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# Beyond Cost: Rural Perspectives on Barriers to Education

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## **Abstract**

In China, education plays an increasingly important role in the creation of wealth and poverty. In the reform era, education has become closely tied to earnings (Yang 2005; Zhang et al. 2005). Returns to education in urban China increased significantly from 1978 to 1993, though returns were still relatively low in 1993, at less than four percent per year of schooling (Zhao and Zhou 2006). More recent trend data based on National Bureau of Statistics surveys show rapid increases in economic returns to a year of education in urban China: returns nearly tripled during the period 1992 to 2003, rising from 4.0 to 11.4 percent (Zhang and Zhao 2006). In rural areas, by the year 2000, an additional year of education increased wages by 6.4 percent among those engaged in wage employment, and education is becoming the dominant factor that determines whether rural laborers are successful in finding more lucrative off-farm jobs (de Brauw et al. 2002; de Brauw and Rozelle 2007; Zhao 1997). Given the rising role of education as a determinant of economic status, those who lack access to schooling are at high risk for a life of poverty.

## **Disciplines**

Education

## **Comments**

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## **Beyond Cost: Rural Perspectives on Barriers to Education**

Emily Hannum and Jennifer Adams

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### **Introduction**

In China, education plays an increasingly important role in the creation of wealth and poverty. In the reform era, education has become closely tied to earnings (Yang 2005; Zhang et al. 2005). Returns to education in urban China increased significantly from 1978 to 1993, though returns were still relatively low in 1993, at less than four percent per year of schooling (Zhao and Zhou 2006). More recent trend data based on National Bureau of Statistics surveys show rapid increases in economic returns to a year of education in urban China: returns nearly tripled during the period 1992 to 2003, rising from 4.0 to 11.4 percent (Zhang and Zhao 2006). In rural areas, by the year 2000, an additional year of education increased wages by 6.4 percent among those engaged in wage employment, and education is becoming the dominant factor that determines whether rural laborers are successful in finding more lucrative off-farm jobs (de Brauw et al. 2002; de Brauw and Rozelle 2007; Zhao 1997). Given the rising role of education as a determinant of economic status, those who lack access to schooling are at high risk for a life of poverty.

Fortunately, access to basic education is expanding. Studies have shown a

general trend of improving enrollment rates in the later 1980s and through the 1990s, and that girls' enrollment is catching up with boys' (Hannum and Liu 2005). By the year 2000, entry into primary school among rural youth ages 10 to 18 had reached 99 percent for China as a whole (Connelly and Zheng 2007). Five year retention rates in primary school increased from 71 percent in 1990 to 95 percent in 2000, and again to 99 percent by 2003 (Hannum, Wang, and Adams 2007).

Yet, studies through the 1990s and the early 21<sup>st</sup> century have revealed substantial enrollment disadvantages associated with rural residence and with both household and community poverty (Adams and Hannum 2005; Brown and Park 2002; Connelly and Zheng 2003; Hannum 1999, 2003; Hannum and Liu 2005). For example, an analysis of 2000 census data showed that 11 percent of rural boys and 17 percent of rural girls ages 10 to 18 whose parents were illiterate had never attended school (Connelly and Zheng 2007). Moreover, Connelly and Zheng (2007) show that, despite dramatic increases in rural enrollment rates, urban-rural differences remained substantial in the year 2000 (about 12 percentage points for boys, and about 15 percentage points for girls aged 10 to 18), and rural rates of transition into middle school were highly variable across provinces, ranging from 100 percent in Shanghai and 97 percent in Zhejiang, to 64 percent in Yunnan, to 32 percent in Tibet.

An ironic by-product of China's impressive achievements in educational expansion is that those who lack access—children of China's poor—are increasingly disadvantaged in multiple ways. Duan Yingbi, Deputy Director the State Council Western Development Office and the Economics Committee of the China People's Political Consultative Conference, recently observed that more than 20 million Chinese

people are still living in absolute poverty, mainly in remote communities and mountainous areas that lack basic infrastructure, and it is increasingly difficult and expensive to reduce this residual poverty (quoted in Young 2005, p. 1). Children at educational risk come from the poorest rural households and communities, with few resources to support education or other dimensions of social welfare. When these children do enter school, they face weak infrastructures and less-qualified teachers than do their counterparts in wealthier areas. They may also face a curriculum that is foreign to their lived experiences, often offered in a vernacular not spoken at home. Many quickly surpass their parents' level of schooling, and thus lack experienced guidance when they face academic difficulty or become discouraged. Yet, few studies have considered the complexity of problems that constrain rural educational opportunity.

This chapter offers a perspective on rural educational problems that differs from earlier work in focusing specifically those issues identified by impoverished rural children and their parents *themselves* as the most significant constraints to educational access. We present an analysis of a survey of 2000 children, families and schools in rural Gansu Province in 2000 and 2004 to investigate the factors that rural residents recognize as barriers to educational success. We supplement survey analysis with evidence from in-depth interviews conducted among students and their mothers in three villages in Gansu in 2002. We begin by providing an overview of educational policies under market reforms that have shaped access to schooling for rural children.

