Education in the Rural Sector of China[*]

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1. INTRODUCTION

The development of the rural sector is fundamental for China's economic growth. More than 60 percent of China's population lives in rural areas. Moreover, 73 percent of the nation's labor force is engaged in agricultural activities (see The 2003 China Statistics Yearbook), which is higher than the average percentage of developing countries. However, the development of the rural sector in China has lagged far behind the urban sector. There exists a huge gap in real GDP per capita between the rural and urban sectors which accounts for more than 70 percent of the overall income inequality in China (Kanbar and Zhang, 1999).

The biggest obstacle to the development of China's rural sector is low labor productivity. Although agriculture takes up 73 percent of the nation's labor force, it contributes only 27 percent to the nation's total fiscal revenue (see The 2003 China Statistics Yearbook of Finance). There are many causes for the low labor productivity. With the first and foremost one being low educational attainment. Only 0.05 percent of the rural labor force has received college education (or above). The percentage of the rural labor force that has attained education at the senior high school level, the junior high school level and the primary level is 4.50, 32.65 and 77.75 respectively. These numbers are much lower than their urban counterparts. The average educational attainment years of the rural labor force is 7.3 years, which is 3 years less than that of the urban sector. Furthermore, 22.25 percent of China's rural labor force are illiterates or semi- illiterates (see The 2003 China Statistics Yearbook of Education). This situation has severely hindered the economic growth in the rural sector and curbed the

urbanization process, as rural workers without enough education find it challenging to secure employment in urban industries (Heckman (2005)).

To improve the educational attainment in rural China, the first and most crucial step is to promote the nine-year compulsory education system. According to The 2003 China Statistics Yearbook of Education, 95.1% of the nation's primary schools, 87.3% of the junior high schools and 71.5% of the senior high schools are located in rural areas. Therefore, it is essential to improve the quality of those schools and increase the enrolment rates.

This paper outlines the current state of education in rural China. Section 2 outlines the evolution of the rural educational system. Section 3 talks about various sources of educational funding for rural schools. In section 4, the delivery of education at different levels is examined. Section 5 discusses the problems faced by the rural educational system and section 6 presents policy implications.

2. EVOLUTION OF THE EDUCATIONAL SYSTEM IN RURAL CHINA

2.1. Evolution of Government Policies since the Reform

The evolution of the rural educational system since the reform has undergone four stages. The first stage (1979 to 1984) is marked by the reorientation of the basic policy and the recovery from the damage caused by the Cultural Revolution. The main relevant events during this period include the issuance of two policy rules. One is "Decisions on the Universal Coverage of the Primary School Education" by the CPC Central Committee in 1980 that pinpointed universalizing primary education as the predominant task. The other is "Notice on Reforms of Education in Rural Areas" by the State Council in 1983.

The second stage (1985 to 1990) focuses on promoting nine-year compulsory education in the rural sector through legislation. The major events during this period include the issuance of "Decisions on the Reform of the Educational System" by the CPC Central Committee in 1985 that set the goal of universalizing nine-year compulsory education and the passage of the Compulsory Education Law of the People's Republic of China in 1986. Other relevant policy rules and regulations are as follows: "Suggestions on Some Issues Concerning the Reform of the Management System of the Basic Education in Rural Areas" by the National Education Committee jointly with Ministry of Finance in 1987; "Notice on issuing two Documents about the Plan 'Liao Yuan' " by the National Education Committee in 1988; "Suggestions on the Improvement of Human Capital and Technological Progress in Rural Areas and Forestry Regions" in 1989. The issuance and enforcement of the above rules and regulations greatly enhanced the development of the educational system in rural areas.

The third stage (1991 to 2000) further strengthened efforts to universalize the nine-year compulsory education in the rural sector. The dual goal of "two basics" was put forward; that is, to achieve the universal coverage of nine-year compulsory education as well as literacy in areas where 85 percent of the population lives by 2000. A series of meetings on national education were held by the CPC Central Committee in 1994. And another meeting on comprehensive reforms of rural education was held in the same year by the National Education Committee. The relevant policy rules and regulations issued since 1994 include: "A Brief Outline for the Reform and Development of Chinese Education" in 1993 and "Suggestions on Accelerating the Comprehensive Reform of Rural Education" by the National Education Committee in 1995.

The fourth stage (2001 till now) is marked by the reforms of the rural educational financing and administration system, along with rural tax reforms that aims to lower the burden on farmers. Two major shifts have been made. One is the shift of educational funding from farmers' collective funding raised through grassroots organizations to local governmental funding at the county level supported by earmarked transfers from upper level governments. The other is the shift of main management body from the township to the county. The relevant policy rules and regulations issued since 2001 include: "Decisions on the Development and Reform of the Basic Education" by the State Council in 2001, "Suggestions on Advancing the Pilot reform of Taxations and Fees in Rural Areas" by the State Council in 2003 and "Decisions on Further Enhancing Rural Education" by the State Council in 2003.

