



Expanding Information Access to China's Rural Communities

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Abstract

This paper traces the development of China Evergreen Rural Library Service Station's (China Evergreen) efforts to bring information technology to selected counties in rural China since 2001. It describes taking advantage of the Chinese value of educating its young to start library services in high school, then expanding to the general public through a number of steps. First, the library services are expanded to the parents of the students, then to various other segments of the population before expanding to the general public. In each case, China Evergreen has been able to obtain the assistance and cooperation of local officials and administrators. Creative programs are mounted to reach into the farming communities through home visits and market day activities. The commitment and creativity of local teams are preconditions to successful expansion and replicability.

Since the founding of the China Evergreen Rural Library Service Station six years ago, the drain of China's rural farmers to work on construction projects in the country's cities has increased, leaving grandparents to farm the land and take care of school age children. In addition, farming in China's rural regions, especially in the poor western and south western provinces is still in the traditional form of ploughs and cows. Farmers' low-tech means of agricultural production and lack of knowledge of the proper use of fertilizers and pesticides have seriously limited production and the quality of produce, and have led

to damage of farming land that is hard to reverse. Most farmers do not see the need for learning from books or technology or the importance of information access. Rather, they think that books are for the very educated and that libraries are for scholars doing research. The Internet is something they see on television. Although the government has provided free tuition for the first six years of education for more than 15 years, and recently has increased this free tuition program to all nine years through junior high school, the villagers' literacy levels still remain low. In some counties in the western provinces, illiteracy rates can reach as high as 56% (Yang, 2006, pp. 141-5). There are a number of reasons for this. First, although the schools do not charge tuition, there are many incidental fees, such as exam paper fees, book fees, chalk fees, table fees, and chair fees. Sometimes these fees are so numerous, that even the principals are not sure just how many fees exist at the school. Now, the government has decreed that schools can no longer charge these fees. This presents a problem for local government as well as school administrations, since there are no alternative sources of needed funding. Secondly, as soon as the children become physically mature, they often drop out of school to help with the work around the farms. This is especially true with girls. In many regions, girls would often stop going to school after completing four years of formal education.

Recognizing these difficulties, China Evergreen started working with school libraries. Evergreen started with libraries as a means to reach these poor areas because libraries could reach every community and it was a way of introducing technology to rural regions. Everyone in these regions wants computers and technology, but few in rural areas know what technology can do or how it could affect their daily lives. By using technology in the libraries, everyone would be able to see how computers can be used to search catalogue databases for books, perform book check outs with a few clicks, and access the outside world with the Internet. China has always valued educating its young as a first priority. Therefore, initiating, substantially improving and expanding the school libraries are very much welcomed by the local communities and officials. Then, using the school libraries as a base, we expand into the general community by building satellite book stations and forming clusters of libraries. Some of these satellite book stations are at middle schools, some at public libraries and one has been developed at an agricultural cooperative. All the satellite stations have computers, Internet connection and use computer library management software. The books at these book stations are catalogued using either school library management or public library management software. Users are free to use the computers to search the catalogue and to get on the Internet. At two of our three public libraries, there are "electronic" reading rooms with Internet access provided to the public. One library card will access the books at any of the libraries within the cluster. Furthermore, books are exchanged between the libraries on a monthly basis.

For targeted schools, China Evergreen not only helped increase and modernize their book collection, but also provided the hardware and software and the training necessary to computerize the library's operations. China Evergreen selected the high school with the most capable administrative and teaching staff in each of the locations to maximize the results. Thus, nearly all schools selected are the better senior high schools in the county. What was immediately evident was that there was tremendous excitement amongst the

students. As envisioned, the library became the most popular room on campus. Students came to borrow books just for the fun of seeing how the technology worked. They lined up to borrow books to see their pictured library card scanned and the zebra line code sticker on the book jacket scanned. It seems to them that this it is almost magical that this is all that is needed for them to take the book home. Prior to the installation of the computers and library software, each time they borrow a book, the librarian had to go through a laborious process of hand registering the transaction. Previously, the school libraries were open for just a few hours each week, if at all. Now, the demand is so high that they have to significantly increase the hours and hire additional teachers to serve as librarians.

