrage of knowledge, time, or location. On the other hand, the e-Choupal model required significant capital outlays. Getting concurrence from the ITC Board for such a venture, as well as the diligent management of its progress, required clarity of vision and an understanding of revenue streams and operations. Through its tobacco business, ITC has dealt for decades with every aspect of Indian agriculture, from research to distribution. ITC's translation of its strategic, tactical, and social imperatives into a business model demonstrates a deep understanding of both agrarian systems and modern management methods. Some of the guiding management principles are listed in the following sections.

Re-engineer as Opposed to Reconstruct

The conventional view of transforming established business systems begins with the failure of the current system and the means to change it. ITC looked at what was good with the current system and therefore what it could build on. ITC not only kept efficient providers from the existing system but also created roles for some inefficient providers from the previous system. This philosophy has two benefits. First, it avoids reinventing the wheel in areas where ITC would not be able to add value through its presence. Second, it co-opts members of the rural landscape, thereby making their expertise available to ITC and foreclosing the same from ITC's competition. A good example of this in action is the role created for the commission agents, as discussed later.

Address the Whole, Not Just a Part

The farmer's universe consists of many activities, ranging from procuring inputs to selling produce. Today the village trader services the spectrum of the farmer's needs. He is a centralized provider of cash, seeds, fertilizers, pesticides, and marketing. In doing so, the trader enjoys two competitive benefits. First, his intimate knowledge of the farmer and of village dynamics allows him to

accurately assess and manage risk. Second, he reduces overall transaction costs by aggregating services.

The linked transactions reduce the farmer's overall cost in the short term, but create a cycle of exploitive dependency in the long term. Rural development efforts thus far have focused only on individual pieces rather than entire needs. Cooperatives have tried to provide agricultural inputs, rural banks have tried to provide credit, and mandis have tried to create a better marketing channel. These efforts cannot compete against the trader's bundled offer. Functioning as a viable procurement alternative therefore requires one to eventually address the gamut of needs, not just marketing.

An IT-Driven Solution

From the conception of the model, an IT-centric solution was recognized as fundamental to optimizing effectiveness, scalability, and cost. IT is 20 percent of all the effort of the business model, but it is deemed the most crucial 20 percent. The two goals envisioned for IT were the following:

- Delivery of real-time information independent of the transaction. In the mandi system, delivery, pricing, and sale happen synchronously, thus binding the farmer to an agent. The PC was seen as a medium of delivering ITC and other rates prior to the trip to the mandi, allowing the farmer to make an empowered choice.
- Facilitation of collaboration among the many parties required to fulfill the spectrum of farmer needs. This goal follows from the need to address the whole, not just the part.

It is a tribute to ITC's understanding of rural value systems that it did not hesitate in installing expensive IT infrastructure in places where most people would not. It is a tribute to rural value systems that not a single case of theft, misappropriation, or misuse has been reported among the almost 2,000 e-Choupals.

Clarity of Payback Streams

Profitable re-engineering requires the unambiguous understanding of value provided, the circumstances in which they are applicable, and the revenues they are capable of generating. Three sources of payback were expected:

- *Crop-specific intervention.* ITC recognized that agrarian systems vary by crop. This means the sources of inefficiency in the supply chain, the correction required from the e-Choupal, and the magnitude and timing of the

resulting efficiencies will differ by crop. For example, the systems and consequently the e-Choupal models and payback streams for coffee and shrimp are very different from that of soya. ITC's goals for the soya intervention reflected this nuanced analysis, and the project was targeted with recovering the entire cost of infrastructure from procurement savings. This is in contrast with the coffee and shrimp efforts, where the source of e-Choupal value is such that the investment recovery horizon is much longer.

- *Low-cost last mile.* The same system of physical and information exchange that brings produce from the village can be used to transfer goods to the villages. Because infrastructure has already been paid for by procurement, it is available at marginal cost for distribution. This ties in nicely with ITC's larger goal of transforming the e-Choupal network into a distribution superhighway. ITC's current channels reach areas with populations of 5,000 and above. The e-Choupals allow penetration into areas with populations less than this. We saw products such as herbicides, seeds, fertilizers, insurance policies, and soil testing services being sold through e-Choupals.
- *Intelligent first mile.* Once the notion of consumerism and service has been established in the minds of the village farmers, their creativity and intimate knowledge of rural needs can be used to conceive the next product to be sold in villages. Thus the farmers are transformed from consumers into participants in the process of product design. This helps broaden the ITC offering and further bolster payback.

Modularity of Investments in Size and Scope

ITC managed its investments modularly along the scope and scale axes in what it terms "rollout-fixit-scale up" and "pilot-critical mass-saturation." This incremental control of investment levels along with the clarity of revenue streams and the social import were critical in getting board approval for the initiative.

Risk Assessment and Mitigation

ITC identified the following risks as it worked out the business model:

- Radical shifts in computing access will break community-based business models.
- The sanchalaks are ITC's partners in the community. As their power and numbers increase, there is a threat of their unionizing and extracting rents.

- The scope of the operation, the diversity of activities required of every operative, and the speed of expansion create real threats to the management of execution.

Managing Bureaucracy

When the e-Choupals were conceived, they faced a fundamental regulatory obstacle. The Agricultural Produce Marketing Act, under the aegis of which mandis were established, prohibits procurements outside the mandi. ITC took the government through the spirit of the Act as opposed to the letter and convinced them that e-Choupal procurement was in line with the goals of the Act. Because ITC would not be using the mandi infrastructure for its procurement and they would have to incur their own costs on the e-Choupal infrastructure, the government offered to waive the mandi tax on the produce procured through the e-Choupal. ITC recognized the tax was a major source of revenue for the government and local mandis. Also, as ITC's competition was also subject to it, the tax itself was not making ITC uncompetitive. ITC, therefore, chose to continue paying the tax rather than risking relationships with the government and the mandi.

e-Choupal Operations: Participants and Processes

The model is centered on a network of e-Choupals, which are information centers armed with a computer connected to the Internet. The name is derived from the Hindi word *choupal* meaning a traditional village gathering place. The e-Choupals were meant to act as an e-commerce hub as well as a social gathering place. A local farmer called the *sanchalak* (coordinator) runs the village e-Choupal. The commission agent has been incorporated into this process as the provider of logistical support. He is known as the *samyojak* (collaborator).

