

GANSU POVERTY AND EDUCATION PROJECT
Proposal to the Spencer Foundation Major Grants Program

PROPOSAL SUMMARY

China's dramatic economic and educational changes over the past 20 years have stimulated concerns about the education of children in rural areas. Recent empirical studies give evidence of growing disparities in educational opportunities between urban and rural areas and socio-economic and geographic inequities in basic level educational participation within rural areas. These studies also point to a persisting gender gap in enrollment and to the disproportionate impact of poverty on girls' educational participation (Hannum 1998b; Zhang 1998).

We propose an in-depth study of the influence of poverty on the schooling of 11 to 14 year-old children in rural Gansu, an interior province in Northwest China characterized by high rates of rural poverty and a substantial dropout problem. Substantively, the proposed study is innovative in adopting an integrated approach: it focuses on the community, family and school contexts in which children are educated. Methodologically, the study is innovative in combining information on children's academic performance and school characteristics with a household-based sample that will allow examination of the academic experiences of children who have left the education system as well as those who have persisted in it. Finally, the project will be significant as the baseline wave for the first large-scale, longitudinal study devoted to education and social inequality conducted in rural China. Results will contribute to an understanding of basic social stratification processes and provide insights for developing intervention strategies to improve educational access and effectiveness in rural China.

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INTRODUCTION

In China, market reforms and educational decentralization since the late 1970s have raised concerns among policy makers and researchers about growing inequities along historically important dimensions of social stratification. In rural areas, socio-economic issues have become a key concern as decentralization has implied an allocation of responsibility for educational finance to the local level (Lofstedt 1990; for Gansu, see World Bank 1988). Numerous studies have indicated the important role played by family resource constraints in the decision to drop out of school (e.g., Yan and Chen 1988; SIRHD 1991; RTSRG 1996, Hannum 1998a). Rising educational fees have particularly affected children in poor communities least able to subsidize schools (Davis 1989; Lewin and Wang 1994). Rising fees have coincided with new opportunity costs associated with educating children: in the years since market reforms allowed households to begin engaging in income-generating activities, children have been able to contribute directly to the family economy (Powell 1992; Summerfield 1994; see also Lo 1984; World Bank 1992; Lin 1993). The incentives for schooling have also shifted. For rural parents, one incentive for schooling children has been the hope that education will lead to urban residence and upward social mobility. The growing vocational orientation of rural schools, targeted toward making education more relevant to rural living circumstances, has also had the effect of blocking academic routes to status attainment (Lin and Ross 1998; see also People's Education Press 1988, p. 473; Chen and Wu 1992, pp. 124-125). The feasibility of financing academic routes to upward social mobility for rural children has declined with the recent institution of fees at the university level. An additional equity concern is that rural girls have been placed at extreme risk in the wake of socio-economic and educational changes in the market reform era. Daughters in rural areas generally leave their natal families upon marriage. Parents are more likely to expect long-term support from sons, and thus face pressures to foster the education of boys but to capitalize on the short-term labor power of girls (Lin 1993; Greenhalgh 1994). For this reason, rising costs associated with educating children may disproportionately affect girls (Hannum 1996; see Lofstedt 1994 for evidence from Gansu).

Equity issues exist also within the school system itself. The quality of schools and the qualifications of teachers vary greatly across the urban-rural divide and with regional level of development (Lewin and Wang 1994; Lin 1993; Lo 1984; World Bank 1992). Policy priorities exacerbate inequities by explicitly favoring wealthier schools and urban areas for investment; dramatic regional variation in per-student expenditures is one indicator of the equity implications of

this policy (Cheng 1996, pp. 24-29; Tsang 1994). Indicators of human resources mirror the pattern found in financial investments: under-qualified teachers are more prevalent in rural areas, and particularly in poor rural areas (Lo 1984; World Bank 1992).¹ Poor preparation of rural teachers is exacerbated by the challenging conditions they experience on the job. Rural teachers are poorly paid and thus face a strong incentive to moonlight; they experience low social status, have little decision-making authority and face a very heavy workload (Lin 1993; World Bank 1992). Moreover, such inequities within the school system have probably grown in magnitude with decentralization to local areas of the responsibility for financing schools. It is likely that school quality, in terms of physical infrastructure and the capacity to attract and retain good teachers, has become increasingly tied to local financial resources.

This description of educational equity issues in rural China highlights the interrelationship between barriers to education associated with impoverishment of households, communities and school systems. The extent of our knowledge about these overlapping influences on children's education has been limited, however, by a dearth of studies adopting an integrated framework. Four specific limitations stand out. First, the literature on poverty and education in rural China has tended to link household or community poverty, but rarely both, to children's schooling. Second, studies of the educational consequences of poverty have focused on the outcomes of enrollment and attainment without considering consequences for students in the classroom and their academic achievement.² Third, much of the quantitative research linking poverty and educational outcomes has drawn inferences about family influences on education indirectly from outcomes (educational enrollment and attainment) rather than explicitly exploring the process of educational decision-making and education-related practices in the household. Finally, no large-scale tracer studies devoted to equity issues have emerged that allow an assessment of the long-term consequences of educational decisions. These gaps leave inadequately explored a series of important issues:

1. The relationship between poverty and educational achievement: Do impoverished children perform more poorly in schools than their non-impoverished counterparts? If so, what factors in the home, community or school might be useful in explaining differences? Are lower-achieving children in impoverished families more likely than their non-impoverished counterparts to leave school? Does household poverty matter less in wealthier villages?