### **Education Policy and Rural Access in the Reform Era**

From the perspective of educational access, among the most important

educational reforms in China's reform period have been the 1985 Decision on the Reform of the Education Structure (hereafter the 1985 Decision), and the 1986 compulsory education law that followed. The 1985 Decision was issued as a part of public finance reforms developed to ease the transition to a market economy. The Decision included many initiatives, such as nine years of compulsory education, the expansion of vocational education, the strengthening of educational leadership, and increased local financing of education. A shift of financial responsibilities from the central government to local levels was the foundation of the reform (Cheng 1994).

Local levels of government were given the responsibility for raising and spending educational revenue. In practice, provincial governments took on the provision of higher education, and transferred the responsibility for the financing of compulsory education to lower levels of government. A major objective of finance reform in education was to diversify school financing by mobilize new resources for education, and the 1985 reform specified that multiple methods of financing should be sought (Hawkins N.D.; Tsang 1996, 2000).

Several months later, in early 1986, the National People's Congress passed the Law on Compulsory Education, designating nine years of education, 6 years of primary and three years of lower secondary, as compulsory for all children (Ministry of Education 1986). Timetables were set for different regions to achieve full compliance with the law. However, the law fell short of guaranteeing the funding for education, and many schools, particularly those in poor rural areas, financed local education by collecting either tuition or miscellaneous school fees. Thus, decentralization and privatization created new barriers to access for the poorest children, even as families, on average, had many more

resources to invest in their children, and the reforms did effectively mobilize these resources.

The Chinese government has responded to concerns about access problems under the decentralized system with a series of equity-oriented policy proclamations issued throughout the period. For example, the Education Law of 1995 affirmed the government's commitment to equality of educational opportunity regardless of nationality, race, sex, occupation, property conditions or religious belief (Ministry of Education 1995, Article 9). It also specified that the state should support educational development in minority nationality regions, remote border areas, and poverty-stricken areas (Article 10). The central government launched a massive education project for children living in poor areas between 1995 and 2000 with a total investment of 1.2 billion dollars, the most intensive allocation of educational funding in the last 50 years (Ross N.D., p. 39). The 1999 Action Plan for Revitalizing Education in the 21<sup>st</sup> Century confirmed a commitment to implementing compulsory education across the country (Ministry of Education 1999).

These efforts continued into the 21st century. In 2003, the State Council held the first national working conference since 1949 to formulate plans for the development of rural education, with a focus on protecting access to and improving the quality of compulsory education in rural areas (Postiglione 2007). Among the ideas to emerge from the conference were plans to establish an effective system of sponsorship for poor students receiving compulsory education, such as by exempting poor students from all miscellaneous fees and textbook charges and offering them lodging allowances by the year 2007.

In March of 2004, the State Council approved and circulated the 2003-2007 Action Plan for Revitalizing Education, called the New Action Plan (State Council 2004). One of the strategic priorities of the New Action Plan is the implementation of compulsory education in rural areas. In 2005, it was announced that the government would spend 218 billion *yuan* to help improve education in rural areas in the subsequent five years (CERNET 2005c). A mechanism would be established to ensure the wages of rural middle and elementary school teachers, and by 2007, the government committed to eliminating educational tuition and fees and providing free textbooks and subsidies for needy rural students in compulsory education (CERNET 2005c; though see CERNET 2005d for a different timeline for eliminating fees). More recently, during the 10<sup>th</sup> National People's Congress, Chinese Premier Wen Jiabao pledged to "eliminate all charges on rural students receiving 9-year compulsory education before the end of 2007" (*People's Daily* March 5, 2006).<sup>i</sup> Nearly four months later, in June 2006, the Standing Committee of the National People's Congress approved the Amendment to the Compulsory Education Law that will come into effect September 1, 2006<sup>ii</sup> (*Xinhua* June 29, 2006). Considered a strategic part of the nation's plan to develop a "new socialist countryside," this law aims to give rural children the same educational opportunities as their urban counterparts -- nine years of free compulsory education (Pan 2006).

Costs are to be jointly shouldered by the central government and provincial governments, which will be required to place expenditures for compulsory education in their budgets (*People's Daily* February 25, 2006; *Xinhua* June 29, 2006). To improve education quality in rural schools, the Amendment also requires teachers in urban schools who want to receive the senior professional title or are newly employed to teach in rural



schools for a period of time (*People's Daily* February 25, 2006).

Beyond access, education quality has become an important concern, in the reform era. In 1999, following the Third National Working Conference on Education, the State Council issued “Decisions on Deepening the Educational Reform and Improving Quality-Oriented Education (*suzhi jiaoyu*, 素质教育, also translated as quality education or all-round education)” (State Council 1999). These *suzhi jiaoyu* reforms are intended to develop the diverse skills of the whole child, not just promote test-taking skills, and to stimulate critical thinking. The reforms are meant to engage students in learning, and to encourage students to consider multiple answers to the same question and multiple solutions to the same problem (Sargent 2007).