The e-Choupal

The e-Choupal, which physically consists only of a computer with an Internet connection, is established in a village. It resides in the local sanchalak's living room. In keeping with the philosophy of modular increments based on proven results, ITC experimented with a variety of village conditions before developing a checklist for attributes it looks for in selected villages. ITC is working to saturate its operating areas so that a farmer has to travel no more than 5 kilometers to get to an e-Choupal. ITC expects each e-Choupal to serve about five to seven villages in this 5-km radius. Today e-Choupal services reach out to more than a million farmers in nearly 11,000 villages through 2,000

kiosks across four states (Madhya Pradesh, Karnataka, Andhra Pradesh, and Uttar Pradesh). Of the e-Choupals we visited in Madhya Pradesh, the one in Khasrod services about 500 to 700 farmers in 10 villages and another one in Dahod services 5,000 farmers in 10 villages. The average seems to be around 1,000 farmers per e-Choupal.

The e-Choupals were initially rolled out as just gathering spots where agrarian information would be made available to farmers while familiarity and trust were developed for the ITC brand. The fear at this time was that the village was not ready to accept IT.

Within three months, a farmer asked how long ITC expected its representatives to do this in person and said he had heard of something called the computer that could be used to achieve this purpose. This triggered the rollout of IT and the scale-up of e-Choupals.

The Sanchalak

ITC manages the geographical and cultural breadth of its network by channeling communication through a local farmer called the sanchalak. Recruiting a farmer from the community served several purposes:

- For generations, institutions, individuals, and often the weather have betrayed the Indian farmer. Trust is the most valuable commodity in rural India. No transaction will happen without trust, regardless of the strength of the contract. The sanchalak is selected to provide this vital ingredient to ITC's message.
- ITC did not have to invest in building and securing a physical infrastructure such as a kiosk for housing the computer.
- The sanchalak is trained in computer operation and can act as a familiar and therefore approachable human interface for the often illiterate farmers and other villagers.
- ITC expects to leverage the power of the small-scale entrepreneur.

The sanchalak receives a commission for every transaction processed through the e-Choupal. Working as a sanchalak also boosts his social status. This is a very important aspect of rural Indian life.

Maintaining Village Trust

ITC insists that at no time should the sanchalaks give up farming, for this would compromise the trust the sanchalak commands. The fact that the sanchalak works on commission could undermine his credibility. ITC mitigates this by

projecting the role as a public office as opposed to a profitable venture. This is one reason he holds a title (sanchalak). This image is reinforced by a public oath-taking ceremony where, in the presence of a gathering of the local villagers, the sanchalak takes an oath to serve the farming community through the e-Choupal.

Picking and Training Sanchalaks

Although ITC was an agricultural company, its reach ended at the mandi. It did not extend into the villages beyond. ITC used its relationships with the commission agents to help identify farmers. Villagers then were contacted to determine the ground reaction to the nominee. Care was taken to ensure the polled villagers were representative of a cross-section of the farmers. Like the identification of villages, initial decisions involved mainly trial and error. In the initial trial, six individuals with very different characteristics of age, wealth, status, education levels, and village sizes were selected. Performance was measured; hypotheses regarding critical attributes were established and tested on the next wave of sanchalaks. ITC's field operatives readily acknowledge that successful sanchalaks demonstrate a wide variety of demographic attributes and a large part of the selection is subjective. A few attributes have emerged as widely prevalent among successful sanchalaks:

- Must make his living from farming.
- Progressive and willing to try something new.
- Ambitious and have aspirations of earning additional income through the e-Choupal.
- Of median wealth and status. If he is too poor, he will not command respect and therefore not be heeded; if he is too rich, he would not be approachable.
- Must be able to read and write.
- Must be part of an extended family large enough to find among themselves time enough to service the e-Choupal. (In Dahod, the e-Choupal is run by the son of the sanchalak.)

The sanchalak undergoes a training program at the nearest ITC plant. He is trained on basic computer usage and the functions within the e-Choupal Web site. He is trained on the basic business skills needed to function as a sanchalak. He is also trained on quality inspection and pricing. For the sale of products through the e-Choupal, the sanchalak receives product training directly from the manufacturer, with ITC involving itself only in product design and facilitation. In reality, the sanchalak gets most of his training on the job. This makes selecting sanchalaks with a natural drive all the more important.

Performance and Motivation

The sanchalaks we spoke to indicated three equally weighted motivations:

- They saw it as a means to help society.
- They saw it as a profitable business.
- They saw it as a means of getting access to a functional computer (as opposed to just a computer, which they would have trouble making functional, as discussed later).

Selecting the sanchalak is not the end of the story. Most do not have retailing experience and some might be satisfied only with the prestige of association. One motivation technique is a ceremony during which sanchalaks are given their annual commission checks with public announcements of earnings and stories of what sanchalaks have done with past commissions. This demonstrates the income potential and spurs nonperformers to work. The zeal to perform sometimes leads to territorial disputes, but ITC does not interfere in their resolution because it encourages sanchalaks to better service their customer bases.