¹ Even at a national level, under-qualified teachers are a serious problem. A 1994 report issued by the Ministry of Education's Department of Planning and Construction indicates that 15.3% of primary teachers and 40.5% of junior secondary teachers did not have the required training or formal qualifications to be teachers (Ashmore and Cao 1997). Further, those with formal qualifications may lack the skills and motivation to be effective teachers: teacher education programs reportedly admit students of questionable capabilities and, more strikingly, little interest in teaching (Chang and Paine 1992, Wu and Chang 1990).

² Existing studies of the classroom and student performance have been primarily conducted in urban schools (e.g., Sanders et al. 1998; Stevenson and Stigler 1992) or in more developed regions (Thogersen 1987) and

2. The mechanisms by which poverty affects children's education: To what extent is the educational disadvantage of poor children traceable directly to material resource constraints in the household, community, or school? To what degree do factors such as social networks, school social environments, parenting practices and expectations, children's practices related to schooling, or relationships between parents, children and teachers play mediating roles?

3. The sources of gender inequality: What factors among appropriateness of schooling, basic abilities, opportunity costs, returns to the child, and returns to the family are perceived to differ by gender of child? How do such perceptions differ between poorer and wealthier parents, and between teachers and parents? Is there an interaction between poverty and gender inequality in educational participation, and if so, why are poorer parents more likely to favor boys?

4. Perceptions about the utility of education: Do rural residents and rural teachers view the education system as providing useful skills to children? Do they perceive changes in the role of education as a route to social mobility? Have perceptions shifted with the institution of tuition fees at the tertiary level? Is vocational education perceived as an opportunity for children to specialize and secure good jobs, or primarily as a low prestige outcome for less academically talented students? Do concerns with applicability and returns to education come into play in determining children's enrollment status, and does this answer vary depending on the child's academic performance?

5. The relationship between education and social mobility: From a long-term perspective, what are the geographic, labor market and economic outcomes of education for rural youth? How do answers differ depending on the election of academic or vocational-track education and on social background?

Answers to these questions are a prerequisite for designing effective strategies for change. For example, to improve enrollment rates, it is important to understand the interplay of factors leading to premature school leaving. High school fees, lack of access to schools, test failure, low returns, high opportunity costs, and perceived lack of utility of the school curriculum carry distinct policy implications. For improving the vocational curriculum in rural areas, it is important to know whether vocational schools are attractive to students and to examine the career paths of vocational school graduates. To promote gender equity, it is important to understand whether and how the criteria for educational decisions differ for girls and boys. For the larger endeavor of clarifying the long-term equity implications of the pronounced socio-economic changes and educational restructuring occurring in rural China, it is important to trace their impact on the process and outcomes of education for rural children.

have not examined interrelationships with persistence.

FRAMEWORK AND MEASUREMENT OF CONCEPTS

The need for an integrated approach to the study of poverty and education in China provides the motivation for this study and the guide to its design. We seek to collect information on children's homes, communities and schools that can be linked together to allow an integrated analysis of the barriers to educational equity. This design, arising largely from observations about our own research and that of others in rural China, meshes closely with recommendations provided at a recent workshop convened to assess priorities for national data collection related to child outcomes in the US (Board on Children and Families et al. 1995). In the proceedings from this workshop, Brooks-Gunn et al. (1995) describe an emerging "resource framework" for studying the effects on child and adolescent development of such factors as the time, money, and emotional resources of parents and the institutions and "social capital" present in communities. This framework formalizes an emerging tradition of an integrated approach to analyzing the effects of poverty on child development and education conducted in the US (for example, Booth and Dunn 1996; Brooks-Gunn et al. 1995, Brooks-Gunn et al. 1997; Duncan and Brooks-Gunn 1997, Huston 1991). The resource framework can be viewed as unifying various overlapping theoretical arguments that have emerged to explain the relationship between poverty and educational outcomes: 1) "material resource" arguments that indicate that poor children suffer because their parents, communities and schools lack the financial resources that can aid learning and achievement, 2) "human capital" arguments that suggest that poor children suffer because of the poorer endowments and investments they receive from their parents (Becker 1993; Mayer 1997); 3) "social capital/network" arguments which suggest that impoverished parents and children lack supportive social relationships and networks within and outside of the family necessary for aspiring to and achieving success (see Coleman 1988); and 4) "cultural capital" arguments which suggest that children of historically disadvantaged groups suffer because they and their parents lack the experiences, attitudes, behaviors that allow them to be perceived positively and to interact effectively with gatekeepers (e.g., Bourdieu 1977; Lareau 1987; Farkas et al. 1990). In considering the potential contribution of each of these perspectives, the resource framework provides a research tool aimed not only at revealing the magnitude of the impact of poverty on children's education, but also the mechanisms of influence.

Figure 1 illustrates our adaptation of the resource framework approach to examining the influences on children's educational outcomes. In Figure 1, we have specified some of the key attributes in the community, family and school that are commonly expected to affect child outcomes related to education. The broken arrows linking the school, community and family boxes indicate the interrelated nature of these dimensions of a child's life. The framework laid out in Figure 1 implies an approach to data collection that incorporates multiple levels of measurement, including the child, the family, the school, and the community. Each of these levels of measurement will be

covered in our study.