The current curriculum reforms were officially launched in 2001, when the Ministry of Education issued a circular entitled “Guidelines for Curriculum Reform of Basic Education” (Ministry of Education 2001). The document called for an end to the overemphasis on imparting “book knowledge.” It also emphasized the importance of establishing a bridge between school and society – and students were encouraged to take the initiative for learning in both school and society. Other developments in curricular reform include allowing more of the curriculum content to be locally determined. The idea, at least in part, is to reconstruct the curriculum with links not only between society, science, and technology, but to create connections with students’ lives. The policy initiatives described here underscore the overwhelming problem of economic barriers to access in rural areas. They also bring to the fore an emerging concern with improving the educational experience of children, including those in rural areas.

## **Study Site and Data Source**

This case study focuses on rural areas of Gansu, an interior province in northwestern China where 76 percent of the population resides in rural areas (UNESCAP 2005). Gansu Province provides an ideal environment for exploring barriers to education confronted by the rural poor. In China, poverty remains heavily concentrated in rural areas and disproportionately affects the interior and western regions. Gansu is one of China's poorest provinces. In 2001, Gansu was ranked second-to-last among provinces in per capita GDP, with a figure that was only 55 percent of China's national average (Woo and Bao 2003). By China's official poverty estimates for the same year, the rate of poverty in Gansu was three times the national average, and Gansu was home to 6.64 percent of China's poor rural population (Wang 2004).

Focusing on the educational disadvantage of children who reside in severely resource-constrained areas is an important task. Many studies have examined educational access using nationally representative data and revealed significant, enduring rural-urban disparities. However, these studies have been unable to consider the obstacles related to costs, and beyond costs, that constrain children's ability to attend school and to flourish in school in China's poorest communities.

To address this limitation, we draw on survey data and qualitative interviews from the Gansu Survey of Children and Families (GSCF), Waves 1 and 2 (2000 and 2004). The GSCF is an interdisciplinary, longitudinal study of 2,000 children ages 9 to 12 in the year 2000, along with their families, teachers, principals, and communities. The overarching goal of the project is to shed light on factors that matter for the welfare of

impoverished rural children, with welfare defined broadly to include educational experiences, physical health and psychological well-being, and subsequent economic outcomes. The GSCF sample was drawn using a multi-stage approach, selecting counties,<sup>iii</sup> townships, villages, and then children from birth registries.<sup>iv</sup> Three minority autonomous counties were excluded from the sampling frame due to travel restrictions to these areas, language barriers, limited transportation, and sparse and dispersed populations in these counties. Unfortunately, the sample does not contain sufficient numbers of minority children for meaningful analysis. With this caveat, the GSCF is representative of children in rural areas of Gansu, and includes wealthier and poorer rural counties.

We supplement our main analysis with findings from in-depth interviews conducted in 2002 with a purposive sample of primary-school aged children, mothers, and teachers in three villages in two counties. Respondents were recruited with the help of school principals. Principals were asked to recommend students with a variety of backgrounds and achievement levels. Interviews were conducted in Mandarin or, when possible, in the local dialects, by a team of researchers that included the authors and other GSCF researchers, with Northwest Normal University team members leading most interviews. All interviews were taped and transcribed for analysis. Quotes in this chapter are identified by interview identification number.

## **Barriers to Schooling in Rural Gansu**

### *Rural Residents' Views*

Because we are interested in looking at risk factors for school-leaving, we focus

here on children who were in school in 2000 when they were 9 to 12 years old. Four years later in 2004, 88 percent of the children who were in school in 2000 remained in school at ages 13 to 16. In the surveys, we asked different versions of questions about factors that contributed to school-leaving to children, mothers, fathers, and village leaders, and found strikingly consistent responses. Table 1 presents a subset of responses from children, mothers, and village leaders. Because multiple factors often cluster together to contribute to the school-leaving decision, we asked respondents to say whether each of several items in a list was a contributing factor. Respondents could cite as many factors as they thought relevant.

In 2004, the top three categories cited by village leaders, mothers, and children were poor student performance, child unwillingness to attend school, and unaffordable costs. For example, among out of school children themselves, 46.7 percent cited poor performance as a contributing factor to their status; 46.2 percent cited unwillingness to attend school; and 36.0 percent cited inability to afford costs. Interestingly, around a fourth of village leaders and a fourth of children themselves said that they were needed at home, suggesting that the opportunity costs of children's school attendance remains an issue. However, only 11.9 percent of mothers of out-of-school children indicated that they were needed at home.