Sustaining Commercial Volume

Virtual vertical integration can work only if there is a continuous flow of information between the e-Choupals and ITC. Because of the number and spread of the e-Choupals, this communication must be initiated by the sanchalaks. If their motivation to communicate with ITC diminishes, the channel will still function for procurement, but will lack the vitality to manage supply risk, distribution, or product design. Maintaining continuous commercial flow keeps the sanchalak motivated to spend time and money calling the ITC representative to ask about new products, convey village demand, and provide local updates. An example of the power of local information was seen early in e-Choupal implementation. A competitor tried to divert produce coming to the ITC factories by stationing motorcycle-riding representatives on the roads leading up to the plant. This person would stop farmers and offer them a premium over the ITC rate to divert their trolleys to the competitor's plants. Information about this came to ITC from alert sanchalaks, and ITC was able to take necessary measures.

ITC maintains commercial volumes and therefore keeps commission checks flowing through e-Choupals by intelligently sequencing procurement and sales year-round. Purchases and sales have been arranged so that kharif (cropping season coinciding with India's monsoon from July to October) procurement, rabi (winter cropping season in irrigated areas) inputs, rabi procurement, and kharif inputs sequentially maintain a steady stream of revenue for sanchalaks.

The Samyojak

The commission agents earned profit from two sources. The first was through provision of value-added logistical services that substituted for the lack of rural infrastructure. The second was by blocking information flow and market signals on the trading transactions. Complete disintermediation would result in the loss of a legitimate and essential service in the rural context. The goal was selective disintermediation so that agents would participate, but only as providers of essential services, not as principals in a trading transaction. In this incarnation, the agent was christened the samyojak.

The samyojak's collaboration began right from the selection of the first sanchalaks. Because of their long association with the business, samyojaks knew village dynamics. They knew who grew soya, what kind of families they had, what their financial situation was, and who was seen as acceptable in the villages. There is no other source with such information on rural India. As part of the ongoing operations, ITC is strongly committed to involving samyojaks in every element of their operation and allowing them revenue streams through providing services such as management of cash, bagging, and labor in remote ITC procurement hubs, handling of mandi paperwork for ITC procurement, as licensed principals for retail transaction of the e-Choupal, and as licensed suppliers of fertilizers sold through the e-Choupals.

Why Did the Samyojaks Help?

ITC hid nothing from the samyojaks. They were transparent about the goals and the future of the e-Choupals. The samyojaks realized that by introducing ITC to the sanchalaks, they were setting into motion an initiative that would reduce their commissions; yet they cooperated with ITC for the following reasons:

- ITC's communications with the samyojaks carried two clear messages. First, any e-Choupal procurement would happen over and above the volumes ITC would procure in the mandis, thereby protecting their commission earnings. Second, samyojaks would be involved with all new revenue streams arising from the e-Choupals. The trust ITC had built in the mandi made this statement believable.
- A conscious effort was and is made to divert revenue to samyojaks. As far as possible, mandi procurement is maintained.
- Every effort was made to maintain the level of samyojaks' trust. All communication with the sanchalaks happens in the presence of samyojaks. ITC never permitted any negative communication regarding the existing model, the mandi, or the commission agents. Samyojaks were always acknowledged as the enablers of the entire concept.

Conversations with a samyojak in Sonkach indicated that despite the best of intentions, the agent's procurement revenue has fallen by 50 percent. Because the mandi is not near an ITC hub, he provides no other services and therefore has no other revenue streams. This man had more pragmatic reasons for cooperating:

- The samyojaks are fragmented. There is the fear that if one does not help, another commission agent would help ITC and walk away with the promised e-Choupal revenues and the mandi revenues. Interestingly, revenue streams were mightier than the sense of community in this case.
- The samyojaks feel that if pushed into a corner, ITC could go it alone. The process would be slower, but it would eventually achieve the desired results.
- The samyojaks see the opportunity to develop good will and networks in the villages.
- Finally, the samyojak said that he saw globalization as an irresistible trend. Although he saw loss of revenue in the short term, his long-term interest lay in cooperating with an international company.

*The Transformation of the Traditional System:
e-Choupal Processes*

The re-engineered value chain looks very different from the existing system and contains the stages shown in Figure 4.

Price Setting and Dissemination

The previous day's mandi closing price is used to determine the benchmark fair average quality (FAQ) price at the e-Choupal. The benchmark price is static for a given day. This information and the previous day's mandi prices are communicated to the sanchalak through the e-Choupal portal. The commission agents at the mandi are responsible for feeding daily mandi prices to e-Choupal. The reality is that in the large majority of the e-Choupals where the VSAT (Very Small Aperture Terminal) has not been installed, the Internet connection cannot be relied on. In this case, the sanchalak calls an ITC field representative. This situation is changing rapidly as VSAT penetration is increasing.

The farmer brings a sample of his produce to the e-Choupal. The sanchalak inspects the produce and based on his assessment of the quality makes appropriate deductions (if any) to the benchmark price and gives the farmer a conditional quote. The sanchalak performs the quality tests right in front of the farmer and has to rationalize any deductions to the farmer. The benchmark price represents the upper limit on the price a sanchalak can quote. These are simple

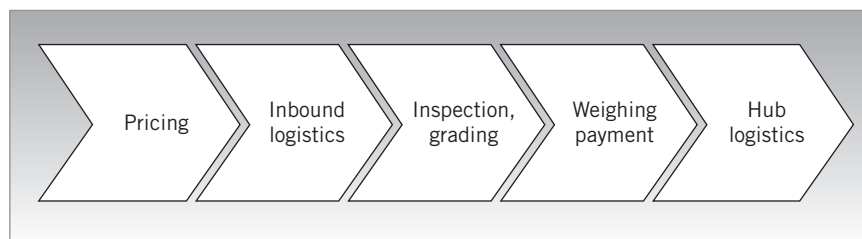


Figure 4 The new value chain.

checks and balances to ensure transparency in a process where quality testing and pricing happen at multiple levels.