Our study design draws from the “crucial design features” set out in the Workshop on Integrating Federal Statistics on Children (Brooks-Gunn et al. 1995, pp. 27-97). First, we expect to collect longitudinal measurements of child outcomes across multiple domains of functioning. Longitudinal measurements facilitate causal inferences and understanding of the accumulation of decisions and practices across the life-course. Outcomes measured across many domains, e.g., academic, emotional, and behavioral, provide a more comprehensive portrait of the impact of poverty on the well-being of children. Our study will be designed to collect enough identifying information to later trace the target children. We plan to examine educational participation and achievement as well as emotional, social-behavioral, and, in later waves of the study, long-term economic outcomes experienced by children. Items measuring academic achievement, school participation, emotional well-being, and behaviors are summarized in Table 1 in the Household Instrument (HI) Sections 3, 4, and 5.

Second, with regard to the family, we measure the human and material resources in the household (Table 1, HI Sections 1 and 2), and family processes (HI Sections 3, 4, 6, and 7). Items will measure the educational and occupational attainments of all household members, economic resources available for and actually invested in children’s education, the quality and quantity of parent-child interaction, family conflict, and family attitudes and practices related to schooling. Time-use diaries in which activities and presence of others are recorded will be collected to gain an accurate picture of the time inputs of parents to children. This strategy will also allow us to gauge intra-household allocation of labor between siblings and between girls and boys. The data collected in the household instrument will allow us to understand the effects of household poverty on education, and to explore different potential mechanisms by which impoverished households provide a different learning environment than wealthier households.

Third, with regard to the community, we will collect information on the demographic and socioeconomic circumstances of the village, the availability of health, education, and transportation facilities, and the social environment (the educational and occupational composition of the adult population) (Table 1, Village Instrument). These data will allow us to examine the concentration of poor households in poor communities and to compare the experiences of poor children who are and are not residing in poor communities. The data will also allow us to explore the impact of the social composition as well as the physical infrastructure and material resources of the village.

Finally, for the school component of the study, we have developed a school questionnaire and summary teacher questionnaire to be administered in all primary and secondary schools in the sampled counties (Table 1, SI Sections 1 and 2). We have also developed an additional, more extensive teacher questionnaire, including a time diary, to be administered to the teachers (home-

room teachers in the case of junior high school students) of enrolled target children (SI Sections 3, 4, and 5). The data collected in this component of the study will allow us to examine the varying conditions of school quality (material and human capital resources) and school composition (social milieu) experienced by impoverished and non-impoverished students. Detailed information on teacher relationships with target children and their parents, classroom practices, and assessment of target children's academic performance, efforts, behavior and scholarly potential will be collected. These data will allow an examination of whether there are differences in teachers' views of children's behavior and performance and parental involvement depending on the social background of the children. They will also allow an examination of socio-economic differences in students' behavior and effort as a possible mechanism by which poverty influences student achievement.

Data collected with the survey instrument will be augmented with transcripts from focus group interviews conducted among a subset of target children, their parents, and teachers in village schools (Table 1, Focus Group Discussion Topics).³ Focus group interviews will be conducted separately among groups of teachers, children and parents, and each will consist of 8-12 people. The focus group component of our study will provide context for interpreting results from the survey. At a general level, the focus groups are intended to give a snapshot of views toward the education system, an introduction to current debates in the local community, and a sense of the decision-makers and institutions involved in conditioning children's educational chances. More specifically, focus group interviews are intended to uncover the perceptions about the benefits and costs of sending children to school, the relevance of and returns to schooling, barriers to schooling and to effective teaching, and attitudes towards schooling boys versus girls. This information will be used to verify conjectures about what factors actually influence children's school enrollment, persistence, and achievement, as well as how the influence is exhibited. Transcripts from the focus groups will also be used to understand any anomalies in the quantitative data (Lederman 1990; Vaughn, Schumm and Sinagub 1996).

The study components described in this section are specifically targeted toward facilitating four lines of inquiry. First, by combining past and current achievement data with self-reports on children's history of educational participation, we will be able to construct educational histories for all target children, whether in or out of school. This linkage differs from the typical design for a study

³ An additional set of focus group interviews will be employed in the course of conducting the pilot study to refine the survey instruments (Goodman 1984). Focus groups will be used as part of the field testing of measures after the instrument prototype is drafted. The participants of focus groups will be asked to complete a survey and then, during a focus group, to critique alternative responses. In addition, the administration procedures, forms and content of the survey will be evaluated. Focus group interviews will also help to improve the language sensitivity of the survey instruments because vocabulary that is common to the stakeholders can be discerned in the focus groups and then incorporated into the measure (Bauman and Adair 1992; Hammond 1986).

of academic achievement, which would focus on samples of students and thus miss those individuals who have already been sifted out of the education system due to poor performance or lack of funds. Linking village, household and school data will provide a unique opportunity to explore the different living and schooling circumstances experienced by impoverished and wealthier children, and to examine the impact of these circumstances on various indicators of children's educational outcomes.⁴ We will also be able to explore the relationship between achievement and school continuation across income strata and gender. Second, by developing a survey instrument and a series of focus group interview questions that focus explicitly on attitudes toward schooling, we will be able to explore the factors important to educational decision-making, including educational and occupational aspirations of children and their parents, concerns about the applicability and equity of the education system, and opportunity costs related to remunerative employment opportunities in agriculture and rural industry. Third, by measuring parenting practices and the schooling styles and behaviors of children, we will be able to examine in a concrete manner mechanisms by which poverty affects schooling outcomes for children.

