New Frontiers of Educational Research

Lu Wang
Keith Lewin

Two Decades of Basic Education in Rural China

Transitions and Challenges for Development

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Foreword

When Profs. Keith Lewin, Qu Hengchang, Lu Wang and I discussed the possibility of revisiting the three counties where we did case studies on implementing basic education in China 25 years ago, I was very excited. Since we finished the research project Implementing Basic Education in China which was published by the International Institute for Educational Planning we had not been able to follow up and track changes during a period when Chinese basic education had been transformed, but a part of the research teams' hearts were left with the teachers and children in the fieldwork areas. Access to basic education and the challenges of people's lives in poor areas have always been an emotional topic whenever the research team members gather together at Beijing Normal University. Periodically I have collected information when chances have arisen to talk with the officials and students from the research sites. Some of the changes that have happened over 20 years are difficult to imagine. Tongxian County has been transformed into Tongzhou District. When a county is upgraded to a district in China, it means the area has become urbanised and the living conditions and livelihoods have been transformed. I have had the chance to drive through Xiji which was one of the poorest Xiang (township) in Tongxian when we did our study, and was predominantly rural and agricultural. Now it includes a major industrial park on the outskirts of Beijing, and has the corporate headquarters of several multinational enterprises. Many residents live in high rise apartments and commute to work in Beijing. I have become aware that Ansai (our second case study county) has become quite rich as petroleum had been discovered there. Zhaojue (our third case study county) is a long way from Beijing. How I wish I could return and see the changes in these areas; 20 years is a long time. Professor Qu and I are too old now to take on the rigours of fieldwork even though conditions have improved greatly in transport and accommodation. Wu Zhongkui and Qian Jiaqi (two of our team members) have assumed important positions in the Zhuhai Branch Campus of Beijing Normal University, and Li Jiayong (another team member) is our Deputy Dean. Fortunately it has been possible for Profs. Lewin and Wang Lu to organise a new team and revisit the same locations and schools to compare the situation now with that 20 years ago. This is a unique opportunity which has not been undertaken before and I greatly appreciate their work.

The landscape of the nine-year compulsory education in China has been transformed since 1991 when we first did the research. Then the primary and lower secondary schools were run by county and xiang governments and financially supported largely by villages and xiang authorities. This kind of school administration and finance system resulted in schools having very different resources within a county, and even within a xiang. Differences between counties were also large. In 2001 the county governments were required to take full responsibility for running and supporting the schools. Subsequently the provincial governments are responsible for planning and coordinating school management. Thus the central and provincial governments share the main responsibilities to support schools. Another related change is that children in the compulsory education cycle have had tuition fees waived since 2006. Rural school children are also provided with free textbooks and enjoy subsidised boarding charges. Boarding schools have been built extensively in western rural areas and enrolment rates have been much improved.

There is no doubt that China has made great achievements in compulsory education. Now China has come to a critical turning point in its development. China's policy-makers have to make up their minds if China is to be developed into a society with a harmonious distribution of its social wealth. If China wants to be a harmonious society, it must start with its schools. The school system is a powerful tool to either reinforce social inequality or to promote upward movement for disadvantaged children. Now, at the one extreme the children of privileged classes go to the best schools, and at the other extreme the children from poor families (in poor rural areas, in low-income families resident in cities, children of recent migrants, etc.) go to schools with lower standards and miserable school buildings and facilities. This new research confirms these general observations. It finds that though participation has improved there are growing needs to address inequalities and it concludes, "Growing disparities will not serve to achieve the goals of compulsory education policy. Universalization requires both better distribution of access through to grade nine, and much more investment in quality to address both the supply and demand side constraints."

The recently published National Medium to Long Term Plan for Educational Reform and Development (2010–2020) sets strategic goals to provide equal opportunities and an even quality of education to all children, to run all schools efficiently and effectively, and to educate all children and not allow any to drop out of school because of poverty or other reasons. We know that central policy will not be implemented effectively without changes at the lower levels which determine what actually happens. I do believe this research report revisiting the three richer, poorer, and national minority areas will help policy-makers to know better what really happens as the result of policy. A close reading will enlighten them so that new policy initiatives will build on evidence and on the experience of previous initiatives. The research will also remind Chinese education researchers that we need to place more stress on basic field work and empirical evidence to complement publications based on theoretical arguments. The report will give a new perspective to international readers to understand Chinese basic education. It will be of

interest to those working for the provision of universal basic education throughout the world and should encourage new research on patterns of change in access to basic education. I would like to congratulate Profs. Lewin and Wang Lu for the excellent research contained in this monograph.

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Preface

China has developed more rapidly than any other place in the world over the last two decades. In the 1980s the transformation began from a predominantly rural and peasant society to one where the majority will soon be urban dwellers, many of whom are now living a middle-income life fully integrated into mass consumption and an industrialised society. Alongside rapid social and economic changes in the education system has evolved.

This research monograph charts how change has taken place in three contrasting areas. The first Tongzhou is rich and urban and close to Beijing. In 1990 it was one of the richest 300 counties but still had a rural character in many parts and some small-scale industries. Now Tongzhou is a modern city with multi-lane highways and many commuters living in high rise apartments, and much inward migration from the countryside driven by employment opportunities generated in special development zones. Ansai has been transformed by the exploitation of oil under the Loess Plateau. Its infrastructure has modernised and new roads and railway lines mean that villages that were remote are accessible. At the same time there has been both urbanisation and outward migration so the rural population has shrunk fast. In Zhaojue there has been some development around the main road onto the high plateau and new villages and schools are being built to encourage Yi people to move off the mountains. But most schools remain small and difficult to access, and some are in very poor condition.

The study illustrates many things. Over a generation some districts that were relatively poor have become relatively rich. The numbers of small and incomplete schools in two of the areas have fallen dramatically. The total number of children enrolled has also fallen steeply as a result of much lower birth rates and in some counties because of outward migration. The old system of pushing the financial burden of compulsory basic education down to the local level with a series of local taxes has collapsed and been replaced by more centralised funding. Inequalities have grown as development has been uneven between areas. And though most children go to school, and in richer areas almost all complete grade 9, it remains the case that in the least developed districts as many as a third probably do not

graduate successfully from lower secondary. Amongst these are a disproportionate numbers of girls, HIV orphans, and members of national minorities. The biggest single issue that emerges is of the need to rebalance horizontal and vertical equity so that all children have more similar chances of participating, learning and progressing to higher levels of the school system.

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This research monograph benefitted from the contributions of many colleagues over an extended period of time. Most particularly it was only possible through the cooperation of officials and educators in the three case study sites who made it possible to return to the field after 20 years to take stock of the changes that have taken place. Special thanks are therefore due to following people: Sun Yu-qi (Director of Education Inspectorate, Tongzhou District Education Commission, Beijing); Yuan Jing-hua (Deputy Director of Education Inspectorate, Tongzhou District Education Commission, Beijing); Zhang Zhan-chun (Director of the Office of Education Inspectorate, Tongzhou Education Commission, Beijing); Liu Chun-rong (Director of Education Inspectorate of Ansai Education Bureau, Shannxi Province); Zhou Da-fang (Officer, Education Bureau Zhaojue County, Sichuan Province); Chen Ye Feng (Institute of Educational Research, Xichang). Thanks go to all their colleagues in the respective education departments at different levels and schools who made the research teams visits so productive and worthwhile.

The research project involves heavy fieldwork in three rural counties. There were three distinct levels of data collection, the county, district and school. In each case study area a progressively detailed programme of fieldwork was conducted. First, an inventory exercise was undertaken at the county-level (xian) to gain an overall portrait of key indicators on progress towards basic education goals. The research then focused progressively down to the district (xiang) and village (cun) level. Within each of the three case study counties two districts were identified for intensive scrutiny. Third, a selection of schools was made for intensive fieldwork. This sampled from the four main types—junior secondary (grade 7-9), central primary (grade 1-6), complete primary (grade 1-6) and incomplete primary schools (grade 1-3 or 4). Fieldwork teams were based in each district for about 10 days for each period of fieldwork. The fieldworkers were based in the local community and therefore had opportunities to explore community characteristics and perspectives through conversations and informal interviews. The main participants in fieldwork, data analysis, writing of the school, township and county reports, and translation

were graduate students from Institute of International and Comparative Education, Beijing Normal University: Luo Yuan, Zhou Wei-tao and Wang Tian-tian. Other researchers who participated in the field and in the analysis and writing up were as follows: Che Jin-heng, Qu Ling; Wang Li and Cui Cong-yong. Many thanks go to their hard work in the field and data analysis. Beijing-based research assistance support was also provided by the graduate students of Beijing Normal University: Zhao Ling-yan, Fu Kun-kun, Yan Li-chun, Tang Yi-peng, Wei Zhi-ying, Ma Si-teng and Shi He-jia. They actively participated in data analysis and writing up school and township reports. Interview and questionnaire data analysis, writing up school and township reports provided solid base for the formation of the case study chapters and identification of the topical themes. In particular, Wang Xue-shuang, Wang Xiang-xu, You Zheng and Li Xiao-yun made contribution to the drafts of Chaps. 5–8 on topical themes and issues which involve data collection, literature review and policy analysis. Our sincere thanks are for the hard and enthusiastic foundation work of all the students involved.

Special thanks go also to Profs. Wang Yingjie, Qu Heng Chang and Xiang Xian-ming of Beijing Normal University for their helpful comments on the design and outcomes. We also greatly appreciate the assistance and advice given by Prof. Qumu Tianxi and Chang Yongcai in the Nationality University for their insights into development in Zhaojue.

This research was undertaken by a team of researchers from The Institute of International and Comparative Education; Beijing Normal University, Beijing, and the Research Centre for Comparative Education, Beijing Normal University Key Research Base, Humanities and Social Science, Ministry of Education working with the Consortium for Research on Educational Access, Transitions and Equity coordinated from the University of Sussex.

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Contents

Acronyms

GDP	Gross Domestic Product
GPCR	Great Proletarian Cultural Revolution
MOE	Ministry of Education
PRC	People's Republic of China
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USD	United States Dollar

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Summary

This study traces education and change over two decades in three areas, Tongzhou on the periphery of Beijing chosen as one of the richest 300 counties in 1990; Ansai in Yan'an which was one of the poorest 300 counties and a famous base for the 8th Route Army at the end of the Long March, and Zhaojue a poor Yi national minority area in the Liangshan mountains in southwest of Sichuan. Two of the case study areas have developed beyond recognition, whilst the third has improved but still lags behind. Many issues are highlighted by the rapid transformations including the impact of large-scale demographic change and migration, which has seen falling numbers enrolled and increasing numbers of left-behind children in sending areas and inbound migrants in receiving areas; the disappearance of community supported teachers; large-scale boarding of children from grade 4 and below in rural areas; recentralisation of responsibilities for school financing and teachers' salaries; and growing concerns for horizontal and vertical inequalities in access and participation between regions, urban and rural areas, and different types of schools.

Chapter 1
Introduction to the Development of Basic Education in China

1.1 Introduction

China has developed more rapidly than anywhere else in the world over the last three decades. In the 1980s the transformation began from a predominantly rural and peasant society to one where the majority have become urban dwellers with living a life fully integrated into mass consumption and an industrialised society free of agricultural dependence. The Chinese education system has contributed directly to the unprecedented rates of change that have reshaped the lives of most of the population through the investments in knowledge and skill that have enhanced the capabilities of the labour force and contributed to greater well being. At the same time the education system has evolved to reflect the rapid social and economic changes that have conditioned its growth and made a reality of nine-year compulsory education for all.

This research monograph details changing patterns of access over time and the evolution of policy and practice. It highlights factors that are associated with progress towards the goals set at national level in the 1980s to ensure all children complete nine years of education. The case studies are set against the backdrop of China's rapid modernisation, and its impressive successes in progressing towards universal access to basic education which may inform attempts in other countries to achieve similar goals.

This book charts how change has taken place and identifies the most important developments over the last thirty years. Any account of Chinese educational reform can only capture part of the diverse and rich experience that has shaped a continent. We have chosen to approach the topic in two parts. In the first part of this book we report developments between 1990 and 2012 in three contrasting case study areas which can be characterised as rich, poor and in a national minority area. In the second part we have identified four thematic issues that define key areas of policy and practice in relation to development. These are concerned

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with the development of teachers in rural areas, the management and sustainable financing of rural education, provision for marginal groups and disadvantaged children, and school mapping and location planning. The last chapter identifies policy issues from the case studies and from the analytic chapters which can be used to inform policy dialogue about the next generation of investment in education. This is timely since China will soon become the world's largest economy with the greatest needs for human resources and the greatest ability to ensure that rights to basic education are realised for all its children. As the period of most rapid development growth reaches a plateau the priorities will shift to improving quality, enhancing equity and promoting sustainable patterns of development that value the future over the present and plan educational development with this is mind.

The first case study is located in Tongzhou which is urban and close to Beijing. In 1990 it was one of the richest 300 counties but still had a rural character in many parts and some small scale industry. Now Tongzhou is a modern city with multi lane highways and many commuters living in high rise apartments, and much inward migration from the countryside driven by employment opportunities generated in special development zones. The second area is Ansai in Yenan. This was one of the three hundred poorest counties in 1990 but it has been transformed by the exploitation of oil under the Loess Plateau. Its infrastructure has been modernised and new roads and railway lines mean that villages that were remote are now accessible. At the same time there has been both urbanisation and outward migration so the rural population has shrunk fast and the number of schools has fallen to less than a quarter of the original number. Zhaojue is located on a high plateau in Szechuan and is in the centre of the area where the Yi national minority live. Historically this area was both poor and educationally neglected with very low enrolment and completion rates. Since 1990 there has been some development around the main road onto the high plateau and new villages and schools are being built to encourage Yi people to move off the mountains. But most schools remain small and difficult to access, and some are in very poor condition. The main transitions have been the development of many boarding schools and the outward migration of parents to seek work on the plains in more developed parts of China.

In summary, two of the case study areas have developed beyond recognition, whilst the third has improved but still lags behind. Many issues are highlighted by the rapid transformations. The numbers of small and incomplete schools in two of the areas have fallen dramatically. The total number of children enrolled has also fallen steeply as a result of much lower birth rates and, in some counties, because of outward migration. Community supported teachers paid from local taxes have gradually disappeared. There is now large scale boarding of children from grade 4 and below in rural areas. The old system of pushing the financial burden of compulsory basic education down to the local level with a series of local taxes has collapsed and been replaced by more centralised funding. Inequalities have grown as development has been uneven between areas and there is growing concern for horizontal and vertical inequalities in access and participation between regions, urban and rural areas, and different types of schools. Though most children go to school,

and in richer areas almost all complete grade 9, it remains the case that in the least developed districts as many as a third do not graduate successfully on schedule with appropriate levels of achievement from lower secondary. Amongst these are a disproportionate numbers of girls, HIV orphans, and members of national minorities. The biggest single issue that emerges is of the need to rebalance horizontal and vertical equity so that all children have more similar chances of participating, learning and progressing to higher levels of the school system.

The study was originally undertaken in 1990 and published as *Implementing Basic Education in China: Progress and Prospects in Rich, Poor and National Minority Areas* (Lewin and Wang 1994) by the International Institute for Educational Planning, UNESCO, Paris. Return visits have been made to each of the three case study sites in Tongxian, Ansai and Zhaojue, approximately twenty years after the original research was conducted. The book is important because there are no other similar studies that chart change using data from two periods that are 20 years apart and capture key features of China's educational transition in the wake of the 1984 Compulsory Basic Education Law, before the global commitments made at the Jomtien World Conference in 1990 to achieve Education for All and universalise basic education. It is timely to develop an analysis that will contribute to understanding why China has been so successful at extending the educational access to almost all of its children, and which will also highlight some of the key issues that remain unresolved and a challenge for the future.

This chapter presents a map of some recent developments that have shaped China's progress towards its goal of implementing nine-year compulsory education. First, it describes how enrolment patterns have changed and demographic transition has resulted in higher participation with lower total enrolments. It also illustrates how inequalities in access have persisted, especially those related to poverty, and how regional inequalities have become prominent. Second, it charts key policy decisions that have been made to inform resource allocation and practice over the last twenty five years. Most important of these have been the 1986 Compulsory Education Law and its Revision in 2006. The third outlines changes in financing, and the fourth the structure of management of compulsory education both of which have been instrumental in supporting higher rates of participation. The fifth section then details recent initiatives to accelerate progress in rural education including that in national minority areas. Lastly, the research methods are described as a precursor to the presentation of the case studies and a summary is given of some of the key issues raised in 1990. Chapter 2 elaborates on the current status of nine year compulsory education in Tongzhou (the former Tongxian). It offers an introduction to the area and the case study sites, reviews the evolution of nine year compulsory education, comments on teachers and teacher deployment and on funding and infrastructure, and discusses some of the issues arising. Chapters 3 and 4 repeat this pattern for the case studies in Ansai and Zhaojue. Chapters 5–8 take up thematic concerns from the analysis and develop these in more detail. Chapter 5 explores how rural teachers have experienced change, people supported teachers have been replaced, structured salary schemes have been introduced and working practices have changed, and how teachers conditions of

service have evolved. Chapter 6 explores how school mapping and planning falling rolls has developed as demographic change and migration have redrawn the map of students enrolments. Chapter 7 details the various reforms of the management and finance system for rural educational development and identifies the strengths and weaknesses of different approaches. Chapter 8 illustrates how new groups of marginalised children have emerged in case study areas. These include left behind children created by migration, HIV orphans, minority children and in some areas girls. The last Chapter synthesises insights from the case studies and the analysis of special themes. It also returns to the findings of the research undertaken in 1990 and offers an update and some comparisons drawing attention to what has and has not been achieved and to issues that will shape progress over the next twenty years. The analysis highlights the need to persist in ensuring that "the last 10 %" enter primary school in the poorest areas and to recognise demographic realities. Most importantly the research highlights how critical it will be to seek for better balance in development strategies to address the needs of all children living in many different circumstances. Actions are needed to promote both horizontal and vertical equity between regions, urban and rural areas, different types of schools, and different social groups.

1.1.1 Patterns of Growth in Participation in Basic Education

China maintains the largest basic education system in the world with about 100 million children in primary school (grades 1–6), more than 50 million at junior secondary (grades 7–9), and over 25 million at higher secondary (grades 10–12). By some definitions China has already met its commitments first made in 1986 to provide universal nine-year compulsory education. Since the early 1990s enrolment rates in primary education have indicated that over 90 % of the age group have entered primary schooling in most parts of China, with most of the problems remaining being located in the poorest counties and amongst national minority populations. The research undertaken in 1990 was consistent with this view and showed that in Tongxian, a rich county, participation was high and improved quality and great equity were the main challenges. In Ansai, a poor county, many children failed to complete primary schooling successfully and quality was low, and in Zhaojue, a poor national minority area, the majority dropped out before grade 6 and physical conditions were frequently well below national standards.

Over the last twenty five years nine years of compulsory education has evolved and a range of policy initiatives have been launched. These address some of the problems identified in the research report in 1990. In 1985 the total number of primary children enrolled was about 138 million. This fell to around 120 million by 1990, but recovered to 140 million in the mid 1990s as a result of more effective efforts to improve participation rates and universalise access. Since then the effects of a falling birth rate have resulted in a continuous decline in numbers to about 100 million. Junior secondary enrolment began to take off from 1993 and

increased from around 49 million to peak at over 65 million in 2003 since when enrolment has been falling. Numbers in senior secondary started to rise in the late 1990s from about 10 million to over 20 million and are continuing to increase rapidly to more than 25 million. Higher education enrolments also accelerated dramatically after 2000. Overall therefore China has seen its education system evolve in the context of demographic transition that has reduced the total numbers at primary and junior secondary level. At the same time participation at higher levels has grown rapidly as the labour market for those with higher qualifications has been allowed to develop.

In 2012 the average gross enrolment rate at primary level was about 110 %,[1] and net enrolment rates are probably over 95 %. This does not mean all children attend school successfully. Significant but uncertain numbers who are in school in the age range of 6–11 years are over age and will drop out before reaching grade 6. Some in remoter areas may not attend at all, and some orphans and those with disability may be excluded from schooling. Junior secondary enrolment rates are much lower and appear to average between 80 and 85 %. National statistics indicate that nominal drop out rates at primary are low and this is likely to be true in developed areas on the coastal plains. However, these statistics are highly aggregated and may not count those dropping out between years. Targets for low drop out rates may discourage accurate reporting especially for older children at junior secondary level. We have established that in the two poorer case study areas drop out remains a problem and that as many as half of all children fail to complete junior secondary schooling in some schools. Evolving patterns for enrolments are shown in Fig. 1.1.

Participation in grades 1–6 has been high since the 1980s. However, in 1980 it was clear that above grade 6 rural children were very under represented and girls in particular failed to make the transition to secondary and persist as long as boys. In the 1990s there were large differences in enrolment rates in different parts of China in urban and rural areas (Lewin et al. 1994). In the 2000s urban rural differences have diminished considerably though it remains the case that rural children are less likely to reach grade nine. However, the differences have reduced and girls are now more likely to persist to higher grades than boys, notwithstanding the fact that in some parts of China there are fewer girls in the population. Figure 1.2 shows how attainment has changed since the 1980s for three different cohorts—those born in the 1970s, 80s and 90s.

Participation rates remain strongly related to household expenditure. The richest 20 % of children are almost all enrolled up to the age of 18 years or so, whereas nearly half of the poorest 20 % have left school at the age of 15 years or below. Disproportionately the poor are still enrolled in primary when similar age, richer children make the transition to junior secondary. Differences in enrolments between boys and girls are much less polarised than those related to wealth.

[1]Gross rates can be over 100 % because over age children are included.

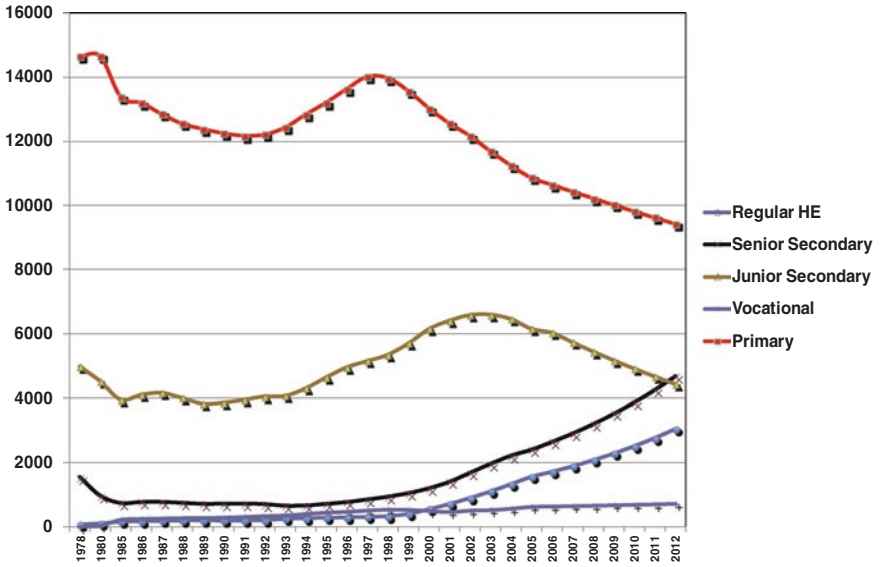

Fig. 1.1 Enrolments from 1978 to 2012. *Source*: State Education Commission Statistics various years

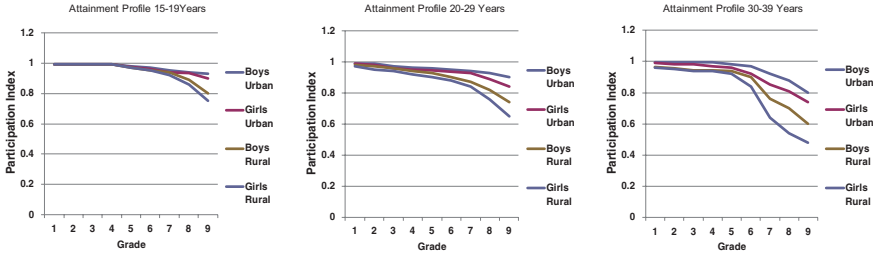

Fig. 1.2 Education attainment for three age groups. *Source* DHS survey data 2010

Enrolments and enrolment rates are unevenly distributed across provinces. Structurally there are large differences in the proportion of children at different levels of the education system. This is shown in Fig. 1.3. Here it can be seen that Beijing, Shanghai, and Tianjin all have relatively few primary school children and large numbers of higher education students. At the other extreme are Tibet, Guizhou, Hainan, and Yunnan where well over 50 % of all enrolments are in primary schools. This reflects overall enrolment rates and the demographic and socio; economic characteristics of the provinces.

Other variations are important. Pupil teacher ratios vary widely between schools and administrative areas. On average the ratio is about 20:1 at primary level and 17:1 at junior secondary across China. These ratios appear to have fallen since the 1980s when the averages were about 28:1 and 20:1. Since then many

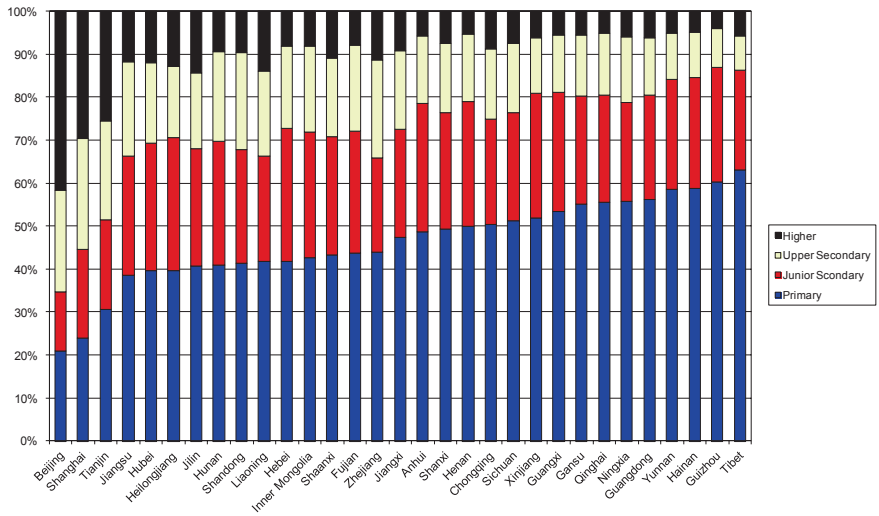

Fig. 1.3 Participation in different provinces. *Source* MoE statistics 2010

more teachers have been employed and the numbers of pupils have been falling. In the 1980s as many as half of all teachers were not fully qualified and trained. Now the qualification rate is claimed to be over 95 %.

Three points about teachers are important. First, these averages conceal very large differences between and within local areas and schools. Our research in 1990 identified schools in the same areas with pupil teacher ratios below 10:1 and over 50:1. In 2010 the variations were even wider between less than 10:1 and over 60:1 in underdeveloped areas. Second, historically class sizes have been large and teaching loads low. Thus there may be more than two teachers per class in urban schools with more than 50 children in each teaching group. The opposite can be true in small and under enrolled primary schools where one teacher may be teaching every lesson. Third, in 1990 there were still large numbers of minban (people supported) and dai ke (substitute teachers) paid low salaries from local revenues. Though the numbers of these teachers have fallen they are still employed in two of our case study areas, despite new policy that is designed to ensure all teachers are on the government payroll and salaries are guaranteed by county level authorities independent of locally generated revenue.

In summary, growth in participation has remained uneven in terms of household income and reducing the gaps between rich and poor remains one of the biggest challenges. Gender differences in participation have largely disappeared. However, there are significantly more boys than girls in some population groups. Rural children remain disadvantaged but gaps have been closing. There are different patterns of participation by level in different provinces, with the lowest rates remaining in the Western region. Highly urbanised areas can have more higher education students than primary children, whereas rural Provinces have very few tertiary enrolments. This issues of horizontal equity (participation at the same level

across regions or other categories e.g. girls and boys, urban, rural), and vertical equity (e.g. participation within different groups by level of household income) remain very important and may be the biggest challenge facing nine year compulsory education.

1.1.2 Policy Development for Nine Year Compulsory Education

The major reform strategies for compulsory education include statutory requirements, increased financing, changed forms of decentralised management, and a series of other innovations. Though education was prioritised for investment after 1949, universal access to basic education was not achieved by the 1960s. After fairly steady progress the Great Proletarian Cultural Revolution (GPCR) in the late 1960s marked a period of confusion about both participation and purpose in the school system. This ended after the fall of the Gang of Four in 1976. The "Four Modernisations"—agriculture, industry, defence, and science and technology—were revitalized by Deng Xiaopeng in 1978, returning to the agenda set by Zhou En-Lai in 1963 to accelerate industrial development. By the mid 1980s after a period of reconstruction and retrieval of the disruptions of the GPCR, and the beginning of the "open door" that sharpened comparisons with other countries, the focus shifted towards upgrading China's human resources by firstly universalising the basic school system, and secondly rationalising and developing the higher education system.

Universal compulsory education was first mentioned in the 'Decision on Universalizing Primary Education in Whole Country' in 1980 (1980 Decision), and it was clarified by article 19 of The Constitution of the PRC (1982 Constitution), 'the State establishes and runs schools, and universalizes primary and secondary education'. In 1985 the 'Decision on the Reform of Educational System' (1985 Decision) was issued. This elaborated on the detailed measures needed to universalize nine-year compulsory education. This Decision delegated the responsibilities for compulsory education to local governments with clear targets and timescales for implementation in different areas under the *Difang Banxue, Fenji Guanli,* or DBFG System.[2]

The Compulsory Education Law of the People's Republic of China was enacted in April 1986 (Lewin et al. 2004; Lewin 1989). This consolidated all the previous initiatives and was the first law for compulsory education in China. Though this was long after such legislation in many European countries, it predated the Education for All commitments of the international community in 1990 at Jomtien

[2]We are grateful for Dr Niu ZhiKui for the essence of this overview of recent policy initiatives presented at the INRULED conference in 2009 in Beijing.

in Thailand, and in Dakar in 2000. It also anticipated by twenty years the Right to Education Act which was finally passed into law in 2009 in India.

A series of policy documents accompanied the new law including the 'Explanation of the Compulsory Education Law of the People's Republic of China' (2/4/1986); 'Opinions on the Compulsory Education Law by the State Education Commission, the National Planning Commission, the Department of Finance and the Department of Labour and Personnel' (11/9/1986); 'Contemporary Regulations on the Collection of Educational Sur-tax by the State Council' (28/4/1986); 'Bulletin on the Reinforcement of Re-building and Maintenance of Dangerous Classrooms in Primary and Secondary Schools by the State Council' (18/6/1986) and the 'Trial Implementation Methods on the Examinations for the Qualified Certificates of Primary and Secondary School Teachers by the State Education Commission' (6/9/1986). The full sequence of the most significant reforms signified by Decisions and Laws is indicated in Table 1.1.

More than half of China's population is rural with recent estimates suggesting that within the next ten years the proportion will fall to less than 50 %. However, poverty is concentrated in rural areas in the interior of China and this is also where the greatest numbers of children remain out of school or fail to complete a full cycle of basic education. In the 1990s provinces were classified into three types as shown in Table 1.2.

Poor areas in all the regions have been prioritized for development. The Western region has remained most disadvantaged and has the most challenging conditions of poverty, infrastructure, environment and cultural capital. Zhaojue is located in the Western region and has received more special funding than other regions, and rural areas like Ansai have also benefitted. The goal is to achieve the "Two basics"—universal nine year compulsory education, and young and middle age literacy. The "One have not and two haves"—no dangerous buildings, and classrooms and chairs for all—has shaped the interventions but has still not been achieved in all places. The "Two exemptions and One Subsidy"—no tuition and text book fees, and subsidies for poor students to attend boarding schools—also provides a key framework for policy. Many rural children are now in boarding schools from grade 4 or younger. Large numbers of small rural primary schools have been merged as boarding capacity has grown and infrastructure has improved. But in some of the poorest areas many small school remain. It is evident that major investments have been made to support the universalisation of nine year compulsory education in China and a number of special development programmes have been approved. The main ones are shown in Table 1.3. Rural education is being transformed to resemble that in towns more closely, but in the process new inequalities are emerging.

Table 1.1 Major policy documents on compulsory education (1980–2010)

Time issued	Title	
	English	Chinese
1980.12	Decision on universalizing primary education in whole country	关于在全国普及小学教育若干问题的决定 (*Guanyu zai Quanguo Puji Xiaoxue Jiaoyu Ruogan Wenti de Jueding*)
1985.5	Decision on the reform of education system	中共中央关于教育体制改革的决定 (*Zhonggong Zhongyang Guanyu Jiaoyu Tizhi Gaige de Jueding*)
1986.3	The compulsory education law	义务教育法 (*Yiwu Jiaoyu Fa*)
1986.4	Regulation on additional educational fees	国务院征收教育费附加的暂行规定 (*Guowuyuan Zhengshou Jiaoyufei Fujia de Zanxing Guiding*)
1993.2	Guideline for educational reform and development of China	中国教育改革和发展纲要 (*Zhongguo jiaoyu gaige he fazhan gangyao*)
1994.9	Opinions on implementation of the two basics (i.e. universalizing compulsory education and eradicating illiteracy among the young and middle-aged population)	关于在90年代基本普及九年制义务教育和基本扫除青壮年文盲的实施意见 (*Guanyu zai 90 Niandai jiben Puji Jiunianzhi yiwu Jiaoyu he Jiben Saochu Qingzhuangnian Wenmang de Shishi Yijian*)
1999.6	The decision on deepening the education reform and enhancing the quality of education	中共中央国务院关于深化教育改革全面推进素质教育的决定 (*Zhonggong Zhongyang Guowuyuan Guanyu Shenhua Jiaoyu Gaige Quanmian Tuijin Suzhi Jiaoyu de Jueding*)
2001.	Decision on reform and development of basic education	国务院关于基础教育改革与发展的决定 (Jichu Jiaoyu Gaige de Jueding)
2005.5	Some suggestions on enhancing the balanced development of compulsory education	关于进一步推进义务教育均衡发展的若干意见 (*Guanyu Jinyibu Tuijin Yiwu Jiaoyu Junheng Fazhan de Ruogan Yijian*)
2006.1	Notice on the elimination of extra school fees for rural compulsory education students	关于对全国农村义务教育阶段学生免收学杂费的通知 (*Guanyu dui Quanguo Nongcun Yiwu Jiaoyu Jieduan Xuesheng Mianshou Xuezafei de Tongzhi*)
2006.6	The revised compulsory education law	义务教育法 (*Yiwu Jiaoyu Fa*)
2008.8	Notice on the elimination of extra school fees to urban compulsory education students	关于做好免除城市义务教育阶段学生学杂费工作的通知 (*Guanyu Zuohao Mianchu Chengshi Yiwu Jiaoyu Jieduan Xuesheng Xuezafei Gongzuo de Tongzhi*)
2010.6	Mid and long term education and development program (2010–2020)	中长期教育改革与发展纲要 (Zhongchangqi Jiaoyu Gaige Yu Fazhan Gangyao 2010–2020)

Source Niu (2011)

1.1.3 Overview of Management and Financing of Education

From soon after the founding of the People's Republic of China schools were managed and funded through a 'dual-track system'. This meant that urban schools were administered and funded by central government, and rural schools by local

Table 1.2 Development priorities for compulsory education in different regions

Type	Provinces	Focuses
Type 1 (eastern region)	Beijing, Tianjin, Shanghai, Liaoning, Jilin, Jiangsu, Zhejiang, Shandong, Guangdong	Higher level, higher quality compulsory education, encourage universal senior secondary education in places with capacity to implement
Type 2 (middle region)	Hebei, Shanxi, Heilongjiang, Anhui, Fujian, Jiangxi, Henan, Hunan, Hubei, Hainan, Shannxi, Sichuan, Chongqing	Focus on developing rural education opportunities; consolidate and enhance progress towards the 'two basics'
Type 3 (western region)	Inner Mongolia, Guangxi, Guizhou, Yunnan, Tibet, Gansu, Qinghai, Ningxia, Xingjiang	Focus on the two basics within the national western development project; accelerate school construction in western rural areas; enhance education in minority areas and for women

Note The two basics are: compulsory education and adult literacy programs
Source Task Force (2008 p. 139, p. 143)

communities. Initially the local component was through the People's Commune and Production Teams, and later from 1980s after collectivisation was abandoned, by town and villages authorities. This dual-system did little or nothing to reduce the large disparities that existed between urban and rural areas in educational resources and development.[3] Many rural areas supported large numbers of "minban" (people supported) and substitute teachers using off budget sources and earmarked local revenues. These were often insufficient to pay salaries even though these were typically much less in rural rather than urban areas. Payments were often made in grain or other commodities and there were frequent complaints about irregular pay and crises of confidence and morale, especially when there was slow economic growth but demand for local revenue to support education remained high.

Across China total expenditure on compulsory education has increased from about 60 billion yuan in 1993 to 400 billion yuan in 2006, a nominal increase of 5.8 times (Fig. 1.4). Expenditure on rural basic education has risen slower than that on urban schools, partly reflecting the fact that China is urbanising. Expenditure per student in compulsory education also increased (Fig. 1.5). Thus at junior secondary level overall expenditure rose from 552 yuan per student in 1993 to 2669 yuan in 2006, an overall increase of 3.8 times. The increase was from 473 yuan to 2190 yuan for rural students, or an increase of 3.6 times. At primary level the figures were from 278 yuan to 2122 yuan, (6.6 times greater) and for rural primary students from 250 yuan to 1847 yuan, (6.3 times greater). The ratio of primary to junior secondary school costs per student fell significantly from about

[3]We are grateful to Dr Zhu Zhiyong for this basic information on recent trends in educational finance and the insights in his paper at the INRULED Conference in 2009.

Table 1.3 Special funding and projects on compulsory education in rural areas (funded by Central Government)

Title	Time	Amount	Contents	Beneficiaries
National compulsory education project for poor regions	1995–2000	12.5 billion yuan	Hardware; dangerous school building renovation; teaching facilities and books; teacher and school principal training	586 national poor counties and 284 provincial poor counties, 250 million population
	2001–2005	7.25 billion yuan	Free textbooks for poor children, IT education in poor areas	522 poor counties that failed provincial accreditation
National study aid for poor areas	1997–2000	130 million yuan	Support for minority students for compulsory education	Minority students
	2001–2005	100 million yuan	Support for poor students for compulsory education	Western region poor students
Free textbooks fund	2001–2003	7 hundred million yuan	Support for poor students for compulsory education	Students from poor households
Fund for salaries of rural school teachers	Since 2001	5 billion yuan/year	Subsidy for the pay for rural school teachers in poor middle and western region	Rural school teachers in poor middle and western region
Project for reconstruction of dangerous school buildings	2001–2003	3 billion yuan/year	Eliminating existing dangerous buildings for primary and secondary schools	
	2003–2005	6 billion yuan/year		
Distance learning project in rural primary and secondary	2004–2007	9 billion yuan/year	Rural primary and secondary schools in the western region	86,400 teaching points, 252,000 rural complete schools
Rural boarding school project	2004–2007	10 Billion yuan/year	Rural primary and secondary schools in the western region	6,400 new boarding schools, to support 3.2 million poor students

Source Task Force (2008, p. 145)

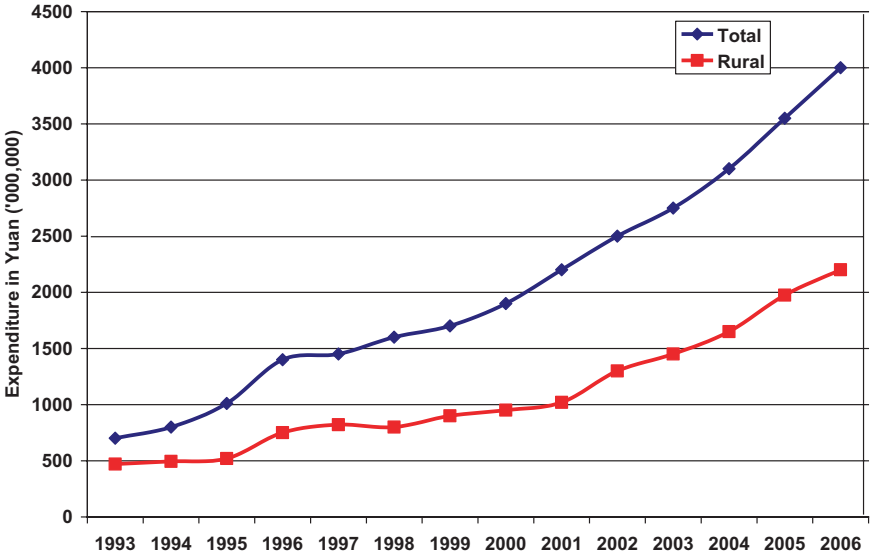

Fig. 1.4 Expenditure on basic education 1993–2006. *Source* State Education Commission

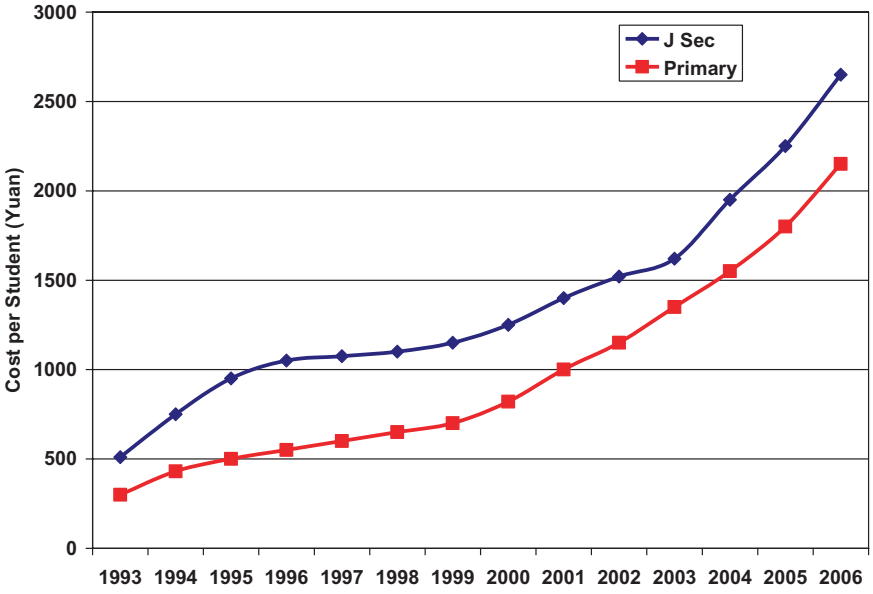

Fig. 1.5 Expenditure per student 1993–2006. *Source* State Education Commission

2:1 to 1.25:1. This has made it easier to finance near universal levels of participation at junior secondary level, which would have been much more difficult at a ratio of cost per student of 2:1. It should be noted that the average cost per student

conceals large differences. It is estimated that the cost of a place in a rural secondary school around Beijing can be in excess of 10,000 yuan. In the Western provinces it may be less than 2000 yuan. Similar differences exist between the costs of primary school places between regions (Zhu 2011).

China has tried to adopt a balanced system of decentralization with shared responsibilities and costs across levels of government (Niu 2011). This is linked to accountability measured against targets for implementation. The 1985 Decision and the 1986 Law decentralized educational finance and management. Local authorities became responsible for financing and implementing compulsory education.

From 1986 to 2000 most of the responsibility for basic education fell on the town and village level authorities who had to raise funds to cover both infrastructure and running costs with support from county level. User charges and other fees were charged to support the costs of running schools, and local educational surcharges were levied from farmers. Where feasible schools, were also encouraged to generate revenue themselves e.g. by renting their assets and facilities and sharing in the profits of associated enterprises, and by mobilising contributions from the community.

In retrospect it is apparent that the system failed to anticipate the problems that would arise in rural areas with weak economic development and limited capacity to raise revenues. From about 1994 it became clear that reforms were needed to ensure better central monitoring and control of implementation, and more equitable distribution of resources towards poorer locations. Changes to the general revenue raising system had succeeded in expanding total revenue but were not accompanied by changes in the patterns of allocation of funds that could enhance implementation of basic education in the poorest counties. Though decentralization and cost-sharing were supposed to have a variety of advantages including more local ownership of resources, better local decision making, and more revenue, this did not always happen. Town and village authorities sometimes simply transferred rising financial pressure to peasants in the form of additional educational charges and fund-raising requests for education in circumstances where peasants' incomes were insufficient to meet the demands. Defaults on paying teachers' salaries in the countryside became common in the least developed areas. Revenue raised was not always distributed equitably or in relation to need.

As a result over the last ten years administrative responsibility for basic education has been shifted upward from towns to counties, and there have been efforts made to strengthen the central monitoring of progress. Under the current system provinces, autonomous regions, and municipalities directly under the Central government make overall plans for basic education and county level administrations implement programmes. Compulsory education is now included in the central state financing allocations. The overall shift in emphasis is summarised as being from 'the People's education should be provided by people' to 'the People's education should be provided by the state'. Rural tax reform has removed rural educational surcharges and tuition fees. Other charges remain however.

The financial guarantee system for rural compulsory education approved by the State Council in 2005 confirmed a county-centered rural compulsory education management and finance system. More recently (2005) the State Council announced and associated with a number of key principles that included:

- Eliminating student tuition and fees for the compulsory stage of rural education.
- Providing free textbooks to rural students at compulsory education.
- Subsidizing students in poor families with boarding allowance.
- Establishing a long-term mechanism for school building maintenance and restructuring.
- Consolidating and improving the mechanism of guaranteeing teachers' salaries in rural primary and middle schools.

This system increased the ratio of central to local government financing and favoured poor areas in the central and western regions of China. A cost-sharing formula has been introduced whereby expenses for tuition subsidies are 8:2 central and local government in the western region and 6:4 in the central region; expenses needed for free textbooks are wholly assumed by the central government; and those for school building maintenance and restructuring are shared 1:1 by the central and local levels. Transfer payments are now made to counties to guarantee teachers' salaries are paid on time directly into teachers' bank accounts. Formula funding is used to allocate public funds to rural primary schools to ensure that lost income from tuition fees etc. is replaced, schools have adequate operating budgets, and funding becomes more equitable between schools in urban and rural areas. Notwithstanding this policy central primary schools continue to exist in most areas and receive the resources first. They may then distribute the resources in different ways to the schools they administer.

The rapid development of China's economy has greatly strengthened its financial capacity. This has allowed the central government to support commitments to educational development and compulsory education through increased education spending. Budget allocations have included some attempts to increase equity by adopting more favourable subsidies for the poorest places, and especially to rural areas. This is a departure from historic practice and is a response to growing inequalities and the need to build a "new socialist countryside" and promote a more "harmonious society". It is yet to be established to what extent these transfers are really sufficient in volume, and whether they are being allocated in ways that are efficient in increasing equity.

To explore some of the achievements and remaining challenges we now turn to the case studies that we have undertaken.

1.1.4 The Case Studies and Research Methods

In 1990 a team from Beijing Normal University designed and developed a research programme to explore progress in universalising enrolment in basic

education following on from the enactment of the 1986 Compulsory Education Law. China committed itself to nine years schooling for all in advance of the well known World Conference on Education for All held in Jomtien Thailand in 1990, and did so with different time scales for advanced urban and less developed rural areas, and for national minorities.

The research explored progress and prospects in three areas. First Tongxian county south east of Beijing was selected as one of the three hundred richest counties in China. This area in 1990 had many common features with other peri-urban areas on the coastal plains of China where much of the population lives and where development was taking place most rapidly. Tongxian is part of the Beijing hinterland and it benefits from proximity to the metropolis.

The second case study site identified was Ansai county in Yan'an. Ansai is about 40 km north of Yan'an city and was one of the three hundred poorest counties in China in 1990. Ansai lies on the edge of the Loess Plateau in the transition region between desert and plains and is an area which has some of the highest levels of erosion along the Yellow river. In 1990 it was not accessible by railway and the road system was poorly developed with few tarred roads. The land is potentially fertile where water is available and the economy was essentially agricultural in 1990. Though it was known oil existed in the area there was no commercial production at that time.

The third area chosen for the research was Zhaojue, which lies 100 km east of Xichang in the south west of Sichuan Xichang was the capital of the Yi Autonomous Prefecture in 1990. Zhaojue is located in the rugged Liangshan mountains near the head waters of the Yangtze river and much of the area is at high altitude reaching up to 3500 m. Though it is much further south than Tongxian or Ansai its climate is harsh with snow bound winters and short summers. Much of the land consists of steep mountain valleys with small areas of level ground alongside river courses. The Yi national minority speak their own language and have a feudal history. Since the 1950s the Yi have been integrated into the administrative system of China. Pastoralism and agriculture remain the basis of the economy, with modern practices slowly being introduced to increase productivity. Educationally the area lags far behind much of the rest of China (Lewin 1995).

The programme of research had a number of purposes. First, it sought to generate insight into the rate of implementation of the nine year compulsory education policy introduced in 1986. The primary goal was to establish actual enrolment patterns and validate key indicators of system performance—gross and net enrolment rates, repetition, drop out, and promotion rates, and levels of male and female participation.

Patterns of enrolment, information on the progress of age cohorts, and changes in these patterns over time provide, quantitative indications of progress towards universalising access.

Second, the research collected information related to school quality, including that which illustrates the pattern of deployment of human and physical resources, and the levels of educational financial resources available to support learning and teaching. This included insight into the availability of learning materials,

equipment and furniture, school buildings, the deployment of teachers, class size in different grades, the qualifications of teaching staff, and where available, achievement test performance.

Third, the research explored the mechanisms used to support policy implementation. This includes investigation of administrative arrangements, the capacity of the infrastructure to support basic education policy, monitoring and evaluation systems, school supervision and inspection regimes, in-service support, intervention programmes, community resource mobilisation, and other incentives to increase participation.

In each case the intention was to develop a picture of the implementation of policy grounded in data validated at the local level. At the time this was very unusual in China since most evaluation of progress was based on aggregated statistical data and self reporting of target meeting. The research explored the reasons for the varying levels of success in implementation and identified policy initiatives that were more rather than less promising.

Over the two decades since 1990 China has been transformed. From an economy much smaller in value than the UK, China is now the second largest economy in the world. On the three large plains where most of the population live incomes have risen dramatically and China's GDP per capita at purchasing power parity prices has risen from below USD 1000 in the 1980s, to over USD 5000 by 2005 and USD 12,000 at by 2015. Economic growth has been stellar with an average approaching 10 % a year for twenty years. From an inward looking society with a closed door, to links to the outside world China has opened its economy to joint venture companies, energetically acquired new technologies and transformed its productivity in manufacturing to be the most competitive in the world.

China has managed a transition to mass primary and secondary schooling that now enrols the great majority of children. Demographic transition has meant that the population of school age has been falling, allowing more to be invested in education per child at the same relative cost when compared to countries with high population growth. Enrolment rates, which were already high in most areas of China in 1990, are now near universal levels except in some poorer western provinces and in under developed national minority areas.

Despite the impressive successes there has been growing concern that vertical and horizontal inequalities have risen, some populations have lagged behind in terms of participation and attainment, and that quantitative expansion must now be accompanied by more emphasis on quality improvement and a better matching of educational investment to the increasingly differentiated learning needs of the next generation.

In 2009 the research team decided that it would be timely to return to Tongxian, Ansai and Zhaojue to take stock of the changes that had occurred and re-evaluate the transitions that had taken place. This could then provide an opportunity to revisit the insights published in *Implementing Basic Education in China: Progress and Prospects in Rich, Poor and National Minority Areas*, update data on participation and policy and practice at the local level, and reflect on the amount and quality of progress. This then provides a basis for identifying what lessons might

be learned from the experience of rapid change, and speculating on which might have analogues of relevance to other countries pursuing Education for All Goals. As a result return visits were scheduled to the three sites in 2009 and 2011.