If the farmer chooses to sell his beans to ITC, the sanchalak gives him a note including his name, the village, particulars about the quality tests (foreign matter and moisture content), approximate quantity, and the conditional price.

Inbound Logistics

The farmer takes the note from the sanchalak and proceeds to the nearest ITC procurement hub, ITC's point for collection of produce and distribution of inputs sold into rural areas. Some procurement hubs are simply ITC factories that also act as collection points. Others are purely warehousing operations. ITC's goal is to have a processing center within a 30- to 40-km radius of its farmers. There are currently 16 buying locations; there will eventually be 35 in the state of Madhya Pradesh.

Inspection and Grading

The first point of inspection is the e-Choupal. When the farmer brings a sample in, the sanchalak visually inspects the produce for foreign matter and determines the moisture content in the soybean using his moisture meter. The initial, conditional pricing is based on this inspection. At the ITC procurement hub, a sample of the farmer's produce is taken and set aside for laboratory tests. The chemist visually inspects the soybean and verifies the assessment of the sanchalak. It is important to note that this test is the only assessment before the sale. Laboratory testing of the sample for oil content, and so on, is performed after the sale and does not alter the price. The reasoning for this is that a farmer cannot comprehend the results of a laboratory test and will not trust its merits. Therefore, pricing is based solely on tests that the farmer can understand. The farmer accepts foreign matter deductions based on the visual comparison of his produce with his neighbor's for the presence of stones or hay. He will accept moisture content deductions based on the comparative softness of his produce when he bites it.

ITC is working toward changing farmer attitudes on this count. It is developing an appreciation of better quality by using the subsequent lab tests to reward farmers with bonus points if their quality exceeds expectation. At the end of the year, farmers can redeem their accumulated bonus points for e-Choupal purchases such as farm inputs (or in the future use it toward insurance premiums).

Weighing and Payment

After the inspection, the farmer's trolley is weighed in its entirety on an electronic weighbridge, first with the produce and then without. The difference is used to determine the weight of his produce. He then collects his payment in full at the cash counter and returns to his village. The farmer is also reimbursed for his freight expenses. Every stage of the process is accompanied by appropriate documentation. The farmer is given a copy of lab reports, agreed rates, and receipts for his records. Samyojaks, who are adept at handling large amounts of cash, are entrusted with the responsibility of handling cash (this is not true at procurement centers near large ITC operations where ITC is capable of handling cash itself). Through their social network, samyojaks can also get cash at short notice.

Logistics and Storage

The farmer transports the produce in his trolley from the farm to the nearest processing center or storage hub. The farmer bears the risk of transportation until it is delivered and the sale is completed. The transportation costs he incurs are reimbursed by ITC. This reimbursement was initially based on the distance of the issuing e-Choupal from the processing center. This gave farmers the incentive to travel to a faraway e-Choupal with their samples to get a higher transport reimbursement. ITC therefore did away with differential compensation and replaced it with a system of uniform compensation. Much of the procurement hub-related logistics are managed by the samyojaks. Their responsibilities include the following:

- Labor management at the hub
- Bagging and baggage handling
- Storage management
- Transportation from the hub to processing factories
- Payment processing and cash management
- Handling mandi paperwork for the grain procured at the hub

For his services in the procurement process, the samyojak is paid a 0.5 percent commission.

Farmer Gains

- **Better information content.** Prior to the e-Choupal, the farmer's information was incomplete or inaccurate. The only sources of information were the village grapevine and the commission agent. The e-Choupal allows farmers access to prices at several nearby outlets. Some e-Choupal sanchalaks have taken this a level further. They have begun accessing external pricing indicators such as prices on the Chicago Board of Trade Web site to track global trends and determine the optimum timing of their sale.
- **Better information timing.** An indicative price was available only when the farmer traveled to the mandi, incurring costs that he could ill afford. The final price of the transaction was available to the farmer only on the completion of the auction, at which time there was no backing out of the transaction. At the e-Choupal, the farmer has access to price choice prior to his trip.

Both factors work together to provide the farmer with a better price for his crop.

- *Transportation cost.* The farmer bears the cost of transporting the crop to the mandi for a sale. ITC compensates its sellers for their transportation costs.
- *Transaction duration.* The mandi process can stretch over several days from arrival to full payment. Most farmers have traveled long distances to come to the mandi and incur costs of overnight stays or multiple trips. The sale to ITC takes no more than a few hours. (ITC targets two hours, and farmers spoke of two to three hours; our observation was that it probably takes two to three hours, possibly more in the peak season, but far less than a day.) Both factors result in a lower logistic cost for the farmer.
- *Weighing accuracy.* The mandis' manual scales are inherently inaccurate, easily manipulated, and subject to manual errors. ITC's electronic weighing scales are accurate and impartial.
- *Granularity of weighing.* The manual scales require that the produce be first transferred into bags. This intermediate bagging results in pilfering and loss of produce and the compounding of manual weighing errors over the entire load. The single weighing of the entire trolley at ITC eliminates these losses.

Both factors contribute to lower transaction loss.

- *Professionalism and dignity.* The ITC procurement center is a well-maintained, professionally run operation where the farmer is treated with respect and actually serviced as a customer. The farmers we spoke with evinced great emotion for the dignity accorded to them by a professional process. Farmers mentioned simple touches such as a shaded area with chairs to await their paperwork as indicators of ITC's respect for them and their produce.

Even though intangible in the short term, the self-confidence created by the professional treatment is changing the way farmers conduct themselves. Sanchalaks and even a commission agent noted this change in farmer attitudes.