Finally, by later tracing the target children, we will be able to observe how educational experiences and natal family characteristics influence subsequent educational and labor market outcomes. The long-term consequences of different educational paths, and variation in outcomes with socio-economic background, are important topics both for illuminating the process of social mobility and also for informing policy makers about the implications of streaming in secondary school.

THE STUDY SITE: RURAL GANSU

Gansu, located in the northwestern part of China, encompasses 390,000 square kilometers of flat Loess Plateau, Gobi desert, mountainous and hilly areas, and vast grasslands. The province has a population of about 23 million, out of which 1.9 million (or 8.3 percent) belong to a total of over 40 ethnic minority groups. While rural industries have emerged as in other parts of China with the economic liberalization dating from the early 1980s, rural residents are predominantly employed in subsistence farming or animal husbandry. Relative to the nation as a whole, Gansu exhibits high rates of illiteracy, prevalent poverty and lackluster economic growth. These points are illustrated in the economic and social development indicators calculated for the year of the most recent population census, presented in Table 2.

Gansu's low level of economic development is reflected in its education policies and in the

⁴ Given the dearth of research on this topic in China, we seek to adapt measures of the household, school and community mechanisms by which poverty affects education from existing studies conducted elsewhere (for example, Booth and Dunn 1996; Duncan and Brooks-Gunn 1997; Entwisle, Alexander and Olson 1997; Lloyd, Mensch and Clark 1998).

education system itself. In 1986, the Chinese government laid out the broad goal of achieving universal basic education. The national legislation allowed local governments to draw out plans and work towards this goal at varying paces depending on their economic conditions. As one of the poorest provinces, Gansu first aimed to achieve basic universal education around the year 2000. The target date was later shifted forward to 1998 (NPC 1987). However, the resources available to devote to this task in Gansu have been limited. Expenditures on a per student basis in Gansu are substantially below the national average. As Table 3 indicates, rural per pupil expenditures in 1996 were 578 Yuan for lower secondary schools and 284 Yuan for primary schools in Gansu, about 76 percent and 71 percent of corresponding figures for rural China as a whole.

As of 1992, the primary-level educational infrastructure in rural Gansu consisted of 23,255 primary schools and 392 “teaching points”⁵, enrolling over 2 million children (People’s Education Press 1992). At the junior high level, there were 1,147 regular and vocational junior high schools (including stand-alone junior high and junior high sections of complete secondary schools). These schools enrolled almost 520,000 students. To what degree is the infrastructure adequate? Tabulations from the 1992 Survey on the Situation of China’s Children revealed an enrollment rate of about 85 percent for our target age group, 11-14 year-olds, in rural Gansu (see Table 4). However, reflecting the structure of the education system, less than 15 percent of all of the children in this age group were currently enrolled in junior high school.⁶ The dropout rate was higher for girls than for boys (21 percent versus 7 percent) and for children in households with uneducated fathers (23 percent versus about 11 percent for children with educated fathers). Dropout rates were also much lower among children residing in flat or hilly regions compared to those in the poorer mountainous areas (about 6 percent versus 15 percent) (our calculations, not shown). Among children not in school in the 1992 survey, few directly cited access constraints or lack of transportation as direct causes for school-leaving. The majority cited reasons immediately tied to household poverty: 55 percent indicated economic difficulty and 14 percent reported leaving to work on the farm (Table 4).

The variation in school-leaving with father’s education and self-reported reasons for school-leaving clearly indicate the importance of household poverty in educational decision-making. However, other explanations may apply as well. Lower enrollments at the junior high school level and in remote areas point indirectly to access constraints; premature school-leaving to work may indicate perceptions of a lack of fit between curriculum or school credentials and economic activities

⁵ A “teaching point” is an extension of a primary school in sparsely populated areas. Teaching points usually have fewer students and fewer teachers.

⁶ Among enrolled rural 13-14 year-olds in the survey, all of whom would be expected to be in junior high school, 70 percent were still in primary school (our calculation, 1992 Survey on the Situation of China’s Children, computer file).

and opportunities. There is a need to explore more deeply the context and process of children's schooling and the educational decision-making of families to really understand the meaning of dropout figures and reported reasons for school-leaving.

In sum, available evidence suggests that lack of funds for investment negatively affects the supply and quality of schools in rural Gansu and poverty in the household negatively affects the demand for education. Given our substantive interest in understanding the multiple pathways by which poverty affects education, rural Gansu is an ideal research site because it is characterized both by high rates of poverty and by varying poverty conditions in flat, hilly and remote mountainous sites. Moreover, as is illustrated in Table 2, many of the social and economic barriers to schooling faced by children in rural Gansu are common to provinces and autonomous regions located in China's less-developed interior. For this reason, practical insights on educational equity derived from this study are likely to carry broad implications for Western China.

RESEARCH TEAM

This project builds directly on the past research and work experience of the primary participants. Hannum is a sociologist/demographer working as an Assistant Professor in Administration, Planning and Social Policy at Harvard Graduate School of Education and as a Research Associate at Harvard Institute for International Development. Her research has focused on social stratification and sociology of education. She has conducted research in China on trends in gender and urban-rural inequality in primary and secondary education (Hannum and Xie 1994; Hannum 1997), changes in the impact of education on income and occupational attainment (Xie and Hannum 1996; Hannum and Xie 1998), and inequities in access and participation in rural primary and secondary education in the era of market reforms (Hannum 1998b; Hannum and Kim 1998).