At the time of receiving the Access to Learning Award (ATLA) in 2004, China Evergreen had only four satellite libraries located in Tongwei centered around the Tongwei's No. 1 High School Library. These four satellite libraries consisted of one public library, which was practically unused and is now revitalized with the introduction of 13 computers, one agricultural cooperative, and two school libraries. Since receiving the award, with the use of the award funding, we have added four more satellite libraries in Tianzhu, Gansu, three in Huining, Gansu, three in Lijiashan, Qinghai, and three in Danfeng, Shaanxi., a total of 13 new satellite libraries. Thus, we have replicated the satellite library project from Tongwei to four other counties since receiving the award in 2004.

As China Evergreen holds frequent conferences and workshops, the librarians from one part of the country learn about successful practices at another location. These four counties used Tongwei as a model to organize their satellite book stations. Some, like the Lijiazhan library, incorporated their own successful program of having 'barefoot' librarians doing outreach programs by visiting individual homes and participating in local meetings of the farmers. Actually, Tongwei's program of home visits by the librarian at their agricultural cooperative was inspired by what Lijiashan had reported at one of our workshops.

At each of these sites, it is absolutely essential that we have energetic innovative leaders and support from the local authorities. Strictly speaking, China Evergreen does not impose new programs at existing sites. China Evergreen provides an environment whereby new programs can be initiated and flourish. For example, Lijiashan and Tongwei started their own barefoot librarian program and requested laptops, which China Evergreen purchased. Tongwei committed to revitalizing its public library and requested computers for its electronic reading room, and China Evergreen purchased an initial group of 13. China Evergreen searches for the best and most convenient library management software and provides training in its use. China Evergreen provides workshops and conferences where librarians and local leaders can meet to learn from each other.

China Evergreen does expand by initiating new library sites. For example, China Evergreen has started three libraries in the last few months. One is in Pucheng, Shaanxi (a school library serving over 5000 students), a public library in Shangri La, Yunnan,

servicing a population of about 200,000, and a public school library also at Shangri La. These libraries all received 11 computers each with printers, scanners, digital cameras, software, and books to start their program. The new school librarians received training from our school librarians at existing school library sites within the province. For example, Pucheng's librarians were trained by two visits from Danfeng High School's librarian in Shaanxi. The Shangri La school librarian was trained by the librarian from Shidian, Yunnan. However, as the public library required different software and has different practices, the public librarians at the Shangri La county library were trained by the staff from the Yunnan Provincial Library located in Kunming. China Evergreen has an excellent relationship with the Yunnan Provincial Library and hopes to be able to do more projects together with them in the future.

At first, we were concerned whether the teachers would feel comfortable with the new technology provided at the library. Would they resist having to learn new technology and have students spend time away from text books? However, it seems that they have become even more enthusiastic, as evidenced by the reports and papers they submitted at our workshops and conferences. For example, there were 20 papers and teaching demonstrations presented by these high school teachers at our International Conference on Information Technology in Education (ITIE) 2006 conference. These were selected from over 60 papers that were submitted. Quite a few addressed the theme of the conference concerning ethics and it is interesting to note that the Chinese emphasis concerning ethics and technology is not so much the issue of intellectual property issues that concern western presenters, but rather the loss of interpersonal relations, increase of economic dreams, and information pollution. (Yang, 2006, page 79)

Our next step to bringing library services into the community was to open the school libraries to the parents of the students. Schools provided workshops for the parents at night and the parents were able to browse the library collection and borrow books as well. At the beginning, the parents had a "keeping up with the Joneses" attitude. If their son's classmate's parents were borrowing books, then they would as well so that their son would not lose face. Later, borrowing books evolved into improving communications between the parents and the students as well as for them to learn about Internet access in a clean and safe environment. Although the Internet access speed in the libraries is slow and limited by U.S. standards, the resources available are still enormous and sufficient for the families' needs.