ITC Gains

- *Disintermediation savings.* The commissions paid to the agents were not excessive, but the true cost of intermediation, including the rent seeking, was between 2.5 percent and 3 percent of procurement costs. A 0.5 percent commission to the sanchalak has replaced this.
- *Freight costs.* Direct reimbursement of transport costs to the farmer is estimated to be half of what ITC used to pay the commission agents for transport to their factory.
- *Quality control.* Removal of intermediary manipulation of quality and the ability to directly educate and reward quality in the customer base results in higher levels of quality in e-Choupal procurement. This results in higher oil yields.
- *Risk management.* The e-Choupal allows ITC to develop long-term supplier relationships with its farmers and attain some modicum of supply security over time. Risk is also managed in the e-Choupal world by far stronger information infrastructure. Sanchalaks and samyojaks working on behalf of ITC provide excellent ground information on pricing, product quality, soil conditions, and expected yields. This allows ITC to better plan future operations.

e-Choupal Procurement Savings in Numerical Terms

In the mandi system, there was a markup of 7 percent to 8 percent on the price of soybeans from the farm gate to the factory gate. Of this markup, 2.5 percent was borne by the farmer and ITC had to swallow 5 percent. ITC's costs

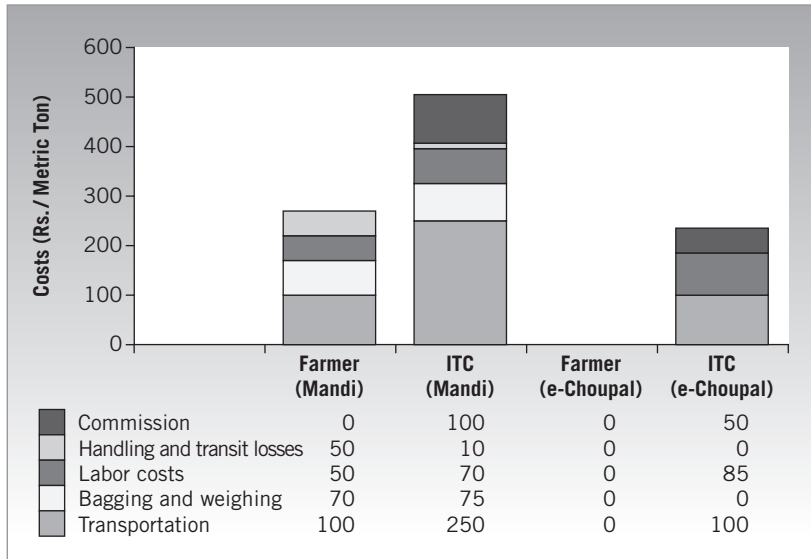


Figure 5 Cost comparison between the mandi and e-Choupal.

are now down to 2.5 percent. Figure 5 shows the breakdown of the transaction costs incurred by the farmer and ITC per metric ton of soyabeans procured in the mandi and e-Choupal.

Compared to the mandi operation, the farmer gained Rs. 270 per metric ton. ITC gained also Rs. 270 per metric ton. The total system efficiency is Rs. 540 per ton. This is a win-win situation for both. There are additional sources of benefits that can accrue over time to both the farmers and ITC as they learn to leverage the e-Choupal network.

The Social Impact of e-Choupals

One of the most exciting aspects about the e-Choupal model is that it profitably provides an inaccessible village with a window to the world. The e-Choupal computer is the first and only PC in most of these villages. This, coupled with the higher remuneration and appreciation of the professional transaction, is causing several shifts in the social fabric. These changes can be categorized into the following broad areas:

- Improved agriculture
- Better lifestyles
- Brighter futures

Improved Agriculture

The impact of the e-Choupal on agriculture extends through the lifecycle of the crop. The improvements are attributable to three areas:

- Bridging the information gap
- Cheaper and smarter agricultural inputs
- Farmer as a source of innovation

Their collective impact can be gauged by the fact that prior to the e-Choupal, soya cultivation was on the decline. Productivity was stagnant and farmers saw no future in it. In Khasrod, we were told that from a high of 100 percent of the farmers planting soya, it had come down to 50 percent and was expected to decline further. Since ITC's involvement, soya is seen as profitable again, and nearly 90 percent of the farmers are planting soya.

Bridging the Information Gap

Agricultural research centers (e.g., the Indian Council for Agricultural Research), universities, and other agencies in India have developed several practices and technologies to improve productivity and quality. The impediment has been access to a system for large-scale, low-cost dissemination of knowledge. E-Choupals leverage technology to reach out to a wide base literally at the click of a mouse. The constant presence of the sanchalak, who is himself a farmer who applies these techniques, ensures that the practices actually make their way from the Web site to the field. Some areas about which information is provided by the e-Choupal Web site are the following:

- *Weather.* This is a very popular section on the Web site because it provides localized weather information at the district level. Other public sources generally provide only aggregated statewide weather information. The weather information is intelligently coupled with advice on the activities in the agricultural lifecycle. One farmer observed that prior to the e-Choupal, unreliable weather information would result in prematurely planted seeds that would be washed out by early rains. The recent access of accurate rain information has stemmed over half this loss.
- *Agricultural best practices.* Scientific practices organized by the crop in question are available on the Web site. Additional questions are answered through frequently asked questions and access to experts who respond to e-mails from the villages. An example we encountered in the villages was soil testing, which never happened prior to e-Choupal operation.

- *Customized quality solutions.* After the sale is completed, ITC performs laboratory testing of the sample collected. Based on these results, the farmer is given customized feedback on how he can improve the quality and yield of his crop.

Cheaper and Smarter Agricultural Inputs

The market for agricultural inputs is estimated to be Rs.175,000 crore. However, the rural market is serviced by an unorganized and inefficient informal sector. The lack of physical infrastructure makes the cost of establishing and managing a distribution channel extremely expensive. Many companies could not market their products and services to rural areas in a cost-effective manner. ITC is able to use information to drive demand of inputs and fulfill them through the e-Choupal.