Zhang, who holds a Doctorate of Education in Administration, Planning and Social Policy, works as a Senior Analyst in the Center for Education Statistics at Statistics Canada. His research has emphasized economic analysis of access and returns to education. He has conducted studies of the contribution of educational change to income inequality in China and of the determinants of basic-level educational participation in rural areas (Zhang 1996, 1998). These projects involved both statistical analyses of survey data and qualitative fieldwork in rural villages. In addition, he has completed studies of school finance and teacher training in China and Indonesia and of the impact of television on preschool children in China (Zhang 1988, 1990, 1995, 1997). Finally, Zhang has classroom teaching and curriculum development experience in a rural secondary school in Gansu.

Wang holds a Doctorate of Education in Theories of Teaching and Learning and is Deputy Dean of Education Research at the Northwest Normal University Educational Research Institute in Lanzhou, the provincial capital of Gansu. He has emphasized the theories and practice of

educational measurement and research methodology in his work (e.g., Wang 1990a, 1990b, 1993a, 1993b, 1995, 1998a, b, c; Wang and Pei 1997). He also brings to the project extensive experience with policy research and development projects related to educational equity issues in western China (e.g., *Women and Minorities as Educational Change Agents*, sponsored by the Canadian International Development Agency, 1996-2002; *Investigation into Educational Experiments in Primary and Secondary Schools*, sponsored by the State Education Commission (SEC), 1993-1996; *Studies into Minority Areas' National Admission Examination to Higher Education*, SEC, 1991-1995; and *Studies and Investigations into Compulsory Education in Underdeveloped Western China*, SEC, 1989-1992).

Adams, a doctoral student in Administration, Planning and Social Policy at Harvard Graduate School of Education, has focused on the classroom in her work and research. She has taught school in Taiwan and Hong Kong, has conducted fieldwork in mainland Chinese schools, and is conducting background research with the expectation of writing a dissertation probing the implications of school privatization for teaching innovation and student achievement in rural China.

The project also draws on the specialized knowledge of two consultants. For suggestions on the design and implementation of the study, we are consulting with Yu Xie, a sociological methodologist with an extensive research record in the area of social stratification and mobility in China and the US. For advice on measurement of household economic circumstances and on the practical aspects involved in implementing the study, we are consulting with Albert Park, an economist specializing in rural poverty in China. In particular, we are drawing on Park's work with local Statistical Bureau personnel collecting survey data in households and schools in impoverished counties in rural Gansu and elsewhere in China.

From a substantive perspective, the participants in this project bring together considerable research and work experience related to the household, community, and classroom influences on children's education. All participants have work and research experience in China. Finally, from a methodological perspective, participants bring a complementary, inter-disciplinary set of skills to the task of designing, implementing and analyzing results from an integrated, multi-method study of poverty, education and social inequality.

SAMPLE AND PROCEDURE FOR DATA COLLECTION

With Wang Jiayi, Deputy Dean of Education Research at Northwest Normal University Educational Research Institute, serving as coordinator, we will collaborate with the Gansu Provincial Office of the State Statistical Bureau (SSB). We will collect information from a representative sample of 2,000 rural 11-14 year-olds drawn from updated SSB census lists. These ages represent children who should be enrolled in the later grades of elementary school and in junior high school, the stages

at which dropping out begins to emerge as a serious problem. Using the existing census and national survey data collection personnel and facilities available through the SSB, household interviews (Table 1, **HI**) will be administered to target children and their parents. Village leaders will be interviewed at the same time to collect information on the economic, demographic, and educational circumstances of the communities in which the sampled individuals reside (Table 1, **VI**). We will conduct a survey of all primary and secondary schools and a summary survey of all teachers in the schools in the counties where the survey data are collected. An extended questionnaire probing attitudes and practices will be administered to homeroom teachers of target children (Table 1, **SI**). School and teacher data, as well as scores on province-wide achievement tests, will be linked to individual target children. Finally, with Wang Jiayi, we will conduct a series of focus-group discussions to probe attitudes toward education among a subset of sampled target children, their parents, and village teachers (Table 1, **FG**).

THE PLAN FOR ANALYSIS AND THE SIGNIFICANCE OF RESULTS

Our data analysis strategy will include qualitative analyses of the three sets of focus group transcripts and statistical analyses of the survey data appropriate to the substantive questions we plan to address. We will be guided by the “resource framework” described in the previous sections (Brooks-Gunn et al. 1995). We plan to produce an integrated manuscript guided by this framework, incorporating the following chapters:

1. Introduction: An Integrated Framework for Examining Poverty and Education in Rural China
2. The Context of Schooling: Children and Poverty in Rural Gansu
3. Opportunities and Inequalities in the School System: School Availability, Quality, and Composition in Poor and Prosperous Communities
4. Poverty and Children's Emotional Well-Being
5. Poverty and Parental Decisions About Educating Sons and Daughters
6. Poverty and Children's Academic Performance
7. Poverty and Behaviors in the Classroom
8. Teachers' Lives in Poor and Prosperous Communities
9. Poverty and the Classroom: Teacher Practices, Perceptions, and Expectations for Poor and Non-Poor Children
10. Poverty and Relationships Between Teachers, Students, and Parents
11. The Resource Framework Revisited: Material Resources and Human, Social and Cultural Capital in the Poverty-Education Relationship

We expect to publish both English- and Chinese-language versions of the manuscript in the form of a book. We also plan to submit individually initiated research papers to academic journals in the fields of education, sociology, and child development. Initial dissemination of results will occur via HIID Development Discussion Papers and Northwest Normal University Research Reports in conjunction with a research symposium to be held in Cambridge.