(Place Table 1 about here)

These results show that economics, performance, and engagement are key issues reported by rural residents as barriers to continuation in school. These findings are consistent with themes that emerged in the qualitative interviews. Many children and

mothers mention poverty explicitly as a source of educational problems. First and foremost, children in many families are aware that fees are a burden. One child explained an older sister's dropping out with "The tuition fees were too high, and we couldn't borrow enough" (Dang02c). Mothers interviewed also commented frequently on both the high tuition and numerous fees (e.g., Cai01m). One mother complained, "They charge a fee every other day, the class fee, and the cleaning fee for the class....last winter, they asked for heating costs" (Dang03m). The same mother, whose oldest daughter had dropped out of school, lamented, "We'd have to provide tuition for all three of them ...it is around six to seven hundred *yuan*. Just letting two [children] attend school is a huge stress on our financial situation."

Impoverished parents make visible sacrifices for their children in these settings. For example, one child knew that her parents treated her well because they often gave the good food available to the children to eat, while reducing their own consumption (Dang05c). Another child, living on her own with an elderly grandmother, was asked about how her family could change to support her education. She said, "Our family is the largest family in the village. My older sister and my aunt have left to work, and my father and mother are also working at home to support us to go to school. For a year now our food is all from my parents, using money gotten by their sweat and blood to buy some noodles for us to eat. That is, [our area] has been very dry, right? For a year now, four seasons, it hasn't rained, and the wheat hasn't grown tall, so we have had to buy things to eat all along, so our family is also very poor" (Wang04c). Children in these circumstances are brutally aware of the struggles of their parents to raise them, and to support their enrollment at school.

Economic constraints can also hinder learning for children once actually in school. One child responded to the question "What do you think is the biggest difficulty you've encountered in your studies?" with, "Just that I don't have any money to buy school supplies." The interviewer then asked, "Normally, do you have a lot of the necessary school supplies?" to which the child responded, "Not a lot." It came out that when the child needed school supplies, the parents would borrow money from other families, so that the child's normal approach was just to try to borrow supplies from others (Dang06c). Much later in the interview, when asked a general question about problems, the child again responded, "What upsets me the most is that I don't have school supplies at school, and when I ask for them from my parents, they don't have the money. This is what upsets me the most." A mother commented, "Another thing that we don't have is money. We cannot buy our child's composition book..." (Cai02m). When asked, some children noted their minimal access to books besides those required for school, and a few mentioned that school libraries did not allow them to borrow books.

Children in poor families are often also hindered in their opportunities to learn by a dearth of effective parental educational support, despite most parents' strong desires to help their children. Most rural children in school today have parents with low levels of education, and parents who are working very hard to make ends meet or to get ahead. What this means is that children often have little access to help at home with navigating the school system, beyond the early grades. Many parents expressed that they could not solve the majority of their children's homework problems. One mother explained, "The kids are suffering from our lack of education" (Cai03m). Children echoed their frustration. For example, one child said, "My father did not learn to read and was not

able to teach me. My father wanted me to correct my homework when I left school. So my father and mother did the household duties [to free up my time to study]." Even had the father had the ability to help with homework, he was extremely busy due to deaths of two of the child's uncles in the preceding year, which meant that he had to help with farm work and housework for two other households. The child states, "When I am at home doing my schoolwork, if I can't do a problem, there is no one there to ask for help."

(Cai03c) Another child, in a home that suggested much better economic conditions than most, was asked if parents could help with learning at school. The child answered, "My mom had schooling till grade three," and went on to say that her mother tutored her during grades one, two and three. Her mother was unable to help her beyond those grades, and her father was away running a factory in another town, and so was busy (Wang01c).

Regarding educational performance, many mothers and children explained that children would continue to receive financial support for schooling as long as they performed well. For example, one mother reasoned that if her daughter had studied well, then they would have let her continue in school, but she didn't do well, so she quit. "She cannot learn anything, the tuition was high, and therefore, she quit," the mother explained (Dang02m). In describing which one of her children would be allowed to continue in school, another mother expressed a similar rationale, stating "We will provide education for whoever studies better" (Dang03m). This sentiment was also reported by rural children, with one child sharing, "[My parents] want me to study well; [they say] 'If you pass entrance exams, even if we have to sell our house and vehicle, we will, in order to support your schooling'"(Dang01c). Another child emphasized that performing well was

something that made parents happy, in light of the hardships they often endured to keep children in school. The interviewer asked whether receiving a certificate of merit made the child's parents happy, and how the child knew. The child said, "Even though they don't say anything, I just know that they're very happy; each year they pay the school fees, all [with money] borrowed from others, so I think that when I get a certificate of merit, they're definitely happy" (Dang06c).

Although sources of children's unwillingness to attend school are not fully clear, several mothers shared their and other parents' struggles to encourage their children to attend school. One mother commented that "it is both painful and complicated to make children go to school..."(Cai02m). Another mother explained, "In this village, if you do not study, you are in for a hard life...but if your child refuses to learn, we, as parents, really cannot do anything." She described trying to persuade her son to return to school by telling him, "If you do not have an education, you will have a very difficult life" (Cai03m). One of the better-off children in the qualitative sample reported a similar story. Her brother stopped school after junior high because he didn't want to continue, despite his mother wanting him to do so (Wang01c).