- *Low-cost last mile.* With the infrastructure cost recovered through procurement, the channel is available to distribution at only the incremental marginal cost. The fixed cost overhead applied to distributed commodities is therefore very low. Hubs, transportation, organization, and communication infrastructure are all shared. One sanchalak spoke of an herbicide, Pursuit, that ITC made available at 20 percent below market price.
- *Demand aggregation.* The informational atmosphere of the e-Choupal and the trust engendered by ITC drive demand for inputs. The sanchalak is in an ideal position to aggregate village demand, place a single order, and optimize logistics costs for ITC.
- *Intelligent product deployment.* Inputs such as fertilizers and pesticides are not generic in their application. The optimal deployment is subject to the soil and crop. Determining these parameters themselves requires services such as soil testing to be performed. Past providers brought inputs but not the information and services required to make them effective. ITC's full-service approach corrects for this by coupling the input sale to the information on the Web site and services such as soil testing.

Farmer as a Source of Innovation

The global resources, practices, and remunerations the e-Choupal brings to the farmer have unshackled the farmers' innovation and given them an avenue to see their ideas realized. This fits in perfectly with the ITC vision of using the e-Choupal as the "intelligent first mile." Farmers are now coming up with products and services that ITC could provide to further improve their operations. We heard farmers demand that ITC certify and make available the

Samrat variety of seeds that is preferred to the currently certified JS300 variety. Some farmers wanted ITC to bring its resources to bear on the onion and potato crops. They had information to the effect that the Indian onion crop was regarded as inferior to the Chinese crop in the world market. This is caused by the lack of availability of seeds and information. They have approached ITC with this suggestion, saying it would be mutually profitable to make these resources available.

Better Lifestyles

The realization of e-Choupal as a distribution channel begins in agriculture but extends well into consumer goods and services. In the traditional channel, the farmer lacks the resources to make informed purchasing decisions. This channel is comprised of mobile traders and cycle-based distributors. More often than not, they did not understand the farmers' issues and ended up selling them products and services that did not satisfy their needs. With companies hesitating to serve the rural market, a farmer often didn't have many choices. He had to buy what was available. This lack of choice also meant he had to pay a premium for the products that were available.

Orchestrating the Network

ITC's objective is not to be a platform provider for sale of third-party products and services but a network choreographer that orchestrates bidirectional demand and supply of goods through a collaborative business model. ITC intends to differentiate itself by serving only those products and services to which they can add value. The strengths that sustain this business model are the following:

- *Knowledge of customer.* ITC's core asset is its knowledge of the customer. By transforming the value chain and setting up a platform for procuring commodities from them directly, they now have a foundation for forging a close relationship with the farmers. This relationship leads to a better understanding of the issues that worry farmers. This is critical to serving their needs.
- *Physical assets (deployed infrastructure).* In its e-Choupals, hubs, and processing centers, ITC has a ready infrastructure that is needed to implement an alternative channel for distribution of goods and services into rural India. Its e-Choupals can double as storefronts and the hubs as centers for stocking inventory.

- *Information and communication infrastructure.* The information infrastructure implemented by ITC can be used to enhance its business decision-making, better manage risk, and identify opportunities for cross-selling and upselling. It can leverage detailed transactional data and transform them into actionable knowledge. Data mining and data warehousing will help them better understand the behavior of their customers, identify unfulfilled needs, and realize ways to serve them efficiently. The communication infrastructure compensates for the lack of physical infrastructure needed for marketing products and services in rural India. Some of the functions it can enable are as follows:
 - Rapid, low-cost information dissemination, thus allowing the farmer an informed choice and minimizing the need for a traveling sales force.
 - Online ordering and order management, eliminating the need for physical storefronts.
 - Customer intelligence, maximizing customer satisfaction and profitability.
- *Process benefits.* Having set up a streamlined process for bringing products out of rural India, ITC can now leverage that to take products into rural India. For instance, the samyojak network can be employed to efficiently distribute the products to the e-Choupals. The sanchalaks, through their community presence, can pick up market signals and consumer information first and transmit them back to the distribution channel.
- *Reputation of ITC.* Another factor that enhances this channel is ITC's reputation for transparency. Products sold through this channel will have instant credibility by virtue of their association with ITC. Also, by establishing its primary objective as procurement from this channel, ITC has demonstrated it has no vested interests in promoting this channel for distribution of products.

Sources of Efficiency

There are several differences between this channel and existing channels. These differences also represent sources of efficiency for ITC, farmers, and intermediaries.

- *Access to market intelligence leading to a better fulfillment channel.* Sanchalaks, through their close relationships with farmers, have the potential to pick

up market signals and consumer information and transmit them back to the distribution channel. They can gain specific information about the community's needs and preferences, thus giving ITC the unique ability to customize products and provide superior fulfillment. Such information is not otherwise available. Market information was previously gathered from agents located at the mandis. Although the agents interacted with the farmers, they were not one of them and did not understand the needs of the community. ITC can now aggregate reliable pieces of information logged from a large number of villages, lending a competitive edge to its trading decisions. Access to information also lets ITC keep a finger on the pulse of the demand and thus helps manage inventories and create an efficient supply chain for the rural market.

- *Pull-based marketing.* This channel is also different from the traditional channel in which inputs were sold mainly by pushing it to the end customers through dealers. The fundamental premise of this strategy is that farmers educated in best practices understand exactly what inputs they need and why they need them. This eliminates the need to spend time and advertising outlay to convince the farmer.
- *Demand aggregation leading to scale economies.* Sanchalaks aggregate demands from individual farmers. In an environment where physical infrastructure is inadequate, the scale economies allowed by aggregation are crucial for keeping down logistics costs.
- *Supply aggregation leading to customization.* At the other end of the network, ITC aggregates products and services from several sources to provide the total solutions.