It is worth noting that various measures have been taken by the central government to promote compulsory education in those poverty-stricken regions. During the period between 1995 and 2000, the central government conducted the "State Compulsory Education Program in Poverty-stricken Regions" (referred to as "Program" hereafter) that granted a special educational fund of 116 billion yuan (including 39 billion from the Central Government and 77 billion from localities). All the fund was invested in the compulsory education in 852 poor counties (the Program counties), including 568 nation-level poor counties. Under the Program, 2288 new primary schools and 823 new junior high schools were built, and 6.41 million sets of desks and stools were provided free of charge. Furthermore, 1.06 billion books, teaching instruments, and equipment worth 8.446 billion yuan were provided. Moreover, 70 thousand schoolmasters and 0.59 million teachers were trained. Thanks to the Program, more than one third of the Program counties have achieved universal coverage of the nine-year compulsory education, while in other counties, there has been a significant increase in primary and junior high schools enrollment rates.

2.2.   Overview of Education in Rural China

The supportive policies adopted by the central government have greatly stimulated local governments' investment in rural education, resulting in improved facilities of rural public schools and raised salaries for teachers. With the increasing coverage of the compulsory education in the rural sector, both the enrolment rate of schooling and the graduation rate keep increasing. Moreover, the structure of secondary education in the rural sector is changing, with a notable improvement in vocational education, and rural schooling moving closer to the demand of the rural socio-economic development.

The past two decades have witnessed remarkable achievement in education in rural China. In the year 2000, the number of students in junior high schools was 62.55 million, among which 51.33 million were in rural areas. The number of students of rural senior high schools (including general senior high schools and vocational high schools) amounted to 22.60 million. According to Zhang and et al. (2004), by 2002, the nine-year compulsory education had been universalized in areas where over 90 percent of the population lives. Moreover, the illiteracy rate among youths and adults had been reduced to 4.8 percent. The "two basics" had been achieved among 2598 counties, which accounts for 90 percent of the total in China. The 372 counties that failed to achieved the "two basics" are all poor western rural counties.

There has been a significant increase in the rural educational expenditure. The educational expenditure per student in the rural primary schools and the junior high schools went up from 224 yuan and 409 yuan in 1993 to 536 yuan and 815 yuan respectively in 2000, which is an increase of 140% and 199% respectively.

The areas of schooling buildings for rural primary schools and junior high schools went up from 37.45 million square meters and 19.71 million square meters in 1993 to 50.34 million square meters and 35.36 million square meters in 2000, respectively, which is an increase of 35% and 79% respectively.

The overall quality of rural teachers has also been improving. The qualification rates of teachers in primary junior high, and senior high schools were 50%, 13% and 36% respectively in 1980. By 2000, these rates had risen to 96%, 87% and 68%. About 20% of primary school teachers have received college education or above, and more than 20% of junior high school teachers have received college education or above. The average age of teachers has become younger and the faculty team is composed mostly of young and primary age teachers. It is worth noting that all teachers are now on the government payroll, which effectively guarantees their income and boosts their incentives. This ends the era of min ban teachers

whose salary mainly came from the collectively raised funds from residents of villagers and rural towns.

In recent years the focus of rural education has shifted. Specifically, the government has invested more and more resources in secondary education compared to primary education. This shift has been warmly welcomed because the socio-economic development of the rural sector demands more public educational services at higher levels than before.

3. SOURCES OF EDUCATIONAL FUNDING IN RURAL CHINA

I will first outline various sources of rural educational funding in subsection 3.1. Education in rural China is essentially a public service provided by the government. Financial support from the government accounts for a major part of the rural educational funding. Thus, in subsection 3.2 and 3.3, I will specifically discuss the financial support for education from the central government and governments at lower levels, respectively.

3.1. Sources of Educational Funding

The financial sources for education in rural China include governments' fiscal appropriation for education, funding from social organizations and private patronage, donations and collectively raised education funds, operation revenues of schools and educational institutions, and other sources. Before the 1994 tax reform, rural education was mainly financed by villages and rural towns through added education fees, collectively raised education funds, and government budgetary appropriation. Since the tax reform, the government at the county level has taken over the major responsibility of financing the rural education. Rural residents have been gradually freed from the burden of the added education fees and collectively raised education funds. Because the fiscal capacity of county governments is limited, the shortage of educational funding is filled by the transfer payment from the central government and the provincial government. Next, I will briefly discuss the aforementioned sources one by one.