Many aspects of schools might shape children's willingness to attend school. It is likely that the social climate at school is an important part of the story. Children and mothers reported diverse experiences with the educational system, characterizing local schools and teachers in terms that ranged from welcoming and nurturing, to competitive, strict, and, sometimes, even violent. Some children praised teachers for their empathy toward students, for their high standards, and their strictness. Many children reported experiences with corporal punishment at school, though they did not always view



physical punishment in a negative light. Some did report fearing teachers and principals, and some reported experiences with violence or bullying from peers.

Children's school continuation may also be shaped by school quality, more conventionally defined. Many mothers were concerned about the poor quality of teachers. One mother explained that the school in their village did not have good teachers, so children had a hard time raising their grades (Cai03m). As another mother assessed the quality of the local school, she said, “Teachers [here] do not teach well – pretty poor. After the students graduate, they are not able to test into college” (Dang04m). Both mothers believed that their children would have better chances for the future if they could attend a school with better teachers.

#### *Analysis of School Persistence*

Guided by the views expressed by rural residents themselves, we next consider whether wealth, student performance, and student educational engagement, all measured in 2000, are linked to school persistence--continued school enrollment four years later. We also consider the impact of current educational costs on enrollment, with costs measured as the average educational costs experienced by families in the child's village in 2004. We use educational aspirations (level of schooling the child wants to attain) as a measure of engagement, given the widespread use of this indicator in sociological studies outside of China.

(Place Table 2 about here.)

Table 2 shows enrollment in 2004 (for children who had been enrolled 2000)

tabulated by wealth, village average educational costs experienced by families, mathematics achievement quintiles, and student aspirations. These associations offer evidence about early signals of risk for school-leaving. It is clear that poverty is associated with subsequent non-enrollment. Children in the poorest quintile of household wealth were twice as likely to be out of school (16 percent) as children in the wealthiest quintile (8 percent). Regarding costs, nearly 17 percent of sample children who were in villages with the highest educational costs—in the top quintile of average village costs experienced by families for education—were out of school, compared to 9 to 13 percent for children in other cost quintiles. The true effect of cost might be somewhat masked by the fact that children in villages where families are spending more on education probably experience higher costs, but may also be wealthier.

Performance quintiles are also strongly associated with continued enrollment. Approximately 17 percent of children in the poorest math achievement quintile in 2000 were out of school in 2004, compared to 7 to 8 percent of the children in the highest math achievement quintiles. Finally, differences by child's earlier aspirations are also striking: just under 10 percent of children who reported in 2000 that they had aspirations to tertiary-level education were out of school in 2004, compared to over 20 percent of children who reported primary school aspirations. It is likely that these early aspirations are informed by children's awareness of their own performance, their perceptions of the usefulness of what they are learning, and the degree of hardship that their parents might face in continuing to support them in school.

(Table 3 about here.)

Because we anticipate that these factors are related to each other, we next present a table that simultaneously includes all of them in an analysis of enrollment, while controlling for other relevant child background characteristics. Table 3 shows results of a multivariate analysis of enrollment. Model 1 controls for child background characteristics only; Model 2 adds child performance; Model 3 adds family wealth; Model 4 adds average village average educational costs experienced by families; and Model 5 adds child aspirations. Overall, Table 3 shows that on average, boys, children of educated mothers, and younger children are significantly more likely to be in school. Adding to this baseline set of characteristics, math performance, family wealth, average village costs,<sup>v</sup> and child aspirations all exert significant net impacts on continued enrollment, in the expected directions.

The fact that these results are significant in a multivariate context lends confidence to the notion that these are, to some degree, separate elements in household and child decisions to stay in or leave school. Given the long-standing policy attention to poverty and costs, it is not at all surprising that these issues loom large in our interviews and in the statistical analysis. Some might be surprised that children's attitudes and behaviors matter, in a setting where parents are thought to make educational decisions based largely on household economic considerations. However, our statistical findings confirm views expressed in the in-depth interviews—our analysis attests to the relevance of children's attitudes and school performance. For example, the coefficients in Model 4 show that, net of background characteristics, wealth, and local education costs, each additional point in math performance increases the odds of enrollment four years later by about 2 percent, controlling for other variables in the model. Findings from Model 5

suggest that a child with a year more educational aspirations in the year 2000 has odds of enrollment that increase by about 9.4 percent, after accounting for performance, wealth, costs, and other factors in the model.

## **Discussion**

Rural residents' expressed views and our statistical analysis point to a common set of barriers to education, namely economic resource constraints, performance, and attachment to education. It is important to note that none of these are necessarily fixed attributes of children: impoverishment, achievement, and engagement are dynamic statuses, and are likely affected by the institutions in which children function.

