

## Forum

# Putting ICTs In the Hands of the Women of Kanpur and the Chikan Embroidery Workers of Lucknow<sup>1</sup>

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## Background: A Tale of Two Cities

Kanpur and Lucknow are two of India's most populous districts and have always enjoyed historical prominence. These urban districts, however, are located in one of the most socially and economically backward states—Uttar Pradesh. The population density in Kanpur–Lucknow puts pressure on the area's almost nonexistent civic amenities and infrastructure, and the poorest and most underdeveloped areas have high crime rates. Adverse sex ratios and low literacy rates among women also contribute to gender-discriminatory practices such as sex-selective abortions and lack of access to education for women.

Table 1 presents district-level demographic data for Kanpur Urban, Kanpur Rural, and Lucknow.

Distinctive of these districts is *chikankari*, or chikan work, a traditional art that is still an integral part of life and an income source for local families. It flourished under the patronage of the 18th and 17th century rulers of Awadh province, who made serious efforts to cultivate the arts and the—at that time, primarily male—artisans. The skill was passed from generation to generation and eventually, as better opportunities in formal sectors arose for men, to women as a source of subsidiary earning for the family.

Today, however, the informal chikan embroidery industry is oversaturated, and as the women workers face declining returns, it is increasingly important for them to increase their technical aptitude so they can seek employment in more formal sectors. But major cultural barriers and constraints, lack of employment opportunities, and health risks such as viral epidemics make it especially difficult for the women of central Uttar Pradesh to access resources that will allow them to enhance their skills and increase their livelihoods.

Therefore, the Datamation Foundation and InfoDev designed a multi-dimensional, multistakeholder information and communications technology (ICT) for development project, “Putting ICTs in the Hands of Women

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We dedicate our work to the inspirational life and struggles of my late mother Vimla Devi Sharma who had an emotional bonding with the Kanpur–Lucknow communities for more than four decades.

Table 1 *Kanpur and Lucknow Districts at a Glance*

Demographic Characteristics	Kanpur (Rural)		Kanpur (Urban)		Lucknow	
Population	1,584,037		4,137,489		3,681,416	
Sex ratio (females per 1000 males)	856		869		891	
Population density (per sq km)	504		1,366		1,456	
Literacy rate	76.84	54.49	82.08	72.50	76.63	61.22
	among males	among females	among males	among females	among males	among females
Population aged 0–6 years	271,020		530,016		523,059	

Source. Census 2001, Government of India.

of Kanpur and ‘Chikan’ Embroidery Workers of Lucknow.” The project established community multimedia centers (CMCs) in several poor communities in the Lucknow–Kanpur area to impart training in IT, handicrafts and other traditional vocations in addition to providing information on health, education, and women’s empowerment.

Additionally, the project aimed to address the following three questions:

- Can ICTs improve the capacity of women engaged in the informal sector to increase their incomes, enable women to enter the informal sector and generate sustainable livelihoods, or both?
- Can ICTs improve the capacity of women engaged in handiwork trades such as chikan embroidery to increase their incomes?
- Can ICTs improve the capacity of chikan workers to enter into other informal or formal sectors, thereby improving their ability to achieve sustainable livelihoods?

The CMCs were opened in five districts of central Uttar Pradesh—Kanpur Urban, Kanpur Rural, Barabanki, Unnao, and Lucknow. This report covers research findings from the Kanpur and Lucknow centers.

## Project Activities

### *Pre-Project Research*

Promoting women’s access to and enhancing women’s gains from ICTs depend on the context through which gender relations are understood and how this understanding is then applied to project

planning. To understand cultural and economic factors in women’s use of ICTs, we employed informal discussions with women who participated in ICT projects, in-depth interviews, analysis of participant profiles listed at the time of admission to the ICT centers, and dairies. The women identified illiteracy, early marriages, the dowry (bride price) system, and lack of employment opportunities as barriers to their empowerment. In the wake of epidemics such as viral and dengue fevers, participants also expressed great interest in using ICTs to retrieve health information. Women furthermore identified participation in ICT activities as both economically and socially beneficial.