1. Fiscal appropriation for education. This includes: (1) budgetary appropriation from different levels of governments. The budgetary appropriation per student is much higher in coastal regions than in inland regions. For example, in 2002, the budgetary appropriation per student at the primary and junior high schools levels was 41,500 yuan and 43,722 yuan, respectively, in Shanghai. However, the corresponding amount in Guizhou is only 634 yuan and 628 yuan. (2) Added education fees imposed by different levels of governments. The amount of fees varies a lot across regions. In general, it depends on the local government policies and local economic development. The richer a locality, the higher are the fees. In

order to ease the financial burden on rural residents, the government has gradually reduced the rural added education fees. (3) Appropriation for education from enterprises. This mainly applies to enterprises that have affiliated schools to accommodate the children of their own employees. For rural areas, this amount is small. (4) Revenues from businesses run by schools and educational institutions. This amount is also small in rural areas.

2. Funding from social organizations and private patronage. Unlike urban areas, private schools are relatively rare in rural areas. It is important to establish an effective mechanism to stimulate private and organizational investment in education in rural areas.

3. Donations and collectively raised education funds. This refers to the voluntary contributions to education from individuals, organization and enterprises. In 2002, the average amount of donations and collectively raised funds received by each student was 23 yuan in rural primary schools and 28 yuan in rural junior high schools. Note that collectively raised education funds have been gradually eliminated since the tax reform.

4. Operation revenues of schools and educational institutions. This includes revenues from teaching and research, tuitions and fees, accommodation fees and so on. Tuitions and fees account for the major part of the operation revenues of schools. The amount of tuitions and fees varies a lot across regions. Typically, it depends on the local economic development and the level of income per capita. According to Table 1, the amount of tuitions and fees per student is the highest in eastern regions and the lowest in western regions. In 2002, the amount of tuitions and fees per student in rural primary schools was 101 yuan on average nationwide, with the highest being 1164 yuan in Shanghai and the lowest being 21 yuan in Qinghai.

TABLE 1.

Annual Tuitions and Fees per Student of Rural Schools: East, Middle and West (Yuan, 2002)

	East	Middle	West
Junior high school	247.95	136.52	90.18
Primary school	154.44	85.76	56.91

Data Source: The 2003 China statistics Yearbook of Chinese Education

5. Other sources. This refers to all kinds of miscellaneous sources of educational funding.

3.2. Financial support from the Central Government

The financial support for education from the central government is mainly through the general transfer payment jointly with the specific transfer pay-

ment, which has laid the foundation for the rapid and healthy development of compulsory education in rural areas. Each year, the central government allots specific transfer payment worth billions of yuan to promote the nine-year compulsory education and eliminate illiteracy among young and prime age people in the west, to renovate dilapidated schooling houses, to relocate rural boarding schools, and to develop modern tele-education in rural areas. Data shows that the transfer payment from the central government used for the rural compulsory education reached 593 billion yuan in 2002, amounting to 44.7% of the total budgetary appropriations for education nationwide.

3.3. Financial Support from Local Governments

Since the tax reform, education in the rural sector is mainly financed by fiscal appropriations from the county government instead of by collectively raised funds from rural residents. The shortage of funding is filled by transfer payments from upper level governments such as the provincial government or the central government.

The salaries of teachers are paid by the government at the county level through specific fiscal appropriation. Tuitions and fees cannot be used to pay salaries or bonuses of teachers. The construction of schooling houses or the purchasing of other facilities is categorized as infrastructure investment of the country government, which is subject to the approval of the provincial government and is jointly financed by the governments of the province, prefecture, and county.

4. DELIVERY OF THE RURAL EDUCATIONAL SERVICES

4.1. Preschool Education

Preschool education in rural China lags far behind that in urban areas. According to Xie and Young (1999), while children in urban areas typically start kindergarten at age three, at least half of children in rural areas cannot access any child care or education before entering primary school. Moreover, parents in rural areas are far less aware of the importance of early education to their children's future development.

With the social and economic development of rural areas in recent years, the preschool education has received more attention, especially in rich eastern provinces. However, it still has not been appreciated as much as it should be, and the government needs to do more to promote the preschool education in rural areas.

4.2. Nine-year Compulsory Education (Primary Schools and Junior High Schools)

Primary education is the elementary stage of the nine-year compulsory education. Students in rural primary schools are mainly from families of agricultural laborers, and their living conditions are usually inferior to those of urban students. The educational attainment of their parents is typically lower as well. Some parents do not understand the importance of primary education and even consider the primary school as a daycare center for their children which poses particular challenges to rural primary education.