The original research programme had three phases.[4] In the first phase the research design was finalized, instruments were developed and data collection techniques were refined. Instruments were piloted and improved. Analysis of the data was undertaken and draft case study reports were written at the school, district and county level. These were then integrated into a single analysis. Phase two of the research extended its reach to two other locations in other parts of China identified for intensive study. The fieldwork then took place and the analysis of data and writing up were completed. The final phase consisted of integrating all the material from the various sub-studies to distil the most important findings.

Different techniques were used to collect quantitative and qualitative data and cross-check and corroborate between sources. Structured interview schedules were used alongside semi-structured interviewing techniques. Secondary data was collected from schools and local authorities. Questionnaires were also deployed in some parts of the enquiry. Schools constituted the central unit of analysis for data collection. Records, interviews and observations at school level provided the basis for the interpretation of data from other levels. Focused questioning and enquiry was used to explore patterns of implementation and juxtapose data obtained from different levels on issues of concern.

There were three distinct levels of data collection, the county, district and school. In each case study area a progressively detailed programme of fieldwork was conducted. First, an inventory exercise was undertaken at the county-level (xian) to gain an overall portrait of key indicators on progress towards basic education goals. This included data on enrolments, participation and progression and information on income and educational expenditure. The research then focused progressively down to the district (xiang) and village (cun) level. Within each of the three case study counties two districts were identified for intensive scrutiny. The choice of relatively economically developed and underdeveloped districts was made on the basis of statistics available at the county-level, bearing in mind practical considerations of accessibility.

Each district typically has about 20 primary schools and up to 4 lower secondary schools. A selection of schools was made for intensive fieldwork. This sampled from the four main types—junior secondary (grade 7–9), central primary (grade 1–6), complete primary (grade 1–6), and incomplete primary schools (grade 1–3 or 4). Fieldwork teams were based in each district for about 10 days for each period of fieldwork. The fieldworkers were based in the local community and therefore had opportunities to explore community characteristics and perspectives through conversations and informal interviews (Map 1.1).

[4]Further details of the original research design can be found in *Implementing Basic Education in China: Progress and Prospects in Rich, Poor and National Minority Areas*.

Map. 1.1 Case study sites in China

At the county-level a typical initial visit consisted of a half day being introduced to the county by the local leadership and being briefed by different officials. After these introductory meetings structured requests for data were left at the county offices for completion at a later time and documentary material was collected. After working at district-level further interviews were held at county-level to gather perspectives on the issues raised by the fieldwork. At the district-level most fieldwork periods also commenced with a formal introduction by local officials to the district and its educational development. Similar strategies were used to collect basic data i.e. standardized forms were explained and left to be completed and documents were collected. It was possible to get to know district-level officials well since the research team lived close to the local government courtyard for the duration of the fieldwork. At school level the pattern of a typical condensed

case study day for a fieldwork team of two researchers included the following kinds of activity:

(i) Interview with the principal.
(ii) Observations in a number of classes.
(iii) Interviews individually or in groups with selected teachers and students.
(iv) Informal conversations with teachers and pupils during teaching breaks.
(v) Unplanned walks around the community to identify out-of-school children, and explore informally perceptions of parents and other community members.
(vi) Collection of documentation.
(vii) Examination of samples of pupils' work.
(viii) Re-interviewing the principal about issues that were emerging.
(ix) Team meeting after school to analyse and summarize insights from the day's data collection. Planning of next day's fieldwork.
(x) Questionnaire to teachers and principals.

For the follow up research conducted in 2009–2011 the methods used mirrored those originally developed. Wherever possible the team returned to the same schools and local authority offices and collected similar data. Though every effort was made to collect comparative data this was not always possible. Local authority boundaries had changed, small schools had been merged with larger schools, and comparable assessment data was generally not available.

1.1.5 Observations from 1990

To help set the scene for the interpretation of the new data collected it is useful to revisit some of the findings reached in 1990 in the last chapter of *Implementing Basic Education in China: Progress and Prospects in Rich, Poor and National Minority Areas*. In summary:

- In Tongxian and Ansai demographic transition had been taking place in the 1980s to lower levels of population growth. In Zhaojue the birth rate remained high with consequences for the demand for new school places. Demographic change was set to continue but it was not clear how it would unfold.
- Though enrolment rates were improving many children were not completing the primary cycle successfully in Ansai and Zhaojue. Substantial levels of late enrolment, over age promotion to the next grade, and significant levels of absenteeism meant that much learning time was compromised and many children fell behind an on-schedule graduation pattern of progression in Ansai and Zhaojue. Poor record keeping made it difficult or impossible to trace the educational progress of children.
- There were concerns that the system of educational administration in 1990 was not well suited to purpose in implementing nine year compulsory education

given the capacity constraints and resource shortages typical of the poorest countries and national minority areas. It was noted that the implementation of basic education policy at a local level depended both on the regulatory structure and policy framework provided by higher levels, and on the adequacy of the school management and resource allocation that converts these aspirations into reality.

- Management practices that seem counter productive were common in 1990. Thus often in the case study schools the pupils in the lowest grades had the worst learning conditions. Class sizes were largest in the lowest grades, often by a factor of 3 or 4 when compared to grade 5 or 6, especially in rural schools. Where furniture was in short supply it was the grade 1 and 2 classes that had no chairs and used piles of bricks as desks. Qualified teachers were disproportionately allocated to the upper grades. Repetition rates tended to be greatest in the first grade, suggesting that learning was least effective at this level. Where money was collected from pupils to assist in school expenses, it was collected from all pupils though it seems that where investments were made in learning resources they tended to be for the benefit of the higher grade classes.
- Notwithstanding the complex and multi dimensional methods of raising revenue and allocating resources in place in 1990, there appeared to be chronic underfunding in Ansai and Zhaojue in relation to the achievement of basic education goals. Though per capita funding was comparable with richer areas, this ignored the fact that many children were not enrolled, and that the stock of infrastructure was greatly inferior.
- Funding in 1990 also provided direct support for salaries only for government teachers, though many of the teachers were minban and substitute teachers depending on support from local resources earning a third of government teachers' salaries or less. Capitation payments for non-salary recurrent support to schools were linked to the number of government teachers in a school further disadvantaging the poorest areas.
- Growing disparities in non-government income were noted such that Tongxian was spending up to six times more per pupil than Ansai in the late 1980s. Within Tongxian the ratio of cost per pupil was as much as 4:1 between districts. Central primary schools appeared more often than not to hold on to common resources and distributed little to the cluster of complete and incomplete schools with which they were associated.
- Teacher salaries were becoming subject to performance related additions in 1990 through "structured salary schemes". This, and differences in off budget income, meant that teachers income in rich areas could be as much as double their salary, whereas in poor areas little additional benefit was available.
- Teacher class ratios at primary level generally varied between 1:1 and 2:1. The lower levels were found in incomplete primary and small rural schools. At lower secondary level the ratio was frequently around 2:1 and reached 3:1 in specially favoured schools. This coupled with pupil teacher ratios of about 20–25:1 suggested that teaching loads on some schools were relatively light with teachers teaching about half the number of timetabled periods.

- Teachers motivation was a substantial problem in 1990, especially in rural and remote areas where living conditions were very basic and teachers lives difficult. Attempts were being made to increase the proportion of locally born teachers in Zhaojue since many of the Han teachers prefer not to work in minority areas. Teachers difficulties included feelings of low status in society; low incomes; limited fringe benefits in terms of the quality of housing and medical care; difficulties in obtaining city and town registration for spouses and children; lack of safety in some areas. Minban teachers are particularly deprived since they have lower incomes than government teachers, often seem not to receive the full amounts of grain and locally provided income to which they are entitled, and have virtually no fringe benefits.
- Allocations for books and equipment tended to be very low and of the order of 1 to 2 per cent of total expenditure. The consequence of this was that most rural schools visited had very little in the way of learning resources apart from textbooks which were usually purchased by parents. No library books were to be found in the majority of rural schools. Subsidies were given to schools to purchase textbooks in Zhaojue.
- In Zhaojue enrolment rates for girls were between 10 and 15 % of the total at primary level. In Ansai the situation was better and improving, and in Tongxian the enrolments of girls were similar to those of boys. All girl classes existed in Zhaojue and were thought to be effective. Hostels were also being built for girls to encourage enrolment and retention.
- Pre-school classes were becoming widespread in the case study districts in 1990. They varied from those which appeared well run with structured learning tasks and qualified teachers with appropriate educational materials, to those which were poorly organised with unqualified staff operating for profit.
- Not many areas had inspection and monitoring systems established. Where they did exist most attention seemed to be focused on administrative inspection, with little attention given to quality issues. There was no considered analysis of outcomes that would give deeper insight into the status of teaching and learning. Actions subsequent to inspections rarely seemed to involve improvements to curricula, teaching methods, and learning materials. In both Zhaojue and Ansai the use of examination data to improve school performance seemed to be at a very early stage. Beyond collecting information from tests there seemed to be little attempt to design interventions to assist school with low performance. More attention seemed to be focused on further improvement of the scores in the best schools than on closing the gap between the best and the worse.
- The need to standardise definitions of key indicators used to measure progress and to provide administrative targets, and the need collect more reliable data on enrolment, progression, completion and drop out.

The scene is now set to present data from each of the three case study sites and raise issues of current status and comparisons with the past which we develop with each narrative. This will be followed by more extensive discussion of four thematic issues arising from the case studies. These are the evolution of rural teachers

employment, school mapping and location planning, management and finance, and provision for marginalised groups. The final chapter will draw out lessons from the experience of change and transition for future development.

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Chapter 2
Compulsory Education in a Rich District Tongzhou in Beijing

2.1 Social and Economic Background

Tongzhou District lies about 20 km southeast of Beijing, at the northern end of the Grand Canal, and covers about 900 km^2. Farmland occupies about half the total land area. The District is well placed geographically to take advantage of the rapidly developing industrial and service sector economic activity and is now well served by transport infrastructure linking it to the capital and to the hinterland in Herbei. Tongzhou has become one of the satellite towns of Beijing and has benefitted from being identified as a special development zone.

Tongxian has been upgraded administratively to become Tongzhou. This signifies the transition of the district from being agriculturally based to being industrial and service sector focused, and peri-urban in character. The upgrading of Tongxian to Tongzhou has been accompanied by changes in administrative structure and rationalization in order to increase efficiency, and reduce duplication. Towns and townships have been amalgamated. Thus in 1990, under the raw material and agriculture-oriented county management structure, the county comprised 24 towns, townships and districts, and 473 villages. Today it comprises 10 towns, 1 township, 4 sub-district offices, 67 residential committees, and 480 villager committees. Xiji Town and Langfu Town, which we surveyed in 1990 have now been amalgamated together. The underdeveloped Dadushe Town has been integrated into Majuqiao Town. These changes also reflect urbanization and inward migration from more remote and poorer areas. This means that it is often difficult to compare, precisely, changes from 1990 and 2010.

Tongzhou has been physically transformed from a small town with a provincial character to a bustling city with wide boulevards and modern multistorey buildings along the main street. What was a poor rural village environment in Dadushe is now unrecognisable, as Majuqiao has developed its industrial zone with corporate headquarters and modern industrial buildings. Xiji was the richest xiang and

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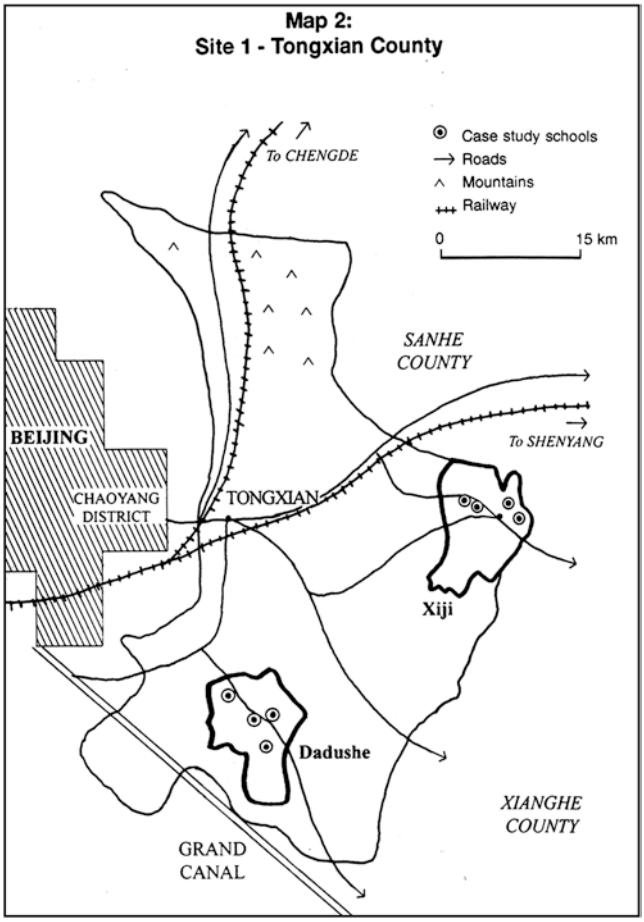
Dadushe the poorest in 1990. In 2009 the situation has reversed. Dadushe is now in Majuqiao which is the richest part of Tongzhou, and Xiji is now last but one in the ranking. Xiji has changed much less than Dadushe with much of the infrastructure remaining recognizable.

Most recently plans are underway to accelerate development further with five year planned investments to "wake up" the district and invigorate its commercial and cultural life. These plans include building a new town to accommodate an increasing number of migrants attracted to the area by its rapid development and buoyant labour market. Environment friendly town planning, shopping malls and cultural centres are included in efforts to make the city more attractive as a location for business and counterbalance the growing numbers who now commute daily to jobs in Beijing (MetroBeijing, March 14th, 2011). The number of migrants in the area has increased dramatically. In 1990 there were very few and now it is estimated that there are more than 500,000 migrants across Tongzhou, especially in Majuqiao where the Yizhuang development zone is located.

The economic growth which began in the 1990s in Tongzhou accelerated in the 2000s. The district remains amongst the richest group of administrative districts in China. Urban per capita income reached about 17,000 yuan, and rural income about 8300 yuan by 2010 and has continued to grow. This is much higher than in Ansai and Zhaojue. Two rural xiang were selected for study in 1990. In Xiji the richest the average per capita income was about 2000 yuan and in Dadushe, the poorest, it was only 1200 yuan. At that time Xiji generated most of its income from small scale industry, and Dadushe was predominantly agricultural. Whereas in 1990, 77 % of the total population were agriculturally dependent, this had fallen to only 55 % by 2006 and is now much less than 50 %. Industry and service sector activity now account for most of the economic output by value and will soon account for most employment. Increasing numbers now commute to Beijing and its suburbs using the multi-lane highway and high speed train which have been constructed.

In Tongzhou as a whole the resident population grew modestly from about 580,000 in 1990 to 637,000 by 2006, an increase of only 10 % (excluding migrants) over 16 years. Tongzhou has seen a sharp decline in the birth rate. In 1990 the rate was 15 ‰. By 2003 this had fallen as low as 4 ‰, though it recovered in 2006 to about 7 ‰. The birth rate amongst residents has tended to be greater than that of migrants, reflecting the circumstances of migrants amongst whom larger numbers are likely to be single.

There have been dramatic changes in attitudes towards the one-child policy since 1990, especially in the rural villagers in Tongzhou. In 1990 family planning was being promoted and meetings and mobile loudspeakers were being used to persuade families to have only one child, because the policy was only partly successful. The Birth Control Office showed that there were 264 newborn infants six years before and there should have been 264 children of school age in school by 1989. In fact the school age population was 504, and the actual enrolment was 607. Clearly extra births were taking place and not being reported. In 2009 the situation had changed. The attitude of rural people in Tongzhou appears to have become closer to that of urban residents and most appear to have only one child.



Map 2.1 Site 1—Tongxian county (Now Tongzhou District)

Several reasons were given by those interviewed for changing attitudes. First, there were rising costs of education, and increasing social competition, which were thought to intensify the risks of success in raising children and finding them jobs. Second, more young couples of child-bearing age were making the choice to pursue their own development goals and a higher quality life and were placing a lower priority on raising a family. Third, several informants indicated that the traditional concept of "bringing up sons to support parents in their old age" was outmoded since it had become very uncertain where children would go to work or study in the future, and it was unrealistic to depend on them. Interviewees in Xiji also argued that discrimination against girls at birth had ceased to be a problem and enrolment patterns seemed to confirm this (Map 2.1).

2.2 Change and Transformation in Xiji and Dadushe

To understand the educational transformations in the case study districts it is necessary to elaborate on the more general changes that have taken place. This provides a reminder that change is often not linear and may be subject to the influence of many different factors, only some of which are under the control of local planners, and that changes are often interconnected.

Xiji is southeast of Tongzhou, and located at a communication junction between Beijing, Tianjin and the Hebei and northeast hinterland and was historically a gateway to Beijing. Now the Jingjin expressway, Tongxiang highway and Jingshen expressway all run through the township, with local access points. Twenty five years ago Xiji had jurisdiction over 36 villages. After the amalgamation in 2002 with Langfu Town, it now presides over 57 administrative villages, with a population of 46,000 or about 1.8 times as much as in 1990. Development zones have been identified and new businesses have been attracted into the area, including some with multinational ownership. The agricultural economy has been reformed and is centred on the Grand Canal fruit production belt and Chaobai River vegetables production belt with newly developed greenhouse facilities and a developing riverside ecotourism and sightseeing area.

Despite these and other developments Xiji itself has not changed very dramatically. There is little difference in the appearance of downtown businesses, local roads, and residents' housing from the past. Now the main sources of income are grain crops and market gardening for fruits and vegetables, and for some, jobs in Beijing or in other parts of Tongzhou District. The residents' per capita income appeared to be between 5000 and 6000 yuan in 2010, much lower than the average for Tongzhou city. Local revenue is argued to be only sufficient to cover payroll finance, with little left for investment in infrastructure and educational development. Structural changes have resulted in a decline in relative prosperity. Though incomes have risen, they have done so more slowly than in Dadushe. Formerly, most of the output value came from synthesized processing, spinning and other manufacturing industries, and agricultural labour now only accounts for 10 % of all employment. The shift back to agriculture has occurred as Xiji's rural industry has relocated to areas with lower costs.

In 2001 Dadushe Township of 16 villages amalgamated with the 34 villages of Majuqiao Township which is located in the southeastern suburbs of Beijing, southwest of Tongzhou District. It is also a communication hub strategically located between Tongzhou, Daxing and Hebei-Beijing-Tianjin corridor. Close to the Liangshui River. The 6th Beijing ring road crosses the district and the Jingjitang Expressway passing through it. The present administrative region of the town covers 57 administrative villages. In 2007, the per capita income of Majuqiao for local residents was about 10,000 yuan. The population had reached about 43,000 or about 2.5 times that in 1990. As noted above there is now a very substantial migrant population. In this area there are over 100,000 migrants which is more than twice the resident population.

Nearly half of the land in Majuqiao has been allocated to high and new technology industrial development zones, and it is one of the 33 suburban prioritized centre towns designated by Beijing Municipal Government. These enjoy preferential policies on income tax, import and export tax, depreciation of fixed assets, land utilization, and qualify for performance-based grants, and financing. Technology intensive environment industries and the headquarters of logistic enterprises have become the two largest industries in the town. Majuqiao is also an important production base for vegetables, grain and subsidiary foodstuff. Over two thirds of the workforce is employed in industry and a quarter in the service sector, compared to nearly 90 % in agriculture in 1990. Over 60 large scale industrial enterprises are operating and the number continues to grow. Majuqiao is also the site of large scale developments in real estate which will generate more housing and jobs related to construction. Revenues have been rising fast as a result of the rapid economic development and it has been possible to invest in infrastructure and educational quality to a greater extent than in Xiji.

Xiji's relative decline compared to Majuqiao can be put down to a variety of factors. First, when the market economy replaced the doubletrack pricing system in the 1990s the phasing out of the subsidies meant that the clothing industry based in Xiji ceased to be competitive. Second, metal fabrication industries in Xiji only undertook early stage processing which added little value compared to producing finished products. Third, the location is less favourable for changing patterns of commerce and real estate development than Majuqiao. Lastly, Xiji has suffered from serious brain drain. Its relatively slow development has meant that aspirant parents and professionals have moved to Tongzhou City and Beijing. Even primary teachers prefer to live in Tongzhou City and commute. This is in strong contrast to Majuqiao which is growing and attracting large numbers of migrants.

2.3 The Evolution of Compulsory Education in Tongzhou, Xiji and Majuqaio

In Tongzhou as a whole primary level enrolments have been falling and schools have been consolidated and merged to reflect changing numbers of school age children, and changes where the population is located as urbanization occurs. The number of primary schools in Tongzhou declined from over 300 to just over 100 between the case study periods. During this time all 130 incomplete village primary schools were closed and amalgamated with complete schools.

In Xiji the 24 schools fell to only 7 despite the incorporation of Langfu schools, and all 8 village schools closed. One central primary school now oversees 6 complete primary schools. Of the 13 primary schools in Dadushe Township only 3 remain after the merger with Majuqiao. After a period of mergers there is now only one central primary school and two complete primary schools.

The distance that children need to travel to get to school has increased for those who live in the villages, as a result of school mergers. Majuqiao Township government has invested 200,000 yuan a year to hire 11 buses to commute between schools and home. The bussing system now covers about 750 primary school children living in 25 administrative villages. In Dadushe primary school 500 children take school buses between home and schools. The costs are shared with households and amount to 50 yuan per student each term. The scheme is welcomed by parents. In contrast in Xiji there is no organised bussing. Some of the students in the complete schools have to walk large distances between school and home. In Xiaolin primary school children walk to school together and many have to walk for 40 min or more. The school has a regulation that children below 12 cannot use a bicycle for safety reasons. Some parents carry younger children to school by bicycle. The Xiji Township government does not have the resources to hire school buses as in Majuqiao.

The picture is different at secondary level and the numbers have changed little. Overall there were 45 secondary schools in 1990, including 9 complete secondary schools, 1 senior secondary school, and 35 junior secondary schools. The total number now is 46. However, the structure has changed as participation at this level has increased. There are now 9 senior secondary schools, 7 complete secondary schools, 24 junior secondary schools, and 6 nine year schools. The demand for senior secondary places has been increasing as more pupils graduate from grade 9.

Along with these changes schools run by non-government organizations have appeared which did not exist before. These operate at all levels and the number of kindergartens, elementary and secondary schools, and colleges increased from 11 in 2001 to the present level of 31. These predominantly cater for wealthy students and include high quality private schools, some with international partners. Collectively these may enrol about 10 % of students.

Patterns of enrolment at primary level have been changing and numbers falling. The number of students in Tongzhou in primary schools in 2005 was 28,700 compared to 65,100 in 1990. This represents a fall of 36,400 or a 56 % decline. In Xiji, primary schools enrolled 2920 children in 1990 and only 1150 in 2008. Enrolments fell continuously through the 2000s as shown in Fig. 2.1. This illustrates that grade 1 is consistently smaller than grade 6, and entry numbers in grade 1 have been falling year on year.

This is in contrast to Majuqiao where enrolments appear to have increased. In Dadushe in 1990, 1870 were enrolled. In 2008 the number was 2240 representing about a 40 % increase. However, if migrants are excluded, local children only numbered 1520, or nearly 20 % less. As in Xiji enrolments overall are falling and in the 2000s grade 1 was always less than grade 6 (Fig. 2.2). The number of classes fell in both places at about the same rate (Fig. 2.3).

The number of classes has been falling and diminished by about 40 % over a five year period in the early 2000. Class sizes have generally fallen since the 1990s but have been stable from 2005 in Tongzhou. They have risen where migration has been highest. In Xiji class size was around 32 in 1990 and in the 2000s has averaged about 21. In Dadushe there were 25 per class in 1990 and there are now

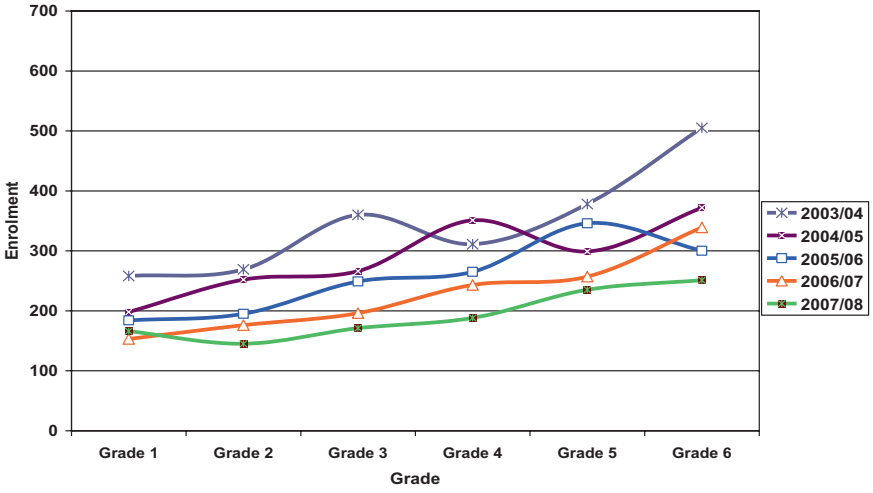


Fig. 2.1 Enrolment by grade Xiji

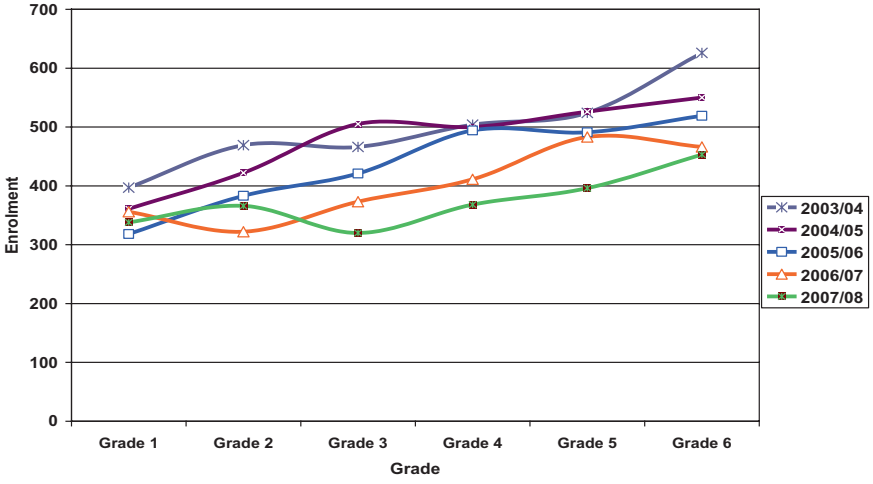


Fig. 2.2 Enrolments by grade Majuqiao—all children

about 34, partly as a result of the influx of migrants. Class sizes tend to be larger in the central primary schools as there is excess demand for entrance. There is not much variation in class size between grades 1 and 6.

As far as we could establish drop out in 1990 in Xiji and Dadushe primary schools was minimal, though it appeared to be significant at secondary level in Dadushe. In 2009 enrolments by grade suggested that there was very little attrition. Thus enrolment in grade 1 in 2003 in Xiji was 258, in 2008 251 were

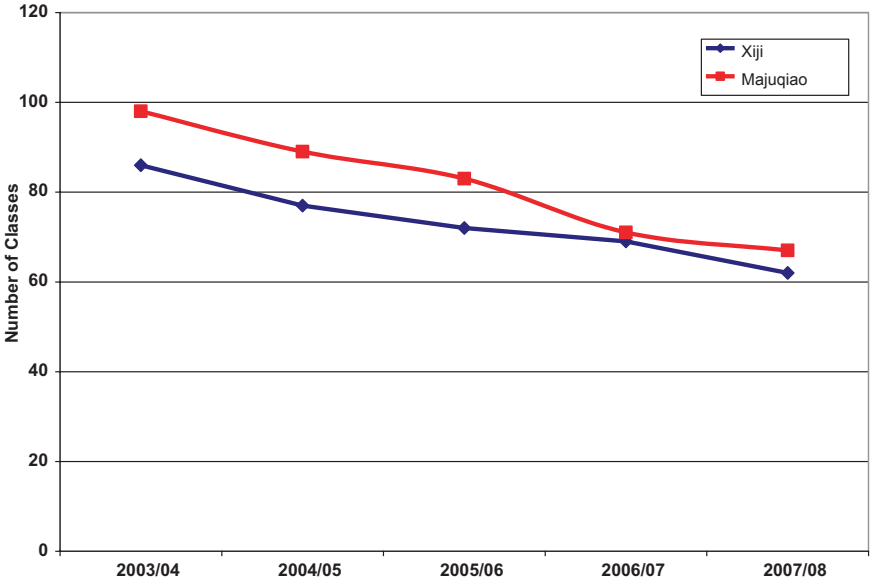


Fig. 2.3 Number of classes in Majuqiao primary schools

enrolled in grade 6. In Majuqiao the numbers were 279 in grade 1 and 280 in grade 6 six years later. Though we do not know if these were all the same children almost certainly most were. There are some transfers in and out of the schools but these are a small number each year, generally less than 5 % of staff. Necessarily migrant children sometimes transfer as a result of changes in the employment of their parents and numbers of migrant children in particular schools can fluctuate quite widely. It seems that some do return to their home areas in grade 5 and 6 to gain admittance to local junior secondary schools. There is also some transfer related to parental aspirations to send their children to schools with a better reputation.

Repetition is not formally permitted, however the research identified a small number of children who had repeated. Data from Majuqiao indicate that the numbers of overage children (by one year or more) had fallen from as many as 23 % in the early 2000s to about 6 % by 2008. Most (90 %) were overage by only a year indicating that over age enrolment was not a serious issue. It should be noted that in 1990 the age of entry to school was typically seven years not six. In 2000 local authorities have encouraged and required enrolment at age six.

Enrolments at junior secondary level are falling as the numbers graduating from primary fall. Though numbers increased from 1990 when 20,000 were in junior secondary, to 31,400 by 2001, they have subsequently declined to 24,100. All primary school graduates seeking a place a junior secondary can locate one so transition rates are close to 100 % and this has been made easier by the falling enrolment. Average class size at junior secondary is about 35 and this has fallen

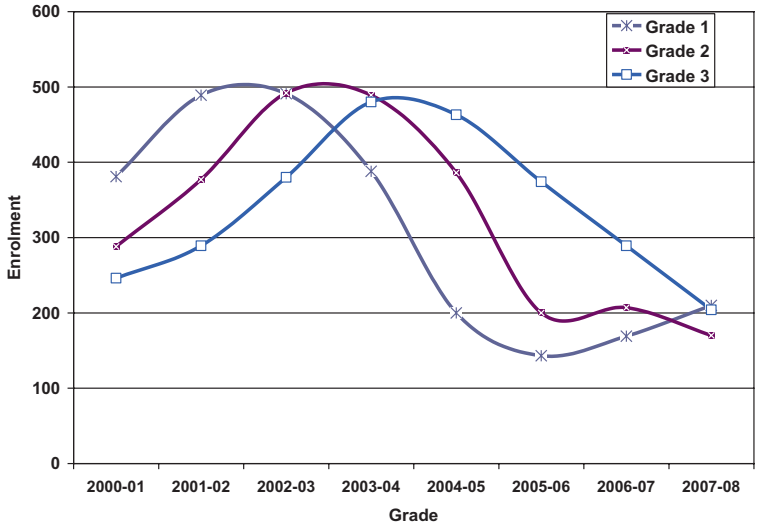


Fig. 2.4 Junior secondary enrolments—Xiji town school

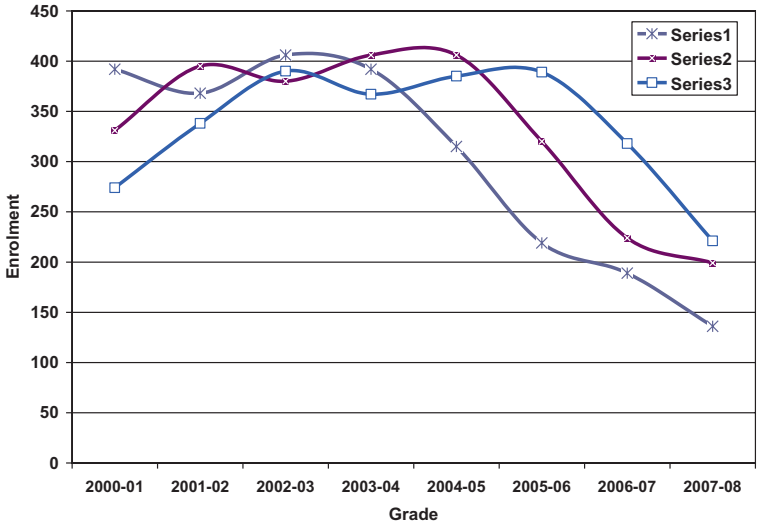


Fig. 2.5 Junior secondary enrolments—Dadushe secondary school, Majuqiao

from over 40 in both Xiji and Majuqiao as enrolments have shrunk. Figures 2.4 and 2.5 show how enrolments in grade 7, 8 and 9 have been falling.

In 1990 attrition was an issue at junior secondary. About 14 % appeared to drop out before completion. This problem seems to be resolved with almost all those who enrol completing the cycle in both districts. The number of overage students

has been reduce dramatically such that by 2007 almost all students were of the correct age for their grade compared to half or more overage in 2001.

There was some evidence that the education of disabled children had improved since 1990. Then intellectually and physically disabled children didn't have a chance of going to normal schools at all. In Xiji Town we located 7 mentally disabled children between the ages of 7 and 12 who have been placed in normal school classes and have been brought into the regular education system. There are no statistics on children with different types of disability, and it remains unclear as to what specialist support is available at school level. In 1990 there was only one special school aimed mainly at mentally disabled children for the whole district. By 2006 this school had 10 classes and about 100 students, and had two primary schools with affiliated classes, and more than 500 children with disability were learning in normal classes across the district. The situation in Majuqiao also seems to have improved but there is no systematic data available to confirm this.

2.4 Teachers and Teacher Deployment

Tongzhou has about 3600 primary teachers and 2350 at secondary level. Pupil teacher ratios have fallen since the 1990s. The ratios at primary and secondary in Xiji were 21:1 and 14:1, and in Dadushe 14:1 and 14:1. In 2008 the ratios had fallen to 9.2:1 and 6.6 in Xiji and 13.5:1 and 8.6:1 in Majuqiao. These very low ratios arise for two reasons. First, the number of children in school has been falling but the overall number of teachers has not fallen as fast. Second, substantial numbers of those employed on teaching faculties do not teach. Thus, for example, about 35 % of the faculty in some secondary schools are in administrative and support roles. The proportion of administrative staff as a proportion of the total staff has been increasing and is now about 23 % at primary and over 30 % at secondary level in Xiji. As the system has developed the proportion of administrative non-teaching staff has remained high, not least because the central primary school has retained its administrative infrastructure despite the reduction in the number of complete primary schools under its responsibility.

Xiji and Majuqiao have not recruited many new teachers since the early 2000s and some schools have had no new appointments for more than eight years. There have been more transfers out than transfers in, and as a result in these two districts it appears that teacher numbers have fallen by 15–20 % since 2003. Staff turnover is modest across the districts averaging around 5 %. Some teachers have retired and a growing number of the younger teachers have succeeded in being transferred to urban schools in Tongzhou city or elsewhere where conditions and subsidies are better. Reasons given for transferring out revolve around better educational opportunities for teachers' own children and career advancement, and the relatively poor living conditions in and around Xiji. This slow exit of teachers is potentially of concern since it is typically the best and most motivated young teachers who succeed in being transferred out. In Xiji problems of attracting new

teachers have been so difficult that local government has explored the possibility of "purchasing" teachers from Qinghai in Inner Mongolia where conditions are generally thought to be less attractive than Xiji.

There are persistent problems in the efficient utilization of teachers in the two districts. Though the pupil teacher ratio is very low the class sizes remain at about 20 in Xiji and over 30 in Majuqiao. With pupil teacher ratios of 10:1 or less it is clear that many teachers cannot have a full teaching load, and that efficient utilization of teachers has yet to be achieved. The case studies indicated that some of the teachers who were teaching were reasonably loaded with as many has 24 periods a week or about 5 a day. But others taught little. There were also mismatches between teachers' qualifications and the subjects they taught. Only 40 % of teachers in Xiji secondary school were teaching the subject for which they had been trained. Shortages persist in English, Chinese, maths and science, and surpluses in physical education.

Levels of teacher qualification have improved. In Xiji 90 % of primary teachers were graduates of secondary normal schools. By 2008 30 % were Bachelors level graduates and 48 % three year college trained. At secondary level over 80 % had Bachelor degrees. Majuqiao lags behind but nevertheless Bachelors graduates are 22 and 54 % of all teachers at primary and secondary level. Twenty years ago only 70 % of teachers at primary level were qualified and many had professional qualifications from secondary level training schools. Now over 70 % have degrees or three year College qualifications. At secondary level almost all teachers are now Bachelors or three year College graduates. It is clear that from 2003 there has been a major effort to increase the proportion of qualified teachers and this has succeeded in eliminating almost all the under qualified.

A substantial change in Tongzhou has been that substitute teachers have been replaced by government teachers. Whereas in 1990 between 20 % (Xiji) and 30 % (Dadushe) of all teachers were minban, now there are none left in Tongzhou. In the early 2000s minban were either retired or offered the chance to retrain and become qualified.

There have been changes in the age structure of the teaching force. In 1990 most primary school teachers were young and about 45 % were under 35 years old. There were few older teachers in primary schools. By 2008 in both Xiji and Dadushe there were still large numbers of young teachers, but there was also a bulge of older teachers approaching retirement. Conspicuously there were few teachers in the 35–45 year old age range (Figs. 2.6 and 2.7).

Though the average age of teachers in Xiji was 35 years old about 60 % were below this age and relatively inexperienced, and most of the rest were over 45 years old. There was a very similar pattern in Majuqiao. In both Xiji and Majuqiao secondary schools over 70 % of all teachers were below the age of 35, and there were relatively few between the ages of 35 and 45 years. These distributions reflect previous waves of teacher recruitment which seems to have been uneven and to have peaked in particular years. They may also indicate that young teachers teach for five to ten years and then find ways of transferring or moving on to other jobs outside schools.

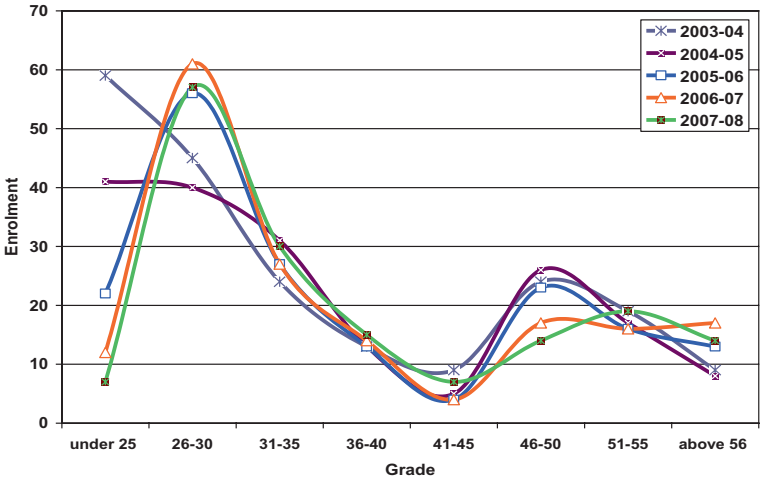


Fig. 2.6 Age distribution of primary teachers Xiji

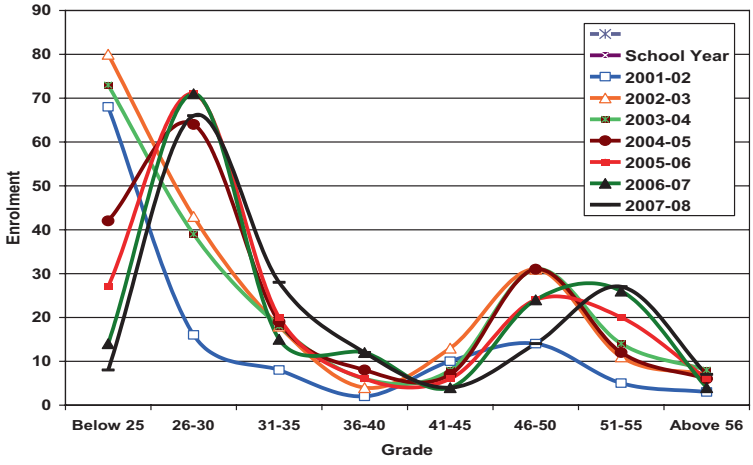


Fig. 2.7 Age distribution of primary teachers in Dadushe

The gender balance in the teaching cadre is skewed in favour of females. At primary level in both districts females constitute between 55 and 60 % of all primary school faculty members including administrators. They represent a higher proportion of teaching faculty in Majuqiaio rising to over 70 %. Women are under represented in administrative non-teaching positions where most places are occupied by men. Thus, in Majuqiao in most years 80 % of administrative staff were men.

Teachers' salaries have improved considerable over the last twenty years. The average monthly income of primary and secondary school teachers was 180 yuan

and 200 yuan respectively and the average monthly income of substitute teachers ranged between 70 and 80 yuan. There used to be delays in payment of salaries which caused dissatisfaction. By 2008 all substitute teachers have been replaced and new arrangements mean that salaries are paid direct to bank accounts and are generally on time. Government teachers have a guarantee of salary and some basic benefits and welfare, such as medical treatment, pension, housing allowance. Incomes have been rising and the range of monthly wages is between 1500 and 3000 yuan depending on age, grade and experience, with an average of about 2000 yuan at primary level. Secondary teachers can earn about 500 yuan more on average. These incomes relate only to state supported salaries. Other income can be generated from school resources, though this is only likely to be substantial in urban schools.

There are many issues around salaries. In 1989, China implemented the teachers' structural wage system which took the place of the single fixed wage system. This provided rewards related to teachers' performance. However, these were largely funded from local income generation. In most rural areas teachers' income remained the basic salary. Rewards were very modest e.g. teachers' additional class fee was only 1.1 yuan per class, the home class teacher fee was 0.3 yuan per month for each student. These reward levels were held static for nearly 20 years.

Conditions have improved. In addition to the government salary since 2010 schools have been receiving about 115 yuan a month per teacher to distribute related to teaching loads. Payments per class range from between 2.8 and 3.5 yuan for each class, and an additional 3.5 yuan per class for major subject teachers. However, head teachers receive little benefit to compensate for their additional work and payments are between 60 and 150 yuan a month extra. As a result teachers are often unwilling to be a head teacher, and the morale of teachers can be low. Though there are some other special payments e.g. the town government gives each teacher a subsidy of 100–200 yuan on Teachers' Day; teachers receive subsidized meals at school—these are not judged sufficient to solve problems of low morale. Several of the teachers interviewed indicated they were trying to leave the area and to gain urban residence qualifications so their own children could attend better schools.

Whereas in 1990 most teachers lived locally near the schools in which they taught the pattern has changed. Many now commute to rural schools and live in Tongzhou city. The Tongzhou District government has had to provide regular buses for teachers. However, the fuel and pay for drivers has to be paid by schools. Initially teachers were charged 60 yuan a month for transport but since 2007 this charge has been waived. Of the 33 teachers in the central primary school in Xiji, more than 20 take the bus to commute between the urban district and the school. Over 60 % of teachers in Dadushe secondary school commute one hour each way each day on school buses. Some single teachers do lodge in the school but are in a minority. This pattern of commuting by bus or by bicycle is now common across the district.

Although the qualification rate is very high for secondary schools, there are still issues about the quality of the teachers. The principal of Xiji Secondary School

identified three problems. First, though almost all are qualified they are not all teaching the subjects in which they qualified. What they were trained in did not match what they are teaching. In main subjects such as Chinese, mathematics, foreign languages, physics and chemistry, 40 % of the teachers teaching these subjects are not trained in them as their major. Thus only two English teachers were graduates of three year colleges specialising in English. The rest acquired English through self study. There are 10 teachers who have graduated with physical education as a major subject but only two are actually teaching physical education. The rest are encouraged by the school to learn a second subject to meet the needs of the school. Second, amongst 55 teaching staff, 20 were transferred from primary schools. They take time to adapt to the teaching methods and materials of the junior secondary schools. Third, though overall there are enough teachers, there is a drain of experienced "backbone teachers" because some transfer out to more desirable schools in urban areas around Beijing. Typically between 5 and 10 % of teachers a year leave the school. This principal noted wryly that the training colleges produced and fostered new teachers but that rural secondary schools like his really trained the young teachers who then left for better schools.

The story of one teacher in Xiji Junior Secondary schools illustrates how careers can develop. Mr Xu graduated from secondary normal (teacher training) school and his major was in fine arts. Then he went to Langfu Primary School to teach across all subjects when he was 19 years old. Whilst he taught he was doing part time courses in geography in a three year college and he qualified and was upgraded in 1999. At the same time he was also attending a bachelors degree programme in fine arts as this is his real interest. He is now teaching information technology and computers, and geography in the primary school, and fine arts in Xiji Secondary School.

2.5 Educational Funding and Infrastructure

Educational expenditure in Tongzhou has increased substantially over the last twenty years. Direct comparisons are difficult to make but key changes can be identified. First, compulsory education is now very largely financed directly by the Tongzhou District government and Beijing municipal government. The local taxes for education and contributions from enterprises that existed in 1990 and which accounted for as much as 40 % of expenditure, have been replaced by a single centralized funding system. The inequalities that arose from the differing capacities of rich and poor districts to raise revenue, which resulted in almost twice as much being available per child in Xiji than Dadushe in 1990, have therefore been greatly reduced.

Second, school management has now been concentrated at the county level, rather than shared across several levels. Lower administrative levels are no longer obliged to make contributions to expenditure though some do. Central funding

should be adequate to run effective schools assuming it reaches its intended destinations.

The township level still plays an important role in the development of basic education in terms of funding and improvement of infrastructure. However, Majuqiao is much more advantaged than Xiji and has a much larger financial income. This allows higher levels of investment. Xiji relies on Beijing municipal and Tongzhou District government's financial allocation after meeting basic costs, whereas Majuqiao has the capacity to pay for many additional inputs. This has enabled it to finance an Experimental Secondary School for over 65 million yuan, to refurbish all its schools extensively, and acquire a fleet of school buses.

Third, some additional income is generated from migrants in areas where there are significant numbers of workers from other regions. In Tonzhou typically 200 yuan a term is charged to each non-resident student. This adds up to a considerable sum since it is much more than the capitation paid of less than 100 yuan a month paid for resident students. There are also sporadic donations from enterprises.

Fourth, cost per pupil has risen to about ten times the level in 1990. Primary cost per child in 2010 appear to be about 2500–3000 yuan a year, and at secondary level about 3500–4000 yuan. Non salary expenditure per capita is now pegged at around 800 yuan and primary and 900 yuan at secondary. In 1990 costs per pupil were around 230 yuan at primary and about 400 yuan at secondary.

Fifth, tuition fees and textbook fees have been abolished. Subsidies are now available for poor children to continue to attend school. These changes have made it easier to maintain high levels of enrolment and have reduced some inequalities present in 1990.

Increased funding has been accompanied by greatly improved infrastructure. New buildings have been constructed, especially in Majuqiao which has been physically transformed compared to the past. Information technology is widely available in schools and a ratio of one networked computer to every ten students appears to have been achieved, allowing individual access during IT lessons in secondary schools and central primary schools. Libraries have been restocked. However, some evidence indicated that library use by students was infrequent and that often only teachers could borrow books.

In general school environment and sanitation has improved, though issues remain and it is recognised that standards still need to improve. There are no medical facilities in most of the schools, though some allocate a room for first aid. Schools are obliged to arrange regular medical examinations for staff and students.

In rural parts of Xiji and Majuqiao much of the infrastructure remains recognizable from 1990 and changes have been incremental rather than radical. Greater changes have taken place in infrastructure at secondary school level rather than primary where investment has clearly been on a larger scale. New secondary schools have been built to an impressively high standard and are spacious and well equipped with facilities.

2.6 Migrant Children

Migrant children have become an important feature of changing patterns of enrolment. In 2003, 8580 of the 42,300 enrolled in primary were migrant students who accounted for about 20 % of the total. By 2006 more than 30 % of all students were migrants. In Majuqiao Central Primary School the overall proportion exceeded 45 % in 2008 and was more than 55 % in grade 1 indicating the trend to increased numbers of migrants was continuing. Yizhuang Development Zone in Majuqiao is home to dozens of modern high-tech industries which employ a large number of migrant workers. Across the district as a whole the number of resident students is declining and the number of immigrant children is increasing.

In Xiji migrants constitute about 20 % of primary enrolment and this proportion has also been growing, but not as fast as in Majuqiao. Migrant children are found even in remote rural schools since migrant labour is used in agriculture. Compared with Majuqiao, the pressure on enrolments from migrant students is less. Migrant children also supplement the local resources for schools through contributions they make.

At junior secondary level the numbers of migrant children are smaller than at primary. Overall in the district they have increased from about 5 % in 2003 to about 13 % in 2005. The proportions are smaller than at primary because migrant children have no access to the public senior high school in Tongzhou. Thus many primary graduates return to their domicile junior high school to ensure a smooth entrance into senior high school. Migrant students can enter local secondary professional or technical schools and if they do then the tuition fee for them is the same as for local students. However, these institutions have lower status than senior secondary schools and do not generally lead to university level courses.

Admission to schools above junior secondary level is a problem for migrant students. Since they have no registered Hukou in the locality, they cannot get the admission into an ordinary senior secondary school even if they take the Beijing senior high school entrance exam. If they finish their junior high school education in Beijing and return to their place of domicile to take the local senior high school entrance exam they may have less chance of admission to a highly ranked college than if they had been schooled locally because of variations in the curriculum. As a result some parents of migrant students plan their children's further schooling well in advance and send their children back to their area of domicile after primary education. This can lead to long periods of separation from their parents.

Migrant children are divided into two types by municipal authorities. Those who have a rural household registration are called children of peasant workers. The rule has been if they can present six certificates (temporary residence permit card, household register, singleton female card, agreement/contract/license of parents working in Beijing, no guardian certificate issued by relevant sector in the registered permanent address locus, agreement of housing/certificate of buying a house), they fall within the same policy umbrella as local students. Thus they qualify for the two exemptions (tuition and textbook fees) and one compensation

Table 2.1 Retention of migrant children in Majuqiao primary schools (2003/04–2007/08)

	2003/04	2004/05	2005/06	2006/07	2007/08
Grade 1	118	116	112	98	138
Grade 2	128	138	136	115	114
Grade 3	128	166	138	128	114
Grade 4	97	160	154	129	123
Grade 5	80	127	150	145	116
Grade 6	88	105	117	124	114
Total	639	812	807	739	719

(poverty related subsidy). Obtaining all six certificates can be demanding and many may not be able to satisfy this requirement. Those who have an urban household registration have to pay for temporary study fees of 200 yuan per term as noted above (500 yuan per term in secondary school). If the first category of migrant children becomes too large it creates a problem of how to finance the two exemptions and one compensation and this is seen as likely in the future.

The research indicated that not only was migration a new phenomena but that also there were issues of adjustment and balance. Though most of the migrant students were thought able to adapt themselves quickly to local environment and integrate into their new classes and with their new classmates, some migrant students could not keep up with the teaching and had difficulties in their learning, especially foreign languages. There were thought to be gaps in standards and teaching methods between Tongxian and the areas from which migrants came, and issues about levels of parental motivation and commitment. Some students repeated grades partly as a result.