### *Establishing Community Multimedia Centers: Content and Use of the CMCs*

In each CMC, we included computers with Internet access, high-speed printers, and scanners. We wanted to enhance both the vocational and basic ICT skills of the disadvantaged and marginalized Kanpur–Lucknow women. Participants were assigned to Self-Help Groups (SHGs), and the SHGs were trained using the Microsoft Unlimited Potential curriculum in addition to ICT-based vocational and skills-based modules. Furthermore, basic skills such as tailoring, embroidery, and handicrafts were reinforced with the help of ICT modules. To support the women’s creation of chikan embroidery designs, Chikancad software was developed by the Indian Institute of Technology (IIT). In addition to offering easy-to-use drawing applications, the software enables users to store designs in a library for later retrieval and editing.

Participants used Enrich, the local community

browser, to search for information on various sites offered by the Delhi state government and the Indian central government in addition to sites that have enrollment and admissions content, such as the National Institute of Open Schooling (NIOS) and the Indra Gandhi National Open University (IGNOU). The women, who often drop out of high school and college, were motivated to complete their educations through distance-learning programs.

In addition to promoting income-generating and educational opportunities for the women, a community-based mobilization effort was undertaken to spread application of ICTs in the women's everyday lives. Despite a lack of formal training, the women used multimedia programs to record traditional songs and have learned about the video recording and editing process, taking cues from videos provided by Datamation Foundation. Women have produced their own multimedia modules with topics covering women's empowerment, legal rights and issues, skills enhancement, income generation, and health and education. Specific activities of each CMC are described in the following sections:

### **1. Railbazar CMC (Kanpur)**

This is the oldest CMC, located in a semiurban center within close proximity of the Kanpur Central Station. Railbazar has a population of 7,000, and the entire surrounding area served by the CMC has a population of 25,000 extremely impoverished and disadvantaged people such as railway porters, menial workers, sex workers, manual scavengers, rickshaw pullers, coolies, and earthen pot makers.

Open since September 2004, this CMC has trained 525 participants through the Microsoft Unlimited Potential curriculum, four women have been trained to use Chikancad, and 585 participants have been trained in ICT-led vocational courses. The participants are composed of 700 students from below-poverty-line families and 410 students from middle-class families. Many girls (approximately 80) who completed their Microsoft Unlimited Potential courses are now working in schools, offices, and banks—a few girls have purchased their own computers and are teaching others in their homes. There are 50 other girls who earn their living, often from home, as beauticians or by doing stitching and embroidery. A few women have even started their own vocational training centers.



*Figure 1. A woman receives basic computer training at the Bansmandi community multimedia center.*

### **2. Bansmandi CMC (Kanpur)**

This CMC, located in a predominantly Muslim area (Muslims comprise 99% of the local population), has been operating from the famous Urdu library, which houses a lot of old Urdu literature that locals come to read. This location was chosen because we wanted to promote the social uplifting of Muslims and because it is situated in a dense area.

As of January 2005, there were 259 enrollees, 82 of which had completed their Microsoft Unlimited Potential courses. In addition to taking basic computer literacy courses, the women are trained in skills such as stitching, painting, henna making, and ceramics. About seven or eight new trainees per day enroll in the Microsoft Unlimited Potential curriculum, and nearly 20 new persons per day visit the center for other reasons (e.g., seeking training for vocational courses through ICT, searching for information through Internet).

In this area, girls are not sent outside of the home for work—people want their daughters to be educated only so they can pass it along to future generations. This trend, however, is slowly changing—four girls of this center who were trained through the Microsoft Unlimited Potential curriculum got jobs and eight others are working from home with their own computers. Moreover, there are 140 other girls who are working as beauticians or by doing stitching and embroidery.

### **3. Bithoor CMC (Kanpur)**

Bithoor is a historical, rural area near Kanpur. As of February 2005, there were 144 students at this center, 45 of which had earned certificates upon com-

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pleting the Microsoft Unlimited Potential course. Additionally, the women learn stitching, bag making, and embroidery.