Poverty, of course, can be a long-term and fixed characteristic. Chronic household poverty is linked to human capital of adults and to the characteristics of place of residence, which may be relatively difficult to modify in rural China (Jalan and Ravallion 2000). But poverty in China today can also be transient, in the sense that families can suddenly be pushed into a state of poverty. The ways that this is happening have been changing in rural China in recent years, as a direct result of social welfare policy decisions. Health care, like education, became costlier in reform-era China, as the health sector has undergone parallel reforms to those in the education sector—decentralization and privatization of costs. Consequently, catastrophic medical spending is an increasingly important precipitant of poverty in rural areas (Kaufman 2005; Liu and Hsiao 2001; Wang, Zhang and Hsiao 2005).

One recent estimate suggests that 20 percent of China's poor blame healthcare costs for their financial straits (Lim 2006). Moreover, there are clear implications for the

education of children: analyses of a 2002 survey of households in six townships in Guizhou and Shanxi Provinces showed that, compared to households without hospitalization, households with hospitalization had a reduction in educational expenditures of 26 percent (Wang, Zhang, and Hsiao 2005). In rural Gansu, poor parental health is strongly associated with poverty. In qualitative interviews, parents expressed frustration that their health problems and medical expenses had delayed the study of their children. In the 2004 GSCF survey, children in the poorest household assets quintile were over twice as likely to have a father who reported poor health as were children in the wealthiest (about 14 percent versus about 6 percent) (Hannum, Sargent and Yu 2005). Parents who reported poor health were more likely to report borrowing money for their children's education, and just 77 percent of children whose fathers reported poor health were enrolled, compared to about 88 percent of children of fathers with average or good health. These examples illustrate that social sector policies of the reform era have changed both the mechanisms of poverty creation and the transmission of poverty across generations in rural Gansu.

Just as poverty is conditioned by structures and institutions beyond the individual, so are school performance and attachment to school. Other research using the Gansu data shows that children with official teachers and better-paid teachers have significantly higher math scores, net of socio-demographic characteristics and other teacher characteristics. At home, mother's education, mother's aspirations, and the presence of children's books are associated with better math performance at school. Wealth appears linked, also, to other dimensions of the home environment for learning. Other analyses using the Gansu data have shown that the effect of wealth on performance dissipates with

inclusion of measures of a supportive home environment for learning, such as mother's educational expectations for the child and books in the home (Hannum and Park 2007). As in the case of performance, there is not a simple relationship between easily-measured school quality indicators and children's aspirations for future schooling. In 2000, when most children were enrolled in primary school, aspirations were significantly affected in multivariate analyses by mother's educational expectations (Hannum and Park 2007). As in the case of math scores, wealth matters for aspirations, but the effect disappears with the inclusion of mother's educational expectations for the child and other home environment variables (Hannum and Park 2007). These home environment variables are probably mechanisms of wealth effects on education, to some degree. For example, maternal educational expectations for children vary significantly for families in different economic circumstances (Zhang, Kao and Hannum 2007).<sup>vi</sup>

Among teacher characteristics, having a local teacher and having a female teacher were beneficial—none of the other standard teacher quality measures mattered for child aspirations (Hannum and Park 2007). It may be that teachers' background measures are only weakly linked to their behavior in the classroom, to which student aspirations do seem to respond. Student subjective experiences at school are closely linked to their aspirations: in 2000, students who reported that teachers care for students, treat students fairly, and encourage questions had significantly higher aspirations in multivariate analyses, and students who reported that teachers assign lots of homework and always lecture in class had lower aspirations (An, Hannum and Sargent 2007).

Not surprisingly, aspirations are also related to performance. For enrolled students in 2004, math performance in 2000 significantly predicted current aspirations, in

models that accounted for socioeconomic background and teacher characteristics (Hannum and Adams 2007). Aspirations may also be importantly linked to the support children receive earlier in the educational process. For example, mother's and teacher's earlier educational expectations for the child (expected years of attainment in 2000) can be linked to child's current aspirations, net of socioeconomic background, teacher characteristics, and student performance in school (Hannum and Adams 2007). Moreover, a year more of expectations on the part of mothers or teachers was about as beneficial as a year more of mother's education.

Collectively, these findings highlight several points. First, economic barriers to schooling are important, and this fact is at least in part a function of social policy choices during the 1980s and 1990s that raised the costs of social services—obviously, education, but to at least to some degree, health, as well. Families may have reacted to the need to pay high fees for services, and to the potential for catastrophic costs, by being less willing to spend precious savings on schooling for children for whom the marginal additional education seemed unlikely to matter. An example might be paying for a last year of middle school, when it is clear that a child will not be going on to high school and will ultimately be doing the same work, regardless. Children themselves can be unwilling to subject their parents to the hardship of continued educational fees, and in these circumstances, may take decisions into their own hands.

Second, beyond economic factors, children's performance and attachment to school significantly predict continued enrollment. These attributes of children may affect their own willingness to stay in school, and their parents' willingness to invest in them. This finding is particularly important in light of new policies in the 21<sup>st</sup> century aimed at

eliminating the financial burden of compulsory education for rural children. As private costs to schooling are removed, the school-related determinants of performance, engagement, and persistence will be of great consequence in ensuring universal access to education. Moreover, performance and attachment to schooling both shape and are shaped by parental expectations for children.