There is a problem of retention for migrant children in Majuqiao that is much more serious than for resident students. Table 2.1 (above) shows that there has been a considerable drop out from grade 5 to grade 6. In 2006/7 there were 145 children in grade 5 but the following year only 114 enrolled in grade 6. For the 2005/6 cohort the number dropped from 150 to 124 between grades 5 and 6. The major reason given for this apparent drop out was that these children were sent back to their home areas to ensure they would get access to a good junior secondary school. Going back for grade 6 allows the children to readjust to the local curriculum and take the examination locally to qualify for secondary school. It is also possible that there is some drop out but there is no data on this.

2.7 Concluding Comments

It is clear from this account that both Xiji and Majuqiao have made substantial progress in implementing nine year compulsory education over the last twenty years. They started with several advantages over other districts, not least being located in one of the richest 300 counties. As Tongxian has developed to become

Tongzhou high enrolment rates have been maintained, drop out, repetition and over age children in the system have become minimal, and facilities and infrastructure have improved greatly. In part this is due to the changes in funding and administrative responsibilities which have been implemented across China. In part it reflects the achievements of many different stakeholders at local level.

Several old issues remains relevant from the 1990 study and some new ones have become prominent. First, though enrolment rates are high, these come at a cost. The pupil teacher ratios are low and have been becoming lower at 10:1 or less. This is well below what is found in most countries with high enrolments. It may be affordable since teachers' salaries remain relatively low in relation to GDP. But it may reflect inefficiencies that need to be addressed if class sizes are to fall to increase teacher contact time with students and improve quality, and if teachers' salaries are to be increased enough to motivate good students to become teachers.

Second, schools have been rationalized as enrolments have fallen and small schools have been merged with larger schools. This concentration should have increased efficiency and reduced administrative overheads but this does not seem to have happened on a significant scale. The non-teaching workforce remains large.

Third, large scale migration has affected enrolment patterns and introduced new dynamics into classroom management, pedagogic challenges, and school financing. The numbers of migrants in Majuqiao are particularly large and in some areas migrant children are in a majority. It may be time to take more special measures to address this reality and the challenges if poses. This may require more systematic integration of new migrants to ensure they settle into schools successfully, with some though given to bridging programmes that may be required related to language and levels of achievement. The issues around additional costs to migrant households, especially if they pay similar taxes to residents, and access to high school, are likely to become more rather than less important as migration continues.

Fourth, many teachers no longer live close to the schools in which they teach and commute substantial distances. This has costs and may also have an impact on school quality. It also reflects issues surrounding working conditions and quality of life that need addressing if teachers are to be attracted and retained in schools in Xiji and Majuqiao in competition with rapidly developing districts around Beijing. The age distribution of teachers is also a cause for concern, since it appears to be unbalanced with a shortage of experienced middle aged teachers, and increasing numbers approaching retirement. The reasons for this need to be understood and addressed.

Fifth, information systems appear to have improved and key data is available on all schools which generally appear well administered. It is not clear to what extent data is collected and used to monitor children's progress diagnostically and this may be a development that should be considered. It is also unclear to what extent disability is systematically diagnosed and addressed though special provision or managed integration into the mainstream.

Sixth, investment in improving quality remains a priority since physical access is not a problem in Tongzhou. This requires more than improvements in infrastructure, though these remain important. Teaching and learning remains similar to that twenty years ago with a predominance of whole class teaching, passive learning, and undifferentiated learning tasks. It may be that future progress depends on more attention being given to different pedagogies and to a broader range of learning outcomes than those inherited from the past.

Seventh, despite the overall improvement, disparities remain at township and school level. At the township level, Majuqiao has much better financial income and has invested much more in the development of basic education. Xiji is disadvantaged as it has few resources of its own unlike in 1990. At the school level the gaps in school infrastructure have narrowed a lot but are still present. There remain problems with the distribution of teachers and their motivation, and with variations in their subject training and teaching quality.

Chapter 3
Nine Year Compulsory Education in a Poor District Ansai in Yan'an, Shannxi

3.1 Social and Economic Background

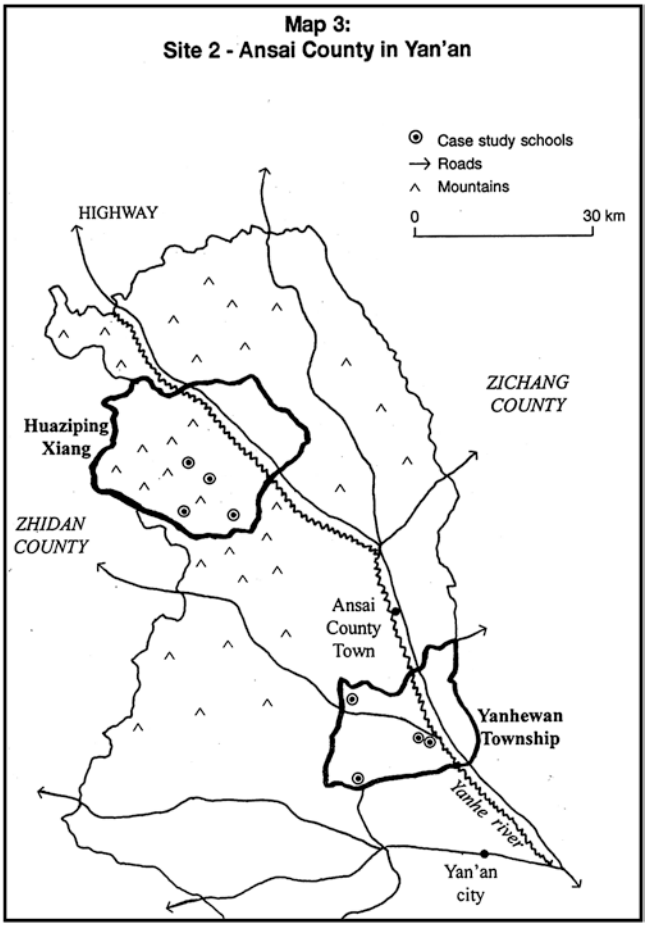
Ansai County is located to the north of Yan'an City in Shannxi. It covers an area of about 3000 km^2 and includes 12 towns and townships, more than 200 village committees and over 1000 village groups. The total population of the county is over 160,000 of which over 85 % are engaged in agriculture. About 46 % of the population are female and men outnumber women by about 14,000. Since 2008 the population has started to decline after a long period of slow growth. It seems likely this trend will continue as the effects of a low birth rate become apparent.

Ansai has the typical characteristics of the hilly areas of the Loess Plateau in northern Shaanxi, with a warm semi-arid climate. Its average elevation is 1200 m, and average annual temperature is about 9 °C. The population density is low and land in the valleys is potentially fertile and is suitable for the integrated development of agriculture, forestry and animal husbandry. The main products are maize, millet, buckwheat, beans and other grains, with an annual output of about 30,000 tons.

Since 1990 oil and gas resources have been exploited and have brought new wealth to the area. Very substantial quantities of oil are being extracted and the extensive reservoir of natural gas is beginning to be brought into production. The strategy is to "build a strong oil county, making people rich by development of industry". Economic and social development has been rapid with economic growth in most years well above 10 %. Industrial output is about 60 % of output, with the service sector accounting for about 23 %. Income per capita in urban areas is now about 16,000 yuan and rural per capita income exceeded 2600 yuan. From being one of the poorest 300 counties nationally in 1990 Ansai was ranked number 6 in Shaanxi Province's economic and social development top ten counties in 2007. Urban residents had incomes comparable to Tongzhou, a dramatic contrast with 1990.

L. Wang and K. Lewin, *Two Decades of Basic Education in Rural China*,
New Frontiers of Educational Research, DOI 10.1007/978-981-10-2120-6_3

The natural conditions in Ansai County can be harsh, soil erosions is serious, and drought not uncommon. Initiatives have been taken under national environmental programmes to return some farmland to forest to reduce erosion and the forest and grass coverage increased from 18 % in 1998 to the present 31 %. Greenhouse market gardening, livestock, forestry and fruit production have become the three leading industries in rural areas. The county has developed with the fiscal support from oil industry within the framework of "building a new socialist countryside", adhering to the principles of "industry nurturing agriculture", "cities supporting rural areas" and the policy of "giving more, taking less and loosening central control". There are now over 36,000 greenhouses in production with an annual production of fresh vegetables reached more than 110,000 tons. Large numbers of fruit trees have been planted and the livestock industry has been commercialized.



Map. 3.1 Site 2—Ansai County in Yan'an

Infrastructure has been radically improved since 1990. Then there were few tarred roads and no railway access and many villages without running water and electricity. Now 70 % of rural roads are asphalted, 75 % of households have direct access to clean water, and almost all communities have electricity and mobile phone access to communications (Map 3.1).

3.2 Change and Transformation in Huaziping and Yanhewan

Two localities were selected for study in 1990, Huaziping xiang and Yanhewan Township. In 2008 Huaziping had a population of 14,700, an increase of about 1450 compared to 1990. In recent year overall population growth has been below 1 % annually. The birth rate has fallen from about 25 ‰ to about 7 ‰. This fall reflects a recent tightening of family planning policy such that few now have more than two children. In 1990 there were many families with three or more children. The numbers of live births are now less than a third of the numbers in the early 2000s and this will have consequences for school enrolments in the next decade. The sex ratio on the population was about 110:100 in favour of boys in 1990 and was similar in 2009.

In Yanhewan the population has fluctuated but still appears to be growing slowly. In 1990 it was 16,300, it fell to 15,900 by 2000, and by 2009 it had risen to 17,000. Over twenty years growth was less than 1 % per annum. The proportion of girls amongst live births has fallen as low as 38 % (2004), and is now about 43 %. Unlike Huaziping the number of births appears not to be falling.

Huaziping is now a township not a xiang after an administrative re-organisation. In 1990 the economic and social development of Huaziping xiang lagged behind Yanhewan Township. Both districts have progressed and now the development of Huaziping Township has surpassed Yanhewan. This reversal in economic and social development ranking mirrors the similar changes that have happened in Tongzhou between Xiji and Dadushe Townships. This is a reminder that over time development is often uneven and takes place at different rates in different places.

Huaziping Township is located 40 km north of Ansai County, with a total land area of 325 km^2 most of which is farmland. The Yanhe river flows through the territory. The township is rich in natural resources, particularly oil and natural gas. The township has a jurisdiction over the 20 villages, and 106 villager groups, with a total population of 13,600, of which the agricultural population is 13,200. In 1990, Huaziping Township only had a dirt road, and very few villages had electricity. Today, every village has electricity, water supply and roads. Urbanization in rural areas has made a rapid progress. There are convenient transport, information and communication facilities. Radio, television, telephone and mobile communications coverage for the whole township The Yan-Jing provincial highway and Abei expressway are under construction and run through the town. The Ping-Hua and Hua-Zhang highways are being built.

In 1990, 70 % of GDP of Huaziping depended on agriculture and there was no industry. The annual income of the farmers was 308 yuan. The oil industry has boomed and much new investment has been made in different industries. Net per capita income exceeded 3500 yuan in 2010.

Yanhewan Township is located south of Ansai County at the junction of the Yanhe and Xing rivers. The highways from Yan'an to Jingbian pass through the township. The township has a land area of 210 km^2. It has a jurisdiction over 28 administrative villages, and 102 villagers groups, with a total population of 17,000.

The road infrastructure has improved in Yanhewan but lags behind Huaziping in terms of the amount of tarred roads. Almost all households have access to clean water and electricity. Agriculture is about 65 % of the local economy and forestry now accounts for 10 %. Per capita income now exceeds 4500 yuan.

3.3 The Evolution of Nine Year Compulsory Education

The evolution of the school system in Ansai has followed a similar pathway to that in Tongzhou in so far as the merger of small schools and concentration of children in fewer larger schools is concerned. The total number of primary schools has fallen from over 370 to less than 140 and there are now only 6 central primary schools compared to 13 before. The many incomplete primary schools have been reduced in number substantially and merged with larger schools. However, the age of entry to school remains seven years, unlike in Tongzhou where it is now six years old.

This rationalization is reflected in the two case study districts. The number of primary schools in Huaziping fell from 40 in 1990 to 10 in 2008/09. The 39 incomplete primary schools fell from 39 to nine. During the 2000s the incomplete primary schools were gradually reduced in number until 2009 when a decision was made to retain nine incomplete primary schools covering only grades 1 and 2, after which children would be enrolled in the single central primary school. Those living at a distance would become boarders from grade 3. In 2003/04, 290 students were in incomplete primary schools and these were 18 % of total enrolment. In 2008/09, only 91 were in incomplete primary schools accounting for less than 6 % of the primary school population. The largest incomplete school that remains has three full-time teachers, and only 37 students, of which 14 were in pre-school, 14 in grade 1, and 9 in grade 2. Over time it is probable that children living at a distance will be invited to become boarders from grade 1.

In 1990, there were 47 primary schools in total in Yanhewan Township, including 1 central primary school, 3 complete primary schools, and 43 incomplete primary schools. Now, Yanhewan has a total of 15 primary schools, including 1 central primary school, 1 complete primary school and 13 incomplete primary schools. As in Huaziping the number of school age children has declined, and qualified teachers willing to work in rural schools have been in short supply. Small

incomplete rural schools have been gradually incorporated into the central primary school. Those left now teach up to grade 2 or grade 4 before children are transferred to the large central primary school.

At secondary level changes have been less dramatic. In 1990, Ansai County had 15 secondary schools, of which 1 was a complete secondary school, 13 were junior secondary schools and 1 was a vocational secondary school. By 2008/09, there were 14 secondary schools of which two were complete (one is private), 11 were junior secondary, and a vocational secondary school that had existed in 1990.

In 1990 in Ansai county the total number of primary students was 15,960, of which about 49 % were girls. In 2009 13,540 were enrolled of whom 46.5 % were girls. This almost certainly reflects the fact that there are fewer girls than boys in the school age population.

Total enrolment at primary in Ansai has been falling rapidly. It was 27,800 in 2001 but only 13,500 by 2009. This has followed the fall in the school-age population. From 27,900 in 2000/01 this has fallen to 12,300 in 2008/09. The population fell fast as more emphasis was placed on family planning over the last decade. Compared to 1990 there appears to be more concern to encourage smaller families. There are other factors that are important. The rapid social and economic development has resulted in changing attitudes towards larger families amongst young people. Importantly there has been a substantial movement of the rural population into cities. In these cases children usually follow their parents. As a result the number of children in rural areas falls faster than the decline in the birth rate that has been taking place. Ansai County experienced very significant migration from its population of about 160,000. The numbers leaving are shown below. Though many may be temporary migrants whilst they are away they reduce the demand for school places if they are accompanied by their children. If not then the number of "left behind" children increases (Table 3.1).

Table 3.2 shows the "left behind" children in Yanhewan Central Primary school. They accounted for about 10 % of the total school enrolment. These children live with their grandparents or other relatives who may spoil them and who may have limited ability to support their school work. Teachers indicated that these children had a disproportionate share of problems and were more likely to be

Table 3.1 Number of migrants leaving Ansai County (2002–2008)

Years	2002	2003	2004	2005	2006	2007	2008
Migrants	4430	5450	7850	15,109	14,156	25,454	15,499

Table 3.2 Number of "left behind" children in Yanhewan central primary school (2006–2009)

Year	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Total
2006	6	24	19	15	9	3	76
2007	14	6	24	19	15	9	87
2008	1	14	6	24	19	15	79
2009	5	1	14	6	24	19	69

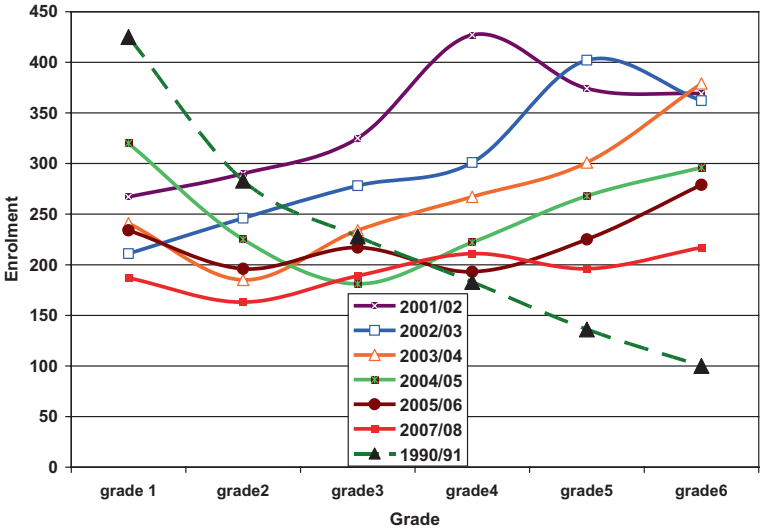


Fig. 3.1 Enrolment in primary schools in Huaziping (2001/02–2005/06)

low achieving. Not surprisingly the "left behind" children interviewed wanted to see their parents more frequently.

Not surprisingly across the schools in Huaziping and Yanhewan there were more transfers of students out than into the system, reflecting the fact that migration was occurring. Within the system most of the transfers were towards the central primary schools as these grew in size and smaller schools were merged. Unlike in Tonzhou there are very few immigrants in the schools in the two townships and it was only possible to identify about 10 cases a year across all the schools.

Falling enrolments across the county are reflected in Huaziping (Fig. 3.1). In 2001 over 2050 primary students were enrolled. By 2008 the number fell to 1344, which was similar to the level in 1990 when enrolment rates were much lower. In most years grade 1 enrolments were less than grade 6 indicating that total enrolments are declining. These patterns of enrolment are in striking contrast to the pattern in 1990 shown by the dotted line. Then there was a high rate of attrition and grade 6 enrolments were less than a quarter of those in grade 1. The pattern of enrolment has been transformed.

The Huaziping Central Primary School has benefitted from the policy of rationalization and its enrolments have experienced less of a decline than the township as a whole. From 2002 onwards it is clear that additional students are being transferred into the school in grade 3 and grade 5 from incomplete schools as shown by the steep increases in these grades. Overall enrolments have fluctuated with between around 1150 to 1300 enrolled in total (Fig. 3.2).

These enrolment changes are linked to the decline in the school age population which was 1440 in 2001/02 to 1160 in 2005/06. They also reflect changes in the

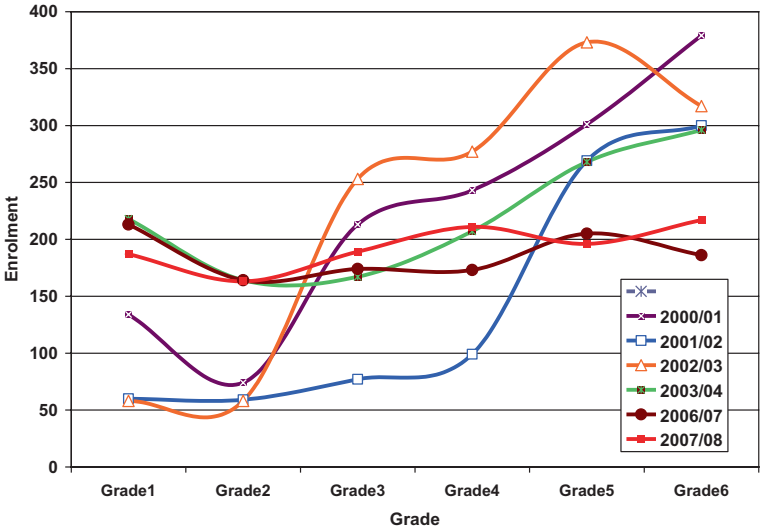


Fig. 3.2 Enrolments in Huaziping central primary school

numbers enrolled and overage. In 2001 there were over 600 non-school age pupils enrolled, mostly over the age of 13 years. By 2006 there were only 140 overage children in the system. School mergers have caused the distance between home and school to increase. Parents worry about safety of their children on the road. This can lead some them to send their children to school later than 7 years old and become overage.

The imbalance in enrolment of girls and boys was significant in 1990. At that time girls' enrolments were about 80 % of boys' in grade 1, and they were less than 60 % of those of boys in grade 5. Now the proportion of girls averages about 95 % of the number of boys in Huaziping. This represents a substantial improvement. In Yanhewen girls have been disadvantaged but now are also about 95 % of total primary enrolment.

Patterns of changing enrolment have many similarities in Yanhewan. Total enrolment in the central primary school has fallen from 850 in 2005 to 570 in 2009. Each year more graduated than entered as new enrolments so the total enrolled fell. The only complete primary school has seen enrolments drop from 230 to 60 between 2000 and 2008. And some of the remaining incomplete schools have less than 15 children. Both in Huaziping and Yanhewan incomplete primary schools increasingly have only the lowest grades and have more preschool children than children in grades 1 and 2. Figure 3.3 shows how enrolments have changed in the central primary school as students have been transferred into it. Though overall enrolment has fallen, the higher grades have consistently enrolled more than the lower grades as a result of inward transfers and falling entry rates as in Huaziping.

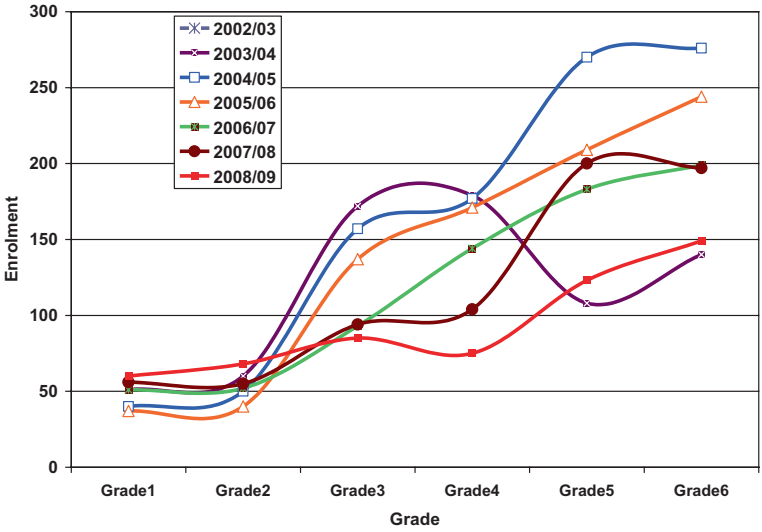


Fig. 3.3 Enrolments in Yanhewan central primary school

Class sizes vary widely by school type. Central primary schools tend to have large classes and incomplete schools small ones. This was the case in 1990 and remains true now. Thus in the last five years the class size in Huaziping Central Primary School has been over 60 children per class. The average for the township is about 28:1. This means that many of the incomplete primary schools have class sizes around 10 and should be operating as multi-grade schools. In Yanhewan Central Primary School the class size averages about 42, and as in Huaziping the incomplete primary schools can have class sizes of around 10. One incomplete school now has 12 students, 10 of whom are in pre-school.

The enrolment patterns in 1990 indicated that many of those who enrolled in grade 1 did not reach grade 6. Simply put enrolments in grade 6 were typically about 25 % of those in grade 1 across the county and in the two case study districts. The data indicate that now enrolments in grade 6 average only 10 % less than in grade 1, six years earlier. Rates of drop out are therefore now much lower. The patterns of enrolment still suggest that the largest reductions occur between grades 1 and 2. In the 1990s much of the explanation was that children did drop out and did not continue their schooling. Now most of the explanation is related to repetition of grade 1 and under and overage entry into grade 1. Some under age children may be counted as grade 1 pupils, though they are actually preschool age. Some others enter a year late and expand the size of grade 1.

Gross enrolment rates at primary level are about 110 % in Ansai confirming the fact that over age children are still in the system. Net enrolment rates appear to remain lower. In Huaziping net enrolment rates in 2006 were around 60 %. Nearly all of the children are able to get access to schooling, but many are over age. Most of those who complete primary school now have access to secondary

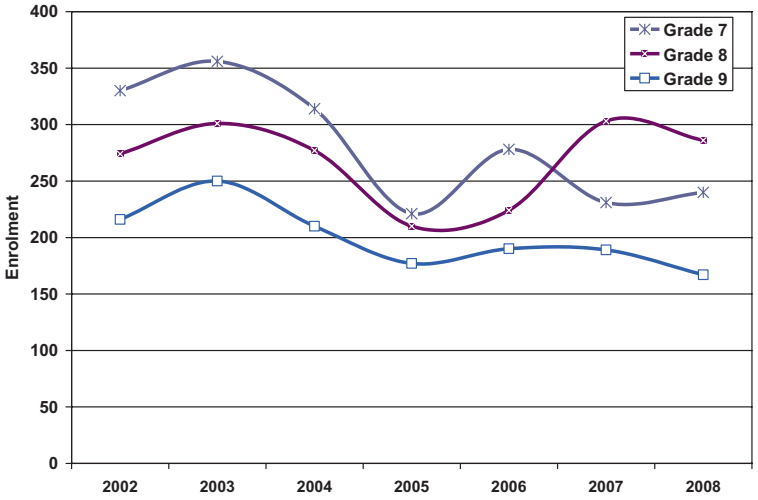


Fig. 3.4 Enrolments in Huaziping junior secondary

schools. Transition rates are usually more than 90 % from grade 6–7. Though transition rates had been high in 1990 the difference is that now most children reach grade 6 whereas before only 25 % or so graduated from primary. As a result the on-schedule graduation rates have improved for those who enter primary school at the correct age.

In 2009 there were 7890 enrolled in junior secondary schools in Ansai. This represented a decline from 2005 when numbers reached a peak of 11,000. In 1990 there were 2300 enrolled out of a much larger age group. In 2008 about 46 % of enrolments at this level were female. Twenty years ago the number of girls in lower secondary was less than 35 % so considerable progress has been made. The number of secondary classes has grown since 1990 from 55 to about 230 and class size has increased from 42 to about 50. With a reduction in enrolments this class size is now falling.

Outward migration has affected numbers in junior secondary schools, as has increased aspirations by parents of capable children who want their children to get a higher quality education in Yan'an or even Xian. The reduction in the number of repeaters has also increased internal efficiency and reduced numbers.

Huaziping and Yanhewan secondary school have followed the overall trends. The former enrolled 240 students in 1990 a third of who were girls, and the latter 270 of whom 42 % were girls. Now Huaziping has about 700 students of whom more than 45 % or female and Yanhewan also has about 700 with 47 % girls. In both cases enrolments in the recent past have been fairly stable (Figs. 3.4 and 3.5).

Consistently enrolment in grade 7 has been larger than in grade 9 in both cases suggesting that there is still some attrition. However, analysis of transfers suggests that the larger part of this reduction in numbers between grade 7 and 9 is a result of more transfers out than in. Thus in both townships up to a hundred students a

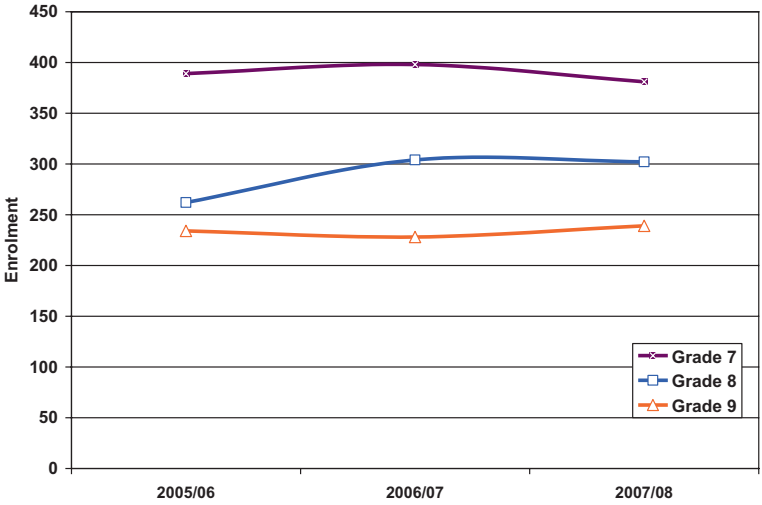


Fig. 3.5 Enrolments in junior secondary Yanhewan

year transferred out and less than 20 transferred in each year. Migration and transfers seem to account for the bulk of attrition.

About 70 % of the graduates of Huaziping Junior Secondary School are promoted to general senior secondary level and 80 % in Yanhewan Junior Secondary School. Another 10 % of students enter secondary vocational schools. The proportion was higher than that in Dadushe Secondary School in Tongzhou. Students who reach the end of junior secondary in Ansai may be more motivated to continue to study since the alternative is most likely to be work in agriculture. In Tongzhou and other suburbs of big cities it is possible more students want to work after junior secondary education and make money.

Recent increases in enrolment in Huaziping at junior secondary in 2007 are associated with the arrival of a new principal who improved the quality of teaching and learning and the management and this attracted new students to enter this school. Class sizes in this school were about the same as in 1990 and were around 50. There are however three times as many classes (15 rather than 5). In Yanhewan enrolment has also tripled and class size has also remained high despite recently falling enrolments and averages about 45.

Over-age entry and progression remains a problem. It is due to late initial enrolment and subsequent repetition. More than half of primary children in Yanhewan still appear to enter school and be in grade 1 at the age of 8 or greater. In grade 6 in the central primary school over 70 % are 13 years or older, and 35 % are 14 years or older. Large numbers also appear overage in Huaziping though there is evidence that the number has been falling. Repetition occurs because of low achievement. It also arises because students transferred to the central primary schools may be made to repeat to catch up with the higher level of learning in the

school. Though the number of overage students is being reduced it is clear that this is still an issue at primary level. It is also clear that repetition still occurs quite often despite the fact that it is only supposed to occur rarely.

In junior secondary schools it appears that more than half of students are overage by a year or more. Huaziping 45 % of those in grade 7 are over 14 years old and four students were identified as 19 years old. There was a five year spread of ages within grades. In Yanhewan more than half the students are over 14 years in grade 7 which include 21 students who are 16 years old.

Teachers interviewed were not very concerned about the concept of on schedule schooling and progression in the right grade for age. The most common perspective was to argue that if children cannot learn well, then repeating the year will enable them to learn better. Thus teachers, parents and administrators tended to regard repetition as unexceptional and accepted it as normal practice. The research identified many students who had repeated more than once, especially if they had transferred schools. Other observations commonly made were that where there were long distances between home and school parents worried about the safety of their children and this resulted in waiting until the child was older to send them to school. School mergers were undoubtedly exacerbating this situation. Even when there was boarding available parents were concerned that their youngest children were not old enough to be on their own.

It was not possible to locate reliable achievement data based on standardised tests that would enable comparisons to be made with achievement levels in other parts of China. It was possible to discuss local achievement data and gain some insight into the issues. Pass rates in the 1990 county examinations were very low with Huaziping scoring only 26 % and Yanhewan 7 % passes. Now it appears that 70 % or more pass in Huaziping and even more in Yanhewan. Though overall performance has improved it is noticeable that performance in transition grades 2, 3 and 4–5 is often poorer than other grades as a result of pupils transferring schools. Unsurprisingly though Chinese and mathematics scores have improved a lot English has poor performance. Although a high proportion of students are promoted to senior secondary school, the achievement of the students at Huaziping and Yanhewan secondary schools is also subject of concern. The results of the grade 9 graduation examinations indicate that students in Huaziping score more highly than in Yanhewan which remains below average. English is the lowest scoring subject not least because it is a language not heard or used in Ansai.

3.4 Teachers and Teacher Development

In 2008/09, there were 1650 teachers in Ansai, including 590 teachers in secondary schools, 915 in primary schools and 150 substitute teachers mainly in primary schools. The number of teachers had fallen from 2100 in 2001 and the number of substitute teachers had decreased from 850 in 2001/02 with the proportion falling from 40 to 9 %. In 1990 66 % of the 900 teachers were minban. Huaziping

and Yanhewan both reduced the numbers of minban from over 60 % in the early 2000s to below 10 %. All the teachers in junior secondary schools are government teachers.

In comparison with early 1990s when the qualified teacher rate was 81 % at primary and 50 % at secondary the situation has improved greatly. Now over 95 % of all teachers at both levels are qualified. Of 1650 teaching staff in 2008/09, 10 had postgraduate certificates, and 660 undergraduate degrees. In 1990/91, the qualification rate of the teaching staff in primary school in Huaziping was 74 % and it increased to 94 % by 2005/06. About a third have three year College certificates and about a third of secondary teachers now have bachelor degrees and all are qualified. In Yanhewan teachers are better qualified and all have three year College level at primary, and 40 % of secondary teachers have a bachelor degree.

Teachers are predominantly young. This can be seen in Huaziping where most are under 30 years old (Fig. 3.6). There is also an older group who are 45–55 years old and close to retirement. In the central primary school 60 % of the teachers are under 30 years old. These patterns are similar in Yanhewan reflect past recruitment and, to some degree, teachers being transferred out of rural schools after their first appointment. At secondary level it appears that there is a similar polarization towards young teachers with 70 % being below the age of 40 years.

Teachers are predominantly male at primary level though in central primary schools the ratio tends to be closer to 50 % of teachers below 40 years old. There is a lot of variation between schools with a minority of small schools having a preponderance of female teachers. In the 2000s it appears that the numbers of female teachers were increasing. The numbers of non-teaching staff in Ansai appear much lower than in Tongzhou. Over 95 % of all faculty are teaching staff. The match of subject specialization was also high with the great majority of teachers teaching subjects that they were trained to teach.

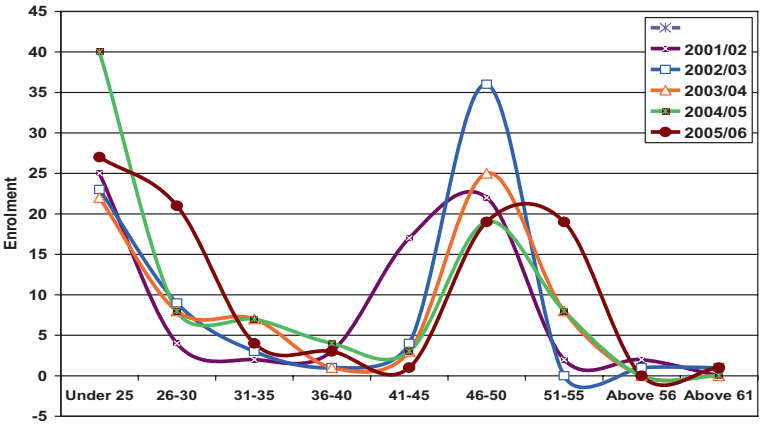


Fig. 3.6 Age structure of primary teachers in Huaziping

In 1990, the pupil-teacher ratio at primary and secondary level was 15:1 and 13:1 respectively in Huaziping and 18:1 and 11:1 in Yanhewan. These levels were low by international standards. By the early 2000s the ratio had risen at primary level to 27:1 in Huaziping and 20:1 in Yanhewan. However, as enrolments fell, and teachers were retained in service, the pupil teacher ratio then fell such that by the late 2000s it was below 15:1 in Huaziping and as low as 11:1 in Yanhewan Central Primary School. Secondary pupil teacher ratios appear to have remained between 13:1 and 15:1.

These low ratios may indicate that there is scope for increased efficiency. In 2009, all the students from grade 1–5 had 8 periods of lessons every day, amounting to 40 lessons a week (38 in grade 6) in Huaziping Central Primary. There were three parallel glasses in each grade so every teacher had an average of about 11 lessons per week, or about 2 lessons every day. The class size of the central primary school was very large at over 65 pupils. One option is to reduce class size, increase teaching loads and improve teacher utilization and teaching and learning quality. This could allow increased salaries funded from greater efficiency.

Yanehwan Central Primary School operated in a similar way with an even lower pupil teacher ratio. One of its associated primary schools had a pupil teacher ratio of only 7:1 as a result of rapidly falling enrolment. Two incomplete primary schools had a pupil teacher ratio of 12:1. In the first there were three teachers and 37 students and each teacher was responsible for each grade. They therefore all had classes all day and about 40 lessons every week across all subjects but with small class groups of around 12 pupils. In the other school there was only one teacher and 12 students so the teacher had to teach all the time in a multi-grade environment.

The evidence that we have indicates that the teaching force does turnover with about 10 % transferring in and out of schools each year. There are characteristically more transfers into the central primary schools than out since they are regarded as more desirable postings and these schools appear to have more stable staffing. Secondary schools have a turnover that is between 5 and 10 %. In the group interview with teachers there was a general satisfaction with the accommodation, office space, and other treatment provided. However, they expressed a lack of satisfaction with pay, and with separation from their partners and children, since they only saw their families and children once a week or once a month. Though teaching is a good job locally many would apparently leave if they had a chance.

There are problems with substitute teachers who remain about 10 % of the total number of teachers and who tend to work in incomplete schools. Treatment is worse than official teachers, only 700 yuan a month without any other benefit. Some of them have been working as teachers for over 10–20 years and very experienced. They have managed to get qualified through various challenges. But they still cannot get the status of official teachers as it is the policy of the county government that they stop transferring them to official teachers as more university or college graduates become teachers.

The story of teacher Zhou in Yanjiagou Incomplete primary school in Yanhewan Township is illustrative. She was 39 in 2008 and has been teaching for

over 20 years as a primary school teacher. She managed to complete 3 year college study and became a qualified teacher and in 1993 she received a teacher certificate. Now her school has lost enrolments and only has preschool and grade one. It is a one class school so she uses multi-grade teaching methods to teach students of different ages. She has to teach all the subjects and teaches 30 periods a week. Her teaching load is much higher than the teachers in central primary schools. Her teaching preparation indicates that she is a very devoted teacher who cares greatly for her children. She gives special attention to a child in her class who has learning difficulties and gives special help and records his progress to ensure he does not drop out. She encourages him to integrate with other children. However, Ms Zhou remains a substitute teacher. Mr. Wu and Mr. Zheng in Chengmao Incomplete Primary School in Huaziping are in similar situation. Both of them are qualified teachers with a 3 year college education and teacher certificates. But they cannot become official teachers because the policy is to recruit new graduates.

3.5 Educational Funding and Infrastructure

Teachers' salaries have risen by a wide margin. The average monthly income of government teachers in Huaziping Primary School was about 1200 yuan in 2010 which can be compared with about 170 yuan in 1990. Substitute teachers still exist in Ansai though they were to be phased out. They typically now earn about 700 yuan though they undertake the same workload as government teachers.

There is an incentive system whereby home room teachers whose classes have outstanding achievements are rewarded. In the secondary schools incomes average about 1300 yuan, and the teaching period fee is 6 yuan with a bonus of more than 20 % of the typical salary under the structured salary scheme. The school provides teachers with dormitories next to their offices. Though Huaziping Secondary School provides more than many other secondary schools its conditions are less favourable than Ansai County Secondary School where the average monthly income of teachers is more than 2500 yuan, with a 12 yuan's per teaching period fee. In Yan'an City the monthly salaries reach more than 3000 yuan. The bonus system in Huaziping Secondary School of four allowances—teaching hours, cost of living, performance related, and electricity is designed to partly compensate for these differences.

Yanhewan Central Primary School is similar to Huaziping though the average income is slightly more—about 1300 yuan. In Huaziping teachers have 15–18 classes per week, or three to four a day. If they have more than 18 classes per week, they receive 2.5 yuan for each additional class. In Yanhewan, teachers have 12 classes per week, and receive 2.5 yuan for each extra class. Head teachers get an additional 100–150 yuan depending on the size of the school.

Structural wages are distributed according to the workload of all the working staff at school. The practice is that teachers get additional pay by teaching more lessons. The baseline for the number of teachers classes is 360. The class fee for

secondary school senior teachers is 6 yuan, primary school senior teachers 5 yuan, primary school first class teachers is 4.5 yuan, and primary school second class teachers 4 yuan. Structural wages are distributed at the end of each term. The formula for calculating structured wages is as follows:

$$\begin{aligned}\text{Actual pay} = {} & \text{personal subsidies reserved} + \text{teaching period fees} \\ & \times (\text{actual number of teaching period of the term} - 360)\end{aligned}$$

The structured wage system reflects the principle of pay for work, but this system has some problems. First, the structured part of the pay comes from the salaries of teachers themselves and this decreases the pay of teachers each month. Thus the monthly income of a teacher in Huaziping Primary School is 1200 yuan, but the actual pay is 840 yuan. The rest of the income will be re-paid after 5 months (at the end of term) when the teacher meets the standard. As one teacher said "the school actually rewards us with our own money, it is something like getting wool from the sheep". The structural wage system does not obviously provide a strong positive incentive to work harder and more effectively, rather a negative one to conform. Second, since substitute teachers already have relatively low wages, the implementation of structural wage system will further adversely affects their treatment.

In 1990, non-governmental sources accounted for 31 % of the education funding in Ansai County. Now government funding is the main source of school income and the proportion of the county budget allocated to education has risen from about 19 % in 1990, to over 40 % in 2008. In addition there are contributions from the central, provincial, and prefectural level through various special funds.

An illustration indicates how schools are financed. Yanhewan Primary School is largely funded through two main tracks. The first is the recurrent fund of 350 yuan per student per school year. This is about seven times more than the capitation of 58 yuan in 1990. Second, there is the recurrent fund paid per teacher of 500 yuan per school year. In addition there is a 60 yuan subsidy per boarding student per school year. Thus for example the income received by Yanhewan Central Primary School for a year is: $350 \times 972 + 500 \times 85 + 60 \times 972 = 441{,}020$ yuan. This excludes teachers' salaries which are paid directly. It amounts to about 20 % of the salary bill. Secondary school financing is similar with 550 yuan per student, 500 yuan per teacher and 75 yuan per boarder. Under the 'two exemptions and one subsidy' tuition and textbook fees are waived, and poor students are paid a subsidy of about 100 yuan a month.

Non-salary school expenditure has four main parts. First, office supplies and equipment including purchase of teaching aids and sports equipment. Second, home teacher allowances, with 500 yuan per term for a village school. Third, maintenance and reconstruction of school buildings. Fourth, performance related incentives for teachers. The financial income of the school is supplemented for large infrastructure projects and major building maintenance through application to a special fund.

No detailed inventory of facilities was possible in this research. However, it is possible to comment on adequacy, and some of the changes that have taken place. The fabric and facilities of the central primary schools and junior secondary schools are now of a good standard for rural schools. They include computer rooms, library, science laboratories, playgrounds, sports facilities, and the secondary schools have a campus network for the internet. Central schools have large campuses of 10,000–20,000 m^2 and a full range of facilities to support learning. Infrastructure in some of the incomplete schools has improved. It is clear that major investment has taken place and that learning conditions have been enhanced greatly since the 1990s.

There are still some issues. Students' dormitories in the central primary school and junior secondary school have improved since 1990 when they were bare rooms with mattresses on the floor. However, they remain over crowded with over 20 children in about 10 m^2 and no furniture apart from beds, and no adjacent toilets. Some schools have no communal space and food is eaten in dormitories or sitting on the floor. The incomplete primary schools that remain are located in a variety of structures which are not necessarily purpose built as schools. Often they are attached to the village committee office building or a community hall. They generally do not have special facilities e.g. library, playground and sports facilities. However, they are no longer the dangerous and unsatisfactory cave schools that existed in 1990.

3.6 The Development of Boarding Schools

About 34 % of all primary students in Ansai County in 2006/07 were boarding. In some schools boarders were the majority of children accounting for over 60 % of total enrolment. Almost all those transferred from incomplete primary to central primary schools need to live in the school. Huaziping Central Primary had 282 boarders in 2008/09 of whom 118 were girls accounting for 26 % of all the students. In Yanhewan Central Primary School there were 337 boarders, accounting for 54 % of the total enrolment. In 2006/07 67 % of all junior secondary children were boarding. The highest proportion of boarders was over 90 % in Yanhewan Secondary School, and the lowest was 44 %. The proportion of boarders in Huaziping Secondary School was 80 %. In Yanhewan in 1990 only 24 % boarded indicating that there has been a major shift in practice to favour more boarding. This will have increased costs per student.

School work schedules vary but a typical pattern is provided by Yanhewan Central Primary School. Students get up at 6:00 am and then take the seven formal classes every morning. In addition there are morning reading classes, and extracurricular activities after school. Boarders have to take two additional evening classes, 40 min per class, until 21:00, and 21:30 is bedtime. The regime at secondary level is similar but more intensive with extended evening study periods up to 22.30 (Table 3.3).

Table 3.3 Timetable of Yanhewan central primary in the second term (2008/09)

Period of time	Activities	Time	Activities	Time
Morning	Getting up	6:00	Morning exercises, breakfast	6:40–7:50
	Morning reading	7:50–8:20	The first lesson	8:30–9:10
	The second lesson	9:20–10:00	Exercises during breaks	10:00–10:20
	The third lesson	10:20–11:00	The fourth lesson	11:10–11:50
Noon	School over and lunch	11:50–12:20	Noon break	12:20–14:40
Afternoon	Eye exercises	14:55–15:00	The fifth lesson	15:00–15:00
	The sixth lesson	15:40–16:20	The seventh lesson	16:30–17:10
	Extra-curricular activity	17:10–18:10	School over and supper	18:10
	Evening self-study (1)	19:30–20:10	Evening self-study (2)	20:20–21:00
	Bedtime	21:00–21:20	Lights out	21:30

Conditions for boarders remain austere. Generally in a room of about 10–15 m^2 there are 5 standard double layer bunk beds. These should be used by 10 students but are actually used by 20 students sleeping two per mattress. In these dormitory rooms there are no tables or chairs or any other furniture, no toilet and no heating system, though the winters are well below freezing. There is also no system whereby carers are available to children in addition to the home room teachers who have general responsibility of the health, safety and wellbeing of the boarders. The caring of borders, especially those very young ones is a cause concern.

Increased boarding has been made necessary by the decrease of school age children and school mergers which have led many incomplete schools in villages disappear. The policy choice has been made to concentrate resources in a few large schools of reasonable scale. Children living in remote villages now start their schooling in nearby incomplete schools and then transfer to central primary at grade 3 or grade 5. They have to be borders since central primary schools are distant from many villages, though this is changing as transport infrastructure improves. The presumed advantage of this policy is that children get better quality education in the central school than would otherwise be the case, not least because of the difficulties of posting good teachers to rural villages. There may be a price in terms of aspects of children's childhood and emotional well being.

Several issues were mentioned. First, boarding makes it difficult for parents to care for their youngest children who may become home sick and miss the emotional support and unconditional care that most parents give to their own children. Second, the boarding regime is demanding and children may not have much space for play and exploration. They spend long hours in learning from 7–10 pm and may have little free time and entertainment. Third, boarding can generate a financial burden on parents. Though it is fee-free some parents are so concerned that they rent houses near the school to take care of the child's daily life. As a result they have to spend money to rent houses and cannot work, so suffer a loss

in income. Fourth, many teachers in Ansai are also boarders. Some we interviewed were married to other teachers teaching in different schools, with their own children going to school in other boarding schools in major cities far from Ansai. This aspect of high rates of boarding which affects teachers quality of life seems to have been little discussed and addressed.

In the interviews with older students it was clear that many were willing to live in the school, and believed that there were advantages. The advantages noted were that the teachers would help them with their studies; they could socialize with other children; and that the discipline of boarding was good for their future well being. On the other hand some teachers complained that the management policy of 'fixed position', and the so-called 'sentinel positioning system' means that from morning to night they have to be responsible for the study and wellbeing of all the students and this increases their workload. In addition to formal classes, teacher must be on post for tutoring, self-study classes, exercises during breaks, and bed checks. As one teacher has put it: "managing the students too rigorously will make students have no imagination and have a lack of enthusiasm for study. If students cannot learn independently, the more the teachers teach, the more dependent they will be on the teachers."

Though many boarders in Ansai qualify for the "Two exemptions and one subsidy" policy, parents who were interviewed expressed the view that the costs were still substantial. Excluding the cost of tuition and textbooks, the 75 yuan per month living allowance is not enough for the boarders. For example, each meal costs a student about 2–4 per yuan, 7–10 yuan per day, and at least 200 yuan per month. In discussion with students it became clear that between 20 and 40 yuan per month are needed in addition. Thus parents need to pay 100–150 yuan living expenses a month for boarding children over and above the subsidy.

Closely related to the development of boarding is the extent to which the number of "left-behind" children is growing. This occurs when parents work away from Ansai as migrant workers. Children have to live with their grandparents, or be entrusted to the care of their relatives. For example, in Yanhewan Central Primary School in the last five years the number of left-behind children was between 70 and 90, accounting for about 10 % of the total enrolled students.

"Left-behind" children are a special group who have a disproportionate amount of learning problems. Teachers indicated that some left-behind children are withdrawn and indifferent, and their academic achievement is not as good as other students. Because they often live with their grandparents who may have low levels of education, they may be spoiled and given little help and guidance in their studies. Although it is argued, teachers try their best to give help to these children, the issues are often complex. Several left-behind children we interviewed were clearly distressed they did not see their parents for long periods, sometimes more than a year at a time.

3.7 Concluding Comments

In general, access to nine year compulsory education has clearly improved considerably in Huaziping and Yanhewan. Almost all the children now enter primary school and the great majority reach the end of the primary school and have a good chance of enrolling in junior secondary. This was not the case in 1990 when enrolments in grade 6 were only 25 % of those in grade 1 and drop out was a major issue. The participation of girls is now broadly similar to that of boys, achievement appears to have improved, and the physical condition of the larger schools has been greatly improved. Almost all teachers are qualified and teaching subjects in which they are trained, and increasing numbers now have bachelor degrees. Though there is a turnover of teachers, this is also accompanied by an increase in the qualification level of those in post which should improve quality. Minban teachers have been greatly reduced in number though some remain. A major change has been that the county has taken over most of the responsibility for financing compulsory education. The panopoly of fundraising devices used at local level in 1990 has been replaced by a much simpler administrative system based on formula funding. Teachers are now also paid into their bank accounts avoiding the delays that were previously common. The "two exemptions and one subsidy" has reduced the burden on poor households and is likely to have contributed to reduced rates of drop out.

These developments have taken place against a background of rapid economic development, accelerated by revenues from the exploitation of oil and natural gas, and the commercialization of agriculture. Enrolments grew between 1990 and the early 2000s but since then have declined as demographic changes have reduced the number of school age children by as much as 50 % in ten years. This has arisen as a result of a combination of declining birth rate and outward migration for work in more prosperous parts of China.

There are a number of issues that are raised by the case study of Ansai which can focus future policy dialogue and practice to support the implementation of nine year compulsory education.

First, demographic changes are likely to continue and need to be anticipated. The macro economic and social dimensions of these changes are outside the scope of this paper, but a view has to be taken as to whether the number of school age children will halve again in the next ten years, or whether changes will occur that will lead to a different outcome. Planning provision depends fundamentally on how many children need access to education. Falling enrolments at the high rates that have been experienced create institutional and pedagogic challenges that need to be addressed if inefficiency is not to grow and educational quality to suffer.

Second, the rationalization of small schools has taken place on a large scale. The number of schools has more than halved in Ansai as a whole and has fallen even more sharply in Huaziping and Yanhewan. This has resulted in a number of stress points. Merging small schools with larger schools has necessitated more boarding than would otherwise be the case. This has costs and educational

implications, especially where it means very young children are separated from their parents. Though concentration of enrolments in large schools can result in economies of scale these may become marginal above a certain school size of 750–1000. There may also be diminished economies of scale.

In addition, those small schools that remain may suffer from relative neglect and falling demand to the point that they become non-viable if they are not seen to have a future; teachers may be demotivated and parents may try to transfer their children. There is also a growing issue about pre-school provision which is most likely to be delivered effectively close to pre-schoolers homes. Managing the dynamics of transition is clearly a challenge in Ansai. Over time, almost all children may become boarders from lower and lower grades. Alternatively new kinds of incomplete schools including pre-schools and early grades might be developed with multi-grade pedagogies and access to internet and other distance technologies that can link in low population density communities to mainstream educational services. Though the policy of reducing the number of small rural schools in favour of concentrating resources in large boarding schools had many attractions in the last two decades, it may be that the time has come to reappraise the options and the costs and benefits.