We believe that our approach to examining the relationship between poverty and education in

China constitutes an important effort on several grounds. First, this project constitutes the first multi-layer, multi-method study that systematically explores the influences of community, school, and household resources on educational outcomes for rural children in China. From a purely scientific perspective, this study represents an opportunity for testing in a new context theories about the impact of poverty on education derived in great part from studies undertaken in the US and other developed countries. There is a bias inherent in the American social science community: the American context is generally regarded as a generic social laboratory for examining human behavior. Studies conducted outside of the US are often classified geographically, as international or as “area studies” research, and only secondarily by their substantive orientation. With regard to assessing the influence of poverty on children’s schooling, without comparative research, we cannot ascertain what aspects of the poverty-education relationship observed in the US represent peculiarities of the American context, and what aspects may be more generalizable. Generalizability is a key element of theoretical development in the social sciences. In this study, we have sought to adapt key theoretical and design elements from US studies on poverty and education in order to provide a real basis for comparison of the educational stratification process.

On a more concrete level, to the extent that the poverty-education relationship observed in rural China yields results contrary to expectations based on the US experience, our study may generate new ideas about aspects of the American context that may be amenable to social policy interventions. From the parallel perspective of informing social policy in China, we are convinced that the information that will result from this study will be useful for developing effective intervention strategies for improving educational equity and quality in rural areas. Most significantly, we believe that this study will lead to a clearer understanding of barriers to the educational participation and academic achievement of children in rural China, and of the obstacles to effective education inherent in the school system and in the circumstances of rural teachers. We expect to make our data available to the Gansu Provincial Educational Research Institute, the research arm of the Provincial Educational Commission, and to share our analyses with the provincial and national agencies of educational policy making.

Finally, the policy issues emerging in China are significant from a broad perspective: certain aspects of recent changes to the education system in China, particularly privatization and decentralization, have parallels around the developing world. The exploration of emergent equity issues in rural China may thus be viewed as a case study in the implications for social inequality of a widespread trend in education reform. In short, we believe that this project will be important for its contribution to knowledge about the relationship between poverty, education and social inequality and for its potential use in informing policy decisions in rural China and elsewhere.

APPENDIX (1): TABLES AND FIGURES

(FIGURE 1 PLACEHOLDER)

TABLE 1. INSTRUMENT COMPONENTS

Household Instrument (HI)

HI Section 1: Demographic and Socioeconomic Information (Respondents: All Co-Resident Household Members, Non-Coresident Siblings of Target Children)

This section will collect socio-economic and demographic information on all household members. Grids containing detailed demographic and socio-economic information will be collected for all co-resident household members and for siblings of target children who are non-coresident. Educational attainment, expenditures and enrollment status will be recorded for each of these individuals. Measures of family relationships and grids for measuring the basic circumstances of all co-resident and non-co-resident family members will draw on items developed for the Baoding Survey of Aging and Intergenerational Exchange (Chen 1994). Measurement of household expenditures and income will be adapted from existing rural income surveys conducted by the Statistical Bureau.

HI Section 2: Home Physical Environment (Informants: Mothers of Target Children)

Measurement of general household facilities and physical environment will employ items from the rural component of the 1992 Survey of the Situation of China's Children (SSB 1992, 1993). In addition to general household facilities and physical environment, specific material resources for learning, such as availability of books and other learning materials in the home and designated study space, will be measured.

HI Section 3: Home Interpersonal Environment (Respondents: Target Children, Siblings and Parents)

This section will measure psychological well-being of household members and child-parent and parent-parent relationships. Measures of well-being will be adapted from the "Attitudes toward self" section of the National Longitudinal Survey of Youth (NLSY) (NLSY KWIC Index 1994) and from the Chinese-language assessments developed for the Baoding Survey of Aging and Intergenerational Exchange (Chen 1994). Measurement of life-stress and personal problems will follow the model of the Baltimore Beginning School Study in adapting a scale from Holmes and Rahe (1967) (See Entwisle, Alexander and Olson 1997, Appendix E). The quality of the parent-child relationship, household rule-setting, and disciplinary practices will be gauged, adapting relevant items from the "quality of relationships with children" items in the National Survey of Families and Households (NSFH) (Sweet, Bumpass and Call 1988; see also Hanson et al. 1997). Where appropriate, questions will be asked to both parent and child. A series of questions designed to gauge views and practices toward parental involvement in schooling will be included. Locally relevant measures will be employed, developed from the model of parallel measures in the Baltimore Beginning School Study

(Entwisle, Alexander and Olson 1997).

HI Section 4: Attitudes (Respondents: Target Children, Siblings and Parents)

Parental and child educational and occupational aspirations will be measured, as well as views toward children's academic performance, the determinants of academic achievement, and the utility of schooling. These items, as well as more general attitudes regarding self-perceptions, will be adapted from sections of the NSFH (Sweet, Bumpass and Call 1988; Hanson et al. 1997) and from the NLSY (NLSY KWIC Index 1994). Gender role attitudes will be assessed by adapting items from the 1991 Beijing Survey of Marriage and the Family (see Feng, Wang and Anderson 1995) and from the 1994 Baoding Survey of Aging and Inter-generational Exchange (Chen 1994). Target children will answer an additional battery of questions designed to gauge skills, habits and styles related to schooling. These items will include self-assessments of effort, achievement, and disruptive behavior in the classroom, perceptions of the quality and fairness of teachers, and values held about scholarly achievement, cheating, efforts, disruptive behavior, and popularity. Questions will be adapted from a battery of items in the National Educational Longitudinal Survey (NELS) (see Ainsworth–Darnell and Downey 1998, Table 1).