Status of Operation

Product distribution has been operating in two ways. The first is by using the e-Choupal as the storefront where products are delivered directly by ITC or through a samyojak. The second is by using the hub as the storefront, where ITC sells goods at the produce receiving point. In this case, the samyojak handles the logistics. After completing the sale of his produce, the farmer can conveniently buy products right there and take them on his empty trolley back to the village. The way in which a particular product is delivered depends on the nature of the product. For instance, a fertilizer with a strong odor cannot be sold from the e-Choupal (which is actually part of the sanchalak's residence).

E-Choupals ensure quality in delivering products and services through several product- and service-specific partnerships with the leaders in the respective fields. ITC gives the participating company direct access to the

customer through e-Choupal in return for a commission. Participating companies often place samples with the sanchalaks. The sanchalaks aggregate demands from farmers and place the order with the supplier. The sanchalak earns a commission of 2 to 3 percent for every sale he makes. The samyojak serves as a distribution point for the sanchalaks in his region. For his services, he gets a 1 to 3 percent commission.

Brighter Futures

The e-Choupals impact the future of the villages in which they operate through three channels:

- Knowledge of the world
- Access to credit
- Insurance and risk management

Knowledge of the World

Computers are bringing the same resources to rural villages as they brought to urban India. Their impact is no less dramatic. Some of the stories we gathered from the villages are summarized here:

- Children use computers for schoolwork and games. A particularly poignant story is that of Khasrod, where 2,000 local students printed their mark-sheets from the local e-Choupal, saving them days of waiting and a long trip.
- Sanchalaks chat (over the Internet) extensively among themselves about the status of operations and agriculture in their villages.
- Villagers access global resources to learn about agriculture in other parts of the world and take action to compete in the world outside, not merely at the local mandi.
- Youngsters in the village use computers to investigate the latest movies, cell-phone models, and cricket news. One young sanchalak said that some of his friends had aspirations for their future and used the e-Choupal to learn about the computer.

Access to Credit

The farmer's low income and difficulty accessing credit severely limit his capacity to pursue opportunities within and outside agriculture. Access to credit has long been considered a major poverty alleviation strategy in India.

Demand for rural credit is estimated at Rs. 143,000 crore. The government has implemented a variety of credit-linked programs supplemented by subsidies. Among them, the Integrated Rural Development Program (IRDP) started in 1978–79 was a major national rural poverty alleviation program with a large credit component. Under this program, nearly 53 million families were assisted with bank credit of Rs. 31 billion and subsidy of Rs. 10.5 billion. However, its impact had not matched the resources spent. The loans were not tailored to meet individual needs and lacked the support systems necessary to help farmers.

Many financial institutions stay away from rural India due to the following reasons:

- Lack of accessibility to credit history
- High delivery, transaction, and administration costs
- Poor financial disclosure on account of tax issues
- Informal sector that lacks access to capital markets
- A perception of high risk leading to high borrowing costs

ITC proposes to address these problems through e-Choupals and partnerships with financial institutions:

- *Accessibility to credit history.* Farmers in rural India borrow money from local money lenders, through government incentive schemes, friends, relatives, or traders. Local money lenders and intermediates are aware of the creditworthiness of the farmers and are therefore willing to loan money, albeit at a higher rate. With the e-Choupal, ITC now has the capability to manage credit risk through its sanchalak network. The sanchalak network can be used not only to verify the creditworthiness of an individual farmer, but also to continuously monitor credit risk. In the future, ITC can create a consolidated farmers' database with all information pertaining to their holdings and transactions. This database can be used as a source of creditworthiness profiles of the farmers.
- *Transaction and administration costs.* For major financial institutions, transaction costs in servicing the rural market have been high because of the difficulty in reaching the market. By leveraging the IT infrastructure and the sanchalak network, administrative costs can also be reduced.
- *Status of operation.* ITC is set to link with banks such as ICICI and design products tailored to rural India. Some of the products being designed include the following:

- Noncash loans for farm inputs: Instead of giving cash to the farmer directly, the financial institutions will purchase farm inputs on behalf of the farmer. The farmer is expected to pay back the loan to the financial institution.
- Loans to sanchalaks: Instead of giving loans directly to the farmer, loans will be given to the sanchalak, who in turn loans it to the farmer. With better access to the farmer, the sanchalak can manage the credit risk better than the financial institution.
- Direct loans to farmers based on sanchalak recommendation: In this case, the sanchalak's commission is based on the loan recovery and therefore he has the incentive to monitor the risk on a continuous basis.

Insurance and Risk Management Services

Insurance is an excellent example of how ITC brings its knowledge of rural dynamics to bear on product design. Insurance in rural India suffered from several problems. Some characteristics of this effort are as follows:

- Products have been designed to deal with rural cash cycles. There is recognition that in bad years farmers might not be able to pay premiums. Rather than penalize the farmer with a lapsed policy as current products do, ITC's offerings allow for correction in later years or only diminish the final payout.
- ITC uses the e-Choupal Web infrastructure to set up and issue electronic reminders for premium payment. This addresses a major limitation of the current products. The agents currently selling insurance have little incentive to encourage renewals and the policy lapse rates are high.
- A system of interlocking instruments has been set up so that insurance premiums can be credited with quality bonus points from the farmer's soya sale.
- The sanchalak is assisted in making the sales pitch by informational Webcasts and video presentations.

Detractors, Risks, and Limitations

In the net sum, the change brought about by the e-Choupal is overwhelmingly positive. It is, however, important to note the parties who are adversely affected in the short term.