Third, high levels of boarding school participation have raised issues of both child development and pedagogy, and issues for teachers. There appears to be little grounded research but much opinion about the benefits of boarding schools for improvements in the quality of education for rural children. There is scope for more evidenced based research on what the effects may be and how the beneficial aspects can be maximized and the negative aspects minimized. This applies to both the children whose emotional support and family relationships are central to their developing identities, and to teachers who may or may not be attracted to the conditions of employment that boarding schools provide.

Fourth, though enrolment rates are high and drop out rates generally low, it appears that there are still issues about over-age enrolment and whether all students will graduate on schedule. Late entry into grade 1 and repetition still occurs, though it should no longer be visible. The reasons vary but some are certainly subject to policy intervention—late entry should be discouraged and entry at age six promoted at community level; repetition is a curriculum and learning issue that needs to be addressed within schools; age grade slippage related to school transfer should be managed in ways that reduce the problem. Over-age enrolment has consequences—the more over-age the less likely to enter and complete junior secondary school and the greater the chance of falling behind in learning. All countries that have high participation in schooling have few over-age students.

Fifth, the deployment of teachers and the efficiency with which their time is allocated remains an issue. Some schools have an unbalanced age structure in their teacher cadres which may result in shortages of experienced teachers in mid career. Some schools now have very low pupil teacher ratios. Even in larger schools teacher workloads can appear modest, with less than half the number of teaching periods in a week being taught. If this is the result of managed decisions on resource allocation it may be appropriate. But if it is the result of organizing

large classes to minimize teaching hours a week it has a cost in the quality of interaction between students and teachers. Gains in efficiency could result in higher salaries for teachers justified by increased productivity.

Sixth, though the number of minban and dai ke teachers has been reduced there are still a significant number many of whom appear to render good service for very modest rewards. It is well known that it is difficult to deploy official teachers to small and remote villages to teach, and that is partly why substitute teachers continue to be employed. But those teachers who take on these jobs need to be properly motivated and equitably treated. Many are now qualified and have a lot of experience. Most of those who were unqualified minban have now retired. Under current circumstances with the system which guarantees state financing of teachers' salaries, the anomaly of this category of teacher should be removed. These teachers should either become qualified and be employed as full time government teachers, or should be redeployed.

Seventh, it is clear that significant disparities remain between rural and urban areas in Ansai, between school types, and between communities. The differences may have been growing with rapid economic development and uneven growth. These disparities need to be monitored and managed so that they decrease rather than increase.

Eighth, data on schools, pupils, teachers, and facilities has improved considerably over the last twenty years. However, many gaps remain which need to be filled if policy is to be informed by up to date and reliable statistics.

Chapter 4
Nine Year Compulsory Education in a National Minority Area Zhaojue County, Liangshan Yi Autonomous Prefecture, Sichuan

4.1 Social and Economic Background

Zhaojue County lies 100 km east of Xichang, the capital of Liangshan Yi Autonomous Prefecture in Sichuan Province and is located in the rugged and under developed Liangshan Mountains south of Yuexi County, north of Jinyang, Butuo and Puge County. The Yi national minority can be found in Sichuan, Yunan and Guizhou and number about 10 million people. The county covers 2700 km^2 and has low population density. Zhaojue County administers 47 xiangs (towns), 267 villagers' committees and 835 villagers' groups. The total population at the end of 2009 was 268,000, 98 % of whom are Yi people. Yi is widely spoken and is a written language though there are relatively few sources of print material in Yi. In 1990 there were few radio sets, a handful of televisions, and no telephones outside Zhaojue and the main road communication lines. Now radio and television reach most areas, and mobile phones are common. Remote valleys still remain isolated. Most schools operate using Chinese as the medium of instruction but some maintain dual medium streams.

The altitude in Zhaojue varies between 520 and 3900 m above the sea level, with an average altitude of 2300 m. As a result the climate is harsh. The annual precipitation is high at over 1000 mm, the average annual temperature is 11 °C and it has nearly 1900 h of sunshine annually. The winters are cold with much snow and below freezing temperatures and the summers hot and humid. The four seasons can be experienced in one day when moving from valleys to mountains.

The area is agriculturally dependent on wheat, corn, potato, buckwheat and oats which are cultivated in the lower valley floors. Only about 10 % of the land can be cultivated. Though water is available in abundance there are also high levels of erosion along water courses that periodically flood. Historically Yi people were pastoral herders living in dispersed settlements throughout the region practicing shifting cultivation and moving up and down the mountains in search of pasture in different seasons.

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Transport infrastructure remains poorly developed. Though the highway to Xichang has been upgraded and is now fully asphalted, roads beyond Zhaojue remain unsurfaced and can become impassable when there is heavy rain. New village style housing is being constructed along the main valley and Yi people are being offered subsidies to adopt a more sedentary pattern of livelihood and lifestyle. This is creating communities which are large enough to support conventional schools mostly located along the roads along the valley floors.

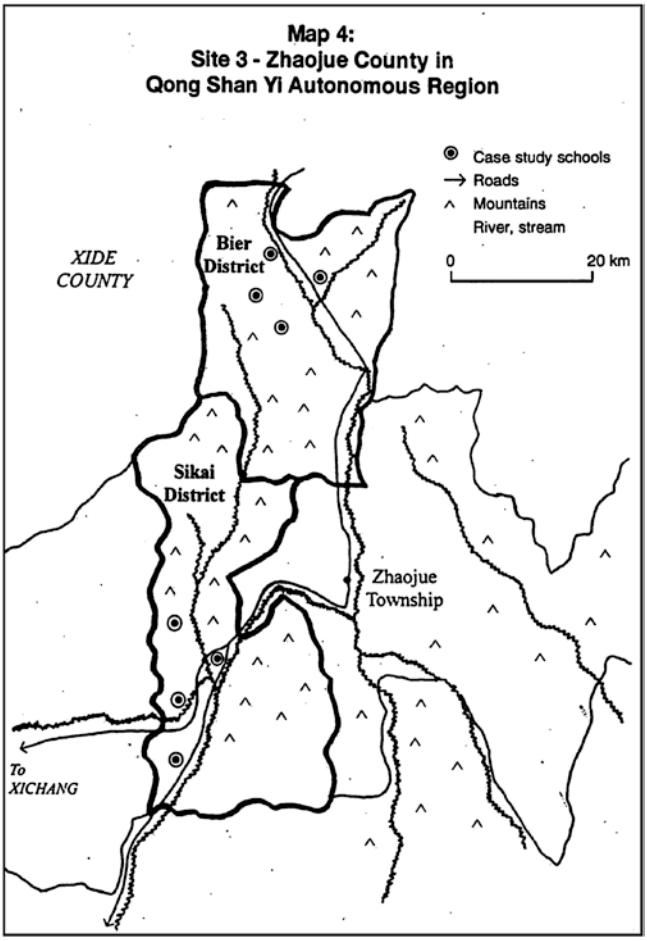
The county has always been poor since it has no industry of magnitude that can generate revenue on scale. The county budget continues to depend on subsidies from higher levels to support the costs of its services including education. Though urban residents appear to have an average income of as much as 11,700 yuan per year, few enjoy this level of income since most of the population is rural and some is on the margins of the cash economy. Rural average incomes are estimated at only 2600 yuan per year. Zhaojue is conspicuously much poorer than Tongzhou and Ansai (Map 4.1).

What had changed between 1990 and 2010 was that HIV/AIDS had appeared in the Yi population and had produced substantial numbers of single and double orphan children, many of who had difficulty in consistently accessing schooling. The source of the problem is attributed locally to illicit use of intravenous drugs with shared needles, and to the social impact of opportunities for Yi people to temporarily migrate to other parts of China with surplus demand for labour. The seriousness of this development is now recognized, and public campaigns have sensitized the population to the risks and transmission vectors.

Before 1950 the Yi people had a feudal society with traditional landowners and serfs working the cultivatable land and herding. Yields were very low, basic needs of shelter and nutrition went unmet for many, and security was problematic as rival clans fought over resources. Since 1956 and especially since the 1980s the county government has invested in agriculture and livestock and has introduced rotation of crops and cultivation of the grassland. Yields have increased and sheep have become an important source of income on planted grasslands. Most output remains related directly to agriculture. Thus, though economic development is taking place the economy of Zhaojue is small scale and under developed (Lewin 1995).

As a national minority Yi people are not subject to the one child policy and may have several children (Lewin and Xu 1989). In 1990 large families were common and many had several brothers and sisters. Typically families had two or three school age children. This also appeared to be the case in 2010. The birth rate therefore remains much higher than that in Ansai and Tongzhou and there is no clear indication that it has begun to fall.

Zhaojue has benefitted from China's investment in the development of the Western Regions which has directed substantial resources into infrastructure and education and health. Over the last three years there has been a push to increase initial enrolments in school and to construct and rehabilitate school buildings. This has proceeded in parallel with investments in improving roads and building houses in new villages along the valley floor. Zhaojue County Town is developing and is a vibrant market town. Its main streets include retail outlets, small hotels, banks



Map. 4.1 Site 3—Zhaojue County in Liang Shan Yi Autonomous Region

and restaurants which contrast with its appearance in 1990 when there were a few shops selling mostly basic commodities and the town was much smaller with very few large buildings.

4.2 Change and Transformation in Zhaojue in Bier and Sikai

Two areas were selected for case studies in Zhaojue (Lewin and Wang 1994). These were Bier and Sikai. Bier District is 32 km north of Zhaojue County. It links with Yuexi County in the north and Pangxide County in the west. The Bier River

goes through the district from the north to the south. The only flat land is along the bank of the river and the rest of the district is mountainous with an average elevation of 2500 m and a high point of 3900 m. Bier remains difficult to access along a road which becomes impassable in poor weather and which follows the line of the river. Roads leading off the main road remain only suitable for four wheel drives. There is a private bus service along the road but the price of 10 yuan for a ticket to Zhaojue is a disincentive to many who are not receiving regular salaries. It is not used by school children. In this area the population density is very low and the grazing is very poor. Frost and hail are major natural hazards which destroy the crops. Though there has been some economic development including a potato processing plant, physical infrastructure remains poor and the quality of many buildings is low. Bier xiang has not benefitted as Sikai has from being located on the road between Zhaojue and Xichang where more investment has been concentrated.

Sikai District was the other case study area chosen. It lies more than 20 km southwest of Zhaojue County Town and is contiguous to Bier District and Xide County in the north, Fucheng District in the east, Jiefanggou District in the west, and Butuo County in the north. Several small rivers run across the district, and it has a relatively large plain area unlike Bier. On average it is 2200 m above the sea level, and the highest point is 2800 m. It is a little warmer than Bier and has a higher rainfall. The land is more fertile than Bier and there is some irrigation, commercial agriculture, and some mining and small scale industry. Ribbon development is taking place along the main road that leads to the city of Xichang on the plain below.

Sikai has developed faster than Bier and it is clear that levels of investment in infrastructure and buildings including schools have been substantial. The transport system has continued to improve in Sikai and the main artery road to Xichang and the rest of Sichuan and China passes through Sikai with a regular bus service down to the plain. Sikai is no longer isolated from the outside world, at least for those living along the highway. Whereas in 1990 only three families owned a tv set these are now commonplace, as are mobile phones. Thus Sikai remains richer and more developed as was the case in 1990.

4.3 The Evolution of Nine Year Compulsory Education in Zhaojue in Bier and Sikai

The evolution in the number of schools in Zhaojue has followed a very different pattern to that in the other case study areas. In 1990 there were 122 primary schools including two at county town level with the rest at village school level. By 2005 the number of village schools had more than doubled to 261 and the two county schools continued with expanded enrolments. Another county primary school was established in 2007—a National Primary School with 1200 enrolment. The new village level schools are the result of commitments to provide access to

all children many of whom live in remote villages and settlements away from main roads and sometimes in settlements in the high mountains. They include eight central primary schools.

Though many children walk for long periods to school the pattern of settlement is such that without small schools access would be very limited. Though many new schools have been established it is also true that many have very limited facilities often without electricity or drinking water, and without safe, dry, warm and light space for learning and teaching. Zhaojue County officials indicated that they were at the beginning of a process of consolidation of teaching points and merging schools. This process was going to result in an increase in boarding because of the demographics of the population and the physical topography. Ten small schools were closed between 2006 and 2010 and the process was set to continue as boarding places were made available. Before 2004 there were 9 primary schools in Bier. After 2004 there was only one central primary school and 3 incomplete primary schools as a result of mergers to increase efficiency and reduce costs.

Zhaojue has two complete secondary schools—Zhaojue County Secondary School and Zhaojue County National Secondary School. Both are located in Zhaojue Township and both existed in 1990. These two schools are widely seen as the best secondary schools in the county because of their location and ability to attract and retain the best teachers. The number of junior secondary schools has increased from one in 1990–1996 in the academic year 2009. The Bureau of Culture and Education in Zhaojue has the county government's mandate to support education and, for secondary schooling, it devolves the responsibilities to the lower district level authorities. There are six districts in Zhaojue County and each now has a junior secondary school.

Across Liangshan Yi Autonomous Prefecture in which Zhaojue is located teaching follows one of two models. In Model 1 all subjects in grades 1 to 6 are taught in the Yi language and Chinese is taught as a major subject. In 2010, there were only 14 schools using Model 1 with 1400 students and 80 teachers. In Model 2 all subjects of grades 3–6 grades are taught in Chinese, and Yi language is treated as a major subject. Grade 1 and 2 are taught bilingually in Yi and Chinese. All schools in Bier and Sikai belong to Model 2. Generally, teachers teach in Chinese and the textbooks are the same as those used in non-ethnic minority regions. In these schools teachers indicated that in lower grades much teaching had to be in Yi. At higher levels Chinese was used most of the time. Most pupils from incomplete schools come from a non Chinese language spoken environment, both at home and outside the school. Children cannot understand Chinese at all. Learning is more difficult for these children as textbooks are in Chinese. This is one reason why learning achievement is low.

Patterns of enrolment in Zhaojue have resulted in significant growth in numbers since 2007 when over 26,000 were enrolled. This can be compared with 1990 when enrolments only reached 11,500. At that time there were only 250 children in grade 6 and 4500 in grade 1. Not much more than one in twenty children who started school completed grade 6, and there were more than twice as many boys as girls enrolled.

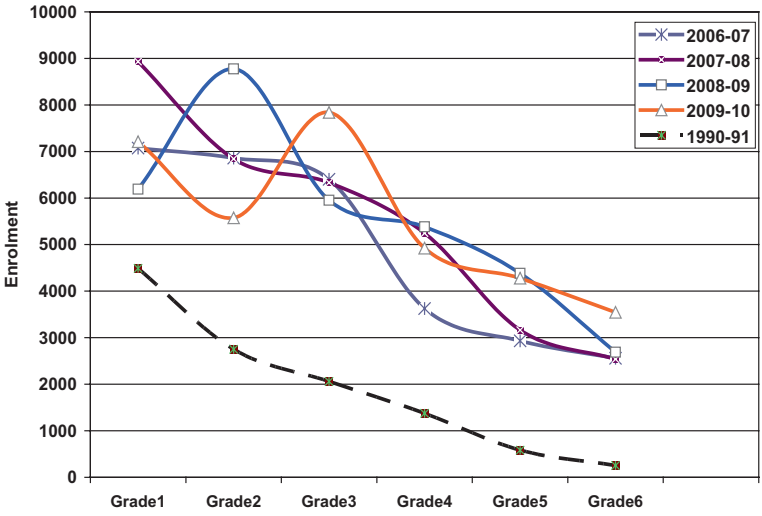


Fig. 4.1 Enrolments in Zhaojue

Figure 4.1 shows how enrolments have been changing and have more than doubled over twenty years. In 2007/8 special efforts were made to increase the enrolment of children. In 2007/8 grade 1 enrolments were high and the bulge of enrolments moved on to grade 2 in 2008/9 and grade 3 in 2009/10. Those enrolled included over age children. The next cohort entering in grade 1 in 2008/9 was smaller since no more over-age children could be enrolled. In most recent years the numbers in grade 6 have been around half those in grade 1 indicating that drop out remains serious issue.

The current pattern can be compared with enrolments in 1990 shown by the dotted line. It is clear that many more children are attending school. It is also clear that many of those who enrol in grade 1 are still unlikely to graduate since the numbers in grade 6 remain much lower than in grade 1. Overall in 2010 there appeared to be less than 1000 children in the primary age group who are out of school, out of about 31,000, according to county statistics. These may underestimate both school age children and those out of school.

Currently 42 % of those enrolled in primary are girls and the proportion continues to rise. In 1990 very few girls were enrolled and some village schools had no girls in grade 6. The problem was recognised and some all girl classes were introduced in one central primary school. These classes group all girls together in a grade and are often supported by subsidies from sponsors. In 2010 some all girl classes were in evidence in much the same pattern as in 1990. The classes did not appear to run all through the school but were only in particular grades. The sponsored grade group moved forward together. As far as could be established the curriculum followed differed little from that offered to mixed classes and the books

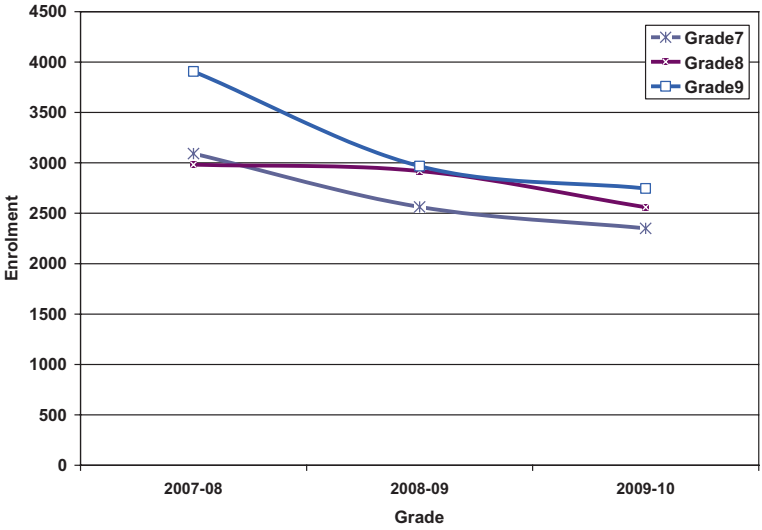


Fig. 4.2 Enrolments in junior secondary

used were the same. It seems that the innovation has persisted on a small scale and has not been generalised across the schools.

Enrolments at junior secondary level are now about 7600 which can be compared with 1380 in 1990—a fivefold increase. Most of those who enter grade 7 complete grade 9. Between 35 and 40 % are girls: this is similar to 1990. Enrolments seem to have been falling since 2007 (Fig. 4.2). This is most likely to reflect the fact that some who enrol transfer to other schools outside Zhaojue in search of better quality schooling. Those who reach this level and drop out are a relatively small number. It appears that about 6000 of the 12,000 in the lower secondary age group are not enrolled.

Efforts were made to establish the dropout rate. This is difficult because flows of children through the system are uneven, especially after the 2007/8 campaign to enrol all school age children. It is also complicated by the transfers of some students into town schools after the scholarship examinations in grade 3, and the transfer of others to schools outside Zhajue, in Xichang and elsewhere. No clear records were available on these transfers.

At the most obvious level the number of students in grade 6 in Zhaojue in academic year 2009–2010 was 3345. In 2006–2007 the number enrolled in grade 3 was 6403 so about 3058 had failed to arrive in grade 6 four years later. As many as half of those who entered grade 3 in 2006–2007 had probably left school by 2010. It is very unlikely that all or even most of the 1150 who did not transit between grade 3 and 4 were transferred out of the Zhaojue system altogether. If they were transferred to schools in Zhaojue they would have been counted in the enrolment statistics. Though there are some signs that the dropout rate may be falling in the last three years it is too soon to establish if this is a long term trend. Thus though

drop out has decreased, and more than half those who enter grade 1 probably reach grade 6, it is far from being eliminated.

The data from Bier and Sikai District show similar patterns. Thus for example in Bier about 3500 7–12 year olds were in school out of 4750, and this represented about 74 % of the age group. 1250 were identified as not going to school, or at least 25 % of all school age children. Amongst 13–15 year olds about 700 out of 1850 were in school or 38 and over 60 % were not attending. Only 6 % of 17 year olds were still in school of which 80 % were still in primary school. From interviews and other data the students who transferred to other schools only accounted for a small part of the attrition. It was thought most dropped out and sought work inside or outside Zhaojue. The most common reasons teachers cited for drop out were the demands for labour to contribute to household income, other household work, and paid work outside Zhaojue. Less frequently they attributed the causes to long distances to travel to school and family poverty and to the costs of schooling. "School weariness" was also cited where students became bored with school work and ceased to see it as relevant. There was a widespread feeling amongst teachers interviewed, that some of the problems lay with the attitudes of parents who failed to see the value of schooling and prioritized the immediate benefits of additional contributions to household production.

There is no reliable data on how many children who have never attended school. The numbers cannot be very large but they are not insignificant. Fieldworkers had little difficulty locating itinerant Yi teenagers in Xichang most of who had dropped out and some of whom had never been to school. Interviews with orphans in Sikai indicated that some were from households where other siblings had not attended school at all. There appeared not clear chain of accountability that would ensure that all children had the opportunity to attend school. Those who did not attend were not apparently systematically located and supported to come to school either by schools or by village authorities, though there were examples of initiatives taken by individuals and some communities.

In 2009 class sizes in Zhaojue averaged between 45 and 50 children. This average is misleading since many of the schools were small village schools with small classes. Village schools average class sizes of about 30 across Zhaojue. About a third of all classes are less than 25 children and these are all in village schools. A third of classes are over 46 in number, half of which are in central primary schools. The central primary schools have much larger classes and average over 65:1. In particular, grades 1–3 have over sized classes where there may be over 90 in a single classroom as Fig. 4.3 shows. In grade 3 there is a selection examination and those who are successful are transferred to schools in the county town, including the school reserved for Yi minority children. Enrolments drop in grade 4 and above in the central primary school as a result. However, similar numbers of classrooms and teachers are allocated leading to a fall in class size.

Oversize classes are problematic since classrooms are built to hold about 50 children. Some now house between 80 and 100 children in five rows of seven desks with three children to a desk. In strong contrast with Tongzhou children who now have individual desks to work on. There is also a pre-school class with

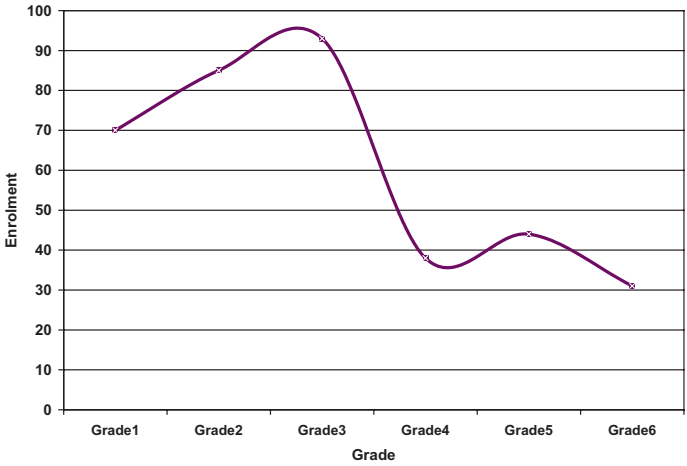


Fig. 4.3 Central primary school class sizes

more than 130 children aged from 4 to 6 years old, in one of the central primary schools. This creates a crowded and noisy environment where systematic learning is unlikely. In this case the children had no school bags or books and the activity appeared to consist of little more than child minding.

The legal age of entry to school in Zhaojue County remains at 7 years old. The records show that some do start schooling at the age of six, especially in the townships. But many do not enter school until they are eight or more years old. This means from the outset these children are at least a year behind those in Tongzhou and other parts of China who start at six years old. A substantial issue remains with both age of initial enrolment, and the on-age progression through the grades.

It is clear from the data in Fig. 4.4 that many children enter school late. In fact over 31 % are 8 years or older and 16 % are 9 years or older. By grade 6 nearly 40 % are 14 years or older and 19 % are 15 years or older, or 2 years above the normal age in grade. At junior secondary level, similarly, about 40 % of children are overage. The numbers of overage have remained largely unchanged over the last five years across the county. There is evidence that since 2007 more children are entering the central primary school at the age of 7 years, but this change does not seem to have reached the majority of village schools where most are enrolled.

The reasons for overage entry and progression vary in Zhaojue. Amongst the reasons given were that since households often have three of more children it is often the case that older children have to take care of younger children. They may also have to contribute labour to household agriculture. This can delay school entry for some children. The culture of school going is argued to be weak and there is no sense of urgency amongst parents to enrol children, especially if they are small for their age. Many children appear stunted and thus look younger than they are. Repetition of grades is also fairly common according to teachers leading

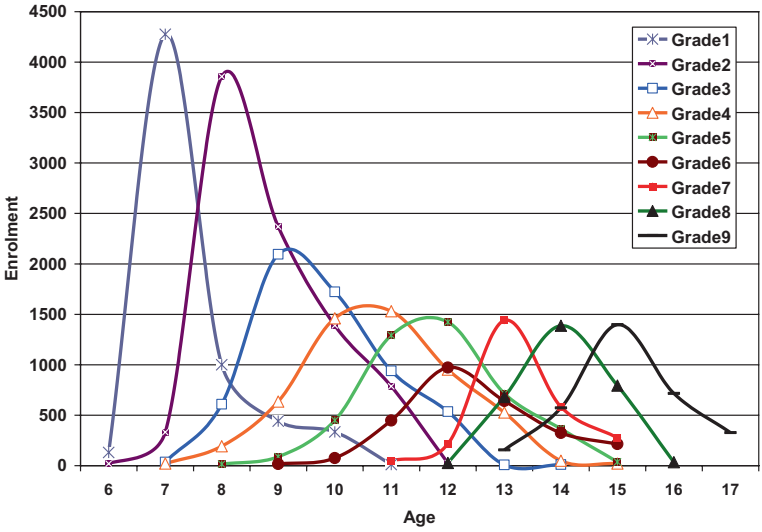


Fig. 4.4 Age and grade in Zhaojue

to a slippage of age in grade. Most village schools are incomplete primary schools with only two or three grades, and little or no systematic monitoring of progress, and no clear criteria for promotion from grade to grade. Educational quality can be very low and teaching irregular so that children have difficulties in keeping up with learning. This is especially true if children transfer to other schools with higher grades, they may be asked to repeat a year to reach the same level as children already in these higher quality complete schools.

The curriculum followed in Zhaojue is essentially the same as that in other parts of China. The timing of lessons is adjusted to suit local circumstances. A typical timetable for a grade 5 class is a shown in Table 4.1 In the morning, there are 30 min for reading. At noon, 40 min is allowed for exercise or Ashiqie (a folk dance activity). Where videos and TVs are available, lessons that have been prepared by master teachers and distributed to schools are played to children, especially for English language lessons and sometimes for science where teachers are often unavailable or untrained. At the end of the school day, students clean the classroom and school compound. The time to travel between home and school for non-residential students averages 1–2 h each way as most children walk to school, often over mountain paths. Schools generally do not provide lunch for non-residential students, though some do for payment.

As in the other case studies comparable data on achievement over time is not available. County level tests are administered and give some indication of performance. Children in Zhaojue at primary level appear to perform better in mathematics than in Chinese as might be expected since Chinese is not the mother tongue of most children. Zhaojue appears to perform around the average for Liangshan Prefecture, with variations around the average in different grades.

Table 4.1 Timetable for grade 5—Zhaojue

Time	Monday	Tuesday	Wednesday	Thursday	Friday
10:00–10:30 Morning reading	Chinese	Math	Chinese	Math	Chinese
10:40–11:20 First lesson	Chinese	Math	Chinese	Math	Chinese
11:30–12:10 Second lesson	Math	Chinese	Chinese	Chinese	Math
12:20–13:00 Third lesson	Math	Chinese remote education	Math broadcast	Chinese broadcast	Math remote education
13:00–13:40	Exercise or Ashiqie				
13:40–14:20 Fourth lesson	Traditional education	Music	Math	Yi language	Labor
14:30–15:10 Fifth lesson	Traditional education	Art	Ideological education	Yi language	PE
15:20–16:00 Sixth lesson	Safety education	PE	PE	Science	School activities
16:00–16:30	Cleaning				

Surprisingly performance in Yi language was weak, but this is likely to be because in most schools only two periods a week are allocated to the subject and much more time is given to learning Chinese since they are Model 2 schools. There is a wide gap between junior secondary schools' scores and prefecture averages. This is particularly wide in subjects other than the core curriculum subjects of Chinese and mathematics. Low achievement may reflect the disadvantages that many children bring with them from their primary schools and problems with maintaining standards and motivation in relatively remote locations. Overall it appears many children in Zhaojue are performing well below levels of achievement in Tongxian.

Zhaojue has suffered from exposure to the HIV/AIDs pandemic. Its location is such that Zhaojue County has been the transhipment point for trafficking drugs. It may also have been affected by Zhaojue migrant labour returning home with infections. In the late 1990s mortality from AIDs became more evident and the number of single and double orphans began to increase. Several of the central primary schools now have classes for orphans and most of these are sponsored by non government organisations and philanthropists. Though it is difficult to establish how many orphans there are, these orphan classes account for 5–10 % of enrolment in the central primary school and do not include all orphans. For orphans in special classes the room and board is free. But there is no subsidy or allowance for the orphans in common classes.

It was not possible to establish systematically how effective special provision was in Zhaojue. Orphans appeared grouped in single classes sponsored by benefactors, but not all grades had such classes. It was not clear what the rationale was for such grouping. Neither did it seem equitable that some orphans were sponsored in these special classes and others were not. Or why some were housed in

separate living accommodation from other boarders which was privately sponsored. Though teachers noted that some orphans were more likely to lack self-confidence, be less communicative, and be low achievers, there appeared to be no access to specialist support that might diagnose and treat these manifestations of potential marginalization and illness.

4.4 Teachers and Teacher Deployment

There are now 1320 primary and 360 junior secondary teachers in Zhaojue which can be compared to 645 and 250 respectively in 1990. The number enrolled has therefore grown faster than the number of teachers. In 1990 there were over 300 minban and substitute teachers making up as much as 32 % of all teachers. It appears that over 200 still remain. Most teachers were young in 1990. This remains the case with over 50 % of primary teachers and more than 65 % of secondary teachers being under 30 years old as Figs. 4.5 and 4.6 show.

Two thirds of the primary teachers were Yi nationality in 1990, and the proportion has now increased to about 73 %. At junior secondary level the proportion of Yi teachers is now 45 % and the remaining teachers are Han. Yi teachers are concentrated in the lower grades of the primary school not least because children cannot speak Chinese and lessons have to switch between languages. Most teachers are male in a ratio of 1.5:1 at primary level and 1.9:1 at junior secondary. This is an improvement over 1990 when less than 20 % of all teachers were female, and in many village schools there were no female teachers.

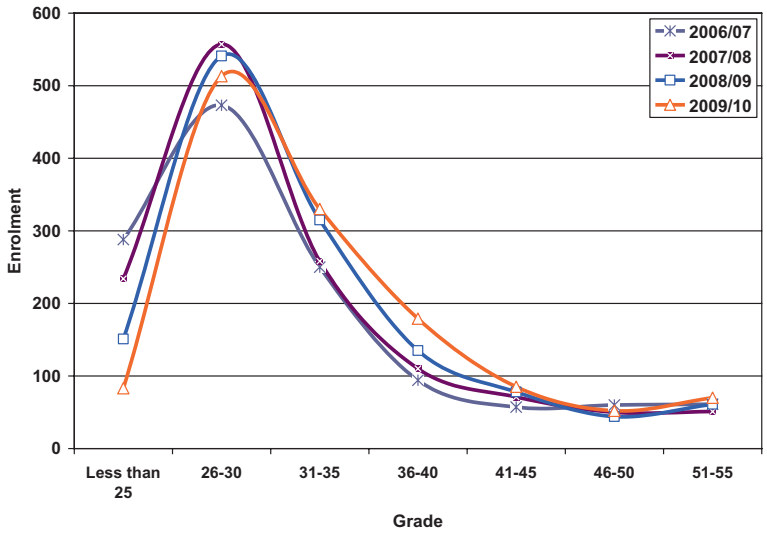


Fig. 4.5 Age of teachers in primary schools in Zhaojue

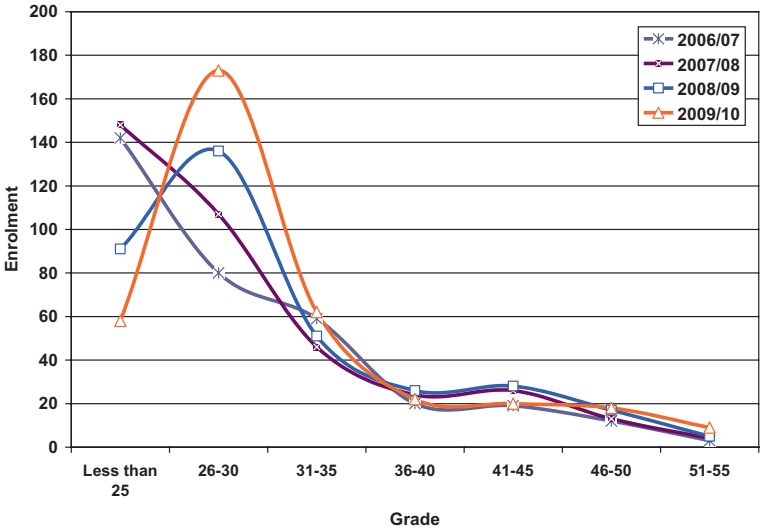


Fig. 4.6 Age of junior secondary teachers in Zhaojue

In 1990 most teachers who were not minban and substitute teachers were qualified. Now minban and substitute teachers have been reduced and most teachers are government paid. Primary school teachers have to hold a high school diploma or above, and junior secondary teachers a college diploma or above. In 2010, 96 % of teachers at primary level and 99 % junior secondary teachers were qualified by these standards. There are still quite a number of incomplete schools and teaching points. Most of the substitute teachers are working in incomplete schools and teaching points. Unlike in Ansai where substitute teachers have no chance to become official teachers, in Zhaojue substitute teachers have the chance to take part in assessments and become official teachers once every two years.

Pupil teacher ratios have increased. Across Zhaojue these averaged 13:1 in 1990 with nearly 2 teachers per class at primary level. At junior secondary, the ratios were about 7:1 and over 4:1 teachers per class. These were very generous levels of staffing. In 2010 the average pupil teacher ratio had increased to 24:1 at primary and there were 1.4 teachers per class. At junior secondary the pupil teacher ratio reached 20:1 and the number of teachers per class had fallen to less than 3 per class.

Overall these current ratios may be appropriate and are comparable with national standards. However, they do vary considerably from the average in different schools. Village primary schools tend to have higher ratios—an average of 26:1 compared to 20:1 in towns, because of shortage of teachers willing to work in their remoter conditions. Rural junior secondary schools have lower ratios (18:1 compared to 24:1 in towns) because of their more specialised teachers and small enrolments. In the mid 2000s when many secondary age students went in search of

work pupil teacher ratios in the junior secondary schools fell to only 6:1. In contrast to this very low ratio the pupil teacher ratio in Sikai Central Primary School approached 40:1 for much of the last five years.

Teachers were recruited in Zhaojue in advance of the initiatives in 2007/8 to popularise compulsory education, were accompanied by an inspection. In the last two years the number of teachers has been falling. The county government determines the number of teachers employed and controls transfers. It appears that about 10 % of teachers are transferred in and out of schools each year. There is a competition each year to select the best teachers who qualify for transfers to better schools. Though this may motivate some teachers, it may reduce the quality in the schools they leave. Zhaojue remains an unpopular posting for those teachers who do not come from the area. Many rural teachers also indicated a preference to work closer to Zhaojue Town.

Teachers' salaries in Zhaojue have been increasing with monthly average of 2300 yuan, and a highest salary is 3200 yuan per month in 2010. This is above the average agricultural income in the area. Substitute teachers only receive 600 yuan each month without any other benefit. However, living expenses are high and a lot of money is spent on transport and commuting, and there are not enough houses for all so some pay rent. In 1990 salaries for teachers were between 180 yuan per month and 200 yuan per month and have therefore increased ten times. Though the increase in salary has been more than in other places it is still a subject of dissatisfaction.

4.5 Educational Funding and Infrastructure

The management of the primary school system in Zhaojue is undertaken by principals of central primary schools, though formally the responsibility is with the district office of Culture and Education. School principals are responsible for instruction in the central school and for instruction and administrative work in other schools in this district. Thus Bier district has eight administrative Xiangs each of which has a central primary school linked to the Bier Office of Culture and Education. This managerial system is able to integrate resources and oversee widely dispersed village primary schools and teaching points.

The implementation of the new financial allocation system has guaranteed overall funding, and local fund raising at Xiang level has largely ceased. However, it appears that there are issues about funding affecting the large numbers of village schools in Zhaojue. Cash transfers related to numbers of children and teachers do not appear to reach these schools and are captured at central primary school level. Though centrally purchased teaching materials are distributed, these schools receive no money to meet local needs. For example, in Xinbang Incomplete Primary School in Bier District, the recurrent fund does not reach them. In 2009 the school requested each parent to pay 50 yuan for school maintenance and repairs. In Aboluo Incomplete School the condition of the school building has remained unchanged since 1990.

As elsewhere the state grant is based on providing 350 yuan per student and 500 yuan per teacher. Students in villages don't need to pay for tuition and textbooks, and those who are boarding in Zhaojue receive a subsidy. But the money goes to the school instead of students themselves: the student has to pay. Substantial expenditure on repairs and on school buildings has to be allocated on request by the county government.

Zhaojue County was and is a poor county. It has benefited from the implementation of the "One Decade Action program of Minority Education", and has seen much investment in new school buildings. Junior secondary and central primary schools are now mostly substantial multi storey buildings on campuses with sports facilities. The new secondary schools have science laboratories and computer rooms.

Though village schools have also been improved those away from communication channels can be very impoverished. They may not be purpose built structures and are likely to have been constructed from local materials which have structural weaknesses. Some would fail any health and safety inspection. There are large differences in the quality of construction and the quality of space provided in different schools. Though some conditions have improved, and more children are housed in appropriate school buildings, some remain seriously in need of rehabilitation or rebuilding. Too many children still appear to need more support to maintain personal hygiene, and sanitary facilities often remain rudimentary. Clean water is not available at all schools, and some remain without electricity.

4.6 The Development of Boarding Schools

Zhaojue County has recently embarked on a policy of rationalizing its school resources. It has yet to reduce the number of small schools in villages by a significant amount as has happened in Ansai because its conditions are different. However, in the last five years 38 schools were dismantled and merged, and 14 schools were newly built. A pattern of "high schools concentrated in county, middle schools concentrated in rural junior middle school, primary schools concentrated in township central schools" has been established.

In 2010, there were 49 boarding schools in the county, which accounted for 19 % of all schools. Of these 40 were primary schools, 6 were rural junior middle schools, one was a nine-year school and 2 were high schools. A living allowance is paid for primary and secondary boarders of 50 yuan and 70 yuan per student per month respectively. This does not cover the full cost of boarding which appears to be closer to 200 yuan a month, and is less than is provided in Ansai.

Though the latest initiatives represent a new attempt to improve conditions for many students by extending the amount of boarding provision, the policy has a long history. In 1990 there were three levels of boarding—key point, general and semi boarding. Children were selected for each type depending on examination results and each stream had different levels of subsidy for students, costs were

weighted in favour of girls. In 1990 there were 3000 boarders, over 20 % of total enrolment at that time. So far the new initiatives have therefore only succeeded in keeping pace with increased enrolment, so the proportion of boarders has remained similar to its level twenty years ago, though the numbers involved have increased.

The boarding system is intended to solve problems of distance and rural isolation in what is a very mountainous area. The system is in transition and there are many issues. First, the dormitories are insufficient for the number of students. The research indicated that there are 20 or even 30 students living in a dormitory designed for 10 people, and they sleep two or three to a mattress. Second, though infrastructure in new schools has improved, in some heating is unavailable, toilets and running water are some distance from the dormitories, and some furniture in dormitories is lacking, not least because there is little space any. Pupils appear to have little if any personal space or non classroom social space. This is all the more surprising when fully equipped computer rooms are provided with more than 40 machines and the necessary networking representing a substantial investment of resources.

Third, food and nutrition are a concern. Traditionally in Zhaojue there are only two meals a day at 10:00 and 16:00. The food for boarders tends to be very simple and with little protein, meat is provided once a month. A proportion of children are below height and under weight. Fourth, according to some teachers children can experience emotional problems as a result of long periods separated from parents and home environment. Boarding schools are run according to fairly rigid timetables with little creative space and free time. Fifth, the costs of boarding are substantially greater than for day schools, and the demands on teachers are considerably greater than in day schools. As relatively closed communities in remote locations it remains difficult to get teachers to serve in these schools, especially after their first appointments and if they have families.

It is not clear what the reasons are why more boarding is not in evidence in Zhaojue given the existing policy and the fact that it has been a priority for twenty years. Financial constraints have been an issue but the existing small village schools must also be relatively expensive if they have low pupil teacher ratios. More boarding may be the option of choice if more of the population relocates from mountain habitations to valley floor villages. But such relocation would make more local day schools viable especially if transportation was improved and subsidised. As in Ansai the possibilities opened up by new technologies may also create windows of opportunity to develop efficient small schools connected to the latest developments in pedagogy.

4.7 Concluding Comments

Zhaojue has developed from a much lower base than either Tongzhou or Ansai. It remains the case that not all children complete primary school, even though the great majority of children in the 7–12 year age range are enrolled in school. It is

clear that many children enter school late and do not complete the full cycle of primary schooling. Even fewer and perhaps as little as one third complete junior secondary school as they should under current policy. Some children never attend school.

There have been very real gains. The efforts made in 2007/8 to universalize access can be seen to have had a substantial impact on enrolment in the lower grades. Though drop out persists it is much less than it was and many more do reach grade 6 and 9 than in the past. School infrastructure especially in the central primary and junior secondary schools is much superior to that which existed in 1990. Purpose built new buildings have been constructed in anticipation of greatly increased numbers of boarders. However, this expansion has yet to be realised as boarding remains at similar levels as a proportion of enrolment as in 1990.

Several observations stand out from the changes that have taken place.

- Disparities between town and rural schools remain striking. Although the larger primary and secondary schools now resemble those in many other parts of China in construction and facilities. The majority of schools, and most enrolments, remain in the large number of village schools many of which are small and of poor quality. As far as can be judged investment has favoured large central schools and little has trickled down to the small rural schools, especially those which are located away from metalled roads and which may involve crossing rivers and mountains to gain access. A hierarchy of schools continues to exist with the county town institutions well provided for with the best facilities and highest proportions of qualified teachers, next are central primary schools and rural junior secondary schools in townships, then complete schools, and last incomplete primary schools in villages. The question is whether recent developments have diminished the differences between the schools and provided more access more equitably. There must be cause for concern that the answer to this question may be that access has increased but that the system remains inequitable.
- The disparities between schools have consequences for teachers and pupils. County town schools with superior advantages in facilities, accommodation and amenities are attractive to both teachers and students and their parents. Aspirant families want their children to study in the county town. The annual teachers' competition offers transfers to the county town school to the best teachers. Those who have taken first appointments as teachers in rural schools often seek transfers after three years or so. The risk is of a spiral of deprivation whereby weak village schools are becoming weaker and finding it difficult to maintain enrolments and normal teaching activities.
- It may be that the policy of incorporating schools and reducing the number of teaching points is a possible solution but it has a long way to go to reach out to all the existing schools and small communities. It would also create a relatively small number of large institutions separated from the communities they serve with the benefits and disadvantages that accompany boarding large numbers of young children. There is therefore a need to address the management of the

reduction of disparities within a framework that may need to be more flexible than simply building more and more large boarding schools.

- Teacher recruitment and deployment are still problematic. The training and appointment and retention of teachers is central to a stable and effective education system. There are more Yi teachers now in the system than twenty years ago but there could be more. Not only do they have Yi language competence as well as Chinese they may also be more likely to stay and build careers in the schools. The age distribution of teachers remains predominantly skewed to young teachers after twenty years, suggesting there is significant attrition in mid career.
- Pupil teacher ratios and class sizes are very unevenly distributed. Large schools have large and very large classes though they may have surprisingly low pupil teacher ratios. Small rural schools can have very small classes and some have low pupil teacher ratios. Where teachers are unwilling to be posted some rural schools may have very large pupil teacher ratios. Zhaojue is urbanizing and it is likely that more places will be needed in town schools which are planned to increase to 6000 at primary and 5600 at junior secondary in 2015. These schools already have the largest class sizes. The disparities that now exist were foreshadowed twenty years ago. They seem to have persisted and may have worsened. More even distribution would lead to more equitable access.
- The formal age of entry remains at seven years though some six year olds enter town schools. The reasons for this are unclear. It costs no more to attend school at six than at seven. But the loss of a year's schooling at an age where learning is most rapid is something that cannot be replaced. This, coupled with the persistence of overage children in the system in large numbers, leads to a need to act to ensure earlier enrolment and progression on schedule for age. This might reduce dropout rates amongst overage children, especially girls.
- Preschool provision is largely absent in Zhaojue except in the town. Some larger schools are opening pre-schools which are fee paying and revenue generating. The gap between children who have access to pre-school, and who are likely to enter grade 1 at six rather than seven years, and those who have no pre-schooling, may result in a further widening of opportunity between those children with a head start, and those without.
- The position of girls appears to have improved since 1990. However, they are still under represented in enrolments. More needs to be done to increase the chances of participation through to the end of junior secondary. Though there are some girls only classes in some schools, these seem to be arranged on an ad hoc basis with no clear programme of support, and no systematic tracking and monitoring to establish whether they make any difference, and if so what is it that makes the difference. Since these classes have existed for two decades they should be evaluated and either generalized across schools and grades if they make a difference, or abandoned if they do not.
- The practice of creating special classes for HIV/AIDs orphans appears to lack a clear and consistent rationale. It may have pedagogic and social psychological benefits for those lucky enough to be selected but this needs to be demonstrated.

If effective then natural justice and equity would extend this arrangement, and the associated payment of fees etc., to all orphans rather than a few. It would also recognise the differing circumstances likely to affect HIV/AIDs orphans and "left behind" children who may effectively be orphans. It is clearly not equitable that some orphan siblings receive benefits and some do not. If the objective is to integrate orphans into main stream society to lead normal lives separate classes for orphans may or may not be the best mechanism, there needs to be a stronger rationale than simply the availability of limited sponsorship. Other forms of financial, medical and emotional support should be considered.

- Accelerating the boarding school programme and closing or merging more small schools may increase enrolment and progression. However, there may be limits to the extent to which it is cost effective and educationally beneficial. School mapping can identify the degree to which boarding can and should replace efficient day schooling. The conditions may be changing as infrastructure improves and it becomes possible to link remote communities to the mainstream by using information technologies. The impact of childless villages on communities should be considered, and so should the accelerated urbanisation of the area and the impact that has on agricultural productivity.
- The direct and indirect costs of schooling in Zhaojue remain significant. Though the abolition of tuition fees and textbook charges is helpful, and the subsidy to the poorest essential; it appears that this is not sufficient to provide incentives and cover costs for the poorest,. living on the margins of the cash economy. In addition if district and central primary school authorities retain some of the per capita subsidies destined to support the poorest schools and communities this may also limit the impact of the existing measures. If all Yi children are to complete nine years of education, those currently failing to do so who are disproportionately from the poorest communities, will need to have all costs met.
- Full participation also requires more investment in physical infrastructure. Inadequate buildings remain, especially in villages. In the worst cases these may have little or no furniture, poor quality construction, lack of light, heating and electricity, clean water, and sanitation. They may also have few textbooks and learning aids. Some village schools are receiving assistance from non government organizations and other benefactors. Under the current commitments to fully fund nine year compulsory education this should not be necessary.
- Demographic changes will continue in Zhaojue and need anticipating in order to establish how much schooling to provide, in which locations and at which level. Urbanisation is resulting in growing demand in the county town and some larger villages along communication routes. Some rural settlements are shrinking as their inhabitants move to new villages. Outward migration, of young people looking for work is also likely to continue and in some years seems to have had a substantial impact on enrolments, especially at junior secondary level. The birth rate appears to be high but may fall amongst the growing numbers of town dwellers. Balancing supply and demand for places will require consistent planning informed by good quality data on the dynamics of enrolment.

- The implementation of "one decade action program" and the additional support that development of the Western provinces are receiving, has led to gratifying achievements in implementing nine-year compulsory education in Zhaojue County. Many officials, teachers and other members of the community have contributed to the gains that have been made. But the analysis illustrates that there is a road still to travel. There is a risk that the growth in participation that has been achieved will stall if steps are not taken to address the issues raised in the case study on both the supply and the demand side. The differences between Zhaojue and Ansai and Tongzhou remain striking, and mean that children in Zhaojue continue to have much less chance of progressing to the end of junior secondary and of learning in an environment that promotes successful achievement of national learning goals.

4.8 Post Script to Cast Studies

Chapters 2, 3 and 4 have explored the changing landscape of basic education in three places in China over a period of unprecedented social and economic change. It may not be an exaggeration to say that each area has changed more in the last 25 years than it did in the last 250 years. The map of educational provision has been rewritten both as a response to social and economic change and in order to anticipate such change. The case studies therefore give a unique insight into how China has moved from lower enrolment rates to near universalisation of access except in remote areas, how school systems have adapted and shown resilience in responding to changed circumstances, and how consistency of purpose and resource mobilisation has led to greatly improved indicators of educational development, albeit that much remains to be achieved.

The next four chapters explore specific themes that have shaped the transitions and will continue to do so well into the 21st century. Chapter 5 considers teacher issues, especially the persistence of substitute teachers in the less developed parts of the system, and the enduring concerns about conditions of service, the quality of teachers, and more efficient teacher deployment. Chapter 6 explores the system for managing basic education and how various kinds of decentralised management failed to deliver services universally or equitably and how current policy favours more financial centralisation and linking authority with accountability for service delivery. Chapter 7 provides more insights into children affected by different marginalities. These include migrant status, left behind children, gender discrimination, HIV/AIDs orphans, and national minorities. Chapter 8 discusses school location planning and the impact of demographic change on school size and efficiency. The development of boarding schools at all levels in rural areas has become a large scale phenomenon both as a result of policy and an inevitable consequence of urbanisation and falling birth rates.

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Chapter 5
Rural Teacher Issues

5.1 Introduction

This chapter explores key issues that concern teachers and teacher development. First it discusses the development of policy and practice in relation to pubic supported and substitute teachers who remain part of the workforce on inferior conditions of service located in rural areas. Second the quality of rural teachers is illuminated using data from the case study areas. Third teacher stability and turnover are investigated. Fourth, teacher deployment and efficiency are considered. The last section reaches conclusions about ways forward.

Historically most teachers in China have worked in rural and semi rural locations and have played a central role in supporting the education of the masses and universalizing access to basic education. This situation has been changing as development has resulted in large migrations to urban areas though because of the residence rules (hukou) the movement of children has been slower than that of adults. Though more than 50 % of the population is urban rural teachers are still in a majority since their schools and classes are smaller. They are also the teachers who are often working in schools where there is still drop out before completion of grade 6 or grade 9 and where levels of achievement tend to be lower than in the cities. How the rural teacher force remains critical to commitments to universal access and to improve equity and quality so that the gaps between urban and rural schools are reduced.