Furthermore, the institutional factors that affect performance and attachment are not yet well established. The new curriculum is intended to improve the quality of schooling experienced by children, and especially their motivation. In rural Gansu, certain student experiences in the classroom do appear to be closely tied to their aspirations. If China is successful in its new efforts to minimize cost barriers to education, understanding the motivation of students will become even more important in the study of educational stratification.

## **Conclusions**

For decades, China and other developing nations have grappled with the formidable challenge of creating an educational system that can enhance the lives of future rural citizens while also serving as a stepping stone to social mobility outside of rural areas—the dream of many rural children and parents. China is now in the fortunate position of having unprecedented resources at hand with which to engage this challenge. Moreover, government concerns about gaping economic inequalities in the 21<sup>st</sup> century have created a favorable political climate in which the task of addressing educational deficits in poor rural communities has taken on new urgency, as part of the "new socialist countryside" agenda (e.g., Pan 2006).



In this chapter, rural residents' assessments of the barriers to schooling in one of China's poorest interior provinces offer a window into the implications of past policy decisions for rural education, and into the likely implications of current policy initiatives. We have suggested that decentralization policies begun in the mid-1980s, which had the effect of raising costs to individuals for social services, created a situation in which inability to pay school fees became a serious barrier to compulsory education in poor regions. Rural residents themselves cited costs as a barrier, and analyses show that children from poorer families and those in villages where average educational costs experienced by families were higher were significantly less likely to remain enrolled in school. Families may simply lack access to cash or credit to pay fees; they may have been pushed into poverty by costs of social services; and they may have become conservative about investing in marginal students in a context where future expenses for education and health care for all family members needed to be anticipated.

Beyond costs, rural residents cite children's performance in school and attitude toward school as significant issues, and these factors emerge as predictors of continued enrollment in multivariate analyses that control for wealth and costs. Other research has shown that identifying attributes of teachers that are consistently associated with student performance and engagement is a difficult task, as simple indicators of teacher quality do not go far in explaining these outcomes. It is clear, however, that when poor rural children do enter school, they face weak infrastructures and less-qualified teachers than do their counterparts in wealthier areas. Many quickly surpass their parents' level of schooling, and thus lack experienced guidance when they face academic difficulty and social problems. They often lack the resources for basic educational supplies, much less

enrichment materials. Many also witness bitter struggles and sacrifices made by parents in support of their education, and these experiences may detract from children's desire to continue. They may also face a curriculum that is foreign to their lived experiences, and offered in an unfamiliar dialect. Our findings reveal a complicated portrait of demand-side barriers to education related to school quality.

Rural children are not only in need of policies that alleviate barriers to enrollment, but also ones that attend to children's experiences, once they make it into the classroom. New government initiatives to develop rural education offer vital steps toward alleviating the crushing burden that education places on rural children and families, and addressing some of the issues of quality that loom large in the concerns of rural people. Policies of the early 21<sup>st</sup> century seek to grant equal educational rights to rural and urban children, eliminate student fees, set aside funds for rural schools, and ask urban teachers to teach in rural areas for a fixed term. Curriculum reforms dating from the late 20<sup>th</sup> and early 21<sup>st</sup> century aim to provide a more interactive, engaging, and locally relevant curriculum. Success in these initiatives would address many issues of access<sup>vii</sup> and quality in rural areas. Designing feasible strategies that might address additional sequelae of poverty—such as the constraints on enrichment and learning that go far beyond the direct barriers of school costs, and the difficult school environments that often emerge in highly resource constrained communities—will require creativity and a high degree of political will.

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**Table 1. Respondent Reports of Factors Contributing to Non-Enrollment, 2004**

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	<u>Village Leaders</u>	<u>Mothers</u>	<u>Out-of-school children</u>
School is too far away from home	12.5%	10.1%	13.7%
Poor school or teacher quality	8.3%	5.1%	5.1%
Not worth the money	~	7.8%	8.1%
Poor student performance	67.7%	31.7%	46.7%
Tuition high/family cannot afford school costs	51.0%	41.3%	36.0%
Child needed at home	26.0%	11.9%	23.9%
Child did not want to go	58.3%	50.5%	46.2%
Child had health problem	~	8.3%	6.1%
Child violated school rules	~	2.8%	5.1%
Observations	96	218	197

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Source: GSCF-2 (2004)

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**Table 2. Enrollment Rates 2004 by Hypothesized Barriers to Enrollment, n=1817**

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	<u>Enrolled</u>	<u>Not Enrolled</u>
<b><u>Wealth quintiles 2000</u></b>		
Wealth quintile 1 (poorest)	84.1%	15.9%
Wealth quintile 2	87.4%	12.6%
Wealth quintile 3	87.9%	12.1%
Wealth quintile 4	89.8%	10.2%
Wealth quintile 5 (wealthiest)	92.3%	7.7%