Detractors

Diversion of produce to e-Choupals has caused soya volumes to shrink by 50 percent at mandis we visited. Most people who have lost money are closely connected to the mandi. They include the following:

- *Commission agents.* Despite ITC's best efforts to maintain the mandi volumes and compensate the commission agents for lost income, there is little doubt that on the whole they have lower incomes after the e-Choupal than before.
- *Mandi laborers.* The workers in the mandi who weighed and bagged the produce have been severely impacted by the drop in volume. ITC's long-term vision is to employ many of these people in the hubs in much the same functions as they perform in the mandi. The Sonkach mandi has 28 tulavatis and 300 laborers.
- *Bazaars near the mandi.* When farmers sold produce in the mandi, they would also make purchases of a variety of commodities at the local bazaars. This revenue has now been diverted to shops near the ITC hubs. This in itself is more a diversion of revenue than its elimination.
- *Some mandi operations.* ITC still pays mandi tax for all the grain procured through e-Choupals but it now pays the tax to the mandi nearest to the procurement center. As a result, tax is being diverted from several mandis to the few mandis near procurement hubs. The result of this is that regional mandis have lost taxes that contribute to maintaining their infrastructure.
- *Competing processors.* Even before the advent of the e-Choupal, the soya crushing industry suffered from severe overcapacity (half of all capacity was excess). The efficiency pressures imposed by the e-Choupal have spurred industry consolidation.

Risks and Limitations

Apart from the risks identified by ITC, there are some additional areas that bear watching and could require active intervention.

Subversion of Samyojaks Toward Competitive Entry

ITC's relationship with the samyojaks seems to be uneasy. It seems ITC could easily manage internally most of the services provide by the samyojaks. The one samyojak we spoke with indicated that past relationships and the promise of

future business keep him loyal to ITC despite deep reduction in procurement business. The primary barriers to competitive entry are scale of operations, a trusted network, and rural know-how. Multinationals with the financial muscle to invest for the scale can use discontented samyojaks as collaborators.

Farmers and Customer Service

ITC has awakened farmers' aspirations. If they do not keep up with these aspirations, the farmers will look elsewhere to satisfy them. As an example, in the conversation where the sanchalak asked us about Indian onions in the global market, he also knew what the solution was. He half-complained that he had told ITC several times to begin sales of better onion seeds, but he had not heard back from them.

Social Impact Limited by Stratification

The computer in the village is no doubt revolutionary, but there is also no doubt the villages we saw were stratified to the point where not everybody can walk up to the sanchalak and ask to be shown the computer. There are clearly people at lower income levels and the entire adult female population who do not have access to the computer (we have used only masculine pronouns in this case study because that is the reality of the society we visited). The innate power of the computer to drive social change will not be able to transcend this barrier unaided. This is by no means a reflection on ITC; it is a reflection on the nature of the underlying society in rural Madhya Pradesh.

The solution might lie in observing where the system has driven social change. Village farmers belong to many social and economic strata. Yet the sanchalaks are servicing all of them equally. In this case, the potential for commerce has broken a barrier that society has built. Similarly, engagement with the isolated demographics, especially women, might be possible through the active procurement and distribution through the e-Choupal of products tailored specifically to them.

e-Choupals: Future Generations

ITC recognizes the limitations of today's e-Choupals in their manifestation as vehicles of procurement efficiency. Not every crop lends itself to such an intervention. With crops such as soya, where value is to be had, followers will soon imitate ITC and eliminate the competitive advantage. ITC's vision for the e-Choupals extends many generations as the e-Choupal evolves into a full-fledged orchestrator of a two-way exchange of goods and services between rural India and the world. The soya choupal is Wave 1, with several more to follow:

- *Wave 2.* The source of value in this generation will be preservation of identity through the chain. This is a significant source of value in crops such as wheat, where the grade of the grain determines its end use and the ability to separate different grades from field to consumer will command a price premium. E-Choupals in Uttar Pradesh have already started wheat procurement.
- *Wave 3.* This wave takes identity a step further by building the concept of traceability into the supply chain. This is vital in perishables where traceability allows ITC to address food safety concerns and once again provide a value that the customer is willing to pay for. Shrimp is a good example of a crop where Wave 3 will apply. ITC's intervention in such products will actually be at the level of production. ITC will define standards that producers must adhere to and work with farmers to ensure product quality. Farmers in turn will get the best prices from ITC because ITC commands the traceability premium.
- *Wave 4.* The first three waves fill institutional voids; Wave 4 creates institutions. The first three waves apply to environments where ITC was the sole buyer in the e-Choupal channel. For commodities where the underlying markets have reached a high degree of efficiency, such basic sources of value will not exist. For crops such as these, the e-Choupal will serve as the marketplace where multiple buyers and sellers execute a range of transactions. A good example of this is coffee. ITC's source of value will be the sunk cost of the IT infrastructure and the transaction fees.
- *Wave 5.* Whereas the first four waves related to the sourcing from rural India, the fifth wave elaborates the rural marketing and distribution strategy. This is not the same as the rudimentary distribution of agricultural inputs that is being done today. ITC plans to bring together knowledge of the customer, knowledge of the business, deployed infrastructure, its reputation, experience gained over the first four waves, and an organization of people, processes, and partners. This base will allow ITC to bring value-added products and services to bear on rural India.
- *Wave 6.* After the sourcing of goods from rural India, ITC's last wave has the ambitious vision of eventually sourcing IT-enabled services from rural India. Telemedicine, ecotourism, traditional medicine, and traditional crafts are some of the services that can be sourced from rural India. Although some time off, it is an agenda that inspires because of the scale of the vision and the potential impact.

Endnotes

1. "Poverty Dynamics in Rural India"—IMF Working Paper, Revised November 6, 2002.
2. A major source for this section is World Bank Report #15677-IN: India the Oilseed Complex: Capturing Market Opportunities, July 1997.

This report was written by Kuttayan Annamalai and Sachin Rao, under the supervision of Professor C. K. Prahalad. This report is intended to be a catalyst for discussion and is not intended to illustrate effective or ineffective strategies.