In this study we define rural teachers to mean the teachers working in the compulsory education stage in designated rural areas, particularly referring teachers working the townships and villages schools below the county levels, although some of them may live in the county town. Rural teachers are an educational phenomenon with unique characteristics different from urban teachers often working in more difficult circumstances with fewer resources. Rural teachers accounted for are the main body of the whole teaching force in China. In 2001, there were about

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Table 5.1 Number of primary school teachers in rural areas (1994–2012)

Year	Total	Urban	Rural	
			No.	% of Total
1994	5611324	804241	4807083	85.67 %
1995	5664057	849028	4815029	85.01 %
1996	5735790	871149	4865641	84.83 %
1997	5793561	892887	4900674	84.59 %
1998	5819390	902269	4917121	84.50 %
1999	5860455	918705	4941750	84.32 %
2000	5860316	927155	4933161	84.18 %
2001	5797746	874957	4922789	84.91 %
2002	5778853	905160	4873693	84.34 %
2003	5702750	936398	4766354	83.58 %
2004	5628860	937495	4691365	83.34 %
2005	5592453	898381	4694072	83.94 %
2006	5587557	828197	4759360	85.18 %
2008	5621938	929613	4692325	83.46 %
2009	5633447	929281	4704166	83.50 %
2010	5617091	947337	4669754	83.13 %
2012	5121626	1254960	3866666	75.50 %

10 million primary and secondary school teachers of whom about 55 % were rural and another 20 % were in peri-urban areas and small towns. By 2012 the total number of teachers had fallen to about 9 million and the number of rural teachers had fallen below 50 % overall. However at primary level more than 75 % were rural (Table 5.1).

Rural teachers are central to the success of universal 9 year compulsory education in rural areas. However, it has always been difficult to recruit enough teachers to work outside the cities and educational development has lagged as a result. With the new policy goal of narrowing the quality gap between rural and urban education the quality of rural teachers has become a core issue. This means both improving the capabilities of the existing workforce and making sure that new teachers are recruited who are motivated and qualified. A two track approach seeks to develop rural teachers in parallel with urban teachers to accelerate modernization in rural areas, and to respond to the specific challenges presented by the rural environment.

5.2 Context of the Research

This chapter draws on the research undertaken in Tongzhou district in Beijing, Ansai county in Shannxi province and Zhaojue county in Sichuan province in 1990 and in 2010. These areas were chosen to illustrate China's comparatively

developed areas, a poor area, and remote national minority area respectively. The 1990 study focused on examining the implementation of policy on compulsory education in rural areas and made some regional comparisons between the three different areas in relation to teacher development and other issues. The data from the 2010 case studies makes it possible to compare districts now and in 1990 and see how aspects of teacher deployment and conditions of service have changed. This can give some insight into whether balanced development is taking place and how the quality of basic education now varies between different areas, schools and social groups. The concept of balanced development of compulsory education analyses issues from the macroscopic level (inter-regional and within the region), the middle level (inter-schools) and the microscopic level (inter social groups), it also looks at issues of imbalance related to educational input, process and outcomes.

Educational inputs can generally be divided into two parts. First, investment in infrastructure is needed to provide buildings, classroom space, learning materials, and furniture and equipment, as well as operating budgets. This is a necessary but not sufficient condition for development. Second, alongside this investment in human resources determines educational process and quality. This includes support for students and school management but most importantly it includes investment in teachers, and in teacher development. Educational inputs are signified by pupil teacher ratios, class sizes, time on task, learning materials, curricula suited to students capabilities, and support systems for enrichment and remedial support. Outcomes can be assessed in a variety of ways that include the attendance and dropout rate, completion rate, graduation rate for primary school and junior secondary school, and students' achievement and behavior.

Teachers' quality is an important prerequisite for achieving balanced development of education and promotion of educational quality. By analyzing the empirical research data from the three case studies we can gain insight into changing patterns of provision and both horizontal and vertical imbalances. The construction of the teaching force in rural areas has changed dramatically over the last 25 years. The changes include the proportion of substitute teachers, the level of teacher's salaries and benefits, the qualification rate for teachers and their educational level, the stability and turnover of teaching staff, the effectiveness of teaching, and the deployment of teachers within schools. The rural teaching force still has many uneven characteristics and patterns of development that need to be understood and managed to narrow the gaps, achieve more balanced development, and improve educational quality.

5.3 Public and Substitute Teachers in Rural Schools

The questions that surround substitute teachers (formerly "publicly supported teachers" or "minban") have been central to the development of teachers in rural areas. These teachers are a special group with a unique history in China. Substitute

teachers as those teachers who are temporarily employed in the state primary and secondary schools but with no official institutional post. They are paid by the school they are working in and may also receive income from local government (Zhou 2011). They are invariably on lower salaries and have fewer benefits than official teachers. Before the 1990s public teachers or "minban" were employed from local revenues with or without qualifications as temporary teachers and were common in rural areas. After these teachers were declared prohibited, substitute teachers began to be permitted to fill teacher shortages. The main difference is that substitute teachers generally had to pass a minimum qualification test, whereas "minban" and public supported teachers did not.

Public teachers first appeared in the earlier years after the funding of new China based on the principle of "Poor country runs big education system". By 1951 primary public teachers grew from 105,000 in 1949 to 425,000 in 1951, and the proportion of public teachers out of the total grew from 12.6 % to 34.8 %. Public teachers in secondary schools grew from 28,239 in 1949 to 228,000 in 1951, taking 31.2 % of the national total. It expanded fast during the Great Proletarian Cultural Revolution (GPCR) between 1966–1976, when the child-bearing rate reached its peak with fast growth in the number of school age children. During the GPCR teachers colleges had been closed causing serious shortages of trained teachers. As a result large numbers of untrained people became teachers and most were selected for ideological rather than professional skills. Public teachers increased from 1.770 million to 4.710 million over a ten year period. By 1977, 56 % of all teachers in the country were public teachers supported by local contributions and almost all of these were rural teachers (Zhou 2011).

It became increasingly clear that the "Four Modernisations" that included education could not be achieved without regularizing and professionalizing the workforce of rural teachers. The use of public teachers on a large scale in rural areas was regressive and unfair, and was impeding progress towards universal access to education. Political reforms changed the climate for development and after 1985 it became a priority to improve the quality of rural teachers. This meant that public teachers were phased out and were either dismissed or retrained and transferred to official teacher status.

It proved easier to pass the legislation than to implement it. It remained the case that in remote and poor areas qualified teachers were unwilling to work there and it was difficult to recruit and retain teachers. Shortages of qualified teachers persisted in rural areas. Large number of substitute teachers appeared after the 1980s when public teachers were officially abandoned. In 1997, the number reached a peak of over 1 million (He 2010). Public teachers therefore remained as a significant but smaller proportion of the teacher workforce with even less status than they had before. Their placement, social status, salaries and benefits continued to catch public attention and they were the subject of debates on how to realize the goal of having all teachers qualified.

In August 1992, State Education Commission, State Development Planning Commission, Ministry of Personnel and Financial Department released *The Suggestions of Improving and Strengthening Public Teachers and Resigning*

Unplanned Public Teachers. This pointed out that after unqualified public and unplanned teachers had been made to resign their positions could not be filled by official teachers because of shortages on the supply side of those qualified and willing to teach in rural areas. The policy was relaxed so that county level educational administration could employ those with a senior secondary school diploma or higher diploma as substitute teachers. The requirement was that they first needed to participate in formal and official examination organized by local county governments. In August 1998, *The Notice of Improving Management of Teaching Force* from Ministry of Education in China pointed out that all teachers in primary and secondary school including substitute teachers had to be managed by the department of educational administration above county level according to the new law. To employ, appoint or resign teachers, confirmation and approval had to be obtained from the department of educational administration above county level (Lei and Chen 2008). These policies created some ambiguities and gave space for the employment of a new generation of substitute teachers with characteristics similar to public school teachers. The basic problem of an adequate supply of qualified and officially appointed rural teachers remained intractable.

5.3.1 Significant Decrease in Proportion of Substitute Teachers

The number of substitute teachers peaked in the late 1990s since when there has been a rapid decline. This has been more marked at primary level than at junior secondary where there were fewer substitute teachers in the first place (Table 5.2).

The research findings from the case study districts show that compared with two decades ago, the number of substitute teachers has decreased significantly. However, in some of the remote rural areas, a small number of substitute teachers still remains. There are no substitute teachers in central primary and junior secondary schools. They tend to be concentrated in incomplete and village primary schools. Some substitute teachers have no teacher qualification but an increasing number have acquired specialized higher education diplomas and teacher's certificate. Their salaries and benefits are still much lower than government-paid official teachers. Their prospect of becoming an official teacher is small.

The changes can be illustrated with reference to the three case study areas. In Tongzhou District in Beijing out of a total number of 3677 primary school teachers in Tongzhou county (Tongzhou District since 2005) in 1990, 3559 were official teachers, and 671 were public paid *(minban*) teachers, representing 20 % of the total. This percentage was as high as 29 % in Xiji township and reached 43 % in Dadushe township. The majority of minban teachers were senior secondary school graduates without any normal school initial teacher training. Since 2005, all the primary school teachers have been official teachers. Some of the minban teachers acquired official status after becoming qualified, while others gradually retired or were dismissed. In 1990, there were a large proportion of minban teachers in

Table 5.2 Change in number of substitute teachers (1990–2012)

Year	Primary	Secondary	Total
1990	426218	126204	552422
1991	424078	127740	551818
1992	573328	143982	717310
1993	628508	138196	766704
1994	652767	133196	785963
1995	717997	141919	859916
1996	771601	146967	918568
1997	859786	145704	1005490
1998	841884	136173	978057
1999	706535	112872	819407
2000	551429	104364	655793
2001			
2002	477010	119543	596553
2003	423857	119047	542904
2004	378614	120535	499149
2005	330658	116950	447608
2006	311833	115691	427524
2008	250852	103309	354161
2009	234502	100671	335173
2010	203802	92804	296606
2012	176979	90076	267055

junior secondary schools in Tongxian. Out of the total number of 2220 teachers, 341 were minban teachers representing 19 % of the total. Most of them were unqualified. Since 2005, all the teachers in junior secondary school have been official teachers in Tongzhou.

In Ansai County in Shanxi Province the situation in 1990 was much worse than in Tongzhou. The supply of qualified teachers was a serious problem. There were 595 minban teachers in Ansai primary schools accounting for 66 % of the total number in 1990. The proportion of minban primary teachers was as high as 75 % in Huaziping township and all the incomplete primary school teachers were minban teachers. 60 % of primary school teachers in Yanhewan township were minban teachers. In 1990/1991, there were 23 minban teachers in junior secondary schools of Ansai, which accounted for 8.9 % of the total number.

Since 2003/04, there have been no minban teachers in central primary schools in Ansai. As elsewhere the substitute teachers are mainly concentrated in incomplete primary schools, accounting for 15 % of all the teachers. In 2008/09, there were 1,655 primary and junior secondary school teachers, 590 teaching staff for junior secondary schools and 915 teaching staff for primary schools. As many as 150 were substitute teachers accounting for 9.1 %. There were no substitute teachers in junior secondary schools. In comparison with two decades ago, this is a great progress. In 2008/09, among 102 teaching staff in Yanhewan primary schools 85 are official

teachers and 17 are substitute teachers accounting for 20 % of the total. After the 2007/08, there are no substitute teachers in the central school. Predictably the substitute teachers are concentrated in incomplete primary schools and village primary schools.

In Zhaojue County in Shichuan Province in 1991, 32 % of the primary school teachers in Zhaojue were minban teachers. In Bier district, this percentage was 58 % while in Sikai district was 41 % (Lewin and Wang et al. 1994: 85). In 2008/09, these percentages ahd reduced significantly. Among 1602 teachers in primary school, 1469 were official teachers and 133 substitute teachers accounting for 8 % of the total. In junior secondary school, out of 436 teachers, 427 were official teachers and 8 were substitute teachers. At present, there is no substitute teacher in district or township central primary schools. Substitute teachers tend to work in incomplete village primary schools. In the Aboluo village primary school, all three teachers are substitute teachers. Two teachers graduated from senior secondary school and the other one from junior middle school. Only one of them had acquired a teacher certificate. The unqualified teacher rate remains high.

The data analysis shows that all the teachers in Tongzhou of Beijing are now official teachers. In Ansai and Zhaojue, the number of substitute teachers has decreased considerably. There are almost no substitute teacher in central primary schools and junior secondary schools. Substitute teachers are concentrated in incomplete primary schools or teaching points. However, the distribution of teaching resources is not even and better teachers are concentrated in central primary schools.

5.3.2 Salaries of Substitute Teachers

In the last two decades, teachers' salaries have been enhanced along with the increases in overall funding for education by the state. In 1990, the substitute teachers' monthly salary was 160 yuan in Tongxian, 70 yuan in Ansai and 40 yuan in Zhaojue. By 2010, substitute teacher's salaries had increased to between 400 and 700 yuan. Great differences in salaries between official teachers and substitute teachers still exist since official teachers typically earn at least twice as much before additional benefits are taken into account. Table 5.3 shows that in Yanhewan central primary school of Ansai, from 2002 to 2008, though monthly salaries for both official and substitute teachers have been increasing year by year, substitute teachers' salary is far less than that for official teachers.

Table 5.3 Change of primary teachers salary in Yanhewan of Ansai

Year	Official teachers	Substitute teachers
2002	812	300
2004	819	350
2005	1109	350
2007	1148	560
2008	1384	700

In different areas, substitute teachers' salaries are different. For example, the substitute teachers' salary in Zhaojue is less than their counterparts in Ansai. In Aboluo primary school of Zhaojue, the substitute teacher's salary is 400 yuan monthly in 2010. It was only 300 yuan the year before and they can only get salary for 10 months a year. The official teachers' monthly salary is about 1500 yuan, much more than that for substitute teachers. The issues that relate to rural teachers salaries are discussed in more detail in a later section.

Another difference in the treatment between official and substitute teachers is that no social welfare is given to substitute teachers such as medical care, pension and housing subsidy. Although the two types of teachers are doing the same job, substitute teachers cannot enjoy the same reward, benefit and welfare as official teachers. In addition, substitute teachers get limited professional support. For example, administratively Aboluo village primary school in Zhaojue is under the Liuqie central primary school, but the three substitute teachers cannot take part in any teaching and research group activities organized in Liuqie central primary school.

Current state policy is that no substitute teachers should be employed. However, it remains very difficult for some remote rural areas to get qualified teachers as noted above. Some substitute teachers have worked for a long time, obtained qualification through in service training, and are experienced and effective. Some have become official teachers but many have not and the process appears arbitrary. Some illustrative cases make the point.

Mrs. Zhang is a substitute teacher in Yangjiagou primary school of Yanhewan township, Ansai. She has worked for 20 years as substitute teachers in this school and has acquired a 3 year higher education diploma and teaching certificate. However, she cannot become an official teacher because of the current policy. Mrs. Zhang's salary is only 700 yuan/month without any welfare or any opportunity for in-service training. Because of her outstanding capability, Mrs. Zhang has been enrolled in the teacher talent pool in Ansai and is a devoted teacher. Working in a one teacher village school Mrs. Zhang has to teach all the subjects for a preschool class and a Grade 1 class including Chinese, Math and Morality. Using a multi-grade teaching model, she teaches 30 periods of lessons per week. Her workload is much more than that for official teachers.

Mrs. Zhang writes in her teaching plan, "I have chosen this job, so I should shoulder responsibility for it. Never give up! Even grass can ornament spring, children need me, I should consider the children. No matter how strenuous it is, I should continue on and work conscientiously and happily". Even though her income is low, she works hard. But she has no chance of getting official status. She explains her exclusion as being because she has no special connections with the leaders and feels she cannot compete for jobs with new graduates despite being in the talent pool. During the interview, she wept as she felt wronged. In Chengmao primary school in Huaziping township there are two substitute teachers who have acquired higher education diplomas and have lengthy teaching expertise dating from 1988 and from 1998. However they cannot become official teachers. In contrast the third teacher who only has a secondary professional school education, is an official teacher despite being appointed in 2008. We identified 10

substitute teachers with a similar profile who are judged to be outstanding in professional work and effective and conscientious who have been working in remote schools. Local government decided to lay off them with a one-time pay off. There appears to be unfairness in transferring substitute teachers into official teachers.

5.4 Quality of Rural Teachers

Teacher's qualification rate and education level is one indicator of the overall quality of teachers in a district or a school. The state has recognized that the low quality of teachers in rural areas is a serious constraint on the development of basic education in China. Now most of the country has realized universal compulsory education, the focus has shifted from the expansion of the quantity of teachers to raising the quality of teachers and schools.

At the policy level, the state has been continuously regulating and raising the qualification of teachers. In 1993, Teacher's Act of the People's Republic of China was released which laid out teachers' rights and obligations, qualification and recruitment, education and training, evaluation and treatment, and rewards and legal responsibilities. The Teacher Qualification Regulation (1995) was an important step in the process of teacher professionalization. It laid down that Chinese citizen engaged in education and teaching work in different types of schools should obtain teachers qualification according to the law. It then put forward the specific regulations on the types of qualifications, requirement for teacher qualification, examinations for qualifications, and accreditation and penalty systems at every stage of education system. In general, primary school teachers should have completed senior secondary or above; junior secondary school teachers should graduate from 3-year higher education institutions or above. Both primary school and junior secondary school teachers should pass the assessment to receive a teacher's certificate. Over 20 year of development the teacher qualification rate and educational level has been improved and teachers' overall quality has been enhanced. This is clear in the illustrative case studies.

In Tongzhou in 1990, more than 90 % of primary teaching staff only had secondary normal school education. In 2005, over 70 % of primary school teaching staff had 3-year higher education diplomas and over 74 % of professional teachers in junior secondary schools are college graduates or have an alternative higher education background. In senior secondary schools, 96 % of the professional teachers are college graduates, of which 17 % have acquired a master's degree. The majority of teachers in complete primary schools in Xiji have acquired undergraduate diplomas. Recently, the qualified full-time teacher rate is 100 %. In terms of teachers' professional title, 40 % were first class and 50 % second class and in Dadushe about 80 % were either first or second class.

In Ansai in 1990, the qualified rate of primary school teachers was 81 % and 50 % for secondary school teachers. The qualified rate of professional teachers was 74 % in Huaziping primary school and 80 % in Yanhewan primary school.

In addition, only 33 % of junior secondary school teachers had graduated from 3-year higher education. Twenty years later the qualified rate for primary school teachers in Ansai had risen to 99 % and the qualification rate of professional teachers reached 94 % in Huaziping primary school and 100 % in Huaziping central primary school, with the majority graduates from 3-year universities. The situation is similar in Yanhewan primary schools where nearly all are now qualified. In the secondary school 60 % of teachers have 3-year university education.

In Zhaojue in 1990, the qualified rate of primary teachers was only 70 % in Bier district and 82 % for Sikai district and the majority were graduates from secondary schools. The qualified rate of junior secondary school teachers was much lower than for primary school teachers. By 2001 the qualified rate for primary school teachers in Zhaojue reached to 99 %. More and more primary school teachers have undergraduate education and professional qualifications. In the same year, the qualification rate of junior secondary school teachers reached to 99 % with one third having undergraduate education.

Comparing vertically over time the overall teachers' quality has increased remarkably in the three places; comparing horizontally, Tongzhou is much more developed economically than the other two counties. However, a common problem exist in the three counties that better teachers are concentrated in central primary schools. In Zhaojue and Ansai, the majority of substitute teachers work in village schools while the teachers who have higher professional ranks are concentrated in central primary school. Since 2003/04, all the teachers in Huaziping central primary school are official teachers and are qualified. The greatest numbers of under qualified teachers remain in the incomplete primary schools which may explain the low quality of remote village schools.

Qualification rates can be misleading. The qualification rate often is reported as reaching to 100 % but there may be an imbalance between academic degree and educational level. Based on research in Jianli county, Hubei province, all of the 4872 professional teachers in primary school are qualified, and the qualification rate reached 100 % (Ministry of Education 2006). The qualification rate for junior secondary teachers is 93 %. But most of the rural teachers' first degree is at a three year professional college not a university, and most achieve a bachelors degree through correspondence course learning or in-service training. Some of these programmes are thought to be of low quality.

Status and fair treatment are issues that are of great concern to many rural teachers. Perceptions and realities determine the attraction of the teaching profession and the enhancement of quality in the teaching force. Status is partly influenced by salary levels and relative positions in the labour market. The next section discusses the changes and their impact.

5.4.1 Improvement of Rural Teachers' Salaries

Compared to 25 years ago, rural teachers' salaries, social welfare and housing condition have been improved considerably. Delays in payment of teachers' salaries

which used to be common have largely disappeared. The teaching profession has become more attractive though it still lags behind many other professions. Additional benefits including health care, subsidies for children's education, housing allowances and transport subsidies have become more common. A thirteenth month salary is also sometimes paid. Despite this rural teachers' salaries are lower than those for urban teachers. This is one of the reasons outstanding teachers transfer to cities or leave the profession. In some village primary school and incomplete primary school, teachers' working and living condition remain harsh. The implementation of performance related pay systems can also lead to inequalities and difficulties.

In Tongzhou 1990, the average salary of formal rural teachers in secondary school was 200 yuan a month and 180 yuan for primary school teachers. As noted above it was only 70–80 yuan for minban teachers and it was often delayed or defaulted. In 2008, the average salary for official primary teachers in Majuqiao reached 1600 yuan a month and 2680 yuan for junior secondary school teachers. In Xiji township average salaries were higher at 2430 yuan, with a range of 1600 yuan to 3280 yuan. Dudushe teachers were paid slightly more on average at 2680 yuan. During the 2000s the ratio between to lowest and highest paid teachers increased from about 1.65:1 to 2.1:1.

In Tongzhou, all the teachers are formal teachers who are not only entitled to secured salaries but also basic welfare benefits such as medical treatment, pension and housing subsidy. In Xiji and Majuqiao many teachers live in the county town and the local government now provides a bus service for commuting for free. There is a teachers' housing subsidy but this is low so and younger teachers cannot afford to purchase a house in contrast to several senior teachers who purchased houses before rapid price inflation occurred.

In Ansai in 1990/91, the average salary for formal teachers was 172 yuan a month and 79 yuan for minban teachers and the pay was always delayed. In 2009, in Huaziping and Yanhewan primary school, the salary increased to 1200 to 1300 yuan a month for formal teachers and is between 1200 and 2000 yuan for secondary school teachers. The salary level for Ansai is therefore much lower than that for Tongzhou district in Beijing.

In comparison in Zhaojue in 1990, the average salary for formal primary teachers was 189 yuan and 201 yuan for secondary school teachers. 20 years later, in Sikai xiang primary school, the teachers' highest salary was 3200 yuan and the average salary is 2294 yuan. These high salary levels reflect incentives paid to attract and retain teacher in the area. Although some problems remain in the treatment for rural teachers such as housing, and commuting between school and home, teachers' salaries have improved significantly. As the government and parents attach importance to education increasingly, teachers' social status also improved so that to be a teacher is more attractive than in the past. This is very important for the stability of rural teachers.

Comparing vertically, in rural areas of China, teachers' pay has been improved over time. However, comparing horizontally, teachers' pay remains imbalanced between urban and rural areas and between formal and substitute teachers, and

there are defects in the structured salary system. The preferential policy in supporting rural and remote area teachers has not been implemented evenly. Although teachers' salaries have increased, teachers interviewed think that their salary is low and unmatched with the development of the national economy and the heavy workload they undertake. According to the "National Supervision Report on Education 2008", in 2006, the average annual salary was 17,729 yuan for primary school teachers and 20,979 yuan for secondary school teachers, which are 5198 yuan and 1948 yuan lower than that for civil servants respectively (National Office of Educational Inspection 2008).

5.4.2 Discrepancies in Salaries Between Poorer and Developed Areas

Firstly, among the three case study areas, Tongzhou primary school teachers' salaries average about 2430 yuan and are higher than their counterparts in Ansai who averaged 1380 yuan at the time of the fieldwork. Zhaojue primary school teachers' average salary is 2290 yuan monthly which is also much higher than their counterparts in Ansai. Zhaojue enjoys favorable treatment of teachers to incentivize them to work in the area. Ansai's economic situation and the state revenue have improved rapidly as a result of the exploitation of oil, gas and coal. However, teachers' salaries have yet to catch up with these developments.

Secondly, it is evident that regional disparities exist in teachers' living and working conditions. With better economic development, Tongzhou provides better conditions to their teachers. Over 90 % of teachers who work in Xiji central primary school live in Tongzhou district town. The district government provides regular buses for teachers to commute between home and school for free. The school pays for the petrol and drivers' salary. In addition, the schools also provide accommodation for the single teachers and those teachers who live far from school.

In contrast Zhaojue suffers from comparative poor economic development, the teachers and students suffer from long distance from home and school. Xinbang Hope primary school illustrates the problem. Since there is no office or accommodation at the school, the teachers have to live in the county town taking 2 h every day to commute between home and school. As there is no school bus, they have to take the only public transport operated privately. The teachers have to pay for the fee—20 yuan (daily) by themselves adding up to 440 yuan a month. It is a quite big expense for the primary teachers whose monthly salary is only around 2000 yuan. Kuyi township central school also has the same problem. The majority of teachers live far from school so that they have to take 1 h to go and fro. The school only provides an accommodation for 15 % of the teachers. 60 % of the teachers have to take bus to go to school and the rest choose to cycle or walk to school on foot. The school itself cannot solve the issues of teachers' housing and transport.

5.4.3 Differences in Teachers Incomes Between Urban and Rural Areas

Teachers' salaries are different between urban and rural areas. In Tongzhou district, the teachers' average salary in the district town is generally more than 3000 yuan. In addition, they have subsidies of different kinds including for various festivals. Urban schools' income is higher than rural school income, so that they can provide more benefits and bonus payments for their teachers.

In Ansai, urban rural differences in salaries are clear. The teachers' salaries in the rural Huaziping Secondary School are around 1300 yuan monthly and the additional subsidy for each teaching period is 6 yuan. The bonus accounts for 20 % of the structured salary. Each teacher is provided a room in the school as accommodation and office. By contrast in Ansai county town secondary school, the teachers' salary is more than 2500 yuan monthly and 12 yuan per teaching period while in Yan'an city, secondary school teachers' pay is more than 3000 yuan a month. Similarly In Yanhewan central primary school, the teachers' income is around 1300 yuan monthly, with a workload 18 classes weekly with a teaching subsidy of 2.5 yuan per additional teaching hour. But very few teachers would like to work more than 18 h. Teachers may be rewarded as advanced model home class teachers and receive salary increments of 10 % of their salary or more but these awards are rationed. Teachers generally think that their pay is low and is unmatched with economic development.

Disparities in teachers' treatment does not only exist between urban and rural areas, between richer and poorer areas,but also exist between schools in the same district. The working condition of Xiji central primary school is better than in village primary school and complete primary school. Xiaolin primary school in Tongzhou does not provide accommodation to teachers. Only the teachers who live in the county town can enjoy the regular bus service provided by the government. But those living in surrounding villages which are up to 8 km away from school have to cycle or walk 35–40 min to school.

In Sikai district of Zhaojue, the schools' conditions are also unbalanced. In Bier village, the conditions of the schools by the road are much better than those in the mountains. Besides hardware facilities, teacher quality is the major difference. As a result, better teachers do not want to work in rural school or the schools in remote mountainous areas. Eventually, it is unfair to the students studying in these schools. The differences of teachers' treatment inevitably cause imbalance of teaching staff and education quality.

Given these problems, the Chinese government has made several adjustments in policy. The Specially Contracted Teachers Plan of the rural teacher in compulsory education in 2005, provided funds of about 278 billion Yuan in total to improve imbalances. The initiative included a living subsidy policy for rural teachers in destitute areas. The central financial department released awards and subsidies about 44 billion Yuan in total between 2013 and 2015. There are related benefits covering over 90 % of rural schools and 87 % of rural teachers in 604 counties. This policy has had an effect on enhancing the attraction of being a rural teacher.

In 2012 the Opinion on Strengthening Construction of Teaching Force of the State Council was released. It stated that it was necessary to ensure the legal rights and proper treatment of teachers, reinforce the guarantee mechanisms for teacher salaries, and ensure that the level of teachers' salaries was not lower than the salary level of civil servants. It committed government to increase timely payment, and perfect the reward and accountability mechanisms that are appropriate for the teaching profession and the performance related the salary system that had first been introduced in 1989.

5.4.4 Changes from Structured Salary to Performance-Related Salaries

The structured salary system was introduced in 1989 to take replace of the single fixed salary system, with the aim of connecting income to teachers' performance. In the compulsory education phase, the teachers' salaries include the core salary for the post, the salary related to the teachers rank, allowances, and special subsidies related to the post. The post salary and rank link to the professional title.

Rural teachers' salaries are mostly determined by the post salary and rank salary, and the structured part accounts for a very small proportion of the total and it only weakly related to performance. In Xiji central primary school of Tongzhou, only 1.1 yuan per teaching hour and 0.3 yuan/per student monthly for being a home class teachers are allocated. These standards have been in force for 20 years. One problem is that the home class teacher's workload is much heavier than the subject teachers. As the subsidy and workload are out of proportion, teachers don't want to be home class teachers. The students indicate that their home class teachers changed frequently. The subsidy for working in rural school was only 10 yuan monthly.

In December 2008, the former Premier of the State Council Wen Jiabao proposed that from January, 2009, all of the compulsory education schools should implement a new teachers' performance pay system. The Ministry of Education issued "Guiding Suggestion for Performance Pay of Compulsory Education School Teachers" in 2009. In the reformed system, the structured salary includes four parts: post salary, rank salary, performance pay salary and special job subsidy. In other words, the allowance part was replaced by performance related subsidies and the other three parts remain the same. The teachers' salaries are still mainly links with professional rank, but the performance related subsidy has been increased and the part related to professional rank has been weakened.

The structured salary system has been implemented in Ansai. The basic principles are "pay according to work, more pay for more work; pay according to quality, more able persons should do more work; fair competition, rational distribution". Within a school, structured salaries mainly come from the subsidy component (accounting for 30 % of the salary) and direct school funding. The structured salary is determined by teaching workload which is converted into

teaching hours. The base line for teaching hours every semester is 360. In secondary schools payments are mode above 360 h at 6 yuan per teaching hour for senior teachers. In primary schools the rate is 5 yuan for senior teachers, 4.5 yuan for first rank, and 4 yuan for second rank or those unranked. The structured salary is paid all at once at the end of the term. The formula is: actual subsidy = personal subsidy + teaching hour pay × (actual teaching hours—360).

This performance pay system is intended to be based on the principle of pay according to the amount of work. However there are some problems in implementation. Firstly, a regular salary is a fundamental feature of the treatment of school teachers, especially rural teachers. The salary should be paid on time and in full. But the implementation of the structured salary system means that payments are delayed and this has had an adverse effect on the motivation of teachers. For example in Huaziping central primary school the teacher's salary is 1200 yuan/month, but he or she only receives 840 yuan. The rest will be paid at the end of the term (5 months later) when the assessment of performance is made. Secondly, under this system, teachers who receive the reward regard the bonus as a part of their basic salary instead of an extra reward, and it therefore does not motivate them to work more effectively. In contrast those who do not meet the standard and do the extra hours cannot get the structured salary and feel their basic salary is not guaranteed. The performance related mechanism is seen as affecting teacher's basic salary rather than being an additional payment and this seems to affect its value in motivating teachers. Thirdly, substitute teachers' salary are already low. They are now also included in structured pay system. The delay in paying their income has a bigger relative effect than for regular teachers.

The implementation of performance related pay differs between areas. In Liuqie the township central primary school of Zhaojue, performance related pay is assessed by six standards: teacher's professional behaviour, attendance record, teaching and administration appraisal, teaching hours, safety, and teaching inputs. Only formal teachers are under this system. Understanding of the system is still limited. Other empirical studies show that: 46 % of teachers basically understand the system and a similar proportion have little understanding with 6.5 % saying they do not know at all. Some teachers are confused between the 70 % allocated as the basic salary (Ning 2011) and the bonus part which accounts for 30 % of the total. Some regard the bonus as included in the basic salary since it was introduced without an overall pay rise.

5.5 Mobility and Stability of Rural Teachers

Teacher turnover has long been a problem in some rural areas which have been seen as less desirable than working in cities and townships. The pace of development has changed the map of rural China since it has made many areas more accessible as a result of improved infrastructure. It has created the possibility of commuting to villages from small towns and conditions in rural areas have

improved. Traditionally becoming a teacher has been one of few pathways for higher performing rural students to become mobile and improve their social status. Two kinds of mobility related to teacher turnover have developed. The first is benign mobility which is planned to make the best use of available resources. As the population of children falls and as urban migration takes place the geographic distribution of teachers needs to change to reflect the new demography. Alongside this unplanned mobility of teachers is taken place which is not controlled and is the result of pressures to move away from rural areas and migrate to richer urban areas. This is related to but not the same as what can be called invisible mobility. This occurs when teachers are appointed but borrowed by other departments. The teachers may then work in jobs unrelated to teaching in different locations whilst nominally working in schools.

5.5.1 Relative Stable Teaching Force

Educational quality depends on a stable and qualified teaching staff and stability is also necessary to increase teacher motivation and job satisfaction working with the same groups of students. Rural teachers incomes have improved and have been regularized so that payment is predictable in order to encourage more teachers to remain in position. The situation now can be compared with that 25 years ago. Thus in 1990 our case studies show that in rural and remote areas in village primary schools the teachers' working and living conditions were very tough. There was little demand to become a teacher and most of the teachers had low levels of qualification. Our analysis indicated that a majority expressed the view that if they had a choice they would choose another job (Lu 1993). Comparing vertically over time the levels of teacher job satisfaction appear to have improved considerably. The main reasons are that there are fewer deeply rural schools as school consolidation has taken place, and salaries have greatly improved for rural teachers, especially where there are hardship allowances.

Compared to the 1990s it appears that fewer teachers in both rural case study areas are now changing jobs. The main reasons for turnover are normal retirement and new teachers being appointed. Incentives are now offered to attract outstanding graduates from normal universities to rural schools. These include a program of special posts for rural teachers which allows graduates a choice to stay or leave after three years. In both Zhaojue and Ansai, special posts graduates indicated that they will choose to stay on.

The situation appears different in the more urbanized Tongzhou county which contains within it variations in development level. The overall development of Xiji township is less than that of Majuqiao township. In the rural parts of Xiji, teachers' motivation is low and there is dissatisfaction with the development of the local town and working environment. In recent years enrolments have shrunk by 25 % and so has the school staff and non teaching staff. More teachers transferred out than in. In addition, the teachers who transferred to urban area were mainly young and backbone teachers.

In this area there are three reasons for the decrease in the number of teachers. Firstly, the falling number of students and school amalgamation leads to a surplus of teachers. Secondly, some better teachers do not want to stay in Xiji and want to work in urban area. Thirdly, no new teachers are being recruited. The township has no attraction to new teachers and many of those now teaching wanted to leave if they could. The main reasons given are that first they want better opportunities for their children. A young female home class teacher said: "For my child's good education, I always want to transfer to urban school as it is different between urban and rural areas. As a teacher, I know the environment affects children's growth significantly." Teachers try to purchase houses in urban areas so that they can get urban residential registration that is essential to gain access for their children's study in urban schools. If they are successful it is very easy to lose rural teachers.

Second, teachers have ambitions for their own development. A teacher said frankly: "For survival and development, we want to transfer to urban schools. But this depends on opportunity and contacts." The principal of Xiji Secondary school said: "Due to the under development of local economy, let alone the teachers, even I don't want to be a principal in Xiji. If I was in Yongledian township, I can enjoy the housing benefit provided by government. I should only pay 150,000 yuan to purchase a house worthy 500,000 yuan. But in this township, I cannot enjoy such benefits and should it will take 10 years to save 350,000 yuan." Third, some teachers consider the workload high and the rewards insufficient. So few new teachers want to join Xiji secondary school that the township government has to recruit new teachers from Inner Mongolia or Qinghai province.

5.5.2 Drain of Better Teachers and Lack of Two-Way Mobility Mechanism

The movement of teachers in Tongzhou is essentially one way from rural to urban and from incomplete to complete schools and to central schools. The best teachers are more likely to find ways of moving. Very few outstanding principals or teachers from quality schools move to village schools. Good schools become better while weak schools deteriorate. In Zhaojue opportunities to transfer are institutionalized. Rural teachers are selected to take part in yearly tests organized by the county education bureau based on students' achievement. If the teacher passes the test, he or she will be recruited into the better county town schools. The examination does provide an incentive, especially for young teachers, since it enhances their career prospects. But it is disadvantageous for rural schools suffering from a drain of effective teachers. The mobility mechanism has a ratchet effect in one direction and the movement of core teachers is one-way traffic.

Data on transfers of teachers into and out of schools in Zhaojue shoes that in the 2000s most of the transfers into the schools were of new graduate teachers. The transfers in and out were balanced over most of the period but with a tendency for the transfers out to increase in the later 2000s. A series of policy initiatives have addressed the problems of a lack of two way mobility (Table 5.4).

Table 5.4 Major policies on teacher mobility since 1990s

Policy	Year	Key points
Decision on deepening educational reform and promote quality education comprehensively of central committee of communist party of china and the state council	1999	Local government should formulate policies to encourage urban outstanding teachers to work full time or part time in weak-foundation schools, primary and secondary school teachers in middle and small size cities or towns, and to work in rural schools with shortage of teachers
Announcement on several issues of strengthening management of school running in basic education, MOE, 2002	2002	Establishing regular mobility system for school principals and teachers
Implementing opinions on deepening reform of personnel system for primary and secondary schools. department of personnel and MOE	2003	Section 19 and 21: Establishing service system for urban teacher to work in rural schools or weak schools. Insist on that for promotion of urban teachers to higher grades they should have one year work experience in those schools. To develop a system of support in places where resources are available. Actively promote reasonable mobility of primary and secondary staff between schools and areas
Decisions on further strengthening rural education, state council	2003	Establishing regular school to school exchange system by prefectural, city and county educational administration. Increase the number of teachers from east part of China to teach in the west part, west part teachers to receive training in east part
Several opinions on further promoting balanced development of compulsory education, MOE	2005	Taking various effective measures to establish a system for backbone teachers in the region to give teaching in service training, professional teachers in shortage subjects to provide mobile teaching. Urban teachers to serve in rural schools
Revised compulsory education act	2006	Section 32: Educational Administration of county government should deploy teaching force within the region in a balanced way, organizing training for principals and teachers to strengthen construction of weak schools

5.6 Efficiency and Use of Human Resources

As a result of one-child policy, the school-age population has decreased significantly resulting in a surplus of teachers, especially in areas where there has been out migration. A key issue is how to reasonably redeploy the teaching force and increase the efficiency of the use of human resources. Our research reveals management problems in relation to how rural schools have adjusted to changes in

demography. In the case study areas pupil teacher ratios have fallen but teaching groups have remained about the same size as in the past. There has been no significant reduction in class size or change in teaching methods that are feasible with lower pupil teacher ratios. Instead some teachers have become non-teaching staff, especially in the central primary school. The proportion of non-teaching staff has grown and the surplus teaching resource have not been redirected to the complete primary school and village school where teachers are in shortage. The student-teacher ratio has remained very unbalanced in different areas. Efficiency may therefore be decreasing when it should be increasing and managing contraction effectively has become a general issue.

5.6.1 Student-Teacher Ratio and Optimizing Human Resource

Pupil teacher ratios determine a large part of the recurrent costs of educational provision and are a general indicator of efficiency. They do not determine workloads since these depend on how teaching is organized but they do offer a proxy measure of efficiency. Current regulations indicate that pupil teacher ratios should be for primary school is 23:1; and for junior secondary school 18:1.

In 1990, the student-teacher ratio for primary schools in Tongzhou was 18:1, and for junior secondary schools 12:1. This was below the national guidelines and lower than the national average level, which was 21.1:1 for primary school and 14.4:1 for junior secondary school. By 2008 the average student-teacher ratios in Xiji primary school, in Xiji central school, in Xiaolin primary school and in Xiji junior secondary school were 9:1, 12:1, 10:1 and 11:1 respectively. These ratios were very low and a result of the number of pupils falling faster than the number of teachers.

In 1990, the student-teacher ratio was 15:1 for primary school in Ansai county, 15:1 for Huaziping primary school and 18:1 for Yahewan primary school. The ratio was 9.4:1 for secondary schools at county level, 13:1 for Huaziping secondary school and 11:1 for Yanhewan secondary school. The utilization level was therefore low. In the early 2000s the pupil-teacher ratio in primary schools fell further due to the decrease in the number of students and increase of the number of teachers to 14.1:1 in 2005/06 which is lower than 15:1 in 1990. In 2009, the student-teacher ratio in Huaziping secondary school remained low at 13:1, and was only 11:1 for Yanhewan central primary school; and 7:1 for Chafang primary school. The present ratio is lower than the level in 1990. Thus as noted above class size and deployment of teachers are not being adjusted to reflect falling enrolments.

In Zhaojue, from the school year of 2006/07 to 2009/10, the average student-teacher ratio for county town primary schools was 19:1, it was 25:1 in rural schools and 24:1 in the county town secondary school. In all cases these ratios are a above the national norm. Changes in pupil teacher ratios in Zhaojue indicate

volatility and uneven deployment. In Sikai the ratio in the central school has been falling during the 2000s from 41:1 to about 30:1 as the number of children has declined. This remains above the national guidelines. The junior middle school has seen wide fluctuations from as little as 6:1 to 24:1 with a most recent value about 13:1. This arises partly from the difficulty of retaining in teachers. Bier junior secondary school also has the same problem with low ratios and high volatility. There are not enough students transferring to secondary schools in Zhaojue which means that facilities and premises are under utilized. When participation rates are universalized the situation should change.

5.6.2 The Teachers' Workload

Teachers' workload varies and is often highest in incomplete primary schools and village schools than in central primary schools. This for example there are 8 periods of lessons everyday for Grade 1 to Grade 5 in Huaziping Central Primary School of Ansai, 39 periods of lessons weekly and 38 periods of lessons for Grade 6. There are 64 teaching staff who teach 10 periods of lessons on average per week, 2 periods of lessons every day which is quite a light load. However, in Chengmao primary school and Yangjiagou primary schools, both of which are incomplete schools, the student-teacher ratio is low but the teachers' workload is much heavier than that for central primary school. In Chengmao primary school, there are 3 teachers, 37 students and the student-teachers ratio is 12.3:1. Each teacher teaches each grade and teaches lessons whole day, 5 periods of lessons everyday, so that their average workload weekly is 35 periods of lessons. Mr. Wang teaches the grade 2 and he teaches 45 periods of lessons every week. In Yangjiagou primary school, there is only 1 teacher, 12 students and the student-teacher ratio is 12:1. The only teacher, Mrs. Zhang has to teach all the subjects from pre-school to grade 1, including Chinese, Math and ideology and morality. She teaches 30 periods of lessons every week and uses multi-grade teaching methods. The differences between schools are that the teaching group sizes in the small schools are small and in the Central primary school they are large so there are many fewer teaching periods per teacher.

In 2009, the average student-teacher ratio in Xiji were around 10:1 as noted above. According to the principals, the teachers' workload is not heavy. However due to the uneven use of teachers, some teachers' workload is heavier than others. Home teachers usually have to teach two subjects: Chinese and Math, and some teachers have to teach 6 subjects. For example, Mrs. Chen in Xiji central primary school, has to teach 6 subjects: Morality and Life, Environment, Labor and Technology, Health and School-based course. In Xiaolin primary school, every teacher teaches 24 periods of lessons weekly. Home teachers teach 2 subjects and other teachers teach from 3 to as many as 7 subjects, including Science, Information and Technology, Society, Morality and Life. They have to spend a lot of time on preparation. The apparently high workloads are the result of small

teaching group size and inefficient timetabling. Schools with pupil teacher ratios of 10:1 should consider multigrade strategies as a way of increasing efficient use of teachers.

5.6.3 The Proportion of Teaching Staff and Non-teaching Staff

The proportion of teaching staff relative to non-teaching staff has decreased in Tongxian. In 1990 the total number of staff was 3677 of which teaching staff accounted for 87 %. By 2008 the proportion of teaching staff had fallen to 77 %. Different kinds of schools are in different situations. Central primary school often have more non-teaching staff. In Xiji central school in Tongzhou 35 % of staff were on administrative grades and in Xiji secondary school the ratio was as high as 37 %. Some of these administrators may have been teachers before and have been redeployed as enrolments have fallen. In contrast in Ansai in the secondary school system 93 % of staff were teaching staff in 1990 and this has now fallen to about 82 %.

5.6.4 Match Between Teaching Subject and Education Background

Another aspect of teacher deployment relates to the match between subject teaching specialization and teacher workloads. According to the principal of Xiji secondary school, Mr. Wang, there is a problem in teachers' deployment. The educational qualification of teachers has reached the required standard but the subject taught does not match teachers' training specialty, especially in the main subjects like Chinese, Math, English, Physics and Chemistry. In term of main subjects, under 40 % of the teachers teach the subjects which match their specialty. There are only 2 teachers who graduated from English majors. Present English teachers are all pursing second level qualifications major by themselves. There are 10 teachers graduated from PE major, but only 2 of them teach this subject, the others are teaching other subjects. Because of lack of forefront main subject teacher, teachers are encouraged to engage in second major training. The match is better in Ansai. All the teaching staff at secondary level teach the subjects of their major. There are professional teachers teaching Music, PE, Geography, Art and so on.

5.6.5 Teacher's Professional Development

Teachers in the case study areas want to increase their income as well as have more opportunity for in-service training. They want to master the latest teaching

methods, update their knowledge and lay concrete bases for improving students' achievement and personal development. In Yanhewan central primary school of Ansai, the majority of teachers have engaged in in-service second major training. Nearly half of the teachers have followed advanced studies from secondary specialized school to three-year university or even under graduate professional training. But all this is achieved by teachers themselves using their spare time to engage in advanced studies on their own expense. The schools have mostly not provided opportunities for teachers to engage in advanced studies. The main channel to improve professional quality of the teachers is to take part in internal teaching research activities organized by subject group, demonstration teaching, or some backbone teachers attending 1–2 days training in county bureau of education every month or semester. But opportunities are limited and at Chafang primary school in Yahewan the teachers expressed their wish to have a chance to get some training in the central school. However, they have no such opportunity. Teachers generally think that teaching and research activities are useful for improving their professional quality, but the opportunities are too few.

5.7 Conclusions and Policy Suggestions

Compared with 25 years ago, all aspects of rural compulsory education teacher have improved. However, in the context of achieving new goals of balanced development of compulsory education and improving the quality of rural education, a series of problems with rural teachers need to be addressed. These include better arrangements and use of substitute teachers, reductions in the disparities in teachers treatment between urban and rural areas and between different types of schools and between different types of teachers, the drain of core teachers especially from village primary schools, and the uneven and sometimes unreasonable use of teachers. Education is of fundamental importance to achieving China's development goals. The teacher is the crucial element for improving education quality. Promoting more balanced development of rural teachers lies in the following aspects.

5.7.1 Establishing Mechanisms to Attract Better Teachers to Rural Schools

There is a surplus of teachers happens in township town central primary schools, and at the same time there is shortage of teachers in complete and incomplete village schools. The teachers in these schools teach more teaching hours and working conditions are harder than in central primary schools. Within an area, better teachers are concentrated in central schools, and substitute teachers and teachers with lower qualifications tend to work in village schools. Reforming the central primary

school system is one of the keys to solve the problem. The need is to devise structures and incentives that can shift the balance in favor of a more even distribution of resources across schools.

In addition, effective mechanism should be established to encourage high quality teachers to work in grass root schools. This could include enhancing rural teacher subsidies to practically improve the treatment of rural teachers. This could include housing support as well as hardship payments. Governments at different levels should establish funds to offer additional support teachers in rural and poor areas, and to regularly reward and recognize advanced teachers who have been working in rural schools for long time. Efforts should also be made to narrow the gaps in treatment and pay between urban and rural teachers.

5.7.2 Giving Formal Status to Some Dedicated and Qualified Substitute Teachers

It is the state policy that no more substitute teachers should be employed. There are still really experienced and dedicated substitute teachers who have worked for a long time and already obtained teachers' certificate and required qualification. They should have chance to transfer and become formal teachers so that they are better treated with no more worries about retirement welfare.

Especially, in old revolutionary areas, minority areas, remote and mountainous areas with an underdeveloped economy and a shortage of formal teachers, substitute teachers are still playing an important role in local compulsory education. It is not responsible to deal with this issue without considering local situations. We need to face the reality and actual needs, and face the fact that the phenomenon of substitute teachers will exist for the predictable future. The state should formulate standards and regulation for employing substitute teachers, and make clear methods for regularizing their employment. They need to be treated in a similar way to formal teachers, have access to training at local level, integrate them into the welfare systems and social security, and provide enough formal posts for them to transfer to official teacher status. When employing substitute teachers, labor contracts should be signed, making terms, entitlements and treatments clear (Pang and Han 2006).

5.7.3 Establishing Two-Way Mobility Mechanism for Teachers

Our study shows that rural teacher mobility is one way traffic. Most of the transfers are of outstanding teachers transferring from rural schools to central primary school and quality schools in the town. There are very few cases of outstanding teachers and principals from quality school working in rural schools. This leads to unbalanced development of quality in rural schools. The movement should

be two-way. One of the ways for resolving the problem is promoting outstanding teachers and principals' movement between quality and weak schools, and between central and village schools, by developing an exchange and rotation system in compulsory education to promote better and more efficient deployment of teachers with a fairer system of posting to more difficult locations.

Some Provinces already do this. For example, in Fujian province, the government implements a rotating management mechanism. When a teacher or principal has held post in a school for five years or more, he/she must transfer to another school. In Hebei province, local government has taken measures to improve rural teachers' salaries and benefits, gives priority for promotion to professional titles to rural teachers, and has increased the proportion of teacher's higher professional titles. In Hubei province, improvements are promoted by the implementation of the "Rural Teachers Finance Scheme", "the Plan for Urban School Teachers Support for Rural Education" and "the Project for Improving Rural Teacher's Quality". More broadly, the need is to develop the mechanisms that can be established to encourage more mobility between urban and rural teachers, promote urban teachers working temporarily in rural schools, and facilitating rural teachers to work and get training in urban schools.

5.7.4 Enhancing the Effectiveness of Deployment of Teachers in Rural Schools

In rural areas, especially in remote and poor areas, there is shortage of better teachers. Paradoxically there also exists a waste of limited human resources. Surplus teachers are a result of a decrease in the number of students. Under the circumstances the schools could reduce class size, develop small class teaching methods, and adopt more effective pedagogies. Performance related pay systems are not currently very effective and need to change if they are to have more effect on motivation, and improve teaching and learning strategies.

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Chapter 6
Financing Compulsory Education in Rural Areas: The Development of a Sustainable Fund Guarantee System

6.1 Introduction

This chapter explores the development of the funding system for rural schools which has long been problematic in China. Locally based community financing, which was common before the rapid economic development that started in the 1980s, became increasingly inefficient and inequitable as the income of local authorities increased unevenly. More centralized approaches also proved to have disadvantages since decision making was distant from local needs. After a series of reforms each designed to address the deficiencies of the last system, the Rural Basic Education Fund Guarantee (RBEFG) system has now matured and is the basis for planning and budgeting for the foreseeable future. This chapter has three parts. The first provides a narrative of the development of the funding system since the founding of the PRC. The second explores in detail the impact of the reforms to the funding system and the strengths and weaknesses of each the new arrangements. The last part indicates a range of policy options for the future that could consolidate the system and ensure that it provides a sustainable method of financing education in rural areas.