$X^2(4)=13.08^*$

**Village Average Educational**

**Costs Quintiles 2004**

Cost quintile 1 (lowest)	89.7%	10.3%
Cost quintile 2	87.0%	13.0%
Cost quintile 3	90.6%	9.4%
Cost quintile 4	90.6%	9.4%
Cost quintile 5 (highest)	83.4%	16.6%

$X^2(4)=13.08^*$

**Math Achievement Quintiles 2000**

Math quintile 1 (lowest)	82.9%	17.1%
Math quintile 2	86.7%	13.3%
Math quintile 3	88.3%	11.7%



Math quintile 4	93.4%	6.6%
Math quintile 5 (highest)	92.2%	7.8%

$X^2(4)=23.08***$

**Child Aspirations 2000**

6 years	77.4%	22.6%
9 years	80.2%	19.8%
11 years	89.8%	10.1%
12 years	86.0%	14.0%
14 years	88.2%	11.8%
16 years	91.4%	8.6%

$X^2(5)=30.72***$

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\*<.05 \*\*<.01 \*\*\*<.001

Source: GSCF-1 (2000), GSCF-2 (2004)

**Table 3. Barriers to Enrollment 2004**

	<u>Model 1</u>	<u>Model 2</u>	<u>Model 3</u>	<u>Model 4</u>	<u>Model 5</u>
				Local	
		Poor	Family	Educational	Child
	Control	Performance	Finances	Costs	Aspirations
Child Gender					
(0=female, 1=male)	0.451**	0.475**	0.466**	0.475**	0.440**
	(0.157)	(0.159)	(0.160)	(0.161)	(0.162)
Child Age					
14 years-old	-1.370**	-1.335**	-1.383**	-1.395**	-1.436**
	(0.489)	(0.491)	(0.489)	(0.489)	(0.494)
15 years-old	-2.566**	-2.521**	-2.571**	-2.596**	-2.633**
	(0.466)	(0.469)	(0.466)	(0.465)	(0.471)
16 years-old	-3.147**	-3.144**	-3.204**	-3.211**	-3.243**
	(0.464)	(0.468)	(0.464)	(0.463)	(0.471)
Mother's Years of					
Completed Schooling	0.107**	0.096**	0.077**	0.097**	0.098**
	(0.023)	(0.024)	(0.024)	(0.025)	(0.025)
Number of Children in					
the Household	0.116	0.133	0.154	0.127	0.140
	(0.112)	(0.112)	(0.114)	(0.115)	(0.115)
Child Math					
Performance 2000		0.020**	0.019**	0.021**	0.017**
		(0.005)	(0.005)	(0.005)	(0.006)
Log Family Wealth 2000			0.274**	0.350**	0.333**
			(0.088)	(0.089)	(0.089)
Log Village Average					
Educational Costs 2004				-0.717**	-0.724**

				(0.209)	(0.210)
Child Aspirations 2000					
(years of schooling)					0.090**
					(0.026)
Constant	3.374**	1.867**	-0.442	2.618*	1.940
	(0.543)	(0.637)	(0.972)	(1.313)	(1.335)
pseudo R2	0.128	0.141	0.149	0.160	0.169
-2 Log likelihood	1144.582	1128.639	1118.219	1103.522	1091.608
Observations	1817	1817	1817	1817	1817

\*<.05 \*\*<.01

Source: GSCF-1 (2000), GSCF-2 (2004)

## Endnotes

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<sup>i</sup> Reports on the timeline for eliminating tuition charges vary (see *People's Daily* March 5, 2006 and CERNET 2005c).

<sup>ii</sup> At this time, clauses in the law still remain to be approved by the State Council.

<sup>iii</sup> These three minority autonomous counties were Subei Mongolian autonomous county, Akesai Kazak autonomous county, and Sunan Yugur autonomous county.

<sup>iv</sup> Using a stratified, fixed interval, systematic sampling strategy, 2000 children, aged 9-12 years-old, were sampled from across rural Gansu, China. First, a systematic sample of 20 counties was selected from the total of 83 eligible counties in Gansu (see endnote *iii*). All counties<sup>iv</sup> in Gansu were listed in descending order according to the per capita income level in each county. Beginning from a randomly selected county, every fourth county was selected into the county sample pool. Next, a random start, systematic sample of 42 townships was selected from a list of all of the townships, which were listed in geographic order, in each county in the sample. The number of townships selected from each county was determined by the rural population in each selected county. Then, a random start, systematic sampling strategy was used to sample 100 villages from the 42 townships in sample pool. Again, the total number of villages selected from each township was decided according to the rural population in each township. Finally, a random sample of 20 children was selected from a listing of all 9-12 year-olds in each village in sample.

<sup>v</sup> We found no evidence of an interaction between wealth and average educational costs.

<sup>vi</sup> However, clearly, causal relationships run both ways between maternal aspirations and performance: mothers hopes may be raised by promising students, and student performance (and certainly aspirations) are enhanced by high maternal expectations.

<sup>vii</sup> It is important to note that the costs of post-compulsory education will continue to preclude many rural children from seeking upper secondary and tertiary education.