HI Section 5: Educational Trajectories (Respondents: Target Children, Siblings)

This section will collect personal educational histories. Information will be collected on timing, duration, repetition, and breaks in schooling as well as on academic track. Scores on province-wide achievement tests will also be collected and linked to target children.

HI Section 6: Social Networks (Respondents: Parents of Target Children)

Measurement of social networks will be adapted from two sources: 1) the social capital items from the NSFH that measure the relationships between adult respondents and extended kin, friends and neighbors, and community organizations (Sweet, Bumpass and Call 1988); and 2) the social network and exchange section of the Baoding Survey of Aging and Intergenerational Exchange (Chen 1994).

HI Section 7: Child Time Diary (Respondents: Target Children, Siblings)

This section will measure coresident children's time allocation on the most recent school day. A time grid will be used, with spaces for recording activities and the individuals present for activities. These data will illuminate issues commonly thought to influence educational participation and achievement, such as intra-household division of household labor, time spent engaged in economic activities among non-enrolled and enrolled children, time spent on schoolwork, and parental time input in learning activities with children.

Village Instrument (VI)

VI Summary Questionnaire (Informants: Village Leaders)

This component of the survey will be adapted from the village component of the 1992 National Survey of the Situation of China's Children (State Statistical Bureau 1992, 1993). Items will cover the following components: (1) demographics, such as the size and educational and occupational composition of village population, (2) socio-economic conditions, including the levels and sources of village revenues and the presence of state and private enterprises, and (3) social infrastructure, including the availability and types of education, health, and transportation facilities.

School Instrument (SI)

SI Section 1: School Characteristics Survey (Informants: Principals)

Drawing from a rationale developed for the World Bank's Living Standard Measurement Survey (Grosh and Glewwe 1997), this section will collect information on the following characteristics: 1) the basic characteristics of the school, such as whether it is public or private, level and grades offered, class size, class time, and language of instruction; 2) teacher characteristics, including the number and gender composition of teachers, their qualifications, experience, and extent of absenteeism; 3) physical characteristics, including the availability and condition of classrooms, desks and chairs, library, and instructional equipment; 4) teaching materials, textbooks and library collections; 5) admission and promotion policies, such as whether examinations are required for admission and promotion; 6) the performance of students in standard examinations; 7) school fees and finance, including the amount of fees charged for various purposes, fee waivers, scholarships, school uniforms, and sources of funding for school expenditures; 8) school management, decision-making and community involvement.

SI Section 2: One-Page Teacher/Principal Summary Questionnaire (Respondents: Principals and All Teachers in Target Schools)

This brief questionnaire will be self-administered. It will contain general demographic and socio-economic information on all principals and teachers: age, gender, marital status, ethnicity, educational qualifications, compensation, whether compensation is sufficient to meet needs, total household income, alternative sources of support, housing (whether provided by the school or subsidized), and years of experience. Among teachers, public teacher (*gongban*) or community teacher (*minban*) status, and grade and courses taught (for junior high school teachers) will also be ascertained. Finally, teachers will be asked to estimate for their current class the following six percentages: academically capable of passing entrance exams for senior high school (1) and college (2), expected to actually

attend senior high school (3) and college (4); expected to fail this year (5), and expected to drop out this year (6). Most important reason(s) students drop out will also be assessed. If there is a discrepancy between capacity to attend high school/college and expectations for actual attendance, the reason for the discrepancy will be asked.

SI Section 3: Teacher Professional Attitudes and Professional Development (Respondents: [Homeroom] Teachers of Target Children)

This section will collect information regarding teacher perceptions of themselves and their field of work, including perceived self-efficacy, levels and changes in respect accorded to teachers, participation in school decision-making, incentives for becoming a teacher, barriers to attracting and retaining good teachers.

SI Section 4: Teacher Perceptions of the Target Child (Respondents: [Homeroom] Teachers of Target Children)

This question will ask teachers to rate the target child's academic performance and potential, academic efforts, behavior in the classroom, socio-economic circumstances, and quality and nature of the child-teacher and parent-teacher relationship. Where appropriate, items used will match parallel items asked of parents and children (particularly items in **HI Sections 3 and 4**).

SI Section 5: Teacher Time Diary

The teacher will be asked to describe time use during the previous school day. This time diary is in large part exploratory, designed to measure time spent in the classroom and in preparation of materials, time spent on other, potentially income-generating activities, and to give a sense of teaching practices. A grid will allow teachers to allocate time from awakening in the morning until retiring. For each period spent teaching, the type of activities (e.g., administrative activities, full-class or group work, lecturing or discussions, working out problems collectively or on paper, taking disciplinary measures) will be systematically coded. For time spent on non-teaching activities, the nature of the activity and presence of others will be assessed.