Universalization of access to basic education has been an ambition in China which dates back over 100 years. Until the late 1980s it was a dream rather than a reality (Wu 2008). Most of the children in urban areas could finish junior (grade 9) or even senior secondary (grade 12) school in the 1980s although school conditions varies widely and could be very rudimentary in poorer areas. The most challenging task for universalising nine year compulsory education as mandated in 1986 by the Basic Education Law, was to extend access to the vast rural areas where over 80 % of children lived. The problems were especially acute in remote mountainous areas, economically backward and poor countries, and where some ethnic minorities had never embraced modern schooling. Parents of poor families had little motivation or economic ability to send their children to schools,

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the enrolment rates for rural areas was much lower than in urban areas, and drop-out rates remained high. Participation had improved during the Great Proletarian Cultural Revolution (GPCR) as a result of policy to locate a school in every village and use it for propaganda. After the fall of the Gang of Four the impetus weakened and it ceased to be clear how adequate funds could be found to maintain existing schools and provide necessary facilities and teachers.

A sustainable funding system is the key to the development of rural compulsory education because poor counties cannot finance their school systems from domestic revenues. The funding has a direct impact on the scale, speed, quantity and quality of implementation of the goals and targets of compulsory education policy. The geographic scale of areas where participation has been historically low, and the magnitude of the population of school age children are unprecedented with over 150 million of primary school age in the 1980s. The stock of schools was degraded by the GPCR and many teachers were "minban" supported directly from meager local revenues.

The convention in China is to consider educational investment in an area as a whole. Compulsory education finance in China involves all the expenditure related to activities of compulsory education including funds needed for capital expenditure, expenditure on the purchase and maintenance of teaching equipment and books, for teachers' salaries and for initial and in-service training of teachers, and for remitting student fees and special support for students from difficult families. The distinctions between recurrent and capital expenditure are recognized but are not as distinct as in many other countries. In the 1980s funds could be moved between budget headings as a result of changing patterns of demand and the local politics of resource allocation. Local decision making might not reflect national policy, most obviously in the extent that it tended to favour central schools and secondary schools over small and remote primary schools. The task of funding schools has always been constrained by the availability of funds, by distributional mechanisms that favoured richer rather than poorer areas, and more recently, by large scale movements of population.

In China as in many other rapidly developing countries the State is the provider of most educational services. This is both because the State is the only institution that has the capacity to reach all parts of China, and because is has the responsibility to provide basic services to all the people. Compulsory education to grade 9 has been mandatory since 1986 and the law is enforced in almost all parts of China. The mandate implies that funding for implementing compulsory education will be provided by the State and where this is not the case the State will be responsible for systems that raise and distribute funds from enterprises and local authorities. This is inevitable because basic education in China is seen as a public good and it mirrors the situation across the world where over 170 countries have predominantly publicly funded education systems and essentially free compulsory education at school level. This includes the majority of OECD countries e.g. the UK, Australia, the USA, Canada, and Japan which all publicly finance schools systems up grade 12. As countries in Asia become richer public finance also provides the great majority of the resources available e.g. in India and Thailand (Liu 2010).

The evolution of funding systems in a country reflects political, economic, educational and financial development. As the economy has become more integrated and interrelated, and national power has been projected more effectively from the centre, rural education in China has been gradually changing from "people run" to "state run", and the funding has changed gradually from "lower level centered" to "higher level centered". Reforms over the last 30 years have fundamentally changed the system devised in the 1950s to manage basic education at a distance and tolerate wide variations in participation, quality and facilities that reflected differences in wealth and commitment at local level, and benign neglect and regressive fiscal strategies that favoured urban areas.

The relationship between centralization and decentralization has always been a central issue as greater priority has been given to providing funds and other resources with the goal of creating a system that was sustainable and more equitable than in the past. There are several levels of administration in China: (i) Central government, (ii) provincial level, (iii) prefecture level, (iv) county (city) level, (v) township level and (vi) village. When talking about local level, it can mean any levels below central level. Provincial, county and township are the key administrative levels for funding rural education. The history of reform is a history of trying to balance decentralized approaches with shared responsibilities and costs across levels of government with accountability and commitment to goals from higher levels of government designed to promote efficiency and equity. Over time the latter has gained ground over the former.

6.2 Reform of Management and Fund Guarantee System

The commitment to the goal of nine-year compulsory education in 1986 catalysed and accelerated reforms of the management and funding system. The evolution of the system has had four phases. In the first period basic education was supported through the highly-centralized planned economy which made allocations under its five year plans (1949–1985). This was a period of mostly benign neglect with no strategy to close differences in development between rural and urban areas and provide level funding for all schools. The second period (1985–2001) followed the major political reforms of the mid-1980s and developed from a system of administration and funding which was "local responsibility, multi-level management, and township centered" (yi xiang wei zhu) to one which was "local responsibility, multi-level management, and shared county-centered and township responsibility". The third period moved responsibility to the county level in 2001 as a result of the slower than anticipated progress and persistent inequities of the existing system. The "power to the county reform" (yi xian wei zhu)" (2001–2005) deliberately sought to accelerate development in more slowly developing counties. The fourth and most recent reform since 2005 introduced the "New Mechanism" of rural compulsory education management which explicitly increased the share of central government in funding compulsory education, included pro-poor subsidies

and exemptions from charges for low income students, and set norms for expenditure per child and for building safe and appropriately equipped schools.

Funding for compulsory education has been increasing steadily in real terms as China has developed. The shared structure between different levels of government has changed and been transformed from peasants run to government run, and from low level government centered to higher level government centered.

6.2.1 The Planned Economy Centralized System (1949–85)

In 1949 when New China was founded she began to develop policy for universal education step by step. The enrolment rate for school-age children was less than 20 %, and illiteracy rates were more than 80 % (Wang 2009). Massive educational reconstruction was needed after the destruction of war and political uncertainties. Following the former Soviet Union model, the new government adopted a highly centralized system of planning economy linked to budget allocations and five year plans. Educational financing system was highly centralized but unlikely to find its way to all parts of a large and complex system. Though primary education was supposed to be universalized there was no clear plan about how this would be achieved or financed, nor was universalization compulsory (Wu 2008).

Regulations on primary and secondary education funding were included in "*The Decision on Unified Administration on the Annual Fiscal Revenue and Expenditure of 1950*". This stated that the funds of universities, middle schools and primary schools which were included in the central people's government's budget, were to be provided by the ministry of finance. The funds of county-level middle schools were to be provided by administrative regions and the province (or cities). Vocational schools that were commissioned by the central government were included in the provincial budget. In contrast rural primary schools and county-level teachers and below were to be supported from levying additional taxes often paid in grain by farmers. Educational funding of city primary schools would be supported by levies and surtax linked to education in the city. This essentially regressive system persisted until the 1990s.

During the period of the first five-year plan (1953–1957), educational financing reforms followed broader reforms of the greater administrative areas, reflecting changing political and economic realities. The fiscal management system held to principles of "Divided responsibility for payments, hierarchical management, and prioritization of key aspects". Under this system, the financing of education had three-level management; the central, provincial (city), and county under central leadership. The regulations of the central fiscal system were strictly implemented at the three levels (Fu 2009).

From 1963 onwards, central government began to take more interest in reforming the scale, development pace, management and financial system of basic education.

Major measures included strengthening the administration and the financial management for primary school and middle schools was moved to county level from the commune and production brigade. High schools were placed under Provincial supervision. Between 1966 and 1976 the chaos of the Great Proletarian Cultural Revolution affected every aspect of life including the educational financing system (Wu 2008). During this period policy on rural basic education was neglected and there was little systematic administration of the school system to promote its development.

After the fall of the "Gang of Four" it became possible to resurrect the school system. The late 1970s in China were a period of comprehensively promoted reforms of the economic system in rural area which resulted in the implementation of the household contract responsibility system. This promoted increased productivity in rural areas, but it also impaired the collective rural economy and its revenue raising capabilities. This had adverse consequences for the financial conditions of county and village schools and the development of rural basic education.

In spite of various up and downs, great progress was made in universal education. Primary school enrolment increased from below 20 % of the age group before the founding of New China to 49 % in 1952 and 93 % by 1979. Educational investment also increased greatly. In 1952, educational expenditure from the state was 1.1 billion yuan (at current prices) and it increased to 7.5 billion yuan in 1978, a nominal increase of more than 10 times compared to 1950[11].

In summary from 1949 to the late 1970s school funding flowed from central government to local authorities. The source of funding was single. Government expenditure on education was determined by the five year plans and remained a low proportion of total government expenditure for most of the period. Non-government investment was limited by the lack of economic growth and the limitations of domestic resources but was essential to support "minban" locally funded teachers in rural schools (Wu 2008). Within the limitations of the times of the system and national financial resources the system evolved but was unable to meet all the demands made upon it. Public services in rural areas, which made up more than 80 % of the total expenditure, could not be financed solely from local income. Before the rural tax reforms, educational taxes continually aggravated farmer's economic burden and caused serious unrest in different parts of China (Huang 2008). Rural education development thus remained at a low level because of a failure to resolve funding issues in poorer counties (Zhang 2004).

The problems were exacerbated by China's "the Great Proletarian Cultural Revolution", and the education system was suffered considerably. Schools suspended classes to make revolution and modern basic education was displaced by ideology and devaluing the intellectual and Chinese culture. Economic decline made it impossible to finance the education system in a normal way. Before the reform and opening up after 1980, economic development was at very low level. The condition of compulsory education was very weak and it faced a series of problems with a serious shortage of funding and teachers, poor condition school buildings and facilities and very uneven quality.

6.2.2 "Local Responsibility, Multi-level Management" (1985–2000)

Big changes occurred in the aftermath of the new awakening and the radical swings in policy after 1978. A more open system of public administration was possible with different patterns of responsibility. The "Four Modernizations" stressed the importance of education for China's development and a large number of related laws and policy texts began to be published. In 1985, the Decision on the Reform of Education System by the Central Committee of the Communist Party of China stated that "Now it is completely necessary and possible to make the implementation of Nine year compulsory education a great priority which will enhance the quality of the people and the prosperity of the country. We will mobilize the whole party, whole society and all the nationalities to implement it actively and step by step and with greatest efforts". In 1986 the Chinese government issued the Nine Year Compulsory Education Law, which was the first legislation on compulsory education in China and signified that basic education entered a new historical period [Wu Degang].

From then on, universal compulsory education became the focal point of the national educational reform and development. The government greatly increased educational investment. In 1980, the total educational investment was 11.4 billion yuan[16], 3.9 billion more than 7.5 billion yuan in 1978. Despite this the country was at the beginning of reform process and the economic foundations were very weak. Although regulations and long-term planning programs for compulsory education had been issued, adequate funding was not in place and the financial and management system owed more to the past than the demands of the future. Township, village and peasants played the major role in financing rural compulsory education supported by the other channels of fund raising. It was a typical lower-level-centered investment system and it unfolded over three time periods.

6.2.2.1 "Local Responsibility, Multi-level Management, and Township Centered Mechanism" (1985–1994)

The first phase ran from 1985 to 1994. In the mid-1980s, rural education in China was still very weak, and many school age children, especially girls, were unable to complete 5-year primary education leading to persistent illiteracy and semi-illiteracy. School premises were in short supply with poor conditions, dangerous classrooms and not enough desks and chairs, basic teaching equipment. The non salary recurrent fund of school operation were often non existent. The wages of rural school teachers administered by lower level authorities were very low and payment often delayed with consequences for the quantity and quality of universal compulsory education.

To address these issues the reform of administrative and funding system of basic education from centralized to decentralized was prioritized. In 1985,

the Decision on the Reform of Education System by the Central Committee of the Communist Party of China set forth the principle of decentralized financing and decentralized management in education. The 1986 Compulsory-education Law specified that "compulsory education management is under the control of the State Council and is the responsibility of local government. It is a multi-level management system". The principles of "Two increases" were put forward: first the State Council and local government are responsible for securing financing of operating expenses of education and infrastructure investment and the growth rate of the national fiscal funding for compulsory education should be higher than the general rate of revenue growth; second the per student average fee should increase year by year.

Local administration in China has five levels below the national government as noted above. Under the devolution principle, responsibility for educational administration and funding was devolved from the central government to local authorities all the way down to the town and village level, with all levels jointly taking the responsibility of raising funds to cover public undertakings and infrastructure construction. This was a recipe for some confusion since it was up to each province to decide how to divide the responsibilities. Without clear requirements for provincial and prefecture level government, the provincial governments tended to delegate responsibilities to lower levels. Rural compulsory education financing was mapped onto administrative levels. Thus senior secondary schools were the responsibility of the county, junior secondary schools the township, and primary schools were the villages. Village and township level undertook most of the responsibility of implementing universal compulsory education up to grade 9 in rural areas. The expenditure was mainly supported from county and township fiscal revenue and township governments played a key role in guaranteeing the flow of financial resources (Fan and Li 2010).

In financing rural compulsory education, township and village administration become the main suppliers. The central state only managed transfers to poverty stricken areas and the provincial governments formulated policy and criteria on finance as well as also allocating special funds. County level government mainly focus on investment in a small number of senior secondary schools and schools in the county town center. Township level governments took financial responsibility for central primary schools and junior secondary schools located in the township center. Administrative villages or few natural villages needed to take responsibilities on raising part of the fund for primary schools located in the villages. It became the case that many villages transferred the financial burden to parents by charging various kinds of fees from villagers as village authorities had little financial income themselves.

The system failed to produce adequate funds for development. Many methods were used to generate revenue (Lewin et al. 1994). These included at least four methods. First, local authorities were authorized to collect extra charges, with these user fees supplementing local financing for infrastructure construction. School buildings needed in compulsory education in the countryside were to be mainly financed by towns' or villages' self-financing, with the central government

offering grant assistance to poverty-stricken regions. Second, the central government encouraged enterprises, institutions and individuals to donate to rural compulsory education on a volunteer basis. Third, meanwhile, primary and middle schools were allowed to begin charging a certain amount of tuition and fees to support school operations. Fourth, schools were encouraged to generating income by having business, factories or services. The non-government sources for rural education included educational surcharges (the Notice on Raising Expenditure to Finance Rural Schools in 1984; the Provisional Regulations on Collection of Educational Surcharge in 1986), expenditure collected from farmers, encouraging schools to create income, and mobilizing social expenditure to develop rural education, etc. There were two major sources for state funding, one was allocation from local government, the other was special funding from both central and local government which took very small part of the funding of the whole.

In summary over this period China established a funding system characterized by village and township funding, supplemented by tax surcharges, tuition fees, social donations, and taxes on school run business. This system mobilized every sector of the society and it was a kind of "people's education was run by people". However, it created great burdens on the poorest townships and villages, as well as households. The gaps in development between areas widened as income distribution in China worsened with economic development.

6.2.2.2 "Local Responsibility, Multi-level Management, County-Centered and Township Shared Responsibility" (1994–2000)

The second phase of multi level management ran from 1994. The problems of the "village-centered" system of financing were not able to overcome shortages of revenue generation, teachers, and imbalances between counties. To solve the problems, two strategies were taken.

First, tax-sharing was formally developed. China began to reform the decentralized fiscal system in 1994. Arrangements for the sharing of tax revenues between different administrative levels were implemented with the aim of making more efficient use of funds from the central government to the localities (Liu et al. 2009). The contents of tax-sharing reform included three dimensions. First, agreements were made to divide expenditure between central and local government according to the responsibilities of the different levels. Second, based on the principle of more consistency of responsibilities with revenue raising financial income taxes that were closely related to the national interests and those related to the macro adjustments between authorities at the same level were made as central state taxes. Those taxes that were large in quantity and could balance investments were shared between central and local governments. The taxes that were closely related to the local economic and social development, with potential and suitable for local government to manage and collect, were made local taxes. Central taxation and local taxation institutions were established separately. Central taxes and shared taxes were collected by central institution and local taxes were collected by local taxation institutions.

Third, the central state implemented a tax return system to local governments. After the reform, central government took 60 % of the total tax income, 20 % of which would be used for tax returned to spending units. There were three major forms of tax return: general return, factor return and special allocation.

The tax sharing reform resolved many problems, such as establishing new relations between state and enterprises, central government and local governments, and between state and individuals, and stabilizing fiscal allocation relations between central and local governments. However, though the tax sharing system expanded the revenue of central government, it did not adjust central government's expenditure structures. As a result, the fiscal situation of central government became better and better, while the fiscal ability of local governments, especially the county-level governments in poor regions, were further weakened and unable to meet responsibility of supporting compulsory education.

The second strategy was to move more funding responsibility to county level. In 1994, the State Council issued "The Opinions on Implementing 'The Program of Reform and Development of Education in China'". It put forward strategies on funding with several elements. First the salaries of public teachers were paid from county-level finance. Townships in economically developed areas were also encouraged to contribute. Second, the salaries of substitute teachers were divided into two parts. One part was paid by the county and another part was to be paid from local education surcharges. Third, the overall quota for public funds for schools lawfully carrying out compulsory education was set by provincial government and counties were responsible for disbursing the funds. Fourth, funds for building, rebuilding, extending and renovating dilapidated schools and classrooms were included in the basic construction investment plans of the governments at all levels. Lastly arrangements were made to use a Special Education Fund to ensure that poor and remote areas received as much or more per student as the county average to accelerate the development of basic education.

During this period the system of "local responsibility, multi-level management, county-centered and township shared responsibility" was established. This shifted some responsibility to the county-level government for investment, but retained the expectation of fund raising from local sources. In practice the system remained decentralized with the expectation of significant local fund raising (Li et al. 2009). The "village-centered" (yi xiang wei zhu) or "county-centered and township shared responsibility" systems both contributed to the expansion of nine-year compulsory education. Compulsory education in rural areas developed fast. By 1999, China claimed enrolment rates for primary school-age children of 99 % and at junior secondary level 88 % (Wang Bingzhao; Shi Kecan, 2009).

However this expanded enrolment was being supported from various fees in addition to taxes on farmers. With the deepening of economic reforms, many inefficient rural non-agricultural industries deteriorated. The revenue raised from this source diminished and rural debts increased. Economically stressed township governments put more of the burden of funding rural compulsory education on farmers who became a major source of financing. It became clear that the salaries of teachers could not be guaranteed (Zhang 2004) and a new arrangement was needed.

6.2.3 The "County Centered Management System" 2001–2005

In order to guarantee the funding for rural compulsory education and promote rural educational development, it was felt that the "Township Centered" fiscal system must be changed. In 2001 the State Council established the management system for rural compulsory education which was "Under the leadership of the State Council, locally responsible, with divided responsibilities that were county-centered". It symbolized once again a significant major reform in the fiscal and management of compulsory education in China.

In 2001, the State Council issued the "Decision on Reform and Development of Basic Education" requiring the system to "Improve the management system, guarantee financial investment and promote the sustainable and healthy development of rural compulsory education". In particular, it clarified the responsibilities of different levels. First, the central government had the decision-making power to decide on the teaching system, the courses offered, the curriculum standards and the approval of textbooks. Central and provincial government increased educational investment in compulsory education in poor and remote areas through transfer payments. Second, provincial and prefecture level governments had to strengthen educational planning, organizing and coordination, guaranteeing the demands of rural compulsory education when arranging the transferring payments. Third, government at the county level was given the main responsibility for local rural compulsory education, planning for primary and secondary school development, readjustment of the distribution of schools and construction and management, pedagogy and teacher deployment, and payroll operations. Local governments at township level were left with operational responsibilities for running schools and were allowed to raise education funds, improve school conditions and teachers' conditions, maintain public security and safety of the school, and ensure enrolment of all school-age children.

In May 2002, the General Office of the State Council released the "Notification on the improvement of the rural compulsory education management system". This emphasized the need to establish safeguard mechanisms to guarantee the flow of investment and made a series of provisions. First, local governments at various levels were invited to "meet the basic requirements and develop steadily", and adjust the fiscal structure to ensure wages were paid to teachers in a timely and sufficiently manner. Secondly counties were given the norms and standards for funding rural elementary and middle schools to ensure a more even flow of resources. Third, mandatory systems of inspection for inspecting and identifying inadequate school buildings and renovating dilapidated schools were introduced. Fourth, the New Mechanism was used to guarantee a more regular flow of funds with the intention of increasing the amounts available to support rural school development. Fifth, new regulations regularized the management of funds and assets for education with greater transparency and accountability. They required that disbursement should be on time and adequate, and that funds were not to be

withheld or misappropriated. Funding could only be used for prescribed purposes, income and expenditure should be audited and published regularly, and the issuing of bonds to finance schools was banned. Lastly pairing and partnership arrangements were encouraged to reduce inequalities. This involved developing the "eastern counterpart support for western poverty-stricken areas school project" and "The project of large and medium-sized cities school counterpart support to local schools in poverty-stricken areas".

The core of county centered management system of rural compulsory education was that the county government took the major responsibilities on rural compulsory education. It has changed from township centered and fund raising from peasants to county government to take the operational responsibilities for running and managing rural compulsory education. The funding on basic education was included in county budget and had established the funding guaranteeing system for rural compulsory education. Teachers' salary was paid by the county. Provincial government determined the standards and norms for recurrent funds for rural schools and counties arranged the allocation. The central and provincial governments increased support to rural education of poor counties through transfer payments, arranging special funds for transformation of dangerous buildings and construction of new premises.

The "County centered" reform of rural compulsory education was packaged with Rural Tax and Fee Reform. In 2001, the State Council issued "Notification on Pilot Work of Rural Tax and Fee Reform". The major contents of the reform included "Canceling township revenue on education, family planning, road etc. Canceling the fees collected from peasants, institutional and governmental organization, suspending the butcher tax, decreasing and gradually suspending obligatory labor, and adjusting agricultural taxes and policy on tax of agricultural specialties.

Rural Tax and Fee Reform came into effect in Anhui province in 2000, reached 20 provinces and autonomous regions by 2002, and was extended to all parts of China except Tibet by 2003. Rural Tax and Fee Reform started in 2001 and suspended educational taxes at local level in favor of county level funding to all schools against a background of more general reform of rural taxation. The most important effect of this Rural Tax and Fee Reform on rural compulsory education was cancelling the fees from peasants used as additional educational fees and fund raising. This was significant for the development of rural compulsory education since it broke the fundamental structure of financing and investment in rural compulsory education. The system changed from one that mainly depended on additional educational taxes and levies on farmers, to one that depended on a system of government financial allocation (Gao 2004a, b).

From 2003, the state council reinforced its decision to strengthen rural education through the reforms it had introduced. County-level governments now took the lead in taking responsibility for educational development supported by transfer payments from Provincial governments targeted on the poorest counties backed by checks to ratify the appropriate use of additional funds. The commitment was to increase investment in compulsory education. Funds for rural compulsory

education were included in the budget and reported to the People's Congress at the corresponding level or its standing committee, and supervision and inspection was extended to cover the flow and use of funds and establish whether central government requirements for additional educational expenditure were met. Under this system county-level governments were expected to lead, but were supported by complementary contributions from central government, provincial government and township government who share responsibilities (Tian and Cai 2005).

In summary the "to the county" model (yi xian wei zhu) was a major reform directed at solving long running problems in the rural education compulsory management system, including the need for effective decentralization, insufficient investment capacity, and unsustainable burdens on farmers and poor households (Cai 2013). The implementation of this management system has been a major turning point from people paying for compulsory education from local revenue to the government taking most of the responsibilities (Yuan 2004).

With the operation of the county centered system new problems appeared. The Rural Tax and Fee reform started in 2001 had canceled additional educational fees and fund raising. These accounted for 30 % of rural educational revenue. The gap caused by the reform had to be filled by the local government. But due to the central tax sharing reform, the fiscal expenditure capacity of rural governments was greatly weakened. Township and county governments were unable to fill the gap in poor counties and even middle income counties experienced shortfalls.

The reforms also meant that western regions received more financial transfers than ever before. But these flowed to county level governments which mostly lacked adequate capacity to use the funds efficiently and monitor the impact. In addition, government above county level did not always meet their fiscal responsibilities and failed to provide sufficient income to replace that which used to flow from local taxation. The funding guarantee for the development of rural education remained fragile. The problems of unbalanced investment and unfair public resource allocation had not been solved (Gao 2004a, b). In addition regional differences in educational investment levels remained serious As a result a fourth set of reforms were introduced.

6.2.4 The "New Mechanism" After 2005

The County centered management system had the defect of mismatches between financial power and actual responsibilities. In particular it was inappropriate to divide the tax sharing income. Central and provincial finance took about 60 %, county and township only took about 15 %, but the latter bore most of the responsibilities for compulsory education. Central and provincial finance did not invest enough in rural compulsory education. According to the statistics of 2004, the total budget for rural compulsory education in the whole country was 132 billion yuan, the transfer payment by the central state was 15 billion yuan, accounting for 11.3 % of the whole national budget. This put heavy demands fragile county level finances and many were in deficit.

In December 2005, the state council issued the "Notification on Deepening the Reform of Fund Management of Rural Compulsory Education". This consolidated and refined the principles of shared accountability between different levels. It thus required governments at different levels to "divide responsibilities clearly at all levels, central and local governments were to share responsibility together, enhance the level of guarantee, and organize and implement (universal access) step by step". It aimed at ensuring financial security to rural education under a system of clear rules and responsibilities, fully integrating rural compulsory education into public fiscal security gradually. It also tried to achieve new balances in investment and transfers at different levels of development and clarify needs in central, eastern and western regions. The central state focused on supporting mid and western parts of China, and giving due support to the difficult areas in the eastern part.

In June 2006, the Revised Compulsory Education Act was issued. The main reason for the revision was to solve the problem of lack of funding for rural compulsory education, the relationship between administrative power and financial power, changing the situation so that those who did the jobs had the money and vice versa. The "revenue was planned and pooled as a whole by provincial governments and managed by the county". It was believed that the pooling at the provincial level could balance the needs between different areas of the province.

The "New Mechanism" has greatly enhanced the financial responsibilities of the central state for rural compulsory education. In April 2006, the Ministry of Finance and Ministry of Education issued the "Provisional Management Methods on Special Allocation Payment of the Central State in the Fiscal Security Mechanism for Rural Compulsory Education" which clarified that the free textbooks fee, free tuition fee, recurrent funds support, and the construction and maintenance of school premises shared by the central government were included in the national budget. The funds now flow down to the county and the county financial department allocates funds to the schools based on the school budget.

6.2.4.1 Main Content of the New Mechanism Reforms

There are four main elements to these reforms. Firstly, rural students in basic education are exempted from tuition and other fees and are provided with free textbooks. Students from poor families receive living allowances if residing in boarding schools. The finance for tuition waiver was shared by central and local governments. In the western region the ratio was 8:2, and in middle region 6:4. In the eastern region the ratio varies by Province. Free textbooks are funded by the state in central and western areas, but in the in eastern region, they are the responsibility of local government. Expenditure on living allowances to poor students lies with local government which determines eligibility, and the amount.

Secondly, the guarantee level of public funds in primary and secondary schools was determined and published. This means it is clear what the entitlement is to the average amount of funds per student for public use. The funds needed are shared

by central and local government according to the ratio of the tuition waiver. In order to promote balanced development, public funds use a benchmark quota of primary and secondary schools and the funds are also shared accordingly.

Thirdly, school infrastructure and building was placed on a long term schedule to create a sustained program for improvements in the stock of schools. In the central and western areas central government assesses the needs for repair and upgrading of schools every year and provides matching funding in the ratio of 1:1. In eastern areas this expenditure is a charge on local government. In addition there is the capacity to make special awards to especially deprived counties.

Fourthly, the New Mechanism strengthened and improved the salary guarantee system for teachers from rural primary and secondary school. Central government offers support to teachers' salary for rural teachers continuously. The intention is to solve the problems of late payment and under payment that have been widespread in some rural counties.

Thus the New Mechanism has several advantages. Firstly, it clarifies the responsibility of the provincial government for pooling and planning the funding as a whole. It formulates the sharing of costs at lower levels and improves the transfer payments system. Rural primary and secondary schools have set up budgeting and expenditure management system, strengthening the financial management and improving the monitoring and inspection to improve the efficiency.

Secondly, in including rural compulsory education into public financial security, the following items were specified. (i) exempting all the tuition and fees at the compulsory education stage, providing free textbooks for students in difficulty and living allowances for boarding students. (ii) Increasing the allocations for recurrent fund for primary and secondary schools. (iii) Setting up sustainable mechanism for maintaining school premises. (iv) Consolidating rural teachers' salary security mechanism. After implementing the new mechanism, during the Eleventh Five Year planning period, the funding for rural compulsory education from different level of finance have increased by 218 billion yuan, within which 125 billion yuan 4 was from the central state, and 92.8 billion yuan from local governments.

Thirdly, this reform established a mechanism for sharing between central and local governments by items and proportion. In the total arrangement, the principle was that the central state takes the bigger chunk. For exempting tuition and fees and recurrent funding, the proportion between central and local was 8:2 for the western part of China, and 6:4 for the middle part. For eastern part, the proportion will be based on the local situation. For reconstruction and maintenance of school premises, 5:5 for the mid and western part, and in the eastern part mainly self funded with some central awards. Free textbooks for students in difficulty are fully funded centrally in the western and middle parts. Living allowances for boarding students are supported by local governments. This system has meant that there is now much better matching between financial power and administrative responsibility.

6.2.4.2 Implementation and Promotion of the Reform

The reform of the fund guarantee system in rural compulsory education came into effect in the spring semester of 2006 and has been implemented year by year in different areas. Beginning in 2006, the "Two Exemptions and One Subsidy" (TEOS) policy was integrated into the "New Mechanism". The exemption policy was first implemented in western part of China in 2006 and was expanded to the central and eastern regions in 2007. This is now combined with the comprehensive guarantee (quanmian baozhang), which brings the basic requirements of rural secondary and elementary schools entirely within the orbit of financial guarantees. It is more comprehensive than the previously proposed "three Guarantees" (guaranteed security, guaranteed wages, guaranteed operations) (Ding 2008). TEOS is an important measure in China's endeavor to construct a rural compulsory education assured funding system (Ding 2008).

The New Mechanism has been broadly well received. Issues that arose in implementation included problems with the implementation of the subsidy for poor families and the coverage rate of free textbooks was smaller than anticipated and often the textbooks failed to be reused. The level of public funding remained low in some areas and the mechanism for renovation school buildings in extremely cold or remote areas was difficult to utilize. As a result in 2008 the standards for the average amount of funds per student were revised and the coverage rate of free textbooks was expanded with additional central finance. Benchmark quotas for public funds per student were published and by 2010 were in place across China.

The "New Mechanism" reform has included compulsory education in public financial guarantee system, established the mechanism of shared responsibility between the central and local government according to fixed ratios of contribution, and carried out the system of "provincial government is responsible for overall implementation, administered by county-level government". The "New Mechanism" recognizes the need for different timescales for implementation in different regions, and begins to solve the problem of financial guarantees and the financing of teachers, renovation of school buildings, and textbooks and living expenditure subsidies for poor students.

As the implementation of the "New Mechanism" continues, several achievements are evident. First the situation of under funding for rural education has improved a lot. During the period of eleventh five-year plan, the added educational funds allocated mounted to 218 billion yuan of which the central state contributed 125 billion yuan and local government 92.8 billion yuan (Liu 2010). Second, the gaps in funding between eastern region and western region are becoming smaller, though western region still lags. Third, the conditions of many schools have improved and the environment for the development of rural education has been enhanced. Fourth, the salaries and benefits or teachers in rural areas have increased.

The "New Mechanism" is a milestone in rural compulsory education funding system reforms.

6.3 The Impact of the Reform of Management and Fund Guarantee System

In the reform of funding system for rural compulsory education, China has moved from lower centered to higher level centered financial management. In the past peasants and township took the main responsibilities for compulsory education. Major adjustments were made after the reform of agricultural taxation and fees in the 1990s and the responsibilities moved mainly to the county level government. After the new mechanism was implemented in 2006, provincial pooling and planning as a whole were introduced, and the county centered management system was set up. The Central state's share of funding increased greatly.

6.3.1 Progress in Developing a Durable Public Financial Guarantee for Rural Education

The "New Mechanism" incorporates rural compulsory education into the envelope of public financial security because it is regarded as a public good which requires state intervention. This allows basic education to be free and universally available. It is supported through many pathways including the "two exemption, one subsidy" (TEOS) and other innovations which are pro-poor and ease the burden on poor rural households. Preliminary measurement indicates that the exemption of tuitions and fees in the central region saved households about 180 yuan per student at primary level and 230 yuan at junior secondary. In western areas, the average pupil's reduction was about 210 yuan at primary and 320 yuan at junior secondary (Yuan 2008).

In the survey of Tongzhou, a rural district in Beijing, one of the biggest changes in educational funding over the last two decades was the increase of government allocations compared with 1990. In 1989, the total educational fund was 46.7 million yuan, and various non-governmental fund sources accounted for about 40 % of this amount. With the implementation of the "New Mechanism", the non-governmental education tax was canceled, and the government grant has become the main source of school expenditure. In our fieldwork in Ansai of Shanxi province in 2010, we found that almost all of the school-aged children were able to attend and complete basic education. Educational expenditure can account for a large proportion of rural families' cash expenditure. The "two exemption, one subsidy" (TEOS) has reduced the direct costs of attendance significantly and increased participation and reduced drop out.

6.3.2 Rapid Development in Western Areas

The reforms have accelerated educational development in western areas which has taken place alongside economic development. Educational expenditure has increased

as a result of transfers and norms on per pupil expenditure. These developments are evident in Zhaojue where we have compared conditions now with those two decades ago. Zhaojue is a state-level poverty-stricken county but is much richer than it was in 1990. Education funding remains challenging but despite this most children now attend school although too many still do not complete before dropping out. In the words of a local education official in Zhaojue it is "a poor county that manages comprehensive education. Although the foundation is poor, because of a series of national preferential policies, education in Zhaojue has made great progress". In Bier district, another official rightly observed that "no matter which districts (villages or towns) you go, you will find that the tallest and most beautiful building is school".

There has also been substantial progress in Ansai of Shanxi Province. The quality of teachers has substantially improved in terms of qualification and supply, and working conditions are much better. Thus, there are now no substitute teachers in the complete schools in the case study area. The teacher qualification rate has improved from 75 to 100 and 37 % are now college graduates. Teachers salaries for public teachers were 172 yuan, and 79 yuan for substitute teachers in 1990 and are now about 1200 yuan. The salary now excludes bonus payments and class fees.

6.3.3 Increases in Total Educational Investment

National expenditure has grown considerably and has promoted the development of rural compulsory education. The "New Mechanism" resulted in 2007 in the investment of 92.6 billion yuan to the benefit of more than 400,000 rural schools and nearly 150 million rural primary and middle school students. The proportion of the government budget to rural education rose continually and was over 80 % of the total in 2006 (Liang 2008).

The source of funding of compulsory education fund is now guaranteed and the amount remains high. In 2014, central finance for rural compulsory education guarantee system was 87.9 billion yuan. At the same time the number of students has fallen as a result of demographic transition thus increasing the amount available per child. Public funds benchmarked for every student in compulsory education in rural has therefore increased. In the central and western areas, it is now 600 yuan in primary schools and 800 yuan in middle schools; in eastern areas, it is 650 yuan in primary school and 850 yuan in middle school.

These developments are evident in the case study areas in Tongzhou in Beijing and Ansai in Shanxi province. In 1990, the public fund per student in Tongzhou was 13.4 yuan in primary school and 33.2 yuan in middle school. In 2007, public fund had been increased dramatically and the average public fund for per student was increased to 800 yuan per year in primary schools, and 900 yuan per year in middle school. Ansai has also developed rapidly with large increases in educational funding. In 1990, non-government educational sources accounted for 31 % of total educational funds. Now government funding is the main source of school funding. In 1990, educational funds expenditure took only 19 % in local fiscal revenue. By 2008 the percentage was over 40 % and had been growing at over 15 % a year since 2003.

6.3.4 Improved School Quality and Better Teaching Conditions

Increasing amounts have been invested in improving school conditions. This is evident in Ansai where the schools which had basic equipment and simple buildings in 1990 are now well equipped with up to date computer rooms and laboratories and clean and adequate teaching space. State norms for infrastructure and classrooms are met or exceeded. Tonzhou had adequate levels of infrastructure in 1990. Now the schools also all meet or exceed the norms for the county. There are 8 computers per student available and all schools have campus networks. Other infrastructure investment has been made in winter heating, a new remote education audio-visual classroom with area of 95 m^2, and public kindergartens and adult education.

In all the case study sites the qualified teacher rate is now high though Zhaojue still finds it difficult to recruit and retain qualified teachers, especially those from the Yi Minority. The salary guarantee system is working ensures teachers' salaries were paid in full and on time. Salaries are now much higher than in 1990 and are between 10 and 20 times greater in nominal terms than in 1990 reflecting the reforms in salary structure and the increases in investment.

6.3.5 Enhanced Student Financial Assistance

The "New Mechanism" provides special subsidies to poor areas, minority areas and disadvantage students (Yu 2007). The fund guarantee system pays more attention to disadvantaged groups and exempts them from tuition and other fees. It provides free textbooks to students from poor families and living allowances to poor students who are boarding under the policy of "two exemption and one subsidy" (TEOS). In Zhaojue we found that with the implementation of "two exemptions and one subsidy" (TEOS), students in rural areas didn't need to pay tuitions and fees, and that boarding students can get 50 yuan living allowance subsidy per month and 10 yuan from a county allocation. The system is therefore working and seems to have had an impact on enrolment and retention.

6.4 Remaining Challenges

Several issues remain of concern. Regional disparities persist, administrative issues need resolution, teachers' salaries are still less in rural areas, and central funding may have crowded out other sources.

6.4.1 Regional Disparities

The economic divide between the richer eastern provinces and the poorer western provinces in China is reflected in the gaps in the development of basic education. As a result of geographical, historical and social factors the quality and management of the education system western provinces lags a long way behind the east coast Provinces. Inequalities are associated with ethnicity, gender, and class identities and there are wide gaps in income, high levels of poverty, and a much lower quality of life than in the east. Urban/rural disparities permeate all aspects of Chinese society, including education.

Historically western provinces have developed much more slowly than those in the east and this has meant that expenditure per child has been much lower. The disparities in education development between east and west parts were exaggerated under the old system of local funding of compulsory education. The rural funding guarantee system is addressing this problem and should ensure that in future the differences between Provinces in public funding will be much less. But there is a long backlog of neglect and much investment in infrastructure needed to catch up with more advanced Provinces. Fiscal capacity remains limited to supplement national funding (Fan and Li 2010). It also remains true that central and provincial government transfer payments to less developed regions can be delayed when there are periods of austerity. Because personnel expenditure is the largest item in public budgets salaries may be temporarily defaulted or reduced in volume if there is a budget shortfall (Yu 2007).

The disparity between districts is especially shown in recurrent funding of schools. In the process of allocation and distribution down to schools, recurrent fund is often cut and some schools do not get anything. This still happens in Zhaojue where some schools appeared to receive no recurrent fund. Though new schools have been built in some areas e.g. Sakai, there were still old buildings and limited capacity in other areas e.g. Bier. Unlike in eastern Provinces where growth in student numbers will be small, a rapid increase is expected in Zhaojue with an increase to 36,000 in primary schools and about 16,000 in Junior secondary school by 2015. This will need above average level investment to support the growth. In Tongzhou in Beijing population is stable and schools will be modernized and standardized.

6.4.2 Institutional Issues

The reform of rural compulsory education management and fund guarantee system is being implemented progressively. There is no “long-term system design” for ensuring funding for regular and preventative maintenance for basic school development (Ding 2008) or for catching up on the history of under investment in the past. Higher levels often try to avoid taking the responsibilities that should be

undertaken. The Central state is still limited in its capacity to provide revenue to urgent or newly emerged gaps in development rather than a complete and regular system. Thus the "New Mechanism" falls short of providing sufficient funding for growth since the formula used does not take into account future demand. This is a problem especially for personnel expenditure which accounts for 80 percent of total education expenditure and is still paid by county-level government.

In terms of school management systems in rural areas, most of the funding goes to the central primary school. Other complete or incomplete schools under the management of central school have no power over finance and often are less well funded than the central school. The disparity between central schools and other types of schools are quite obvious.

6.4.3 Teachers Salaries

The salary guarantee for rural compulsory primary and secondary teachers has not been fully incorporated in the "New Mechanism" and the salaries of rural teachers are still the responsibility of county-level government. They are therefore vulnerable to local variations in economic conditions. Although the government has standards in allowances for teachers in charge of classes, teaching periods allowances, and other benefits, they are likely to be reduced at local level. For example, teachers have an extra month salary, but in many rural schools the extra month salary is normally kept by schools as a performance related bonus for teachers. There are risks that with the "New Mechanism" that prohibits various fees, the actual income of rural teachers will fall though it will be cheaper for students to attend (Yu 2007). The income of rural primary and secondary school teachers has improved but is not high. Teachers have no special social security arrangement in rural areas. Neither are the salaries of substitute teachers incorporated in the scope of guarantee system despite the fact that some are long serving and rated highly, and this despite repeated efforts to abolish the category.

6.4.4 Unclear Accountability, Crowding Out and Fund Adequacy

Three issues stand out as problematic for accountability. First transfer payments may not be supervised effectively. Xue and Ding (2009) undertook field investigations in two provinces and ten counties in the eastern region on the education fund guarantee system in rural compulsory education. This revealed that in the public schools in Hubei and Shanxi province, funds for waiving tuition and fees, and the public fund allocation and subsidy for living allowances to poor students residing on campus, often failed to reach the designated institutions. Some public schools continued to charge tuition and fees to students after the implementation of "New

Mechanism", not least to maintain their income if payment was late or reduced in size. In Zhaojue it was true that educational funding had been increasing now that the level of educational expenditure was guaranteed. Nevertheless there were examples where funds that were allocated were withheld above school level, and central schools continued to receive resources that were not passed on to comprehensive and the incomplete schools.

Second, the "New Mechanism" resulted in "crowding-out effects". In some areas additional central government investment has been accompanied by a fall in the total resources available (Fan and Zhu 2010; Song 2006; Zhu 2007). The new system impaired some of the initiatives that the township government used previously to raise funds and lessened the incentives to be pro-active.

Third, allocations were not always sufficient for purpose (Zhang 2009) and this limits policy implementation. For example, in Zhaojue rates of boarding are high accounting for 34 percent of the total students, with the highest rate in primary school reaching over 60 percent. Although the dormitories are clean, rooms with a dozen square meters accommodate ten students or more. There were five side-by-side beds and there were no tables and chairs or other furniture and bathroom shared with many other rooms. Cafeterias were small in some schools, and there were no places for students to have meals so students had to have meals in classrooms, dormitories or just sit on the ground.

6.5 Conclusions

The evolution of management and funding system of rural compulsory education has experienced shifts in responsibility to a "higher center" than the village and township for expenditure on rural compulsory finance. Government becomes the major investor of compulsory education. And it pays close attention to poor regions and disadvantaged groups, providing support to them through special education funds. The "New Mechanism" is an important reform of the finance system in rural compulsory education. It includes compulsory education within the envelope of public financial security. Overall the rural compulsory education management and fund guarantee system has resulted in significant gains, but still has shortfalls. Based on the results of the analysis in this chapter and evidence from the fieldwork studies several ways forward can be identified.

6.5.1 Better Relationships Between Central and Local Government

Compulsory education by nature is mandatory and enforced by law and it is organized and provided by the state. Thus the state should be the main actor for implementation and the funding for implementing compulsory education should

be mainly provided by the state and the state should be responsible for the fund raising for implement basic education. As the basic part of education system, compulsory education is the foundation of the whole education system and is a public good. Central state should take substantial responsibility for rural education. Delegating responsibility to local level should be accompanied by financial power as well. "Local level" is a general concept in China, it needs to be viewed analytically. Under the new strategy of balanced development of compulsory education, provincial level should play the major role in narrowing the regional gaps.

6.5.2 *Increase Subsidy and Investment Levels in Poor Counties*

The level of funding available under the "New Mechanism" uses norms that are appropriate for systems which are in steady state rather than systems that are growing fast like China. Demographic transition means that in the developed parts of China the number of school age children is stable. High enrolment rates mean that there is no backlog of demand to catch up. It is therefore desirable to devise methods to meet the financial needs of growth in western areas where historic neglect and under enrolment create much greater demands on the financing needed to close the gap between them and more advanced areas. The issue applies to both capital and recurrent expenditure and must also recognize the limited capacity of poor counties to raise revenue.

The transfer system is complex not least because there are many different levels through which funds pass. This should be simplified wherever possible. The number of levels for financing is excessive—the central government, province, county and township/village. Each has different procedures and protocols. Central government should lead on public resource allocation with a more direct relationship to receiving counties and supplementary support from Provincial budgets (Zhang 2008). There is yet no standard financial transfer payments system to make the transfer payment procedural, avoid artificial manipulation and extraction of rentals, reduce transaction costs, and guarantee the fund for compulsory education is allocated in a timely way (Tian and Cai 2005).

6.5.3 *Improve the Methods of Supervision, Accountability and Evaluation*

Supervision and inspection are essential if the rural education financial guarantee system is to be successfully implemented. There is considerable gap between formulate policy, implement policy and the results of the policy. Local government needs methods to insure internal accountability and monitor fund allocation and impact. Central government needs independent evaluation of the performance of

provincial and county level institutions. Both internal and external monitoring and evaluation are therefore critical (Wu and Yang 2010).

A key component of accountability will be to improve the audit system and track all expenditure on rural compulsory education from its source to the end user. This can use data from internal audit and external audit systems and should also include social audits. Alongside this attention is needed to the mechanisms of reward and sanctions to promote accountability. Legal parameters for fund use need clear definition through an "educational investment law" to make sure there is a legal framework to abide by in the course of supervision and accountability.

6.5.4 Improve Teachers' Salary and Welfare and Regularize Substitute Teachers

The outstanding issues with teachers' salaries have been discussed in previous sections. The first issue is that though rural teachers' salaries are guaranteed by the "New Mechanism" it remains the case that they may be delayed or under paid. This situation should end and the salaries be guaranteed like other state employees so that payment cannot be affected by whether fees are charged or by the temporary economic situation of the county (Zhang 2008). Although the salaries and welfare treatment of rural teachers have improved greatly, housing allowances are not systematically available and a serious issue in rural areas. Medical insurance also varies and needs to be regularized. Some rural substitute teachers remain and their conditions of service are very inferior and need resolving. The gaps between eastern, western and the central areas have yet to be reduced and standards of living of teachers in different locations are very different. This is a disincentive in attracting excellent teachers to work in rural areas and a more effective scheme is needed to reduce the differences between rural and urban teachers.

6.5.5 Regional Disparities and Strategic Planning

Educational inequalities reflect and reinforce economic and social inequality. Rapid growth is often inequitable but may become unstable of differences between groups become too large. Proactive measures are needed to manage more equitable growth in the future. These need to be contextually located but within an overall strategic framework. The are opportunities to set subsidy levels in relation to local economic realities; allocate per student funds in ways the recognize the additional demands created by planned growth; make more use of social capital and encourage community contributions to construction and school activities; and use educational assets including buildings, land and equipment more efficiently.

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Chapter 7
Marginalised Children and Universal Basic Education

7.1 Introduction

This chapter is concerned with groups of children whose rights to basic education are often compromised by location, household circumstances, social group, or health status. Section 7.2 discusses migrant children who have grown in numbers since the 1990s to make up the majority of the school age population in some peri urban areas like Tongzhou. Section 7.3 identifies the complementary problem of left behind children whose parents have migrated. Both in Ansai and Zhaojue economic growth has attracted parents to migrate for work and leave behind their children in the care of others. Section 7.4 explores changing patterns of gendered exclusion as social values and opportunities change. Section 7.5 provides some insight into the status of children who are HIV/AIDS orphans. Section 7.6 takes up the issues that relate to improving access and participation by national minorities.

China's commitment to including all children in basic education has a long history and is most recently reaffirmed in The *National Medium and Long-term Education Reform and Development Plan Outline (2010–2020).* This argues that educational equity is the key foundation of social justice, and that equal opportunity has to accompany the guarantee of the legal right to access to education. China's rapid development means that it is essential to promote balanced development of basic education with special support to the most needful populations of children with the intention of narrowing education gaps in access and attainment through preferential policies for rural, remote, underdeveloped and minority areas (The State Council 2010).

Since the 1986 Education Reforms China has promoted universal access to education up to grade 9 with different targets for different regions. Rapid development has generated inequalities that now need to be addressed to ensure that all children experience quality education. Song and Kong (2009) identify three dimensions of balanced development. First is the regional balance between Provinces at

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the macro level. Second is balance in investment between educational levels and school types at the meso level. The third is the balance needed between individual interests and capabilities and collective needs for development for different social groups at the individual and social group level (micro level). The implications at the three levels are linked with each other and mutually intertwined. The third level depends on the first and the second. Regional and school level balances underpin social group balances. Li (2002) has noted that balanced development means more than one thing as conditions vary with context and the overall level of development.

The conceptualization of equity and marginalisation in China has been influenced since the late 1970s by Rawls (2001) in his *Theory of Justice.* Specifically the proposition that inequality arising from social background and capability is unfair, and that therefore this should be addressed with positive discrimination, has had traction. It is not enough to treat everyone equally. To create real equal opportunity society needs to pay more attention to the needs of those marginalized by poverty, lack of capability and other disadvantages (Zhang 2009). Everyone should have the same freedoms and rights. Public offices and employment should be open to all under equal conditions, and the appointments should be made in the best interests of all, not just the powerful. Balanced development thus requires interventions that direct more resources to those who have least, and positive discrimination is justified in order to reduce gaps in access and attainment.

Coleman, one of the most influential American educationalist in the mid-twentieth century, has also been influential in shaping Chines views of equity and marginalisation. In *The Concept of Equality of Educational Opportunity (1986)*, Coleman listed several meanings for equality of opportunity. These include providing free education that does not exclude by price; giving all children from different social backgrounds access to core courses; providing children with different social backgrounds opportunities to learn matched to their capabilities; and providing subsidies to reduce gaps in provision between rich and poor districts. Public school systems are the best method of achieving these objectives and the only way of reaching marginalised groups consistently. Coleman recognized that absolute equality was unattainable and possibly undesirable since individuals differ in capability and aspiration. He preferred to promote "reduction in inequality of educational opportunity" as a substitute for "achieving equality of educational opportunity" (Shi 2007) since complete equality only happens when all the disparate impacts of non school factors are addressed. This is impossible in practice and equality can only be approached not achieved. This is consistent with current policy in China which seeks to narrow gaps between regions, districts and schools without necessarily eliminating the differences.

In the remainder of this chapter we consider education for marginalised and disadvantaged children in five clusters. These are: migrant children generated by rapid development and urbanization; left-behind children in rural areas whose parents have migrated; gendered exclusion; HIV/AIDS orphans; and national minority children in remote and undeveloped regions. The analysis leads to a set of policy suggestions to address the different issues raised.

7.2 Migrant Children in Urban Areas

Migrant children are defined as children who move with their parents to a new place of work which is not where the family is registered with hukou. The majority of these children's parents are skilled and unskilled labourers though in the last five years the number of migrants who are white-collar workers has increased in metropolitan areas like Beijing and Shanghai. In Beijing most of the migrant children now attend public schools but this is a recent development responding the demand created by the large numbers involved and the social issues that were developing from the exclusion of migrant children. The situation varies widely across China and in many cities there remain big issues relating to the status and opportunities for migrant children.

Local governments are responsible for providing basic education in China. Inevitably they have limited human, financial and physical resources, and are constrained by the household registration system which means that migrant children only have a right to education where they come from. In many large cities, the number of migrant children greatly exceeds the capacity of the public school system. This has resulted in the appearance of private schools for migrant workers children (Da Gong Zi Di). This is not a reflection of demand for private schooling so much as a response to lack of pubic provision. When urban migration took off in the 1990s such schools were often supported from donations from caring people philanthropists and community members. In the last decade more and more for-profit providers have entered the market who seek to attract large numbers of fee paying students and make profits. In the early 2000 the numbers of such private schools were doubling every year (Wang 2005). Many of the schools had problems with unstable financing, poor quality rented buildings, unqualified teachers, and unauthorized operation with the threat of being closed by local authorities. In rapidly urbanizing areas around large cities these schools remain a major location for school provision for migrant children, particularly in the rural-urban intersections.