Junior high schools, the advanced stage of the nine-year compulsory education, play an important role in promoting the overall quality of the rural labor force. According to Li (2003), the annual return to education at the junior high school level is the highest among all levels of education. After graduating from the junior high school, students in rural areas have to face the first crossroad in their lifetime. Most of them do not continue schooling at higher levels, so the junior high school education is decisive for their future career. However, the current junior high school education seems to be designed only for entrance to senior high schools, neglecting the needs of the majority of students who will not attend senior high schools and want to prepare for joining the labor force and starting their career after graduation. As a result, some students and their families feel the junior high education useless, and some students even drop out of school.

According to the data published by the National Bureau of Statistics, during the 15 years between 1986 and 2000, the total number of school-aged children who did not receive compulsory education was 100.5 million nationwide, with most of them in rural areas. In addition, the number of primary school dropouts was 37.9 million and the number of junior high school dropouts was 30.7 million, with most of the dropouts happening in rural areas. The main reasons for the incomplete coverage of the nine-year compulsory education in rural areas include poor schooling conditions and facilities, low quality of school teachers, a biased schooling purpose that puts too much emphasis on entering higher levels of schools while neglecting necessary vocational training, high tuitions and fees, and gender discrimination.

4.3. Senior High Schools

Less than half of the graduates from junior high schools in rural areas enter senior high schools. The following factors may have caused the low enrolment rate of schooling at the senior high level. First, the financial resources allocated to the rural senior high schools are limited, and there is a lack in high school teachers in rural areas. The spatial distribution of senior high schools is also not reasonable. Second, the purpose of most

rural senior high schools is biased, as they put too much emphasis on helping students pass the college entrance examination. Thus, the main reason for entering senior high school for most students is to enter college in the future. However, the chance of getting into college is small and the competition is very intense. As a result, many students who have no confidence in passing the college entrance exam choose not to continue education at the senior high school level after graduating from the junior high school. Third, the tuitions and fees of senior high schools are much higher than those at the compulsory education level and have kept rising in recent years. This means many students from poor families cannot afford to attend senior high schools. Fourth, the expected return to college education (which is the main purpose of senior high schools) has decreased because the expansionary college admission policy since 1999 has tightened the competition among college graduates in the job market.

Lack of funding is the most critical problem that most rural senior high schools face. As a result, the average conditions and facilities of rural senior high schools are much worse than those of urban schools. In 2002, there were 7,090,958 students in urban senior high schools and there were 2,103,804 students in rural senior high schools. The former is 3.37 times the latter. However, according to table 2, the amount of equipment and facilities of the former is far more than 3.37 times the amount of the latter except for the areas of sports ground.

TABLE 2.

Equipment and Facilities of Senior High Schools in the Urban Sector and in the Rural Sector (2002)

	Sports ground (square meter)	Computer (set)	Books (volume)	Value of teaching instrument and equipments (10,000 yuan)
Urban	70,726,957	925,855	201,338,080	1,354,080.41
Rural	25,447,203	162,241	48,301,203	194,266.74
Urban/rural ratio	2.78	5.71	4.17	6.97

Data resource: The 2003 China statistics Yearbook of Chinese Education

4.4. Vocational Education

In rural China, vocational education is extremely important for improving the overall quality of the labor force, as the majority of students join the labor force after graduating from general junior high schools. It not only increases the labor productivity of the rural sector but also prepares skilled labor for the urban sector, which helps channel the surplus of labor supply from the rural sector into the urban sector and speeds up the urbanization process.

However, vocational education in rural China was not given its due attention in the past. As a result, 76.40 percent of the rural labor force has

never received any vocational training at all. Only 20 percent of the rural labor force has received short-term vocational training, 3.4 percent has received elementary vocational education, and 0.13 percent has received secondary vocational education.

In recent years, China has made a great effort to develope rural vocational education. In 2000, the total number of rural vocational senior high schools was 4,255, which accounts for over 60% of the total vocational senior high schools nationwide, and the total number of students amounted to 2.25 millions, accounting for 54.28% of the students nationwide. The total number of rural vocational junior high schools amounted to 1,164 with 0.85 million students in total. There are also 446 rural secondary specific technical schools with 0.17 million students. In addition, around 0.49 million short term rural vocational training schools that train 90.47 million workers each year.

It is worth noting the education for adults in rural China. In 2002, the total number of elementary and secondary schools for adults in rural areas was 484,686. From those schools, 81.89 million adults have received education, which accounts for 15.69 percent of the total rural labor force. An education network for adults has been established nationwide, which covers 100 percent of all rural counties, 93 percent of all rural towns and 48 percent of all villages. During the ninth five-year plan, 456 million adults in rural areas received education through the network, which greatly improved the overall quality of the rural labor force.