Focus Group Discussions (FG)

Note: Discussions will be conducted among groups of target children (**C**), parents of target children (**P**), and teachers in village schools (**T**). Topics will include the following:

- (1) Most Pressing Problems with the School System (**C, P, T**)
- (2) Why Children Drop Out/Dropout Problem Getting Better or Worse (**C, P, T**)
- (3) Most Important Barriers to Children's Academic Achievement (**C, P, T**)
- (4) Why Girls Drop Out More than Boys/Gender Gap Getting Better or Worse (**C, P, T**)
- (5) Relevance of Schooling to Local Life (**C, P, T**)
- (6) Economic/Labor Market Outcomes of Schooling (**C, P, T**)
- (7) Feasibility of Education as a Route to Social Mobility/Getting Better or Worse (**C, P, T**)
- (8) Preferences/Perceptions Regarding Vocational vs. Academic Track (**C, P**)
- (9) Most Important Challenges Facing Teachers (**T**)

- (10) Most Important Barriers to Recruiting and Retaining Good Teachers (**T**)
- (11) Most Important Barriers to Effective Teaching (**T**)

(TABLE 2 PLACEHOLDER)

(TABLE 3 PLACEHOLDER)

(TABLE 4 PLACEHOLDER)

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Vitae are attached.

APPENDIX (4): TIME FRAME

10/98-12/98	Instrument Design
1/99	Workshop in Gansu: Interviewer Training, Instrument Pretest, Sampling Strategy for Baseline Study Discussed
2/99-3/99	Instrument Revisions
<i>(Above: Pilot Study Proposed to Spencer Small Grant Program)</i>	
<i>(Below: Baseline Study Proposed to Spencer Major Grant Program)</i>	
7/99	Instruments and Sample Finalized
8/99	Meeting in Gansu to Conduct Training
9/99	Fieldwork
11/99-12/99	Data Coding, Entry, Cleaning
1/00	Clean Data Distributed
2/00	Data Analysis Begins
8/00	Preliminary Research Reports, Manuscript Chapters Circulated
10/00	Comments on Papers Distributed
12/00	Research Symposium in Cambridge
1/01	Paper Revisions Begin
3/01	Revised Papers Submitted
4/01	Research Reports Published
5/01	Manuscript Editing Begins
9/01	Manuscript Completed

APPENDIX (5): BUDGET

NARRATIVE DESCRIPTION OF BUDGET

Overview

The total amount requested to complete this project, itemized in the attached budget, is \$276,380. The total figure incorporates the following components: salaries, consultants, benefits, travel, training, other direct costs, equipment, subcontracts, and overhead. These line items incorporate costs for administrative and research personnel, investigator salaries for data collection, analysis and report writing, consultation on design and implementation, travel to China to conduct training, travel to Cambridge for China participants to attend a small research conference, subcontracts for collection of the focus group and survey data, and necessary equipment.

Salaries and Benefits

Salary support is requested for the principal investigator, an administrative assistant, and a research assistant. Principal investigator time will be devoted to developing the instrument, implementing the data collection, and analyzing results from the study. Administrative assistant time will be devoted to general management aspects of the study. Research assistant time will be devoted to assisting with questionnaire design and development, moderator and interviewer training, and data management and analysis. The fringe benefit rate is an average of the University's rates for different levels of personnel.

Consultants

CO-INVESTIGATOR

Co-investigator time will be devoted to developing the instrument, implementing the data collection, and analyzing results from the study.

OTHER CONSULTANTS

Consultants Yu Xie and Albert Park will advise on the design of the instrument and the sampling and implementation strategies for the survey component of the study.

Travel

DOMESTIC

This item covers costs for two trips to or from Ann Arbor for the consultants to meet with the principal investigator in the first year.

FOREIGN

This item covers costs for three people to travel to China to participate in training activities for focus group moderators and interviewers in the first year. It also covers costs for three participants from China to attend a research symposium in Cambridge in the third year.

Training

This item covers costs (other than those associated with international travel) for implementing training of focus group moderators and survey interviewers. These costs primarily consist of local transportation and travel costs.

Other Direct Costs

This item covers miscellaneous costs such as office supplies and incidentals, communication costs, and evacuation insurance.

Subcontracts

GANSU PROVINCIAL STATISTICS BUREAU

This line item represents the costs of conducting the survey and delivering clean data ready for analysis to the project participants. The item includes (1) reasonable collaboration fees to be paid to the Gansu Provincial Statistical Bureau, (2) payment for project coordinators/managers and wages for interviewers, (3) coverage of internal transportation costs for interviewers and managers, (4) a small sum of money for interviewer and respondent incentives, (5) support for coding, entering, and cleaning the survey data and (8) support for office supplies and other incidentals.

NORTHWEST NORMAL UNIVERSITY

This line item includes coverage of costs associated with the conduct of focus groups, namely moderator payment, transportation costs, and data transcription. It also includes salary coverage for Collaborator Wang Jiayi to devote time to developing the instrument, implementing the data collection, and analyzing results from the study.

Equipment

This item covers the cost of purchasing recording and transcribing equipment for focus group data collection and transcription.

APPENDIX (6): SUPPORT SOUGHT ELSEWHERE

OTHER EXTERNALLY SUPPORTED RESEARCH PROJECTS

Emily Hannum anticipates seeking external support for a study of recent changes in returns to education and the gender gap in income and employment in urban China. There will be no substantive overlap with the current proposal.

OTHER FUNDING SOURCES FOR THIS PROJECT

We expect to submit versions of the current proposal to NSF and NICHD.

APPENDIX (7): SUPPORT LETTERS