In addition to opening the libraries up to parents, we develop programs and projects to encourage greater usage of libraries and Internet resources at the schools where we have a presence. To encourage usage, the schools have mounted reading competitions. Another strategy consists of book review competitions. Over 300 students participated in our first competition in Tianzhu's No. 1 High School. This is no small feat. To do extra curricular reading is rare for Chinese students as progressing to higher levels of education is done purely by national testing. Students therefore feel that extra curricular reading is a luxury in which they cannot normally indulge. The teachers would also not want the students to spend valuable time away from studying for the exams as their own promotions and salary levels depend on the results achieved by their students in these exams.

We have held exhibitions of essays, drawings and calligraphy of winning entries from both students and teachers at the World Journal's exhibition hall in San Francisco and at the China Institute's gallery in New York City. Over 130 pieces have been exhibited. Along with each entry, the competitor was asked to submit a short description of their research in the school's library on the subject of their submission. That their work would come across the Pacific Ocean to be view by people from the other side of the globe was a great incentive. They willingly spent time away from exam preparations to enter our contest. Nearly every student and teacher wanted to submit something. We ended up asking the schools themselves to select the best five to 10 percent from all of the submissions and then the U.S. Evergreen organized an expert panel to select the winning 130 pieces from these five to 10 percent. We also held several workshops to enhance the skills of the librarians and teachers in the operation and usage of the library and Internet resources. Two extremely well received international conferences were held respectively in 2004 and 2006 where students, teachers and librarians made presentations and comparative teaching demonstrations.

China Evergreen is also making connections with university student groups in the U.S., for example the Dream Corps based at Duke University, <http://www.dreamcorps.org/onlineapplication2006.html> , to develop reading programs during the summer months. These student groups volunteer to go to schools in China on their summer vacation to help students in reading and using the library to do research. One such group visited two of our schools in Gansu in 2005; one group visited a school in Shaanxi in 2006; and several groups will be visiting schools in Yunnan and Shaanxi in summer of 2007. Preliminary discussions between China Evergreen and another U.S. student group called Technology in Education Connecting Cultures (TECC), <http://www.teccultures.org>, based at Stanford University, have also taken place. These U.S. university students pay their own way to the rural schools and their arrival at the schools are occasions for celebration and gladness amongst the students and teachers alike. At the end of a two-week program period, the students are loath to see their visitors go and the schools, without exception, have requested their return the following year. These students will hold English and computer classes for teachers in the summer. They also interact with the students by going to the students' homes for visits and an occasional meal and answer endless questions. Last year 15 of them spent two weeks in Danfeng High School in Shaanxi. This year they are going back again. Hopefully, by summer 2008 we will have many more rural Chinese schools matched with U.S. student groups.

China Evergreen started to expand services into the general population with Tongwei's public library at the end of 2003. This program took the form of building satellite book stations at various locations surrounding an already established school library. The satellite book stations are networked to the school library and use the same software management system. In each community we enter, a cluster of libraries are formed to serve a larger proportion of the community. China has formed five such clusters scattered over five counties in three western provinces. We also have 13 stand alone individual libraries scattered over six provinces and Beijing, some of which, such as the Youwan

High School library in Shidian, Yunnan, are in the process of selecting appropriate sites to add satellite book stations.

We will describe two satellite book station clusters. The first is centered at Tongwei's No. 1 High School in Tongwei, Gansu, and the second at Tianzhu's No. 1 High School in Tianzhu, Gansu.

Tongwei is a farming community with a population of around 465,000. It is not far from the old silk route that connected the eastern part of China to Persia. As such, throughout its history, Tongwei was a county with a substantial educated class which was known for a tradition of valuing calligraphy and brush paintings. Evidence of this past cultural excellence is abundant throughout the county in the form of public art on the walls of school and other public buildings. Today, Tongwei has fallen on hard times due to a combination of draught, land that has been overworked and a location that is far away from air and sea ports, and railroad lines. However, it has a population that is industrious and intelligent.