However, there are still a lot of problems facing current vocational education in rural China. Among them, the prominent ones are: insufficient funding, lack of teachers, low quality of educational services, and difficulty in recruiting students.

4.5. Sources of Rural School Teachers

This subsection provide an overview of the sources of rural school teachers in China. The major source of rural high school teachers is graduates from local or provincial normal schools, including four-year colleges, three-year colleges, and secondary vocational schools. Most teachers in rural primary schools are graduates from senior high schools or local normal schools, including three-year colleges and secondary vocational schools. However, in some poor rural areas, the lack of teachers is severe, and graduates from junior high schools may teach in primary schools, and graduates from senior high schools may teach in junior high schools. Another noticeable phenomenon in those areas is the high proportion of substitute teachers and "minban teachers"[1] which can reach as high as 54.5 percent. Most substitute teachers and minban teachers are graduates from junior or se-

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[1]Minban teachers refer to those teachers who are not on the payroll of governments. Their income is largely from collectively raised funds from villages and rural towns.

nior high schools who failed the entrance examinations to higher levels of schooling, and have not received any formal training. Whether they are qualified for the teaching job or not remains a big concern.

With the economic development of the rural sector, the income of rural teachers has been increasing. Additionally, because of the expansion of college admission including normal colleges, in recent years, more perspective teachers have been brought up, leading to an increase in the supply of teachers. This has resulted in more teachers with higher education joining the faculty of rural schools, and the overall quality of rural teachers has been improving. However, compared to teaching positions in urban schools, teaching positions at rural schools are less attractive to college graduates due to the significant income gap between rural and urban teachers, restrictions on rural-urban migration, and in some regions, especially those poverty-stricken regions, the shortage of educational funding, which often lead to delayed or incomplete payment of salaries to rural school teachers, negatively affecting their motivation and causing some to quit the teaching jobs.

The overall quality of rural teachers is much lower than that of urban teachers, in terms of both educational attainment and professional rating. The following four tables illustrate this point.

TABLE 3.

Educational Attainment of Rural and Urban Junior High School Teachers (2002)

	Total	Above college	Four-year college	Three-year college	Senior high School	Junior high school or lower
Urban teachers	689,643	2,991	332,505	334,106	19,424	617
Percentage	100%	0.43%	48.21%	48.45%	2.82%	0.09%
Rural teachers	1,578,114	729	224,568	1,175,157	173,501	4,159
Percentage	100%	0.05%	14.23%	74.47%	10.99%	0.26%

TABLE 4.

Educational Attainment of Rural and Urban Primary School Teachers (2002)

	Total	Above college	Four-year college	Three-year college	Senior high school	Junior high school or lower
Urban teachers	936,396	482	87,686	514,889	326,180	7,159
Percentage	100%	0.05%	9.36%	54.99%	34.83%	0.76%
Rural teachers	3,645,691	321	51,019	1,106,814	2,386.014	101,523
Percentage	100%	0.01%	1.40%	30.36%	65.45%	2.78%

TABLE 5.

Professional rating of Rural and Urban Junior High School Teachers (2002)

	Advanced degree of high school	First degree of high school	Second degree of high school	Third degree of high school	No rating
Urban teachers	85,260	283,446	235,839	30,519	54,579
Percentage	12.36%	41.10%	34.20%	4.43%	7.91%
Rural teachers	36787	440,434	710,199	213,294	177,400
Percentage	2.33%	27.91%	45.00%	13.52%	11.24%

TABLE 6.

Professional rating of Rural and Urban Primary School Teachers (2002)

	Advanced degree of high school	Advanced degree	First degree	Second degree	Third degree	No rating
Urban teachers	5,521	409,654	372,240	803,04	4,825	63,852
Percentage	0.59%	43.75%	39.75%	8.58%	0.52%	6.82%
Rural teachers	6,925	1,185,237	1,667,379	506,299	28,093	251,758
Percentage	0.19%	32.51%	45.74%	13.89%	0.77%	6.91%

Data source: The 2003 China Statistics Yearbook of Education

5. PROBLEMS IN THE RURAL EDUCATIONAL SYSTEM

5.1. Lack of Educational Funding

The major part of educational funding for rural schools comes from local governments (at the county level) and transfer payments from upper level governments (i.e., provincial governments and the central government). The county-based funding has certain problems. Since the 1994 tax reform, the fiscal capacity of local governments has been reduced. As a result, they have become more dependent on fiscal transfers from upper level governments. Moreover, poor counties especially lack the fiscal capacity to raise enough funds for education. However, the financial supports from the central and provincial governments are limited at the present. To make things worse, a large portion of the transfer payments are used to raise the salary of local government officials and to increase the administration expenditure, instead of improving public services (including public educational services) to local residents (Liu and Shih, 2005). Lack of funding has become a serious problem for the rural schools. Many of them cannot afford to update schooling facilities. In some poor regions, rural schools cannot even pay their teachers in time and in full. One particularly urgent problem that cries for a solution is that many dilapidated schooling houses are still in use in rural areas. For students and teachers who are working in those houses, their lives are in danger. The following statistics shows how severe the problem is.