This center covers an area of 16 km and 42 villages. On average, 10 students a month enroll in the Microsoft Unlimited Potential curriculum (222 students in 23 months) and nearly 50 new people use the center's computers for various other reasons. Women have been coming to learn stitching, bag making, and embroidery in addition to coming to take basic computer literacy courses. Rural communities lack information on various topics such as health, economics, and women's rights, so CMC visitors in this area benefited from computer modules that focused on these subjects.

### **4. Jajmau CMC (Kanpur)**

Jajmau is famous for leather tanneries. The CMC was set up here in August 2005, and since then, about 11 students a month have enrolled in the Microsoft Unlimited Potential curriculum (177 students in 18 months). After completing the curriculum, 15 girls got jobs and 40 other girls are earning money by doing embroidery and stitching work. Additionally, about 50 new visitors a month use the CMC computers for other reasons

### **5. Bangla Bazar CMC (Lucknow)**

About 10 new students per month (222 students in 23 months) enroll in the Microsoft Unlimited Potential curriculum and nearly 50 new people use the computers at this center for various reasons, which is located in the urban periphery of the city (a 5-km area with a population of approximately 18,000 people). The women enrolled here obtain basic literacy skills in addition to vocational skills such as stitching, bag making, embroidery, basic computer literacy, and training to play a musical instrument called a *Dholak*. In addition to making designer imitation jewelry as a source of income, 62 women completed their Microsoft Unlimited Potential courses and earned certificates. Of those who earned certificates, 45 girls got jobs and 50 other girls are earning a living through chikan work after learning the Chikancad software.

### **6. Nishatganj CMC (Lucknow)**

This CMC is located in a *Madarasa* (Islamic religious school) in a predominantly Muslim area. Most of the women in this area wear veils and encounter problems accessing the CMC. Despite those challenges, however, more than 104 participants have enrolled

so far, and the women have expressed enthusiasm toward the vocational courses.

### **7. Kakori CMC (Lucknow)**

This CMC, which opened in June 2005, is in a rural area near Lucknow that includes 13 wards of the Kakori village (a 6-km area with a population of 35,000). Women come to this CMC to learn basic computer literacy, how to handle Chikancad software, and how to stitch garments. So far, this center has enrolled 25 participants.

### **8. Kasmandi CMC (Lucknow)**

Despite a lack of basic infrastructure and ICT knowledge among the population, this CMC has enrolled 57 participants as of May 2005. It covers 12 wards of Kasmandi that are home to approximately 12,000 people and, with the help of a *panchayat* (a village-level government body), offers courses on basic computer literacy and stitching.

Women from as far as 5 km away come to the center, and an average of four women join this center every month to enroll in the Microsoft Unlimited Potential curriculum. An additional 12 other new people each month use the center's computers for other reasons. Finally, 25 women have also learned the Chikancad software. (This area is also famous for chikankari work, with which almost every home is involved).

### **9. Farstipur CMC (Barabanki)**

Barabanki is Lucknow's adjoining district, and like Kasmandi, the area is especially well known for chikan work. With the help of Gram panchayat of Gadia village, Farstipur, this CMC covers an area of 6 km and a population of nearly 18,000 people. The CMC opened in August 2005, and since then an average of eight students per month (130 in 16 months) have enrolled in the Microsoft Unlimited Potential curriculum; 15 students have enrolled for other courses such as basic computer literacy, stitching, and painting.

### **10. Shadab Colony, Nishat Ganj (Lucknow)**

This CMC, which covers 5 km of mostly urban areas, was established in January 2005. It runs in a *Madarasa* (Muslim religious school), and five women who stayed in the *Madarasa* got local jobs in their native places after seeking Microsoft Unlimited Potential curriculum training.

### **11. SEWA (Lucknow)**

This center was recently opened and is operated in collaboration with the Self Employed Women's Association (SEWA), a nongovernmental organization

that aids chikan workers. Here, chikan workers and their children learn basic computer skills.

### 12. JanakPuri

This center opened September 15, 2007, and by October 1, 20 new students had enrolled in its computer courses.