All the children are supposed to get educated equally so education for migrant children remains a serious issue to be solved. There is a long history of concern going back to the State Education Commission of China's *School Attendance Approaches for the School Age Migrant Children in the City and County Areas (Trial)* in 1996. This demonstrated awareness of the problem for the first time and led to the formal promulgation of *School Attendance Interim Approaches for the School Age Migrant Children* by the Department of Education in 1998. The central government issued the *Decisions on the Basic Education Reform and Development of State Council* in 2001, through which Chinese government confirmed that henceforth the inflow city and its full-time public schools are the two major responsible parties to ensure the rights of migrants to access compulsory education and were legally liable to make provision. This was the first time the State Council confirmed the to "Two Major Parts" policy. Nine years later, DoE issued the *National Medium and Long-term Education Reform and Development Plan Outline (2010–2020)*. This confirmed the "Two Major Parts" principle and started to address the problems arising from the admission exam program for

migrant children in the inflow city which typically excluded migrant children from upper secondary education or university except in technical and vocational subjects.

7.2.1 The Flow of Migrants

China has sought to achieve social transformation from an agricultural country to a modern industrial society and cope with the problems resulting from migration as a result of massive urbanization. China's sustained economic growth and social transition has created a large floating population of individuals and households. Estimates of numbers may not be reliable but the data available suggest that there were 80 million in the floating population in 1995 with approximate 3 million school age children. By 2000 the number was over 102 million (fifth National Census) of whom over 14 million were children under 14 years. About 24 % were migrants across Provinces and 34 % were migrants within Provinces. The rest were migrants between cities. Since 2000 the numbers have continued to grow. It is now estimated that there are over 240 million in the floating population including at least 39 million children of school age (*Chinese Migrants Development Report 2012* published by National Population and Family Planning Commission) with the prospect of annual increases in numbers of 5–10 % as urbanization continues. The majority of migrant children are from rural areas and it appears that about 75 % have family backgrounds in agriculture. The numbers seem set to continue to increase for the next decade (Table 7.1).

The regional distribution of migrant children is highly concentrated in a few provinces as we can see in Chart 1. Guangdong ranks first with 2.7 million migrant children (14.2 % of all migrant children). Other provinces with large number are Zhejiang, Jiangsu and Fujian and all of them have more than 1 million migrant children. Sichuan and Shandong have 0.93 and 0.8 million migrant children respectively. Migrant children in these six provinces account for more than 40 % of the total number in China (Table 7.2; Fig. 7.1).

The proportion of migrant children in some areas is very high. There is one migrant child in every three Shanghai children and nearly one in four in Beijing. As the political, economic and cultural center of China, Beijing is always one of the main inflow areas for China's child migration, as is Shanghai. Zhejiang (14.2 %), Fujian (12.1 %) and Tianjin (12.1 %) also have high proportions of migrant children in their school systems. Overall migrant children constitute 6.1 % of all school age children, and 12.1 % of urban children (Table 7.3; Figs. 7.2 and 7.3).

Table 7.1 Floating population and migrant children in China

Year	1995	2000	2005	2010	2011	2012
Floating population (millions)	80	102	120	220	230	240
Migrant children (millions)	3	14	18	34	37	39

Table 7.2 Migrant children by province (Duan and Yang 2008)

Province	Percentage	Amount (10 thsd.)	Province	Percentage	Amount (10 thsd.)
Beijing	2.6	47.7	Hubei	2.77	50.8
Tianjin	1.1	20.1	Hunan	3.3	60.5
Hebei	3.17	58.1	Guangdong	14.6	267.8
Shanxi	2.61	47.8	Guangxi	2.42	44.4
Inner-M	3.4	62.4	Hainan	0.67	13.9
Liaoning	3.18	58.3	Chongqing	1.53	28
Jilin	1.7	31.2	Sichuan	5.07	92.9
Heilongjiang	2.35	43	Guizhou	2.52	46.2
Shanghai	3.52	64.6	Yunnan	3.13	57.4
Jiangsu	6.42	117.7	Tibet	0.13	2.3
Zhejiang	7.69	141.1	Shanxi	2.13	39.1
Anhui	3.56	65.3	Gansu	0.94	17.2
Fujian	5.53	101.4	Qinghai	0.49	8.9
Jiangxi	3.32	60.9	Ningxia	0.57	10.4
Shandong	4.34	79.6	Xinjiang	2.35	43.2
Henan	2.82	51.7	Nationwide	100	1834

Note Analysis based on 2005 national 1 % sample survey of population

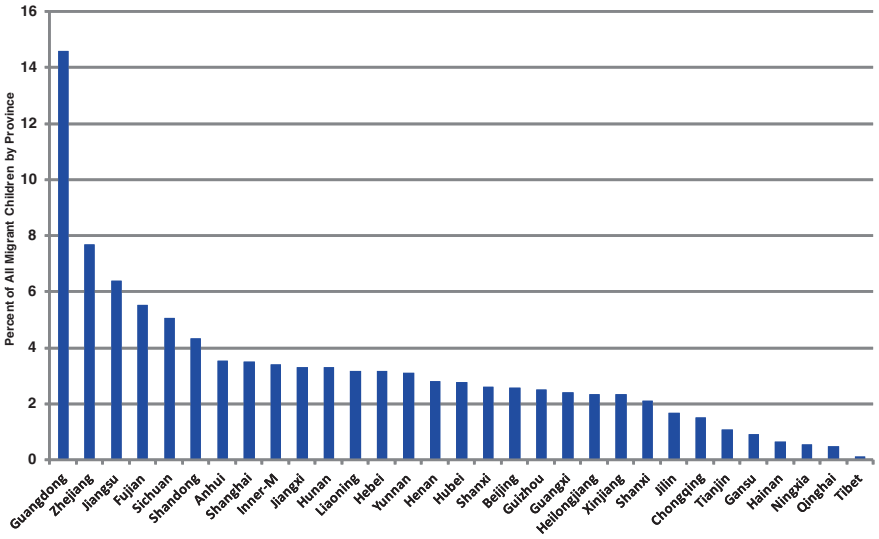

Fig. 7.1 Percentage of all Migrant Children by Province

Table 7.3 Percentage of 0–14 years old migrant children in the overall children amount of each province (Duan and Yang 2008)

Province	Migrant children/local children	Migrant children in cities/overall children in cities	Province	Migrant children/local children	Migrant children in cities/overall children in cities
Beijing	23.83	26.07	Hubei	3.47	7.37
Tianjin	12.84	16.86	Hunan	3.89	9.36
Hebei	3.58	8.00	Guangdong	8.92	15.41
Shanxi	5.07	8.96	Guangxi	3.17	9.85
Inner-M	11.44	17.20	Hainan	5.21	10.11
Liaoning	7.42	10.20	Chongqing	3.66	7.53
Jilin	5.88	9.35	Sichuan	3.84	9.39
Hei Longjiang	5.74	8.14	Guizhou	3.33	10.47
Shanghai	30.80	30.56	Yunnan	3.43	10.80
Jiangsu	7.82	12.06	Tibet	1.97	5.09
Zhejiang	14.51	21.21	Shanxi	4.18	9.29
Anhui	3.13	7.41	Gansu	2.03	6.54
Fujian	12.08	21.56	Qinghai	5.30	14.16
Jiangxi	4.31	9.55	Ningxia	5.12	12.54
Shandong	4.27	7.87	Xinjiang	6.98	12.90
Henan	1.95	5.70	Nationwide	6.03	12.41

Note Analysis based on 2005 national 1 % sample survey of population

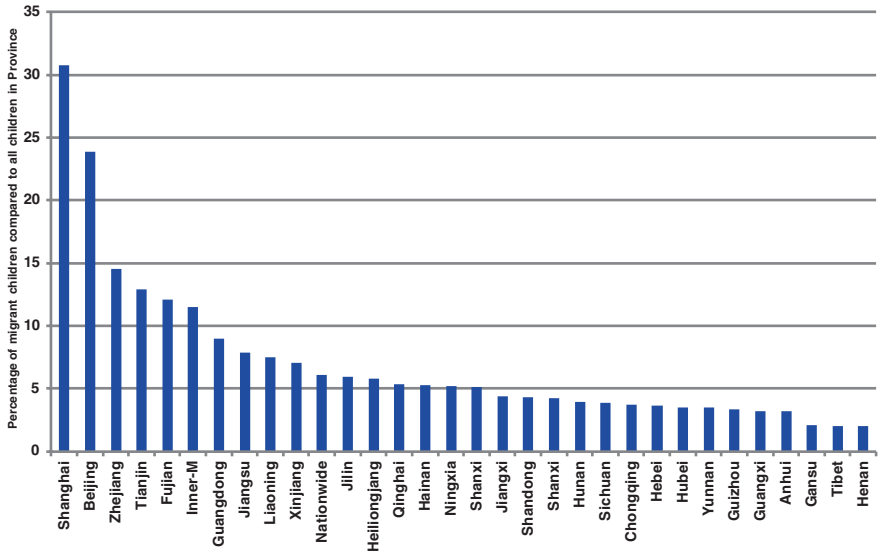

Fig. 7.2 The percentage of migrant children compared to local children in each province

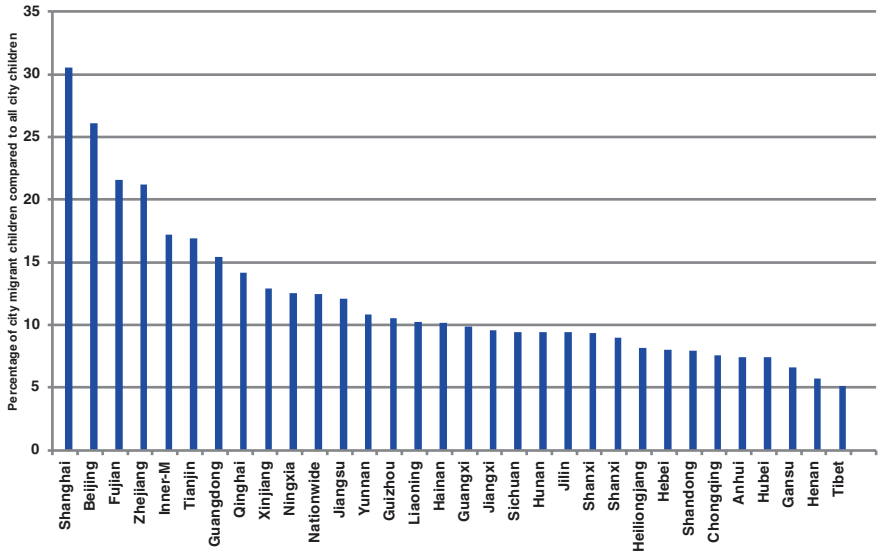

Fig. 7.3 The percentage of migrant children (cities) amongst all children in cities of each province

7.2.2 The Impact of Inward Migration

The case study of Tongzhou district provides an example of a migrant child inflow area that has changed dramatically over the last two decades. The predominantly agricultural area with some light industry has been transformed. There are now tens of modern hi-tech enterprises in a nearby economic development zone—Yizhuang. The local economy has attracted over 100,000 migrant worker while the local residential population is only 40,000. These migrant worker's children are the major part of Majuqiao primary schools' enrollment. In the 1990s there were almost no migrant children in the schools. In the last decade the proportion of migrant children in all primary schools has risen from below 15 % to over 30 % and has been concentrated in the Central Primary school which now has 50 % migrant children. Lower grades have more migrant children suggesting the trend is continuing.

Compared with Majuqiao, the relatively undeveloped Xiji town hosts fewer migrant children. However recent developments have included a fruit trees plantation which uses migrant labour and around 3000 people and 200 children moved to the town to work on the enterprise. The impact on the schools system has meant that the proportion of migrant children has risen from only 5 % to over 30 % over the last decade.

It remains difficult for migrant children to enroll at secondary level in Tongzhou because of residency issues and because children wishing to apply to university are generally expected to do so from their home town, not from where they have migrated. Beijing government regulations require that migrant students can only be enrolled by the technical secondary school rather than in the general

public high school when they graduate from junior secondary. This is the second choice of most parents and students who want access to university. The Beijing government has also set and issued regulations for the temporary schooling fee for the migrant children. These are RMB 200 for each primary child every semester, RMB 500 for junior secondary student and RMB 2000 for senior secondary. The proportion of migrant students in secondary school in Tongzhou is much smaller than at primary school level as a result of the residency issues and cost and is less than 10 % of all students.

Three issues stand out. First there is a high mobility rate and low graduation rate for migrant students. Though the overall number of migrant students is growing analysis at school level shows that the numbers in each grade can fluctuate widely from year to year. The main reason is that these migrant students are often may enroll only for a year or two before changing location. Generally there are more children enrolled in the lower grades and a proportion of older children are sent back to their home areas as they approach secondary level. In Majuqiao the numbers flowing through each grade fluctuate by as much as 50 % year on year with consequences for the continuity of education. Local students do not have the same fluctuations in numbers because their enrolment patterns are stable.

The second issue is that migrant students are perceived to have learning problems more often than local students. The evidence from this study is that though the majority of migrant students in Tongzhou are able to adjust to their new environment and can be effectively integrated into new classes, some find it difficult. There are several reasons. The pace and level of teaching in Tongzhou schools is much more intense than in rural areas where migrants originate. This means that keeping up with work is an issue and that the grade a child is placed in may be too challenging for some if it reflects their chronological age alone. Almost every migrant student has problems matching their knowledge and capability to the urban curriculum. Some children have had a very limited exposure to school. Most migrants have little or no experience with English unlike the local students.

For example a case mentioned by a Grade one Chinese teacher, is that of a migrant boy who had learned 100 new words in his former school, but only half of the learned words were same as those in Majuqiao primary. After many efforts collaboratively by teachers, parents and the boy himself, he has gradually caught up with the curriculum. One-to-one tutoring is offered by some class teachers as a common method to bridge the gap and also to improve students' performance. Performance disparities within the migrant groups are a problem noted by teachers, as is the impact on achievement of lack of parental interest and motivation.

The third issue is that, as noted above, gaining access to the next educational stage is a problem for migrant students. Migrants in Tongzhou have only two choices after junior secondary: students with good performance go back to their hometown senior secondary; others go to technical secondary schools. The students who go to technical schools pay the same tuition as local students, but they do not have the same welfare benefits such as monthly subsidies. Those students who do not have Beijing residence identity are not allowed to join the senior secondary entrance examination in Beijing for University entrance. Thus a Grade

four student from Anhui province who had been studying at Xiji central primary school since Grade one indicated that his 13 year old sister had transferred back to hometown junior secondary to ensure entry to senior secondary school. He said he would also probably be sent back. Migrant children who go back to home areas can have adaptation problems due to the regional educational differences and to separation from parents and siblings.

Beijing government's admission policy for migrant children has divided these children into two types: the children who hold rural resident identity will enjoy the "two exemptions and one subsidy" support once they have all the six certificates (temporary residence permits, household register book, one-child certificate, parents' Beijing employment contract, no-guardian status certified by birthplace, housing/purchase agreement); the other migrant children hold city residence identity and will pay 200 yuan for each migrant child every semester at primary and 500 yuan at lower secondary. Obtaining all six of the necessary certificates may not be easy.

7.3 Left-Behind Children

Left-behind children refers to children whose parent or parents have migrated for work or for other reasons leaving children in the care of relatives or other care givers. Left behind children are the counterpoint to migrant children and have been increasing in number. The National Women's Federation released *National Rural Left-Behind Children, Rural Migrant Children Status Research Report*, in 2013 using data based on a sample of 1.26 million households drawn from China's sixth nationwide census. This shows that there are about 61 million left-behind children in rural areas, accounting for up to 38 % of the declining number of rural children. Sichuan and Henan have the largest proportions left-behind children, accounting for 11.3 and 10.7 % of all children. The majority of left-behind children live with their grandparents or others, though there appear to be about 3.4 % of left-behind children living alone. The largest numbers live in Guangdong, Zhejiang, Jiangsu, Shanghai, Beijing.

In this research, Ansai County, Shaanxi Province and Zhaojue County Sichuan Province are both areas with significant numbers of left behind children raised by elders or relatives because of migrant parents. Ansai has relatively good transport links and connections with fast growing areas of China. Zhaojue County is located in the east of Daliangshan, and is a national-level poor county that is very remote. Compared with Ansai County, Zhaojue has a smaller proportion of left-behind children. As a national minority area with Yi speaking people the demand for work outside is less than it is in Ansai and its migrant workers are mostly unmarried young men without children.

Left-behind children are a growing problem in many rural areas and some towns. It is widely believed that parents work outside the home has a negative impact on growth and development of left-behind children and that mental health and physical development should receive special attention. Some of the main reasons for concern with left behind children identified by informants include the following.

7.3.1 Problems of Left Behind Children

First, there may be a lack of support from the guardian for learning for left-behind children. Grand parents may have little or no education and few resources to enrich children's learning. They may or may not be motivated. Relatives or foster parents may also have many other demands on their time in an agricultural environment and thus neglect left behind children. In Zhaojue where most left behind children live with grandparents only 16 % are judged to be performing well at school and over 70 % have poor performance in learning.

Second, parents work outside the home has a complex impact on the lives of left-behind children. Without a parent around, left-behind children get less care and affection. Left-behind children may come to see themselves as different and neglected without a caring parent. In Zhaojue over 50 % of left behind children's parents work outside the Province and are therefore unlikely to return frequently. The majority make only one or two return visits a year.

Third, left-behind children who live with grandparents may be spoiled as a result of over protective parenting which may compromise good character and mental health. It is argued that some of left-behind children are more likely to act in an unsociable way and can be indifferent, with poor academic performance.

Fourth, from the point of view of the family, migrant workers may make an unbalanced choice between income and children's education. In order to improve family life, more and more farmers leave their land and work outside home. They want their lives to become better and better, and want to provide the next generation with abundant financial support. However, being a migrant worker may conflict with children's education, and parents may choose the former over the latter.

Fifth, from the point of school education, the curriculum is not designed to recognize the special needs of left behind children. This may be especially true for those who board at school from a young age and have little parental contact. Due to the incompleteness of family life, there are lots of confusions and problems in the psychological development of left-behind children, requiring schools to give more help and guidance, and emotional support to compensate for personality issues caused by lack of a parent-child relationship.

Finally, left behind children may experience many other problems including late and over age enrollment as a result of an absence of parent monitoring of progress coupled with low levels of achievement.

7.4 Educational Participation and Gender Equity

The education of girls has historically been given lower priority than that of boys, not least because girls are seen to marry and join other families. This has been changing since 1949 with the commitment of the State to gender equity. When the PRC was founded, the enrollment rate of girls was only 15 %. By the time of the

Compulsory Education Law in 1986 the enrollment rate of school-age girls was 98 %, and was only 0.1 % lower than that of boys. At this time, the five-year graduation rate of girls was 91.1 %, which was higher than the boys' 90.5 %. By 2001 there was virtually no gap in primary school enrollment rate between boys and girls was and no difference in drop out rates which were below 1 %.

Though enrolment rates gaps have diminished it remains true that there are imbalances in the population of girls and boys. Preferences for boys have resulted in the number of girls becoming 10 % or even 20 % less than the number of boys in some areas, especially where there is low economic development and an agricultural base. The 2010 census showed that sex ratio at birth (SRB) had generally improved as a result of increased awareness of the problems of unequal birth rates and the fact that the economy and culture of China have been developing rapidly. This has had an impact on people's opinions on gender equity in a positive way as have a range of national and international initiatives to promote gender equality.

In all major cities there is now no substantial gap between boys and girls in enrollment rates. Son preference is still an issue in rural areas and small cities. The most important reason for families in rural areas wanting sons is not that sons are expected to take over the farming or household duties, as some people argued. The most important reason is, traditionally, girls move in with her husband's family when she gets married and she thus cannot look after her own parents when they grow old. In contrast boys live with their parents when they grow up, play an important role in ancestor worship, and ensure that the family name lives on.

In some poor and remote areas, and amongst some ethnic minorities, early marriage persist and takes place before completion of basic education. The low educational level of the parents and the exam-oriented education contribute to perceptions that educating girls is not important. In these areas, the problems of girls' education remain substantial. Some key issues are discussed below

7.4.1 Key Issues for Girl's Education

First, though gender equity has improved greatly it remains the case that in surveys of school enrolment (Lee 2011) parents still tend to favour boys if a choice has to be made. Drop out of girls is also attributed to the lack of reasons to educate girls beyond the basic level. In large cities such as Beijing, most families only have one child. Children in one-child households enjoy significantly improved opportunities for education compared to children in multiple-child households. The improvement for girls was larger than that of boys. In addition, it seems there is no difference in years of schooling between only-child boys and only-child girls, whereas the gap between boys and girls inside multiple child households remains significant. In particular, years of schooling for girls having male sibling(s) were 0.62 years lower than that of girls having female sibling(s). These findings suggest the one-child policy may have inadvertently contributed to greater educational gender equality in China.

Second, some ethnic minority parents are not only poor, but also have a stubborn belief in son preference, early marriage and early child-bearing. All these are related to the problem of early drop out of school of girls. In general in these areas: (1) the drop-out rate of primary school is quite low, the drop-out rate from secondary school is higher and the employment rate is low; (2) the drop-out rate of girls is higher than that of boys with the main reasons for boys dropping out of school being low achievement and lack of interest in studying. The main reason for girls dropping out of school are cost, and parental disinterest linked to traditional values; (3) drop out rates are highest at the end of primary school and in the first two years of lower secondary; (4) the drop-out rate of students with disability is high.

Third, historically education in ethnic minority areas developed slowly because of the laggard economic growth. Most people believe economic difficulties are the main reason for drop out from school. Since many students have to become part of the labor force for their families to do farm work, or became migrant workers. Though this is changing the pattern persists. In contrast to Zhaojue in the rapidly developing Tongzhou even the remaining agriculturally based parents appear to share similar opinions to city dwellers and treat sons and daughters more equally. The reasons include the facts that younger childbearing age couples pursue their own high quality life and development goals and do not want to be like their elder generations to spend all their time on the child. In addition parents have realized that where their child lives and works is unpredictable, so they cannot rely on the child for future security and care. If the first child is a girl in an agricultural area, the parents will want to have a second child within the limits permitted by policy. But in Xiji town of Tongzhou, even if the first child is a girl, parents will accept her happily and will not be looking for a second child.

Ansai county has a preponderance of boys in its population with a ratio of 119/100 boys to girls. Since the middle of the last decade the birth rate has been falling from over 20 ‰ to less than 10 ‰. The number of new born boys has fallen from 55 % of the total births to 45 % over a ten year period reversing the historic pattern. It is not clear how these trends will develop and it is clear that patterns vary between locations. Yanhewan town consistently has more boys than girls being born and has not experienced the reversal seen in the county statistics for reasons that are not clear.

At county level girls were very under represented in primary schools in the 1980s with only 30 % of total enrolment with girls concentrated in the lowest grades. By 2000 the proportion of girls had reached nearly 48 % since when it has remained at the same level. Huaziping town has consistently achieved 99 % enrolment rates for girls against a pattern of shrinking total enrolments as the birth rate falls and migration takes place. There is some evidence that girls continue to have a smaller share of enrolments at lower secondary school and drop out more before completion but the differences are not large and not always consistent between years. Similarly girls who remain enrolled are a little older than boys but the differences are not large and the samples small.

In Zhaojue County it remains the case that girls are under enrolled and account for only 42 % of those in primary school. At lower secondary girls account for

about 34 % of enrolments. Girls drop out is higher than that of boys especially at secondary level. The reasons for drop out given by teachers in Bi'er were for boys "help to do family work" and "to be migrant workers". The main reasons for girls were "help to do family work" and "being tired of studying". Other reasons e.g. "the long distance to travel" did not become the main reasons for boys and girls not going to school. It seems that the tough external environment was less important than family factors to do with household labour demands.

7.5 HIV/AIDS Orphans and Education

China is evolving its policy and support systems for children whose parents have HIV/AIDS. The children affected are those where one or both parents have died, and those whose parents are suffering from the disease. The *Policy Research Report of Aids Orphan Salvation and Settlement* by China's Ministry of Civil Affairs and UNICEF defines orphans and quasi orphans in this way (Ministry of Civil Affairs 2006). These orphans experience many disadvantages and suffer from the lack of economic support and family nurturing. They may experience discrimination and mental stresses arising from their status in society.

Data on the numbers of children affected by HIV/AIDS are uncertain. In December 2005 it was estimated that there were 780 thousand Aids Orphan under 15 years old in China.

Zhaojue has been affected by the HIV/AIDS as a result of the consequences of drug trafficking and substance abuse. When the effects became visible the local authority took measures to address the problem but this was too late to prevent the mortalities amongst parents and the development of a vulnerable group of orphans. One response has been that Bi'er town central primary school in Zhaojue has established an Orphan Class with financial support from the Fuhui Fund. This places HIV/AIDS orphans in a special class of 44 students who were selected from 200 applicants. Those admitted to the class benefit from free room and board, and Fuhui Fund support for clothing and stationery. Sikai town has a similar class serving 41 students that started since September 2006, for which Liangshan Centre for Women and Children, China Federation of Industry and Chinese Red Cross Foundation are the donors. Orphans who are not successful in being admitted to these special classes depend on support from grandparents and other charitable resources but it seems there is no comprehensive safety net the covers all orphans.

7.5.1 Risks and Support Systems

Problems identified for orphan children include increased risk of drop out after parent(s) pass away and the increased vulnerability of children who have to study and start to make a living by themselves. Without support, orphans are unable to

pay tuition and may be reluctant to continue to attend normal schools because of peer group discrimination. Some may suffer from depression and lose faith in life (Yang 2009). Teachers interviewed observed that even those orphans with good physical and mental development often under performed and that some were withdrawn, lacking in confidence, and could be silent and uncommunicative.

The Government and NGOs provide support for HIV/AIDS orphans. The Ministry of Civil Affairs and 14 other ministries and commissions jointly issued *Opinions on Strengthening the Orphan Salvation Work* in March 2006. This was the first time that government exempted orphans from any fees in compulsory education and provided them with free text books and boarding. It also provided for those in the post-compulsory education stages to be funded and given priority to join work-study programs coupled with support for special education organizations and child welfare institutions.

Policies from central government complement those of local governments that respond to local conditions. An example of the approach adopted is that of Henan Province through its *Notifications and Specification to Strengthen the Support Work for Aids Orphans.* The three main measures to help HIV/AIDS orphans are to encourage family fostering, individual adoption, and collective adoption. Every orphan is granted 160 yuan per month. There are five other guarantees. These are that local civil bureaus offer 130 yuan for each orphan for three years; this continues up to the age of 18 years; adoption does not count in the one-child limitation; local government arranges free physical examination for adopted orphans; and orphans have to be treated as other family members equally. Under this scheme 80 % of all the household expenses are paid by provincial government and the rest is the responsibility of city and county governments. There are additional international collaborations, such as "China-UNICEF HIV/AIDS Prevention and Care Programme" and "Save the Children UK-China Programme" that seek to support government programmes.

Alongside the efforts of the state to address the need of HIV/AIDS orphans there are many initiatives by small scale NGOs. In rural areas, especially in ethnic minority areas, families which adopt orphans still have the problems of adequate food and clothing, and orphans had to do some farm-work and housework to contribute ton the household economy. This can mean that orphans drop out if the burden of school and work becomes too great. NGO programmes seek to address some of the problems. For example, in Liangshan Yi autonomous prefecture in Sichuan province, the "love class" model was established by a local NGO named Liangshan Yi women's Child Development Center. The model which promotes a sympathetic and inclusive approach to supporting orphans has been publicly recognized and other charitable organizations have begun to imitate and expand the model. At present, there are more than 20 "love classes" in Liangshan and more than 1000 orphans have benefited from the establishment of the programme. In addition, there are also five "little sister classes" which held by HTS program of the America in Butuo County, Liangshan Yi Autonomous Prefecture. These little sister classes enroll and support over 150 girls (Yang 2011).

7.5.2 Issues for HIV/AIDS Orphans

The issues that arise for the development of support to HIV/AIDS orphans are extensive and can only be outlined in this chapter. They include:

First, needs to consistently translate national level legislation and requirements into local level delivery systems that are sufficiently well resourced and targeted to address the problems of HIV/AIDS orphans. This is especially important where discrimination, superstition and exclusion persist.

Second, current interventions mainly focus on infected children and orphans. However, many other children are affected by HV/AIDs including those whose have one or more parents infected. Although those infected can get free anti-viral treatment, they confront heavy economic burdens, especially in rural areas which are without a minimum subsistence guarantee system. They cannot get fixed help from government, and temporary subsidies fail to address the long-term difficulties they experience.

Third, high rates of HIV/AIDS infections in poor areas are especially problematic. In these areas local governments have to be subsidized from higher levels since they cannot collect enough taxes to provide services. Funds from the Ministry of Civil Affairs allocated from lottery public welfare funds and local government funding may be insufficient to meet needs. Special funds are needed for helping children who are affected by HIV/AIDS that can be allocated in relation to needs.

Fourth the reintegration of HIV/AIDS orphans into mainstream society is not simply about meeting material needs for food and shelter and educational costs. Giving money to orphans to make them to go to school is not meant to accomplish the task of social integration. Some of the problems can be illustrated by the experience of a case in the Daliang mountains in the Yi region in Liangshan. The programme selected 15 orphans from poor families and sent these children to a village in Shanxi where there was a NGO programme to support educational development. An administrator was arranged for take care of these children's everyday life. The NGO took 10,000 RMB for every child for the programme and the children were allowed to return home once during the two years. The leader of this project argued that "the parents of these children will be very happy for their children can study in a more developed areas, and these children will make great progress, they can speak standard Putonghua but cannot speak their native language properly" (Ye 2008). The problems with this approach are those of a balance between the benefits of being educated in a more educational advanced area, and gaining the ability to speak potonghua, but losing connections with Yi language and culture. It is also a model that cannot easily be increased in scale at affordable costs.

Fifth, because of peoples' fear of HIV/AID, orphans are often subject to discrimination and exclusion in their living conditions and their educational experience. This fear, discrimination and exclusion come from other people and society and this has a huge negative impact on the mental health of orphans. Psychological

support for HIV/AIDS orphans is very weak and often non-existent. Children affected by HIV/AIDS should have access to psychological support to help them get rid of fear and despair, build their confidence and give them the courage to live.

Current practices may not benefit psychological welfare or be pedagogically efficient. For example, one of the orphan classes we observed in LiangShan, consisted of more than 40 orphans, in which the youngest is 5, the oldest is 13. The younger students are still bed-wetting, but the older students have entered puberty. Teaching is greatly affected by the wide age spread in the class. If the teaching focuses on the younger students, the older ones feel impatient and want more in-depth knowledge. If the focus is on the older students the younger students cannot keep pace and cannot learn. The end result is that after four years achievement is low and many children do not reach their potential. The children's backgrounds and capabilities vary widely so a "one size fits all" approach to teaching is inefficient and ineffective. Some teachers apparently favour "hitting the reset button" so that the orphans who have completed the third grade or even fourth grade, start over from the first grade when entering a new school. Others ignore the student's limited educational experience and let children "leapfrog development", and enter into grades above the level they have completed successfully according to their age. Neither approach appears appropriate.

7.6 National Minority Children in Remote and Backward Areas

China is a country with various different nationalities. Non Han national minorities make up about 9 % of the total population and are mostly located in large areas with low population density outside the main fertile plains of China. Education for ethnic minorities is an important part of the socialist modern education system with Chinese characteristics, which promotes education in ethnic minority areas (autonomous regions, prefectures, counties and the provinces with more minority people), as well as the education for minority people in other parts of the country. Education for ethnic minorities is related to the political issues of national equality, national unity and common prosperity, and it is also important for the construction of a harmonious socialist society. The majority of ethnic minority areas are affected by remoteness, economic backwardness, cultural preferences, and poor infrastructure.

7.6.1 Lags in Educational Development

There are three main reasons for the lags in educational development of many national minorities. First, the primary reason for undeveloped education in ethnic minority areas can be attributed to low levels of economic development and social economy. In the economically developed areas, the government, society and

families provide students with more investment in education, contribute directly to improved teaching conditions, and support a good educational environment. The development of education in turn promotes economic development, and there is a virtuous circle. In underdeveloped minority areas, government and families cannot provide sufficient investment in education, schools have poor infrastructure and physical conditions, students achievement is lower, and this constrains and affects economic development. At its worst there is a vicious circle and this results in reinforcing educational under development.

Second, the rates of change in social and economic development in the majority ethnic community have been unprecedented and have increased the gap between the majority community and national minorities in living standards and educational attainment. Ethnic minority areas have had to respond to changes in their external environment that have begun to change established ways of life and introduce new patterns of economic activity (e.g. decline in pastoralism and growth of mechanized agriculture, migrant labour), and social organization (the development of communication networks and mass media, mass consumption of manufactured goods, tourism etc.). These changes are affecting attitudes to education, the value of educational qualifications, and traditional attitudes towards the education of boys and girls. Patriarchal and neo-feudal consciousness persists but is weakened by modernization as is gender discrimination in education. These developments are complex and sometimes unpredictable and they are more exogenously than endogenously driven with risks for social cohesion and consistent development.

Third, education investment in national minority areas has benefitted from various subsidies designed to reduce inequalities between districts but these efforts have been insufficient to redress many years of historical neglect. Infrastructure remains poor, school transport and school feeding remain seriously problematic in many national minority areas, and learning materials remain in short supply. Most importantly teacher shortages persist for several reasons. The scarce supply of national minority students reaching university level restricts the numbers of national minority children who could become teachers. Han teachers generally do not wish to serve in national minority areas and if they do may not stay for long. Language issues remain in addressing bi-lingualism. Community supported teachers (*minban*) still remain in many areas despite efforts to regularise their contracts. Conditions in many areas are much harsher than in the large modern cities that have developed, class sizes can be very large and professional support for teachers very distant. Thus many ethnic minority systems are unable to attract and retain outstanding teachers, local teacher teaching quality is generally low, and many students do not have the opportunity to experience inspiration and well resourced learning.

7.6.2 Equity and National Minorities

As China has developed rapidly there have been growing concerns for equity between the more and less developed Provinces, and between the majority population and national minorities. The framework for Chinese government policy on

national minorities has six fundamental policy dimensions. These are (i) Giving Priorities and Preferential Support to Education for Ethnic Minorities in the Whole Development Plan; (ii) Greatly Enhancing the Educational Level of Ethnic Minority People; (iii) Making Education in Ethnic Unity an Important Part for Education Development; (iv) Promoting Bilingual Education as Important Measures of Improving Livelihood of Ethnic communities; (v) Building up the Teachers' Contingent for Improving Quality of Education for Ethnic Minorities; (vi) Promoting National Support with Self-reliance in Minority-inhabited Areas.

The ambition is to reduce educational inequalities through a mixture of increased subsidies and investments in educational infrastructure, increased incentives and improved conditions of work for teachers, and development of pedagogy and curriculum that can contribute to social cohesion and economic development. To this end the promise is to target public resources on minority-inhabited areas in order to enhance the level of development of education in an all round way and accelerate the development of educational courses for ethnic minorities. This should promote the economic and social development of minority-inhabited areas and promote unity, common prosperity and development among different nationalities. In future, the priority will be given to the equalization of basic public education service, to accelerate the narrowing of the gaps in education development levels between minority-inhabited areas and national average, promote the great-leap-forward development of education for ethnic minorities, gradually at the same path with national development, and greatly enhance the human resources development in minority areas and minority-inhabited areas.

7.7 Conclusions and Policy Insights

Educational gaps and inequalities are important indicators of more general social and economic gaps. Gaps in achievement and attainment between the majority of children and those marginalized by migration, gender, health status and ethnicity are potential sources of economic loss and social conflict. Many reasons can be cited to explain these gaps and a joint effort of the whole society is needed to narrow the gaps. Government has to take the leading responsibility and promote a more equitable system to limit and narrow the gaps between groups with disadvantage and the rest. Targeted investment in education equality and balanced development are the priority considerations. This implies balanced development of educational finance and acting on the principle of adjusting for special needs, which means investing more in vulnerable groups, such as students of minorities and those in remote areas as well as poor students and females. In summary this chapter identifies some ways forward.

7.7.1 Migrant Children

Migrant children living with their parents in receiving areas have become a serious problem as a result of large scale movement of labour and ambiguities over how rights to education are to be delivered and by whom. Actions which can be taken to ensure the right to education and improve the education quality of migrant children include several steps.

First, the Outline (2010–2020) which guarantees the equal right to education of migrant children should be implemented. Local governments and schools in receiving areas are responsible according to the Outline (2010–2020). They should make equitable provision for all migrant children and resolve the issues around access to secondary education and University. The education equality of migrant children is more than an education problem, it is a social problem that has a close relation with the harmony and stabilization of the whole society. China has made many policies to guarantee the compulsory education equality of migrant children. The period of loose policy rules, weak enforcement, lack of monitoring mechanism, and slow movement to more equity should be replaced by full implementation of the existing policies.

Second, there needs to be a better match between rights to education and the way the household registration system works. This is fundamental so that ambiguities in responsibilities are removed, and anomalies are rectified. Only then will access to education for migrants be equitable.

Third, if migrants children are to have equitable access to education then reforms may be needed that strengthen the finance and transfer payment systems so that money follows where students are being educated. There are needs to give more attention to economically backward regions since this may reduce child migration. In any case it should narrow the gaps between developed regions and undeveloped regions in school building, equipment, faculty and cost per student, and achieving standardization and more equal distribution of equipment and the quality of teaching.

Fourth, migrant children are poorly served where schools and curricula are not adapted to recognize their learning needs especially in periods of transition from sending to receiving area. Where there are significant numbers of migrant children investment is needed in problems of transition and pedagogies that accommodate differences in language, culture and capacity.

Fifth, improvements are needed in the teachers' consciousness of educational inequalities. Migrant children appear to suffer various marginalisations and exclusions, and have special needs that should be recognized. These include language issues, cultural and social capital, parental resources, and peer group pressures. Teachers should be sensitive to inequalities when giving individual coaching, interacting with students and raising questions in class, and distributing education sources.

7.7.2 Left-Behind Children

Left behind children are the result of labour mobility and parents relocating without their children who are most often left in the care of grand parents. This is now a firmly established pattern amongst many communities. The need is to work to improve the quality and appropriateness of the education that left behind children receive. The Outline (2010–2020) proposed that a children's care service system and dynamic monitoring mechanism should be set up for left-behind children led by government and supported by the whole society. Several developments may be helpful.

First, increases in the investments of central and local funds to infrastructure in rural primary and middle schools which have left behind children to improve quality, improve the accommodation conditions, and make more effective use of the schools' and the teachers' educational functions since the left behind students lack family support.

Second, increases the opportunities for left-behind children to experience pastoral support from teachers and other adults, and implement one-to-one support systems among teachers and left-behind children so that the children can obtain more love and care. More home visits should be promoted for the non-residential left-behind children, with more care about students' life and thought, and guidance to set up a positive attitude to face life, to help in healthy growth.

Third, establish the fail safe mechanism of caring for left-behind children as soon as possible so that all children are supported. Every primary and middle school should establish a reliable contact method and emergency mechanism locating left-behind children, schools, legal guardians and government responsible agents.

Fourth, the fundamental solution to the education of left-behind children is to develop the small and medium-sized cities and small towns, narrow the economic development levels between urban and rural areas, and make more balanced the distributions of resource in the aspects in science, education and culture. This should reduce the volume of migrant labour if job opportunities and economic conditions are more evenly distributed.

7.7.3 Girls in Remote and Poor Areas

Girls have seen their status improve but a journey remains to be travelled. Major progress has been made in terms of gender equity in the school system in China and in most developed areas there is now little difference in enrolment rates between boys and girls. In less developed areas differences persist and preferences for boy children still result in imbalances in the sec ratio in the population. Several observations stand out

First economic development will enhance gender equity since as areas increase in wealth and educational participation it ceases to be necessary to discriminate. It is also the case that modern attitudes accompany modernization and the transition from agriculturally based livelihoods to modern sector jobs.

Second, there is still a need for the promotion of gender equality in many communities, especially where traditional values devalue girls education and parental choice favours investment in the education of boys.

Third, where enrolment rates remain low and academic achievement is problematic special provision may be helpful if it allows boys and girls to learn more effectively. This could include girl and boy only classrooms, incentives for female teachers to work in rural areas, and investment in safe and secure schools and transport links to encourage girls to travel to school where this is necessary.

Fourth enact and enforce child labour laws to prevent children of school age working during school hours and make clear responsibilities for monitoring attendance and inspecting enterprises with this in mind.

Fifth, review and revise curricula and pedagogy to ensure that content and teaching methods are gender fair and designed to equalise opportunity between boys and girls.

7.7.4 HIV/AIDS Orphans

HIV/AIDS orphans have special needs that result from the loss of one or both parents. Some of these needs are likely to be similar to those of orphans in general but others are specific to the circumstances that surround HIV/AIDS. The subject is complex, data is not readily available, and patterns of infection and provision for orphans are evolving dynamically. From the insights in this chapter there are systemic issues that are likely to need addressing and some ways forward include those indicated below.

First, national guidelines and local actions need to be clarified to reduce differences in responses to orphans of HIV/AIDS infected parents. There appear to be many different local responses within the existing framework and in some areas a dependence on NGOs to make significant contributions.

Second, the medical and health related aspects of being an HIV/AIDS orphan need to be addressed for every child. This should include psychological well being.

Third, orphans may have no financial resources to support the costs of schooling and should not have to depend on philanthropy; the costs of their schooling should be met along with their living costs in all cases.

Fourth, public campaigns and school curricula content are need to reduce levels of prejudice against those associated with HIV/AIDS. Sexual and reproductive health are essential parts of education.

Fifth, family members and foster parents should be supported with adequate resources to nurture HIV/AIDS orphans.

7.7.5 *Ethnic Minority Children in Backward and Remote Areas*

Minority generally lag behind the majority population in educational attainment and achievement. This is partly a reflection of lower levels of socio economic development and long periods of historical neglect and marginalization. Where the economic base is weak investment in education needs resources transferred from richer regions and this has been a policy commitment of central government for a long time. It will be necessary for cross subsidies to continue in many under developed areas and to ensure that such investment has a cumulative impact on participation, completion and improved school quality. In order to accelerate economic development local government should be strengthened and supported so that it can invest in education more. This is essential especially where lack of resources is resulting in fee charging to poor households.

A central challenge is therefore to find ways of encouraging economic development which will differ from place to place. Agricultural productivity has be increased, pastoralism modernized, and opportunities identified for new economic activities including possibilities related to tourism and any natural resources that may exist.

Two other challenges stand out. The first is to encourage and support social development that preserves what is valued from long standing cultural tradition and practice and builds on existing identities and preferences. This has to be balanced with needs to address marginalizations related to no longer rational practices and superstitious and inequitable attitudes and actions. This requires community engagement and consensus about how modernization can be managed to improve health and well being, generate economic growth, and support sustainable livelihoods.

The second is to develop strategies to improve the quantity and quality of teachers, especially those who are themselves members of national minorities. Learning depends critically on the quality of teachers and their levels of motivation. A range of interventions needs defining which will differ from community to community, that can address the problems of recruitment and retention, attract higher quality applicants into teaching, reward performance in ways that motivates teachers and raises achievement. Teachers conditions can be improved, especially in relation to housing and learning materials in schools. Priority should be given to the training of ethnic minority teachers, teachers' continuing education and locally based continuous professional development. University graduates of all kinds including those not in normal universities should be encouraged to consider periods of teach in the national minority nationality areas.

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Chapter 8
School Mapping and Boarding in the Context of Demographic Change in Rural Areas

8.1 Introduction

This chapter explores how the location and distribution of schools has been changing as a result of policy to diminish the number of small rural schools, and as a response to demographic changes, urbanization, and large scale migration. These changes have led to the development of boarding schools on a large scale across rural areas in China. Using policy analysis approach supported by national data as well as the empirical data from three case study of rural counties, the study reveals the process of policy change and school location adjustment in practice. There are growing concerns that boarding from very young ages can have adverse emotional and psychosocial implications for the development of some children, that some schools are now becoming mega institutions with very large enrolments on single sites, and that learning levels have not improved as a result of school mergers on a massive scale that have largely eliminated neighbourhood schools in some locations.

School location is an important issue in the process of universal compulsory education. It is the key to easy access to schools. It is related to the distance children travel to go to school. Research reveals that distance to school and the enrolment rate is in inverse relation with the greater the distance the lower the chances of enrolment. It is important for schools to be close to where students live so that they can go to school easily. It ensures children's rights to attend school. If a school is too far away, it creates difficulty and cost in access, especially in the remote and mountainous rural areas where public transport is underdeveloped. It also has risks for safety. Schools have a great social impact and are symbolic of a healthy community. Removing a school from a community can divide a community and fragment social cohesion.

In contrast to these advantages of small distance to travel to school there may be disadvantages of planning to support many local schools. School size may be too small to attract and retain specialist teachers. Expensive facilities for science,

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music and other subjects may not be cost effective to provide where their utilisation patterns will be low. In areas where population density is low there may be no choice but to plan schools with boarding facilities to avoid very long journey times. Schools which are large enough to include children from different communities can play a role in promoting social cohesion.

In the earlier years after the funding of the New China in 1949, rural education was very backward with most of the peasants were illiterate. In 1949, there were only 346,800 primary schools with school enrolment of 24,391 million primary students and school size averaged 140 children. The enrolment rate of school age children for primary education rate was only about 50 % (Wu 1992). School mapping was regarded as the key to universal compulsory education. The principle was to promote going to nearby schools in rural areas. The state put forward the guideline that "every village set up a primary school, every commune set up a secondary school" and "Going to primary schools without going out of the village (*cun*), going to junior secondary school without going out of the *pian (a group of villages*), going to senior high school without going out of the commune (*she*)". The goal was to make access to education universal with extensive coverage of primary and secondary schools even if this meant many were small. This led to every village having a primary school or small size teaching point.

The Nine Year Compulsory Education Law indicated in 1986 that "Local people's governments should reasonably make school layout plans for primary and junior secondary schools that enable children to go to school nearby and in the neighborhood". The school layout policy was mainly to ensure basic access and convenient schooling opportunities, this needed certain number of schools and reasonable distribution. Between 1988 and 1998, the number of primary schools increased from 600,000 to 800,000 (Wu and Shi 2011).

There are three types of primary schools in rural areas. The first type is central primary school which is a complete primary school with grade 1–6, usually located in the town of a township. It has administrative function over other primary schools under its umbrella in the area. Secondly there are some complete primary schools with grade 1–6 which fall under the central primary school. Thirdly, to accommodate the situation in remote and mountainous areas with scattered populations, there are incomplete schools with only grade 1–3. There are a few teachers and one or two classes normally using multi-grade teaching strategy. By 2000, more than one third of the rural primary schools were incomplete schools (Wu and Shi 2011). Usually each township has one junior secondary school. Senior secondary schools are normally in the county town. This pattern of school layout has played important role in universal compulsory education in rural China. Under the principles, a large number of primary and secondary schools were set up in rural areas. Taking Daxing county of Beijing as an example, by 1978 there were 440 primary schools, 15 for each township in average, 73 junior secondary schools, 2.5 for each township in average (Zhao 2013).

The pattern of school layout, location and distribution of schools in rural areas has been changing in the recent decades as a result of the decline in the school age population in rural areas. This is the result of the one-child policy and urbanization

in which large numbers of the rural population have migrated to urban areas. These changes have led to major policy development in China concerning school location based on optimizing resource allocation and seeking to diminish the number of small rural schools. This has led to the development of boarding schools on a large scale across rural areas in China. The new challenge is how to balance the efficiency of educational resource allocation with the social impact of school consolidation and the social demands of the people.

This chapter discusses patterns of change, the evolution of policy, the development of boarding schools, and the issues raised by these developments which concentrate capacity in large central primary schools in district centres (Shi 2004). It also discusses the social impact of changes and identifies concerns with childrens' development.

8.2 Context

School mapping has developed as a result of the needs to plan the implementation of nine year compulsory education since 1986 (Lewin and Wang 1994). The Basic Education Law, the Open Door strategy and the One Child policy have led to significant changes in social and economic development with rapid increases in household incomes, large scale urbanization, temporary and permanent migration related to employment, and falling numbers of school children over all. The differences between urban and rural have been getting larger as national economic growth occurs unevenly. These differences are themselves a factor in accelerating the rural to urban movement of population as more opportunity and wealth are concentrated in new cities. At the same time the birth control policy has resulted in a decrease of the school-age population and low utilization rates for schools in many rural areas.

School mapping to identify current needs and predict future demand has become an essential resource. The purpose is to optimize the process of adjustment to the changing patterns of demand for schooling and ensure that the process of merging shrinking schools, reallocating capacity to areas of inward migration, and managing the consequences of adult migration which has created many "left behind" children, is efficient and effective.

One important dimension of the transformations that have been taking place is the large scale development of boarding schools for primary as well as secondary age children in rural China. This has created many challenges that include imbalanced investment between districts, concerns for the physical and psychological health of young children separated from their parents for long periods, the costs and logistics of transportation to school over longer distances, and educational provision for migrant families who do not have residential rights to schooling where they live (hukou).

China's development of school mapping builds on experience elsewhere. The United States developed mapping techniques in the early twentieth century and

the school location was optimized through the "rural school consolidation movement" (Li and Jin 2011) which sought consolidation of small rural schools. Over time the policy focus evolved from merger and consolidation to preservation and, since 1980s the emphasis has been on managing access at affordable costs without necessarily maximizing school size. This experience resonates with developments in other countries. In Australia school mapping has been used to merge kindergartens and primary schools to increase efficiency and effectiveness (Wang and Chen 2012). In New Zealand rural schools have been rationalized with the aim of preserving access and quality as population shifts change the distribution of school age children characteristics (Wang and Chen 2011). In the 1970s, the Japanese government issued *the Law for Vitalizing Education in Remote Areas* (偏远地区教育振興法). This introduced a new perspective after a review of past policy and attached importance to developing a built environment for small schools, linked to methods of managing staff and curricula to maintain efficient operating costs. In general school mapping has allowed countries to adjust to changing demography and falling enrolments in rural and in some urban areas, and to anticipate and manage adjustments in school provision.

Planning the geographic distribution of schools has always been one of the functions of educational administrative units at different levels in China. The responsibility has been more or less centralized at different times and is responsive to general strategies promoted by national policies. Many factors are taken into account in the planning process including socioeconomic status, the demographic situation, and geographic condition with detailed analysis of the population by age, location, economic condition, and baseline data on the quantity and quality of school premises and the teaching force. The process is designed to harmonize educational provision with the changing demand generated by economic progress and social development so that the system responds to changes in population, employment opportunities and social development goals (Zhao and Parolin 2013).

The examples from other countries contain lessons relevant to China but context varies greatly and empirical insights are needed. Systematic fieldwork can illuminate key issues that will shape planning over the next decade. The Beijing Normal research team has undertaken a comparative study of basic education development in three areas over the last 20 years. The empirical study was carried out on the implementation of compulsory education policy in rural China which took place in Tongzhou, Ansai and Zhaojue as case study counties, representing China's comparatively developed area, poverty-stricken area and remote national minority area. The unique point of the study was that the research group went to the same three rural counties first in 1990 and then returned back to the same counties in 2010. This allows us to compare progress over time as well as between locations in order to highlight the key issues.