TABLE 7.

Dilapidated Schooling Houses in Rural Areas and Nationwide (2002)

Houses nationwide: high schools	30,232	Houses nationwide: primary schools	37,506
Houses in rural areas: high schools	23,022	Houses in rural areas: primary schools	33,193
Rural percentage	76.15%	Rural percentage	88.50%

Data Source: The 2003 China Statistics Yearbook of Education

5.2. Low quality of Education

Largely due to insufficient educational funding, the facilities of most rural schools are by no means comparable to those of urban schools. Moreover, the overall quality of rural teachers is lower than that of urban school teachers. These certainly have negative impact on the quality of education of rural schools. In addition, the objective of most rural schools is severely biased. There, the major purpose of schooling is to pass the entrance examinations to higher levels of schooling. Necessary vocational training is neglected. Physical education and education of arts is marginalized. As a result, the students become machines only good at dealing with the exams. Their creativity and other potentials are oppressed.

5.3. Rising Tuitions and Fees

The tuitions and fees have kept rising, especially at the schooling levels above compulsory education, such as senior high schools and vocational schools. Meanwhile, rural household income has been growing at a relatively slow pace. Thus, the rising tuitions and fees pose increasingly heavy burdens on many rural households.

5.4. Problems in the Personnel Administration System

In some regions, the personnel department of the local government directly intervene the personnel administration of rural schools. The schools have no right to hire or fire teachers. The salary of teachers is not related to their performance. The contract system between schools and teachers has not been established in a real sense. Thus teachers do not have enough incentive to improve their professional skills.

5.5. Regional Disparities in the Development of Rural Education

There exist wide regional disparities in the development of rural education. First, let us look at the educational expenditure per student. Table 8 shows the educational expenditure per student for each province. The yellow-shaded provinces are eastern provinces, the light-blue-shaded ones are provinces in the middle, the purple-shaded provinces are in the west. From the table, one can see great spatial differences. For example, in

Shanghai, the educational expenditure per student is 4,804.75 yuan and 4,349.74 yuan at the junior high school level and the primary school level respectively; while in Guizhou, the corresponding numbers are only 698.7 and 577.26.

To illustrate this more vividly, Let us look at the following two figures. Figure 1 shows the educational expenditure per student at the junior high school level and figure 2 shows the educational expenditure per student at the primary school level. The rectangle areas from left to right in these two figures correspond to the provinces from top to bottom in table 8. The height of those rectangle areas represents the educational expenditure per student. The yellow-shaded areas are eastern provinces, the light-blue-shaded ones are provinces in the middle, the purple-shaded areas are the western provinces. In addition, the height of the red rectangles is the national average, and the height of the dark-blue-shaded ones is the rural average.