The principal of Tongwei's No. 1 High School, with the assistance of the local education bureau and the vice mayor's office selected four locations to establish its first batch of satellite service stations. They consist of two middle school libraries, the Tongwei Public Library and an agricultural cooperative. As the best high school in the county, Tongwei No. 1 High School boasts a collection of over 20,000 useable volumes. The middle schools have around 5,000 volumes each. The public library with over 70,000 volumes has not added new books for nearly 20 years. Although it has a collection of rare books, the library could only allow for a few daily visitors prior to our intervention. The agricultural cooperative has around 1000 volumes at the present time. However, these are all very useful books on farming in high demand.

The Tongwei team started by analyzing villagers' information needs and then designed a service model feasible for the local social reality. As a result, the following tactics were developed: (1) actively reaching out to promote library services and make the service station known to villagers; (2) free delivery of books door to door to inform farmers about modern agricultural technology; (3) encouraging villagers to come to browse the book collections and offering the service stations as places for learning about science and technology; (4) conducting training and reference service sessions regularly to help villagers solve problems in their daily lives; and (5) making use of Internet resources to communicate with the outside world.

As a result of these efforts, we have compiled the following data for 2006.

- Tongwei's No. 1 school serves a community of about 4,000 students, teachers and parents. China Evergreen contributed four computers for circulation purposes and 30 computers for their electronic reading room for Internet browsing. Last year 13,430 volumes were loaned out from its library.
- The public library loaned out 40,526 volumes. The increase in activities at the public library has drastically transformed it from a relatively little used facility into a vibrant busy place today. China Evergreen has put in two computers for circulation purposes and 10 computers with a server in its electronic reading room available for

Internet browsing. As the public library is opened for longer hours each day and on the weekends than the school libraries, the students nearby are using the facilities of the public library as an extension of their schools. They now endearingly call the public library, No. 3 High School.

The most difficult problem for China Evergreen to solve in Tongwei was how to convince the farmers near the agricultural cooperative to use our book service station. About four kilometers away from the village center, the book station at the cooperative services a population of slightly over 4,000. This includes about 1,100 families living nearby outside the cooperative, and 102 farming families and 23 families growing livestock inside the cooperative. Having been neglected and ignored for such a long time, these farmers did not believe that there was a free service available to them where they could borrow books and browse the Internet. To solve this problem, China Evergreen “librarians” became proactive and took to visiting the homes of the farmers, brought produce grown to sell at the cooperative for the more upscale markets, and sat down to eat meals with local residents to tell them about the services available and to invite them to visit the book service stations. The librarians also go to meeting places on market days to hand out flyers about the cooperative’s book station. Within a short time all the original 200 books available were borrowed. They have now increased their meager collection to 1,000 volumes with more increases planned in the next few months. Last year, 2077 volumes were circulated, which means many books were read more than once.

Stories of increased income derived from improvements in farming choices and methods are becoming common in the area. Aside from helping the farmers with book lending services, the book station also helps them analyze and compute comparatively the various farming choices and methods. For example, one acre of mountainous land requires 40 man days to cultivate and 70 Ren Min Bi (RMB) worth of seeds and fertilizers to farm. The best price they can get for the grain planted is 225 RMB for the 150 kilos they can expect to produce. This means a return of less than 4 RMB per day of income, not taking into account bad weather or other natural problems that may occur to reduce their harvest. These types of analysis and computations have dramatically increased the farmers’ knowledge base and help them make the most beneficial planting decisions. The next task the book station has set for itself is to improve the cultural base of these residents to enrich their lives.

Much remains to be done. China Evergreen has reached only a small portion of the truly poor in the Tongwei area. In order to reach more, we must go into the poor communities and convince people to make use of our expanded services. Our plan is to use barefoot librarians armed with laptops to go to meetings of families, market days and individual homes to make presentations. We should provide incentives for these farmers to come to nearby agriculture schools to for computer training and workshops. As we have already made some progress in Tongwei, we would have a base for our expansion.