## Self-Evaluation Results

Questionnaires are given to all the participants before they complete their courses. As of October 2007, 7,997 had completed their courses. The following data were collected from questionnaires completed by 140 women from centers in Kanpur and 61 women in Lucknow (N = 201).

### Increase In Computer Skills

Before joining the CMC, 70.71% (n = 99) of the Kanpur participants and 70% (n = 43) of the Lucknow participants had never used a computer. Ninety percent (n = 55) of the Lucknow participants used the CMC for about 3 months, and most of the women from Kanpur used the CMC for more than 3 months. Most of the women used more than one facility at the centers, and most of them viewed more than one module, thus developing computer skills in addition to the training for which they initially joined the center.

### Increase In Income

More than 22% (n = 31) of the Kanpur participants reported increasing their incomes after completing the vocational courses; 21% (n = 29) of Kanpur participants, although they occasionally earn money embroidering or save money by stitching their family's clothes, reported a less-definite increase in their incomes as a result of the CMCs.

### Change In Attitude

The women reported a change in their attitude and the attitude of their family members. They are more confident about their future: 50.82% (n = 31) of Lucknow participants and 41% (n = 57) of Kanpur participants reporting feeling capable of learning and doing more. Fifty-two percent (n = 73) of Kanpur

participants and 48.2% (n = 29) of Lucknow women are more confident about their future. According to the women, parents of 42.446% (n = 59) of Kanpur participants and family members of 67.21% (n = 41) of Lucknow participants have developed more confidence in women; 43.32% (n = 61) of parents of Kanpur participants and 31.14% (n = 19) of parents of Lucknow participants are proud of their daughters.

### Feedback On the Usefulness of the CMCs

On the questionnaires, 66.19% (n = 93) of the Kanpur participants reported that they found the center useful and 20.1% (n = 28) reported that they found it very useful. Of the Lucknow participants, 70.5% (n = 43) reported that they found the center useful and 21.31% (n = 13) reported that they found it very useful. Word of mouth is bringing women from as far as 3–4 km to the centers: 89.9% (n = 126) of Kanpur participants and 100% (n = 61) of Lucknow participants would recommend the center to the other women.

The women are mostly satisfied with the content and facilities offered by the CMCs, but some women taking the computer literacy course reported that they would like it to be longer so they could perfect their computer skills. Furthermore, some women reported a need for basic amenities such as more fans and generators to overcome electricity problems.

**Table 2** *Prior Computer Use Among Participants in Kanpur and Lucknow*

District	Months of Computer Use Among Participants at Baseline		
	< 3 months	3–6 months	> 6 months
Lucknow	90.16%	6.56%	3.28%
Kanpur	48.20%	35.97%	15.83%

**Table 3** *Utility of Community Multimedia Centers in Kanpur and Lucknow*

District	Participants' Perceptions of CMC Usefulness			
	Not useful	A little useful	Useful	Very useful
Lucknow	1.63%	6.56%	70.5%	21.31%
Kanpur	5.75%	7.91%	66.19%	20.14%

## Conclusion: The Intervention Ushers In Some Changes

The CMC project has provided opportunities for women's groups to become collective managers and users of technology. Most of the women who have completed or who have nearly completed their stitching course have started saving money, and they use that money to pay their ICT center fees, which gives them a lot of confidence. In the festival seasons and marriage season, many women earn money for their beautician and henna services. Women who have completed their basic computer literacy course have also been placed in small shops or clerk-level jobs. In conclusion, the Datamation ICT project in Uttar Pradesh is empowering women through access to health and education content,

multimedia facilities, and income-generating activities.

Designing community-based projects that will improve the lives of disadvantaged women needs to be a priority. However, economic and cultural barriers have to be taken into account while designing and implementing such projects. There are two lessons here. The first is the need for a realistic visualization of technology's potential. While it is possible to imagine the infinite power of ICTs to address development, overoptimism about what it can actually deliver needs to be tempered. The second and more important lesson is that both the design and delivery of models require consciously thought-out approaches to bring excluded populations into the net of beneficiaries. ■