FIG. 1. Educational Expenditure per Student at Rural Junior High Schools: East, Middle and West (in yuan, 2002)
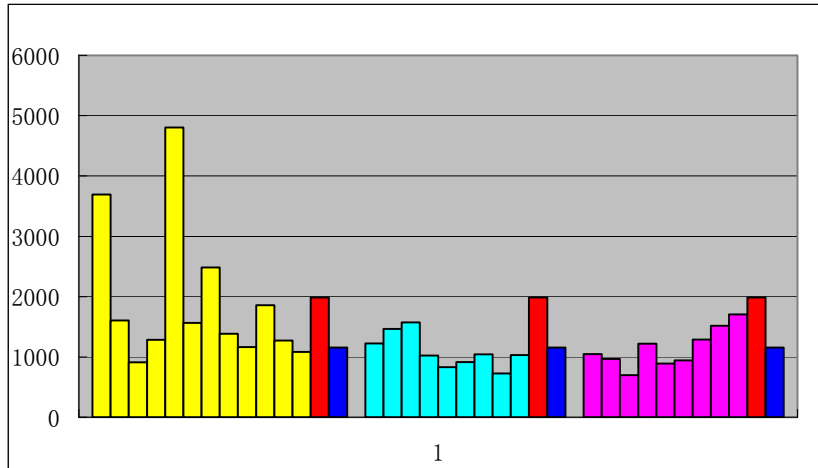
From the figures, it is easy to see that the average educational expenditure per student is lower in the rural sector than the national average, and thus even lower than that of the urban sector. Furthermore, at the level of junior high schools, 10 out of 12 eastern provinces have educational expenditure per student higher than the rural average. However, only 3 out of 9 middle provinces have educational expenditure per student higher than the rural average and 4 out of 9 western provinces have educational expenditure per student higher than the rural average. At the level of primary schools, 9 out of 12 eastern provinces have educational expenditure per student higher than the rural average. However, only 4 out of 9 middle
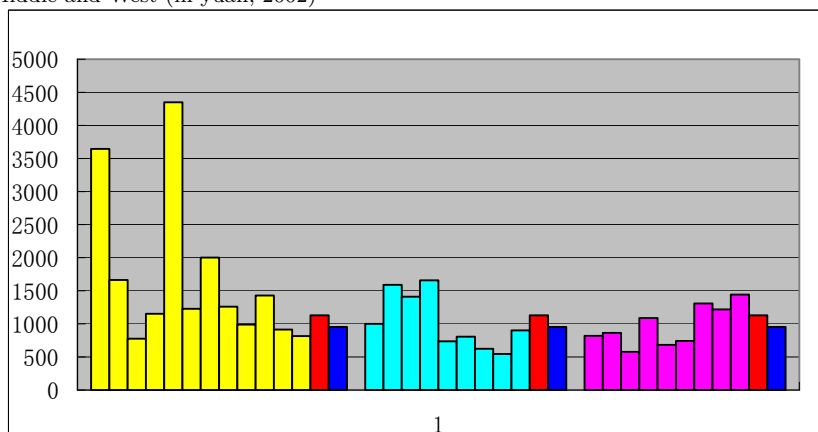
TABLE 8.

Educational Expenditure per Student at Rural Junior High Schools and
Primary Schools (2002)

Provinces	Educational expenditure per student at rural junior high schools (Yuan)	Educational expenditure per student at rural primary schools (Yuan)
Beijing	3693.13	3645.11
Tianjin	1605.18	1662.97
Hebei	909.53	775.77
Liaoning	1284.25	1152.14
Shanghai	4804.75	4349.74
Jiangsu	1566.01	1227.47
Zhejiang	2483.74	2001.82
Fujian	1382.93	1259.53
Shandong	1163.49	990.34
Guangdong	1857.15	1429.18
Hainan	1273.21	913.74
Guangxi	1085.36	816.43
Shanxi	1225.05	1000.51
Inner Mongolia	1464.99	1589.34
Jilin	1572.7	1410.16
Heilongjiang	1021.99	1657.41
Anhui	832.04	736.9
Jiangxi	915.77	807.17
Hubei	1043.48	624.3
Henna	727.1	545.76
Hunan	1030.6	902.28
Chongqing	1049.3	819.4
Sichuan	967.87	864.1
Guizhou	698.7	577.26
Yunnan	1220.68	1088.16
Shaanxi	889.4	683.03
Gansu	942.52	742.98
Qinghai	1286.65	1309.09
Ningxia	1518.44	1218.5
Xinjiang	1707.28	1442.81
National average	1985.65	1129.21
Rural average	1154.03	953.65

Data Source: The 2003 China Statistics Yearbook of Education

provinces have educational expenditure per student higher than the rural

FIG. 2. Educational Expenditure per Student at Rural Primary Schools: East, Middle and West (in yuan, 2002)

average and 4 out of 9 western provinces have educational expenditure per student higher than the rural average.

Second, let us turn to the facilities and equipment of rural schools across regions. From Table 9, one can see that the rural schools in the east far outstrip the schools in the middle and in the west in terms facilities and equipment.

TABLE 9.

Facilities and Equipment per Student at Rural Junior High Schools: East, Middle and West (2003)

Area of sports ground (square meter)	Computer (set)	Book (volume)	Value of educational equipment	Area of lab (square meter)	Area of Audio lab (square meter)	Area of dilapidated houses (square meter)
8.04	0.03	15.44	0.04	0.36	0.03	0.17
6.90	0.02	13.09	0.02	0.24	0.02	0.38
5.02	0.02	8.78	0.02	0.24	0.01	0.42

Data Source: The 2003 China Statistics Yearbook of Education

Third, the educational attainment of rural school teachers also exhibits remarkable regional variations. In 2002, at the senior high school level, the proportion of rural school teachers with four-year college education (or above) is 89 percent and 81 percent in Shanghai and Beijing respectively. However, in Gansu, this proportion is only 33 percent. The proportion in other eastern regions lies between 60 to 80 percent, while the proportion in other middle and western regions is between 40 to 60 percent. At the junior high school level, the proportion of rural school teachers with three-year

college education (or above) is 91percent, 88 percent and 86 percent in the east, the middle and the west respectively.