The second cluster of libraries is centered at Tianzhu’s No. 1 High School in Tianzhu, Gansu. Tianzhu is a county with a population of about 230,000. When one first comes to Tianzhu, one is amazed by the newness of the place. Indeed, the entire county is only 21

years old. In 1986 the former mayor made the courageous decision to move the entire county, including every man woman and child, from their old location which lacked sufficient water, to their present location in order to better support the population. The name Tianzhu, meaning blessed by heaven, was given by the former premier, Chou Enlai. With approximately half of the resident belonging to the Tibetan minority, Tianzhu is primarily a livestock raising county with a good proportion of the population engaged in nomadic travel throughout the year. The library at its No. 1 High School boasts a collection of over 80,000 volumes and serves a population of over 11,000 students, teachers and parents. There are also four China Evergreen satellite stations in Tianzhu. Three are at the libraries of middle schools and one at the Tianzhu's public library. This public library is small in comparison with that at Tongwei. It primarily serves retired workers and migrant workers.

In 2006 at the Tianzhu High School library, there were 7,210 visits to the library and 43,997 volumes were circulated. Of these only 52 volumes were lost. Of the 80,340 volumes in its collection, 38,416 were made available to be circulated to the satellite book stations. The vice mayor of Tianzhu once said to China Evergreen that the impact of its activities is not so much material but mental; that they felt a paradigm shift was achieved. Because computers are provided in the libraries, communities now understand the use of technology in a concrete manner. Tianzhu's No. 1 High School has since built their own school website and is in the process of designing a platform for a combined interactive website of all China Evergreen's libraries. By this summer, each China Evergreen library will be able to upload and share information concerning collections, circulation numbers, and readership programs. We will soon have a virtual community of China Evergreen libraries.

As we expand our services in Tianzhu, we plan to send barefoot librarians to join the travels of the nomads. It is hoped that China will shortly have G3 capability service and that the librarian's laptop can access the Internet from any location, however remote. As their trips normally take several months, having a librarian/teacher who came from that population going along with a collection of books will serve as a mini mobile library and training center.

Conclusions

The major lesson we have learned from each of these clusters has been that there are no shortcuts to reaching potential library users in rural areas. We have to convince the population one farmer or one rancher at a time. We have to provide training and workshops on a continual basis. We have to continue to find human and creative ways to reach them. All of these efforts are well worthwhile.

Rural China is being emptied of able body youth. The migration to the cities has created severe shortages of farmers and put enormous stress on the infrastructure of services in the cities. Perhaps it is the children who are most affected. They are either separated from their parents or if they follow their parents into the cities, they are attending makeshift migrant schools. If rural counties can become more attractive and economically viable,

there would be less incentive for the young to leave. We believe that information technology can play an important role in helping to make this come about. The very fact that we were awarded the Bill & Melinda Gates Foundation's Access to Learning Award (ATLA) provides us with status and credibility that our true intention is to help with information access, not some hidden purpose that may be detrimental to the reputation of the authorities. The award funds also indicate that we have the ability to carry out our goals and projects.

Our long term plan is to replicate the China Evergreen library programs in four other locations in Qinghai and Yunnan. Three of these locations are farming locations and the fourth is a community of nomads. As we expand, we gain more and more knowledge and capability of determining the most effective programs. We have also experienced the effectiveness of help given by local officials. These officials are key to whether our projects can succeed. For the most part, we are really helping them achieve their goals for the communities and they understand this and welcome our help. Lastly, the success of our program depends on the ability and commitment of local workers. China Evergreen has been successful in Tongwei and Tianzhu counties because of the talent and hard work of the local teams. As we expand and replicate our success, this factor is a necessary condition.

In conclusion, the five key factors that are essential to a successful program in rural areas are:

- The local leaders must be energetic, committed and open to new ideas
- That we provide an environment where the leaders from different geographical sites can interact and learn from and even compete with each other.
- That we listen to their needs and problems.
- While we provide expertise, books, hardware, and software, we make sure that it is clear that it is the local leadership that is responsible for the success of the projects. We make sure that there is buy in and support at all levels of the local government.
- That we have sufficient funds to support the desired projects.

As shown by our case study, we leveraged local resources to expand and replicate our program with relatively little funding. The quality of our programs has increased because there is communication and competition between sites. Perhaps the most important factor for the success of any project is the enthusiasm of its participants. This enthusiasm is possible because our local participants feel that they can be innovative, have their ideas listened to and be provided with sufficient resources for success. The empowerment of local participants is essential to our continued success.

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