Finally, let us examine the ratio of students to teachers of rural schools, which is one of the important measures of education quality. The higher the ratio, the less attention and care each student may receive from the teacher. There exist significant differences in the ratio across regions. At the primary school level, in the year of 2002, the ratio of students to teachers of rural schools is 9 in Beijing and 28 in Guizhou. At the junior high school level, the ratio of students to teachers of rural schools is 13 in Shanghai and 26 in Anhui. It is interesting to note that the higher the level of schooling, the smaller the variations in the ratio of students to teachers across provinces.

6. POLICY IMPLICATIONS

This section provides some policy suggestions on how to deal with the problems in the current rural educational system in China. First, the central government and provincial governments should further increase the financial support for education through transfer payments. The central government needs to continue increasing the specific transfer payments to renovate dilapidate houses of rural schools and to help improve the conditions of rural schools as well as the income of rural teachers in those poverty-stricken areas and minority areas. It is important to set up an effective monitoring system to ensure that the transfer payments from the upper governments are used to enhance the local public services, particularly educational services. It should also be regulated that the transfer payments specifically designated to raise the salary of rural teachers shall not be used for any other purpose.

Second, further efforts should be made to perfect the management system of compulsory education in rural areas. The central government designs the curriculum, sets up the course standards and compiles the textbooks. Provincial and prefecture governments coordinate the allocation of transfer payments and ensure that enough funding is used for the development of the compulsory education in rural areas. Governments at the county level take the major responsibility of administering the compulsory education locally. They plan the spatial distribution and construction of local schools, managing the payments to local school teachers, and directly assigns and administers local schoolmasters. In addition, governments at the village or town level should support compulsory education and raise education funds strictly according to the state's regulations.

Third, a more reasonable personnel administration system needs to be developed. The department of education, instead of the personnel department, should take charge of the administration of rural schoolmasters and

teachers. A system of recruiting and contracting, professional rating, and appraisal needs to be established.

Fourth, the state should strictly regulate tuitions and fees of rural schools. It is important to ensure that no extra burden is imposed on rural households unless necessary.

Fifth, according to Shah, Zhang and Zou (2006), financial constraints prevent children from getting education in rural China. Thus, it is extremely important to develop a system of award, loan, aid, subsidy and waiver to effectively help children from poor families get the education they need.

Sixth, the government should encourage the development of schools established by social organizations or private patronage. The inflow of funding from other sources should also be encouraged.

Lastly, the current teaching modes of the compulsory education in rural areas need to be modified. The bias towards "passing the entrance examinations to higher levels of schooling" should be corrected. Rural schools should pay more attention to vocational training where certain local characteristics may be incorporated.

APPENDIX: MAJOR STATISTICS IN 2002

TABLE 1.

Number of Rural Schools at Different Levels

Senior high school	Junior high school	Primary school
2,288	37,251	360,366

TABLE 2.

Number of Students of Rural Senior High Schools

Total	Female students	First grade	Second grade	Third grade
2,103,804	910,759	814,866	707,576	581,362
100.00%	43.29%	38.73%	33.63%	27.63%

TABLE 3.

Number of Students of Rural Junior High Schools

Total	Female students	First grade	Second grade	Third grade	Fourth grade
31,603,983	14,998,942	10,666,620	10,623,684	9,853,355	460,324
100.00%	47.46%	33.75%	33.62%	31.18%	1.46%

TABLE 4.

Number of Students of Rural Primary Schools

Total	Female students	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade
76,891,519	36,322,339	12,159,626	12,862,008	12,985,923	13,295,122	13,951,495	11,637,345
100.00%	47.24%	15.81%	16.73%	16.89%	17.29%	18.14%	15.13%

TABLE 5.

Personnel of Rural High Schools

Total	Permanent teachers	Administration personnel	Staff	Workers	Employees of the Enterprises Run by Schools	Substitute teachers	Part-time teachers
1,945,981	1,692,426	146,535	47,701	99,247	1,972	51,835	7,015

TABLE 6.

Personnel of Rural Primary Schools

Total	Permanent teachers	Administration Personnel	Staff	Workers	Employees of the Enterprises Run by Schools	Substitute teachers	Part-time teachers
3,914,809	3,645,691	175,839	30,067	61,774	1,438	364,645	13,048

Data Source: The 2003 China Statistics Yearbook of Education

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