Within each of the three case study counties two districts were identified for intensive scrutiny. The choice of relatively economically developed and underdeveloped districts was made on the basis of statistics available at the county-level, bearing in mind practical considerations of accessibility. A selection of schools was made for intensive fieldwork. This sampled from the four main types—junior

secondary (grade 7–9), central primary (grade 1–6), complete primary (grade 1–6), and incomplete primary schools (grade 1–3 or 4).

The research focused on the following aspects: (i) timely access of school-age children to schools; (ii) out of school children and dropouts; (iii) overall school planning and rearrangement in the context of decline of school age children and development of boarding schools in rural areas; (iv) the disadvantaged children's education including migrant children, girls, left-behind children, orphans as a result of AIDS problem; (v) rural school infrastructure; (vi) rural teachers and management and supervision mechanism. Based on the empirical study, the research group reflected on the new emerging problems and challenges of achieving balanced development of education.

When the team returned to the case-study areas in 2010 after 20 years, the three places had all been transformed by the radical changes in China. Wherever possible, the research group intended to go back to the same district and same schools. However there were some major adjustment in school mapping and distribution as a result of social economic and demographic change. Dramatic changes had taken place in the number of school age children both because of the falling birth rate and because of migration related to employment opportunity.

The policy response to falling enrolments by the Chinese Central Government first recognized the need to adjust the location of rural compulsory education schools to reflect changing local conditions in *the Decision on the Basic Education Reform and Development of State Council* issued in 2001. This new policy triggered the development of school location analysis and mapping at different levels of local government across China, building on work already taking place in some advanced jurisdictions like Beijing which had experience of school mapping. School location and types of provision have changed very considerably in the case study areas and it is to a more detailed examination of these changes that we now turn using the data available.[1]

8.3 Demographic Changes and Falling Numbers of School-Age Children

The one child policy has resulted in a dramatic decrease in the birth rate in China since the 1970s. The birth rate in 1994 was 17.7 ‰ compared to 33.4 ‰ in 1970, a fall to 50 % of its former value. The natural population growth rate had dropped to 11.2 % from 25.8 % over the same period. China experienced its fastest ever rate of urbanization during the 1990s: the number of cities increased from 517 (1992) to 663 (2000); the number of townships (zhen) increased from 10,587 to

[1]It was not possible to replicate all the analyses across all three case studies as a result of different quality and availability of historic records showing changes in enrolments and school types. Nevertheless, many trends can be identified and the direction of travel of changes is generally evident.

20,312 in 2000. A large wave of rural citizens moved into urban areas and smaller townships. The proportion of the population who possessed urban residential identity grew from 26.2 % in 1990 to over 36 % in 2000 and is now over 50 %. These changes led to the radical decline in the overall enrolment of students, especially in rural areas. The number of rural students in 1995 was 93 million and a number of new entrants 18 million. By 2000 only five years later the number of rural students enrolled had fallen to 85 million and the number of new entrants was 12.5 million. The average size of rural schools began to fall below the national standard of about 350 students, and the numbers of small schools with enrolments below 250 started to increase. These national changes are reflected in data from Tongzhou in Beijing and Ansai in Shaanxi and in particular townships this is discussed in the next sections.

8.3.1 Demographic and Change and School Enrolment in Tongzhou District, Beijing

Population growth in Tongzhou was rapid in the 1990s but slowed up 2000. A falling birth rate was more than compensated for by inward migration needing to profound changes in the population between 1990 and 2010. Figure 8.1 shows how total population was growing slowly after 2000.

Tongzhou has experienced a widely fluctuating birthrate. In 1990 the birth rate was 15 %. This fell to a low level of 3.8 % by 2003 and recovered to reach 7.0 % by 2006. There were more slightly more females than males in the population with a tendency for the number of males to increase. This may be a result of inward migration of more men than women but no data is available on this.

The two case study townships, Xiji and Majuqiao, mirrored these overall demographic patterns. Xiji had 160 new born babies in 2006, a rate of 3.3 ‰, compared to 17 ‰ in 1990 showing a demographic transition of unprecedented scale. Majvqiao townships birth rate dropped to its lowest point of 4.4 ‰ in 2003. However this recovered to 9.5 ‰ in 2006.

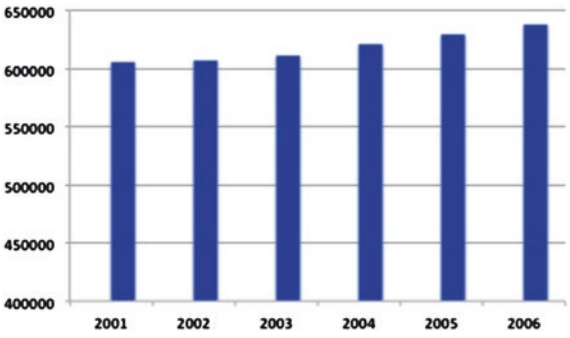

Fig. 8.1 Population growth in Tongzhou

The story behind the fluctuating birthrate is complex. The One-Child policy was particularly hard to implement in 1990. Though there were 264 registered seven year olds in Xiji in the cohort entering school in 1989, according to statistical data from the local Family Planning Office, the number actually registered for school entrance age was 504. In fact 607 students were actually admitted. The disparity is likely to have arisen because of the regulation at that time that that children born in contravention of the one child policy could not registered and were therefor missed out from birth statistics. Subsequently informal methods may have been used to obtain retrospective registrations.

By the time of the second period of research the One-Child policy was widely accepted and complied with by most of the families. There are four main reasons for the change in levels of compliance. First, the costs of sending a child to school have increased greatly and there has been fierce competition in the labour market for jobs placing household budgets under pressure. Second, it is argued that the younger generation of parents pay much more attention to their own needs and the pursuit of a higher quality of personal life than did older generations who lived a more children-centric life style. Third, the traditional beliefs in procreation to "raise children for old age" have been gradually becoming less important with more economic mobility and grown up children living away from home in other cities. Fourth, parents are now much less likely to discriminate against daughters whereas in the past especially in rural areas parents will not stop bearing children until they have a boy.[2] In Tongzhou though there were more girls than boys it seems the sex ratios are now balanced.

The substantial declines in the birth rate have led to far fewer children enrolling in schools over the last two decades. There were 65,000 children in primary school in Tongzhou in 1990 but only 28,500 by 2005. Data from Xiji is illustrative of patterns of growth. In the late 1980s and early 1990s the school system in Xiji was growing at about 10 % per year, and in some years as much as 18 %. This growth was the result of the high birth rate and the beginning of a period of inward migration. 15 years later the situation was completely reversed. The numbers in school fell from over 3000 in 1990 to less than 1100 by 2005 with an annual shrinkage of between 10 and 15 %. The contrast in patterns of enrolment by grade is striking. In 1990 there were many more children in grade 1 than grade 6 indicating substantial drop out was taking place. In 2008 the opposite was true and there were more children in grade 6 than in grade 1. This suggests that the age group was getting smaller and that drop out had been reduced to low levels (Fig. 8.2).

The number of schools has been falling as a result of the changes in population and the merger of small schools. From 1990 to 2005 the number of schools fell from 300 to 120 in Tongzhou. Schools in hamlets were basically shut or merged and there are only complete and/or central primary schools left in rural areas. In Xiji 28 schools have been reduced to 14. In Majuquaio 26 schools have become 6 schools. The number of junior secondary schools has fallen from 35 to 24.

[2]Though this is often claimed if parents really did follow the rule that they could have as many children as they wish providing they stop when the first boy is born the sex ratio in the population would be equal. If there is an imbalance it will be because of a different set of rules and practices.

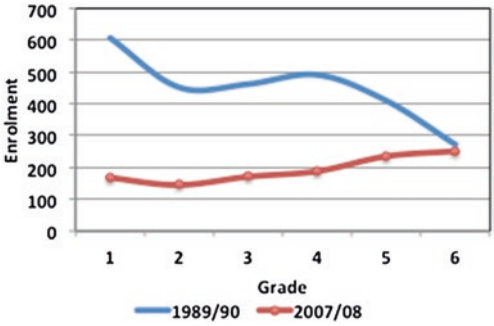

Fig. 8.2 Enrollment by grade in Xiji

8.3.2 Demographic Change and School Enrolment in Ansai County, Shanxi Province

Population growth in Ansai has followed a different trajectory to that in Tongzhou with overall growth during the first part of the 2000s followed by a decline since 2007. The population grew by about 26,000 from its total of 142,000 over the first eight years of the decade then fell back by about 6000 (Fig. 8.3).

In the case study areas in Huaziping and Yanhewan the population has grown fairly steadily over a long period with a declining rate of growth since 2000 (Chart XX). From 1980 to 1990 population growth averaged about 2 % per year in both locations. After 2000 the growth rate was much lower at no more than about 0.7 % per year. Over this period the birth rate has fallen dramatically. In the 1980s it averaged about 20 ‰ and was over 30 ‰ in 1982 in Huaziping. By 2008 it had fallen to 12 ‰ and in 2009 to 7 ‰. In Yanhewan town the fall in birth rate occurred from 2000 and averaged below 10 ‰. In both sites more boys than girls were born. In the 1980s the boys outnumbered girls by about 10 % each year. In the 2000s this remained the case in Huaziping but in Yanehewan the ratio deteriorated and there were about 15 % more boys in the birth register (Fig. 8.4).

As in Tongzhou the number of children enrolled in Ansai has fallen dramatically as much as 10 % a year since the mid 1990s. Between 2000 and 2008 the

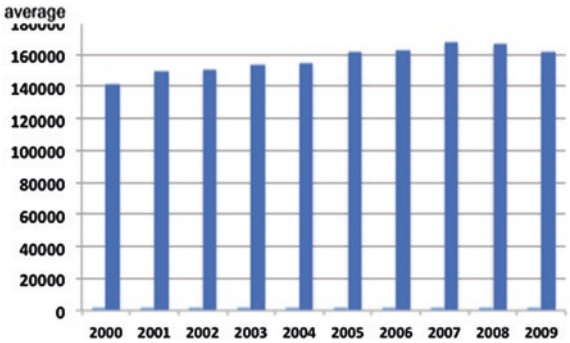

Fig. 8.3 Population growth in Ansai

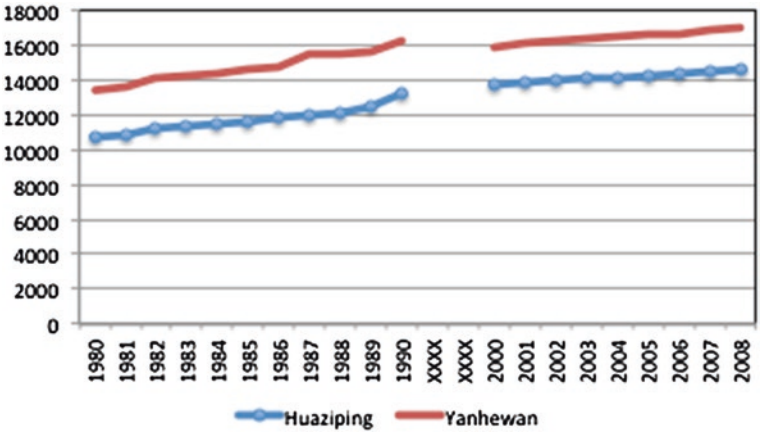

Fig. 8.4 Population growth in Huaziping and Yanhewan

overall decline was over 60 %. The pattern of enrolment by grade changed to reflect the falling numbers and reductions in drop out. In Huaziping the high drop out that existed in 1990 disappeared as the numbers enrolled fell and the enrolments in higher grades began to exceed those in grade 1 (Fig. 8.5). There remained about 10 % more boys enrolled than girls.

Though overall enrolments were falling the small school merger programme allowed the central primary school to remain about the same size. The proportion of all enrolments in the Central school increased as the total enrolled reduced. At the same time the flow of students improved with fewer over age children enrolled in school. Nevertheless it was still true that about 15 % of children in school were older than 12 years old in 2008 compared to over 30 % in 2000.

In contrast in Yanhewan Central school enrolments fell during the 2000s. Here enrolments declined through the 2000s as they did in the district as a whole. The complete and incomplete schools began to become so small they were not viable. Chafeng complete school shrank from 233 students in 2000 to only 62 by 2008. At

Fig. 8.5 Enrolment by grade in Huaziping

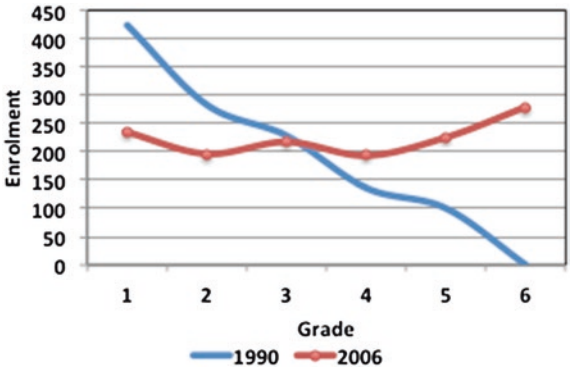

Table 8.1 Number of school age children in Zhaojue (2000–2013)

Year	No. of school-age children (7–12)	No. of school-age children (13–15)
2000	24,412	11,399
2001	25,605	11,971
2002	24,217	12,263
2003	23,709	12,009
2004	24,122	11,484
2005	25,401	11,318
2006	27,681	10,603
2007	30,666	11,927
2008	31,366	11,871
2009	31,273	12,028
2010	33,696	12,294
2011	34,594	11,071
2012	34,019	14,702
2013	33,984	14,792
2014	34,186	14,654

Yangjiagou incomplete primary school there were 12 students and one teacher by 2008. In this school a preschool was added and this enrolled 10 of the 12 students and still left the school very small.

8.3.3 Demographic Change and School Enrolment in Zhaojue, Sichuan Province

But as an ethnic minority area, the one child policy is not applicable in Zhaojue. Yi nationality family can have 2 or three children. The number of school age children has been growing. See Table 8.1.

8.4 School Location Layout in Rural Areas: Policy and the Merger Process

8.4.1 One Village One School Stage

China has undertaken several major realignments of school location since the funding of the New China in 1949. The earlier reforms occurred under the framework of the planned economy that shaped China during this time. The political characterization of the 1950s was “revolution for the common people (communitisation)”, with the goal of promoting the work of illiteracy elimination and the

popularization of Mao Zedong thought. The state put forward the guideline of "every village set up schools" and promoted "every village set up primary school, every commune set up secondary school" in 1958.

After the Cultural Revolution the Decision on the Reform of Education System in 1985 and the Nine Year Compulsory Education Law in 1986 put forward the principle of local responsibility and multi-level management, in which senior secondary schools were the responsibility of county, junior secondary schools were the responsibility of township, and primary schools were the responsibility of villages. The village and township level undertook the main responsibility for implementing universal compulsory education in rural areas. Township and villages mobilized peasants and social sectors to build schools and improve school conditions. This led to every village having a primary schools or teaching points (Bai and Zhang 2014) and a high density of small local schools.

8.4.2 School Location Adjustment Since 1990s

The One-Child policy was of the causes of the number of primary and secondary students decreasing from the mid 1980s as China experienced demographic transition to low population growth especially in rural areas. Economic migration to cities took place on an unprecedented scale as discussed above. To address the problems that were arising from under enrolled schools the Department of Education issued *Several Opinions on Consolidation and Improvement after the Acceptance Check of* "*Two Bases*"[3] in 1998, inviting the development of a new round of school location mapping and optimization to inform the policy making agenda. This led in May of 2001, to the central government promulgating *the Decision on the Basic Education Reform and Development of State Council*, in which the order was made that the governments at all levels should start merging schools and rationalizing their location. The reforms were intended to solve the problem of the "small scale and scattered distribution" of rural primary and secondary schools.

The 2001 Decision introduced the principle of children "attending to the nearest primary school, concentrating enrolments in junior secondary schools, and optimizing the distribution of educational resources". Rural primary schools were merged under the premise of attending the nearest school and concentrating numbers in a single school. This was accompanied by an exemption that allowed small schools in places where transport was difficult or unavailable to discourage students drop out as a result of difficult physical access. Local governments were invited to plan the adjustments taking account of the need to renovate dangerous buildings, meet standards for space and learning materials, and recognize the needs of urbanization and migrants' relocation. Extra resources were provided to

[3]"Two Bases" refers to the basically eliminating illiteracy and basically popularizing compulsory education.

allow boarding schools to be built when necessary and where conditions allowed (Pang and Han 2005). In the same year, in the national working conference on basic education conveyed by the State Council, adjustment of primary and secondary school layout was listed as one of the present priorities for rural compulsory education. Since then "the school for every village" pattern was gradually replaced by the "concentrating schooling" pattern (Zhang 2012).

Under these reforms the County governments were the main actor in planning local educational development strategies and this was enshrined in the *Notice on Perfecting Rural Compulsory Education Management System of General Office of the State Council* in 2002. In *The Decision on Further Strengthening Rural Education Work of the State Council* issued in September 2003, the central government emphasized that the core of rural basic education development was to consolidate dangerous or inadequate school buildings, and construct new junior secondary boarding to expand enrolment at this level. Both increased numbers of boarding schools and greater average school size were stressed. The intention was that rationalization and merger would release resources that could be invested in improving the quality of rural schools and particularly in rural preschool education.

The next development was that the Department of Finance (DoF) issued two documents, *the Notice on Perfecting Rural Compulsory Education Management System* and *the Regulations of Special Funds for Primary and Secondary School Layout Adjustment* in 2003. These reinforced the direction of travel of policy to rationalize schools and were further reinforced by the endorsement of the Department of Education (DoE) in 2005. This confirmed that under enrolled and under performing schools that fail to attract students and have low quality would be shut down in the process of constructing and rebuilding new and larger schools. The emerging problem of "Large-Classes" in larger urban centres was first mentioned at this time as a growing issue.

The next development introduced new concerns for equity and more balanced development which could close the gaps between more and less advanced counties. The *Opinion on Reinforcing the Reform and Inspection of the Funding Mechanism for Rural Compulsory Education* was promulgated by the DoE and DoF jointly in 2006 and instructed local governments to inspect and ensure the balanced development of rural compulsory education, including educational resource allocation, identification of weak links in implementation, and the reduction in gaps between regions and schools. This new policy stressed the great importance of "balanced educational development" for the universalization of compulsory education.

Many other specific opinions and guidance were offered by the State Council, DoE and other administrative organizations. Thus the *National Education Plans in the 11th Five-year* and the *New Compulsory Education Law* both prioritized the renovation of rural school building to ensure safety and consolidate enrolments on well provided sites. The *National Medium and Long-term Education Reform and Development Plan Outline (2010–2020)* published in 2010 by the central government re-emphasized the commitments to the development of preschools.

Table 8.2 Number of county primary schools and teaching points (Wu and Shi 2011)

	2000	2009	No. reduced	% reduced
Total no. of primary schools in the county	521,400	263,900	257,500	49.4
County town primary schools (20 % of the total)	81,200	27,900	51,500	63.4
Rural primary schools (80 % of the total)	440,200	234,200	206,000	46.8
Total number of teaching points	172,600	72,300	103,000	58.1
County town teaching points (13.76 % of the total)	15,100	1300	13,800	91.39
Rural teaching points (86.24 %)	157,500	71,000	86,500	54.92

The approach stressed expanding rural preschool educational resources through different channels including enlarging and rebuilding kindergartens, taking full advantage of surplus schoolyards and teachers; and continuing to work to improve the outcomes of compulsory education and improve the quality of provision in difficult locations.

8.4.2.1 School Merger Process

The Report of Development State of Chinese Educational Corse published by the MoE in the beginning of 2005 revealed that 31,700 primary schools and 973 secondary schools has been closed or merged in the year of 2004 alone. In 2000, the total number of primary schools and teaching points in the counties were 694,000. It reduced to 336,200 by 2009, a 52 % reduction (Table 8.2).

In response to the national strategy on school layout adjustment, local governments and educational administrations also formulated their own school layout adjustment plans in relation to adjustment of administrative area of rural areas, school age population and integrating resources.

8.4.2.2 Tongzhou, Beijing

Beijing started school mapping and relocation from 1999 against a background of decreasing of primary students from 1997 and junior secondary students from 2004. To accommodate to this change, the Beijing Education Committee estimated that the number of primary schools would fall from 2511 to 1900 between 1997 and 2005, the number of secondary schools would fall from 730 to 470 between 1997 and 2005. After the reforms, all the primary class scale will have a minimum size of 20 students in each class. The policy drivers for the Beijing government were resource allocation and quality improvement. The General Office of Beijing government affirmed and supported Beijing Education Committee's policy and

set firm targets for implementation. In 2005, Beijing Education Committee put forward "Notice of Opinions on Adjustment of Primary and Secondary Schools Layout" indicating it would continue the policy to ensure quality and an emphasis on comprehensive planning based on mapping location and demography.

There were 24 townships, Xiangs and towns, 473 villages before. With the readjustment and merge of townships, there are now 10 townships, 1 xiang, 4 street administrative offices and 480 villages. The birthrate has fallen from 15.0 ‰ in 1990 to and 7.0 ‰ in 2006. The birth rate for Xiji township was only 3.3 ‰ in 2007 and 9.5 ‰ for Majuqiao in 2006. The changes in schools appear in two respects. First the number of schools have reduced as a result of mergers. The total number of primary schools in 1990 was 301, with 11 for county town school, and 22 central primary schools, with 138 for complete schools, and 130 incomplete schools. In 2004–2005, there were only 107 primary schools left, a 64 % reduction. Second, the structure of schools has changed. There are basically no incomplete schools or teaching points left. Only central primary schools and complete primary schools remain (Table 8.3).

The number of junior secondary schools reduced from 35 in 1990 to 24 in 2005. But senior secondary school increased from 1 in 1990 to 9 in 2005 as enrolments at this level grew (Table 8.4).

8.4.2.3 Ansai, Shannxi

Shannxi provincial government formulated *Opinions for Accelerating Relocation of Primary and Secondary Schools and Teaching Force Optimization and Ensuring Investment in Rural Compulsory Education* in 2002, which established

Table 8.3 Number and type of primary schools in Mmajuqiao township (1990–2008)

Type of primary schools	1990	2003	2006	2008
Total	13	10	4	3
Central primary		1111		
Complete primary	5	9	3	2
Incomplete primary	7			

(The data in 1990 is for Dadushe township. In 2003 Dadushe Township was merged into Majuqiao Township. The Data from 2003 to 2008 are for Majuqiao)

Table 8.4 Number of secondary schools in Tongzhou 1999/00–2004/05)

Types	1990	2000	2001	2002	2003	2004	2005
Complete secondary	9	5	6		9	6	7
Senior secondary	1	5	5		7	8	9
Junior secondary	35	34	30		28	28	24
Primary and junior secondary			4		35		6
Total	45	44	45	48	48	47	46

the principles of "properly merge and enlarge school size; identify suitable location; optimize resource allocation; invest in condition improvement; admission assurance; quality upgrading; and community responsiveness". It set the target of school reallocation over a period of five years (2002–2006), including reducing rural primary schools from 33,336 in 2000 to 26,336 in 2006. The average school size increased from 144 to over 180. The number of rural junior secondary schools reduced from 2020 in 2000 to 1844 in 2006, and average size increased from 930 to over 1000.

The Several Regulations of Conduct Code on Compulsory Education in 2006 required that all the resources released by efficiency gains should be used to develop education, particularly the preschool and compulsory". *The Protection Regulations of Primary and Secondary Schools* in 2010 noted that the permission of County and higher level government was mandatory when the surplus resources are used in non education fields. 2011, *Educational Standards in the Compulsory Period of Shanxi Province (Trail)* made by Shannxi Education department was issued by the provincial authority. The standards with respects to rural school layout are: 6, 12, 18 or 24 classes for complete primary schools; each class accepts 45 students first and 40 students in the long run; incomplete schools to have at least 4 classes (30 students each one). 12, 18 or 24 classes for junior secondary schools, each class can have 50 students first and 45 students in the long run. For high population density townships, the number of classes can be enlarged to 30.

To implement the above policies, a large number of complete primary and incomplete were shut down and/or merged in this province. Yanan city, to which Ansai is administratively related, initiated the reforms in 2001 and started the process of rationalisation by deciding that all the students above grade 3 could attend the central schools in rural areas. In Ansai the total number of schools fell from 374 to 132 between 1990 and 2008.

These declines in school numbers are reflected in the case study districts. In Huaziping town the reduction in the number of primary schools was from 40 (1990) to 10 (2009) with half the reduction in the last five years and it is anticipated that the remaining incomplete schools will be shut down (Table 8.5).

The school mergers from 2000 in Yanhewan were catalyzed by the new policy and declining numbers of children. Ten schools became incomplete because their grades 3–6 were merged into central primary school in 2005; others were merged later in the decade. The result was the number of primary schools fell from 43 in 1990 to 13 in 2009. Over this period the number of junior secondary schools remained the same (Table 8.6).

Table 8.5 Number of primary schools in Huaziping Township(1990, 2001/02–2008/09)

	1990	2001/02	2003/04	2004/05	2007/08	2008/09
Total	40	25	24	19	12	10
Central primary	1	1	1	1	1	1
Complete primary	0	2	2	0	0	0
Incomplete primary	39	22	21	18	11	9

Table 8.6 Number of primary schools in Yanhewan township (1990, 2008/09)

Types of schools	1990	2008/09
Total	47	15
Central primary	1	1
Complete primary	3	1
Incomplete primary	43	13

Ansai has seen outward migration which was especially strong during the early 2000s. This is different to Tongzhou where there has been net inward migration. The numbers of workers leaving Ansai for work in other parts of China increased from 4500 a year in 2002 to 15,500 by 2008. This increased the number of left behind children and reduced the child population since some migrants took their children with them.

8.4.2.4 Zhoajue, Sichuan

Although the number of school age children has been growing in Zhaojue, the number of primary schools also reduced from 315 in 2000 to 227 in 2013. Many small teaching points has been eliminated (Table 8.7).

Table 8.7 Number of schools in Zhaojue (2000–2013)

Year	No. of primary schools	No. of primary schools reduced[a]	No. of junior secondary schools
2000	315		4
2001	297	−18	4
2002	292	−5	4
2003	287	−5	4
2004	274	−13	4
2005	264	−10	10
2006	263	−1	10
2007	263	0	9
2008	254	−9	9
2009	254	0	9
2010	253	−1	9
2011	239	−14	9
2012	237	−2	9
2013	227	−10	9
2014	208	−19	9

[a]Merged or eliminated in the year
Source From Zhaojue Education Bureau

8.5 Development of Boarding Schools and Related Issues

The large scale readjustment of school location and size discussed above has led to a great decrease in the number of schools, which is much bigger than the decrease of number of students. As a result, the distance between home and schools for many rural children has increased. Some investigation shows that the home school distance for primary school pupils has increased to 4.05 km in average. Boarding school is an alternative nationally the overall number of boarding students in rural areas reached 7.2 million, representing 8.1 % of the total enrolment. It increased to 9.3 million and 11.2 % in 2009. In some provinces the percentage has increased to over 30 % (Yang and Wu 2014).

School merger and developing boarding schools have progressed hand in hand. To ensure the standards of boarding school and regulate the management of hygiene and living conditions of rural boarding schools, the MoE issued "Hygiene Facility Building and Management Regulation of Rural Boarding Schools" in 2011. It put forward the requirements for drinking water facilities, dormitory, dinning hall, showering and lavatory facilities, facilities for garbage and sewage treatment. It also required that "The average indoor living area for each person should not be smaller than 3 square meters. Each student should have certain storage space, one bed for one person and provide washbasin for each student".

This section focuses on Ansai and Zhaojue since this is where there are many boarding schools. Tongzhou's location is in the capital area. Because of this its urbanization process has been faster and better managed than the other two case study areas. Boarding schools have not been necessary for most students since travel distances are relatively short and infrastructure has developed to a high level over the last two decades. In contrast Ansai, Shanxi and Zhaojue, Sichuan have the typical problems of large provinces with under developed areas and lower population density. Boarding is necessary in some areas and has been extended to many other areas as the population has urbanized and as policy and resource allocation has favored concentration of students in large district schools.

8.5.1 Boarding Schools in Ansai County, Shannxi Province

About 34 % of all students in Ansai are boarding in schools with a range between districts of from 16 to 60 %. Almost all the students who transfer from incomplete schools need to board in the schools they attend. There were 337 boarding students in Yanhewan Central primary school in 2006–2007 and they were 54 % of all those enrolled. In Huazipeng central primary school the number and proportion was 282 and 26 %.

Although the boarding rate was high, the research showed that living conditions were very basic and cramped. The average dormitory room area was about 10 m^2, within which 10 or sometimes 12 students were accommodated in 5 or 6 bunk beds and there were no desks, chairs or work space. This is therefore over crowded

according to the norms. The toilets were communal. It is clear that living in such a sparse environment with limited contact with parents is a challenge, especially for the younger children.

Interviews established that there were thought to be several adverse impacts on children of such accommodation arrangements. First there is concern that family relationships were strained by the fact that boarders could only go home on weekends, and, in some cases, when parents do not find time to visit the school. Young children may be homesick and miss the support parents can provide with consequences for their physical and emotional development.

Second, boarding socializes children into self sufficiency and an adult world and may deprive children of their childhood prematurely. Living independently in school means that the children have to take care of themselves, do daily chores, learn to get along with peers, and learn without family support. This can be difficult for young children.

Third, living in school may lay a huge financial burden on rural families. Some concerned parents chose to rent a house nearby to the school to take care of their children. The rental fees drive up the expenses to the family and also constrain opportunities for the parents to earn income. These can be substantial costs for rural households.

Fourth, the impact on academic achievement is another problem that cannot be ignored. Some research has found that school mergers can lead to academic performance deteriorating for young children, especially for those below grade 4 (Liu et al. 2010). Other research (Mo et al. 2012) has noted that where there were positive effects of attending larger schools after mergers these were compromised by the negative effects of boarding on some students' academic achievement. There is a consensus that consideration should be given to setting a minimum age for boarding and the length of periods of time between home visits.

8.5.2 Boarding School in Zhaojue County, Sichuan Province

Zhaojue in Sichuan has followed the same trajectory as Ansai in terms of school consolidation. Before 2010 there were 49 boarding schools in Zhaojue county till 2010, including 40 primary, 6 junior secondary, 1 nine-year system and 2 complete secondary. After the *Opinion on the Implementation of a New Round School Location Adjustment* 38 of the schools were merged and 14 new schools were established as a result. The Table 8.8 shows that the number of boarding schools are increasing, and the number of boarders increased quite dramatically. After the school mergers, primary boarders increased faster as many have to start boarding from Grade1 while before most started boarding from grade 3 or 4.

The process conformed to Provincial regulations on *School Standardization and Management Measures for Compulsory Education in Boarding Schools in the Minority Areas of Sichuan Province.* The policy emphases norms for physical provision and standards of teaching quality and the need to satisfy the basic needs of students and develop good living habits and hygiene practices.

Table 8.8 No. of boarding schools and boarding students in Zhaojie (2000–2013)

Year	No. of boarding schools		No. of boarding students	
	Primary	Junior secondary	Primary	Junior secondary
2000	41	4	6609	951
2001	41	4	4741	1213
2002	41	4	4975	1394
2003	41	4	4076	1284
2004	41	4	4135	1362
2005	41	10	4217	1303
2006	41	10	4242	2977
2007	41	9	5859	5153
2008	41	9	6569	6069
2009	40	9	7142	6183
2010	40	9	8718	6833
2011	34	9	8407	6234
2012	42	9	8357	6032
2013	42	9	8691	6790
2014	46	9	9726	6762

A financial subsidy of 50 yuan per month for primary boarding students and 70 for secondary is provided by central government. These amounts were set in 2008 and have been falling behind inflation. As a result Zhaojue government has announced *Plans for subsidizing boarding students 2008–2015* indicating that the amount will increase to 120 yuan for primary and 150 yuan for secondary per month in 2015.

Boarding schools are inevitable in mountainous areas such as Zhaojue, They are the only way of solving the problems of access created by low population density, difficult terrain and poor transport infrastructure. But boarding also generates problems in Zhaojue. The first issue is concerned with space and accommodation. Standard dormitory rooms are built to accommodate 10 students, but often accommodate 20 or more with over crowding and shared beds. Second, in Zhaojue the tradition is to take two meals a day at school at 10 am and 4 pm. A typical meal is rice with potato and pickled cabbage soup. Meat was only available once a month in schools visited. Field data indicated that children felt the food at school was better than home cooking, but this only seemed to confirm how nutritionally poor the normal diet was. Many children in this area are stunted and under size for their age.

Third, some schools are experimenting with boarding from grade 1 e.g. in Bier village central school in Zhaojue. More commonly as in the Sikai area boarding generally starts at grade 4. In Sikai there are over 550 boarders. These are supported with the national “two exemptions and one subsidy” policy which provides for free textbooks and no tuition fees, and a subsidy for children who are boarding and the Sichuan provincial “ten year education revitalization plan”. The children studying in Zhaojue therefore have no need to pay tuitions and textbook fees,

and they receive 60 yuan as a living subsidy per month, comprising 50 yuan from central government and 10 yuan from Zhaojue County. These arrangements have resulted in improved conditions for boarders in Sikai and Bier. Students' dormitories are neat and tidy and uniform: sheets, quilts and pillow towels are in same design and color; the spartan environment is clean and well ordered. This can be compared to living conditions in rural households where space if often shared with animals and basic hygiene a problem.

In rural and mountainous areas school mergers have increased distance to school for those who attend daily. Those who attend weekly may be faced with a journey of several hours to get home. Thus for example the students attending Yiku village central primary school in Zhaojue spend 2 h or more walking to school each way, and only have food before leaving home. They have to travel through rugged mountain paths and raging rivers on the way to school with potential risks which become severe in bad weather. Since they are non resident students the school does not provide meals. They have to wait until 6 pm to eat again. There are many areas and villages where small schools have been closed or merged schools without appropriate arrangement for schools buses or other methods of reaching the new schools.

Transportation issues can be resolved where the infrastructure is improving and the terrain not too difficult. Thus in Majuqiao town in Tongzhou the town government in collaboration with bus companies has supplied 11 buses to transport students three times per day. They have also allocated a specific teacher to each bus and have set stops. Every child pays 300 yuan per year for the commute. This arrangement serves 748 students from 25 administrated villages and is popular.

More generally it is clear that problems related to accommodation and transport vary greatly across the case study areas. The variations in economic level, geographic conditions and political preferences create different challenges. Ansai and Zhaojue both have many more obstacles to the implementation of policy to consolidate schools than does Tongzhou. The "attending the nearest principle" may need moderating in the light of the realities of physical access in different areas.

8.6 Achievements and Problems of School Mapping Development

The evidence on the effects of the school consolidation and merger, and of large scale boarding schools in rural areas is accumulating. Based on the discussion above and insights from the literature and from three fieldwork sites, both achievements and problems are becoming clearer and are synthesized below.

8.6.1 Achievements and Advantages

Considerable changes in the location and size of schools have been achieved. Since the *Decision on the Basic Education Reform and Development of State Council* was issued, large numbers of small primary schools have been closed or merged. The number primary schools fell by nearly half from 2000 (553,600) to 2009 (280,200) with about 30,000 primary schools being consolidated each year and about 7600 junior secondary schools also closed (Department of education 2011). Research on 6 mid-western provinces conducted by Huazhong Normal University shows that average schools size has been increasing after the consolidation process. The increase in scale was particularly significant in the senior secondary phase. The school size increased while the number of schools decreased. The major positive effects of school location adjustment and development of boarding schools include the following:

First, the practice has promoted the better allocation of educational resources. Before adjustment, here were scattered locations and too small scale of rural schools and many dangerous school premises. Whatever the size, a school needs a whole set of basic resources and facilities such as premises, teaching equipment, teachers and management staff. There are fixed costs independents of size. After the adjustment, a township normally keeps one or two complete primary schools and only maintains very few teaching points in really remote and areas with very inconvenient transport. In this way the resources are more integrated and effectively used. Overall this has narrowed the regional gaps in educational development in rural areas.

Second, it has promoted the improvement of quality of teachers. Before adjustment, in many small teaching points, there were only one or two teachers who normally teach every subject. Most concentrated on teaching Chinese and Maths. Children had little opportunities to learn PE, Music, English, Fine Arts or science and IT since such teachers were in great shortage. Quality of teaching were not ensured. In these teaching points, teachers were often Minban teachers (non-official teachers). Their qualification was lower than other schools. After the adjustment, when may teaching points were closed or merged, most of the unqualified teachers were dismissed. The overall quality of teaching force in rural areas improved a lot. Teaching force were reorganized so that in the newly merged schools, the structure of teachers become more efficient and effective with all the subjects having specialized teachers. The overall educational level of teachers increased. The percentage of teachers with undergraduate or even master degree increased.

Third, mergers have promoted the quality of rural schools. Some research evidence shows that the learning achievement of children studying in complete or central primary schools are higher than that of teaching points for Chinese and Math. Taking into account that most of the teaching points cannot provide English, Music, Fine Arts, IT, the overall learning quality for complete or central schools is much higher than for teaching points. Most of the parents support their children studying in complete or central schools since they think their children benefit more

in these schools and better equip their children for future. Children in remote areas can now enjoy better conditions and teaching and learning after mergers of complete and central schools with better facilities, teachers and school management.

Forth, boarding children have to do things by themselves which helps foster their independent abilities. Living with schoolmates is also helpful to develop their communication and cooperative abilities. The timetabled life helps to develop their better living skills and study habits and self-control in a collective environment.

Fifth, boarding schools have solved the problem of safety of daily commuting. Before the children live far away from school as they live very scattered, they spent longer time on road. When road condition were not good, there are danger factors and safety problems. When they are in boarding school these problems can be solved to a large extent.

Sixth, left-behind children may be in better care. Some investigation shows that, there are 58 million left-behind children in rural areas. Most of them (80 %) are cared by their grandparents, 13 % by relatives and friends, 7.3 % no certain guardian or without guardian. Education and care of left-behind children is becoming a social problem in rural areas. At boarding school, these children's life and study are cared by school teachers and staff and some of their parents anxieties may be relieved.

8.6.2 Issues and Disadvantages Emerged

On the downside there are several disadvantages of the merger process which are widely discussed. There are at least eight issues.

First, it is difficult to find school age children to attend the nearest school if the service radius of rural primary school is less than 3 km as the department of education recommends. School mergers have made the service radius larger and sometimes the distances unreasonable. Research conducted in 177 mid-western counties and villages found the average distance of the sampled students is now 4.8 km and 66 % of travel to school on foot. 30 % parents and 27 % students thought attending school was inconvenient. Though there are many reasons for dropout long distances to school is a disincentive especially in rural and undeveloped mountainous areas (Zhang 2010). Wang's research (2008) in a county in Hebei province indicates that 90 % of parents of young children shuttle their children to up to 4 times everyday because of concerns for transport and safety. About 70 % of senior grade primary students and 80 % junior secondary students go to schools by bicycle; 47 % of junior secondary students traveled more than 20 km on the way back and forth every day because there is no food canteen in schools. The large scale consolidation of schools has meant more time and more costs spent on travelling, and less time for school work. It may have contributed to rising dropout rates in some areas (Wang and Yang 2008).

Second, we have noted that expenses resulted from living in school are not a small overhead for the majority of rural families. The national "two exemptions

and one subsidy" does help guarantee admission to school but does not cover all the subsequent costs. After the school mergers, the education cost for rural households having school boarders increased increased 673.5 yuan every year in average in the mid part of China, and 787.8 in the west part. Although some students can get support for boarding, it is quite low.

Third, the age of boarding students has become younger and younger. A study of 870 primary boarding students in rural schools conducted by Northeast Normal University in 2008 indicated that 27.1 % were grade 1 students, 13.6 % were grade 2 students, 13.3 % were grade 3 students. Grade 1–3 were 55.4 % of the total. These younger students have no ability to look after themselves, and are at the age of needing a lot of family care and love. Separating from home at so young age can lead to psychological health problem as a result of loss of parents' care.

Fourth, as also discussed above, the living conditions in Ansai and Zhaojue in boarding schools are very basic within only a small simple dormitory space and little or no access to a stimulating learning environment. Many boarding schools were established in a hurry without basic resources and facilities in place and cannot meet the needs of boarding students. The management of caring system, proper dining hall, low standards of diet for students, the lack of recreation activities of students and heavy study burden have negative impact on students psychological and physical health. "Hygiene Facility Building and Management Regulation of Rural Boarding Schools" issued by MoE in 2011 put forward the requirements for drinking water facilities, dormitory, dining hall, showering and lavatory facilities, facilities for garbage and sewage treatment. It also required that "The average indoor living area for each person should not be smaller than 3 square meters. Each student should have certain storage space, one bed for one person and provide washbasin for each student". But most of these requirements cannot be implemented in reality.

The conditions can have an adverse impact on parent-child relationships, and students' mental and physical development, as well as their academic achievement. Moreover diet and nutrition is another common challenge in rural areas. We have described the situation in Zhaojue where meat is only available once a month to students and many children appear stunted. Other research (Luo et al. 2009) conducted in Shanxi province shows that boarding students are more likely to suffer from under nutrition than are boarding students. Using the WHO' index, they have found most boarding students' growth and development levels are below average. Shortages of capital for construction are clearly a problem in many places although additional resources have been allocated for school mergers. Accommodation remains insufficient, diet and nutrition problematic, and there appear to few training programs related to solving the problems.

Fifth, because of the limitations of transport and accommodation many children attending schools in rural areas are over age and too old for their grade. Education professionals interviewed in fieldwork had a low level of awareness of the problems of over age enrolment and progression and of repetition practices. In the process of transferring from incomplete to complete primary schools it appears that many boarding students had to repeat years not least because of the problems of

adjustment to a new environment and the additional burdens on households. It appears that rates of over age enrolment may have increased as a result of consolidation. Children may enter school later when their parents judge they are old enough to travel. School transfers relate in grade slippage. And learning problems may result in low levels of achievement and repetition.

Sixth, average school size has increased and so has the size of teaching groups. This was intended but may have become excessive. Thus for example in Majuqiao central primary schools, the average class size was 35–40 during 2003–2007 and this was generally bigger than the town average level. The class size in Huaziping central primary school increased dramatically from 25 to 30 at the beginning of the 2000s to between 60 and 70 by 2009. Yanhewan central primary school's class size was 42 by the 2009 school year. The overall class size in Zhaojue was 58 in 2007 and the Bier central primary school was operating at an average of 68 students in each class. The reforms were intended to reduce the numbers of small classes and they appear to have succeeded in doing this. There has been little research on the extent to which they have resulted in over size classes in urban and rural areas as a result of school mergers.

Seventh, the reforms have created new challenges for teachers. Salary levels of teachers have not changed as a result of the reforms and this may be affecting the stability, motivation, and quality of teachers. A Central China Normal University research team has identified how large class size has caused an increase in workloads. Over 50 % of mid-level leaders, 57 % of faculty members and 57 % of supporting staff thought their working load had become heavier after the consolidation (Guo 2008).

Teachers roles have been changing with new responsibilities for class counseling and life tutoring in a changing context. Schools expect teachers to take on pastoral care roles for students emotional development and organize recreational activities. The Ansai government has adopted a "fixed point and location" principle which means that teachers should take responsibility for students' study and daily life and be on duty to check the dormitories. The new accountability standards and role expectations require more contributions from teachers.

8.7 Conclusions and Recommendations

8.7.1 Shifts of Policy

The central government realizes the issues that have emerged in the school merger process that mainly stresses efficiency aspects in the context of the decrease of school age children. In 2006, the MoE issued "The Notification on Feasibly Solving the Problem of Children going to School far away in the Area of Inconvenient Transport" and in the same year also issued "The Notification of Properly Doing the Work of School Layout Adjustment in a Practical and Realistic Way", stressing that the adjustment must be carried out on the condition that

children go to nearest school, keeping the teaching points in the areas of inconvenient places, to avoid causing absenteeism and taking too much efforts to go to school". In 2009, MoE issued "The Guiding Opinions on Strengthening School Management and Regulating School Running Behavior" reinforcing the above sprit and restating the school location adjustment should avoid arbitrary cuts and too rapid implementation. School mergers need not to be overdone, and should keep the balance between equity and efficiency.

In 2010 MoE issued "The Opinions of Implementing Scientific Development View and Further Promoting Balanced Development of Compulsory Education". This further requires that in the areas of disadvantaged natural conditions the teaching points should not be closed or merged to other schools. When closing or merge a school, the decision making process must hear local people's views to avoid causing new conflict. In 2012 the State Council issued "Opinions on Regulating School Layout Adjustment in Rural Compulsory Education" points out the problem that in some places, the programming was not planned properly and procedures were not regulated, and checks and balances were lacking. It reveals that states admitted mistakes in implementation. This latest policy shift reflects more realistic and human oriented and ethnical value.

8.7.2 Ways Forward

Based on the analysis of the above issues, our research supports the view that the following aspects should be dealt with well in the process of school location adjustment and development of boarding schools in rural areas:

First, school location re-planning must use the principle of going to the nearest school. This is the basic principle of compulsory education policy for every country in the world. Home-school distance is an important factor for parents to choose school. School location policy should take into account the transport cost to the parents. The parents consider safety as the most important factor in their children's schooling. Protecting children's basic right and interest for going to a nearby school is one of the items of the Act of Compulsory Education. In the process of school planning, local governments and educational administrators should really care for children's interests and make a balance between the school location, commuting methods and school bus operation. In the areas where transportation is inconvenient, it is likely to be necessary to restore and maintain some teaching points and some special preferential arrangements to send qualified teachers and ensure the basic school conditions and teaching quality. It is important to avoid school absence, dropout, overage, oversize of and classes because of too many mergers.

Second, it is important to establish feasible and sustainable investment mechanisms and clarifying financial responsibilities for boarding school building and strengthening the management of boarding schools around the basic needs of students such as teaching, learning, eating, living, transport and medical care. The

building and management of dormitory, dinning and lavatory facilities must be in accordance with the standards of the state, ensuring the basic food and nutrition, health and safety of the students, increasing the support for boarding students. For boarding students' needs for family caring, it is suggested to have open days for parents, improving home-school communication, parents accompanying dinning together, telephone communication. Providing activity facilities and venues to enrich the extra curriculum activities of boarding students.

Third, some teaching points will need to be maintained, and it is essential to make active inputs and support such schools and teachers. It may be necessary to give special treatment for teachers working in hard conditions, giving them opportunities for training. For schools too small to offer all the subjects, peripatetic teachers could be deployed working across several schools. Efforts are needed to attract outstanding teachers to work in difficult schools.

Fourth, it is essential to listen to the local people's opinions in the process of making the decisions of closing a school or moving students to another school. To ensure the substantial participation, the county level government and related administrative sections should set up hearing and publicize a system to let the stakeholders (parents and village autonomous organization, township government etc.) express their own opinions and suggestions. If consensus cannot be reached among most of the parents, the adjustment should be delayed. Schools cannot be closed or merged by force. Lessons need to be taken into account at the previous stage that the decision-making needs to consider the interests of the consumers, and respect parents and students' rights and interests, and students' physical and psychological health.

Fifth, the school planning is a systematic project should take into consideration of all the factors comprehensively such as migration, urbanization, house moving etc. It is not just simply closing and merging schools. It needs various auxiliaries as a whole package of the reform such as logistic facilities, school transport, and cost of schooling.

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Chapter 9
Transitions and Challenges for the Development of Basic Education

9.1 Tongzhou, Ansai and Zhaojue Revisited

Dramatic changes have occurred across and within the case study districts. These have taken many forms, the flavour of which is apparent from the case studies. Along with the rest of China economic growth, the fruits of the "open door" policy and Deng Xiaoping thought have transformed the physical and financial context within which nine year compulsory education is being realised. Average per capita income was between 1300 and 2000 yuan in 1990 in Tongxian. By 2010 it was over 17,000 yuan (urban), and 8300 yuan (rural). In Ansai per capita income was between 180 and 330 yuan per capita in 1990 and is now between 16,000 yuan (urban) and 2600 yuan (rural). And in Zhaojue it has increased from around 210 to 240 yuan to about 11,700 yuan (urban) and 2600 yuan (rural). Zhaojue remains overwhelmingly rural, whereas Ansai is increasingly urban. Zhaojue thus remains the poorest of the three counties.

Over the last ten years in two of the areas, Tongzhou and Ansai, the number of school age children has fallen dramatically as fewer children are being born. In Tongzhou the effect on enrolments has been moderated by the influx of substantial numbers of migrants. Nevertheless by 2006 primary enrolment was less than half its 1990 level. In Ansai enrolments have fallen at primary level by nearly half since 2001. But in Zhaojue primary school enrolments have doubled since 1990. These changes are related to the falling birth rates in Tongxian—from about 15‰ to less than 7‰, and from about 25‰ to less than 10‰ in Ansai. In Zhaojue the birth rate remains high and though it has probably fallen from the 25 % in 1990 it still appears to be over 15‰.

In all the areas enrolment rates have improved at both primary and secondary level. Overall, in Tongzhou nine year compulsory education has been consolidated and the high levels of performance reported in 1990 have been sustained. It is fairly certain that virtually all school age children were enrolled then and continue

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to be now. Almost all now transit to secondary schooling, though those who are migrants may return to their areas of domicile to maximise their chances of admission to the better junior and senior secondary schools since they are excluded from those in Tongzhou. Tongzhou has invested in improved quality and this is evident in the increasingly common practice of providing single desks for pupils, the widespread availability of learning and teaching materials, the higher level of facilities and equipment in most but not all schools, and in low rates of reported absenteeism, repetition and drop out. The largest change structurally has been the arrival of large numbers of migrant non-resident children accompanying their parents, who are now in a majority in some schools.

In Ansai significant progress on increasing primary school enrolments had been made in the late 1980s and female participation had improved dramatically to approach much more equitable levels. Drop out was a major problem in 1990 but is now considerably reduced and it seems as many as 90 % of those who enrol reach grade 6. The changes brought about by the declining birth rate, permanent and temporary migration, and urbanisation have greatly reduced the rural population of children. Alongside this schools have been rationalised and now most children are enrolled in large central schools with boarding facilities. These schools have developed considerably since 1990 when many "cave schools" were in existence. Equipment and furniture is much improved though conditions remain basic for boarders. Most teachers are now trained and qualified. However, some substitute teachers remain and have very inferior conditions of service. Teachers are mostly young or approaching retirement with few in mid career.

Zhaojue had the worst educational conditions of the three case study areas in 1990 and this remains the case. The recent growth in enrolments has more than doubled numbers in schools, and there are now twice as many schools as in 1990. The great majority of schools are at village level and many are small and remote. Enrolment rates are much higher than in 1990, and drop out which was very high has fallen. Nevertheless it seems unlikely that more than about half of an age group succeed in completing primary and entering secondary school. There are still cases of children who do not attend school at all, and about a quarter of those of school age are estimated to be unenrolled. Temporary migration for work appears common amongst older children. Substitute teachers remain in Zhaojue. In contrast to Ansai where some of the teachers are in older age groups there are very few teachers in Zhaojue who are over 35 years old. There are many more girls in school than in 1990 but they are still in the minority. HIV/AIDS orphans and "left behind" children are now prominent as part of the school community and some special arrangements are made, though there does not appear to be a consistent policy across schools. The physical condition of all but the central primary and junior secondary schools is poor with dark classrooms, insufficient furniture, shortages of learning materials, unsatisfactory sanitation and buildings lacking adequate construction standards.

In each of the case study locations the social and economic changes between now and 1990 have been dramatic. These are reflected in changes in access to schooling and the quality of infrastructure. An overall judgement is that the gaps

between Tongzhou and Ansai have narrowed. In both, almost all children go to school, physical provision is now more uniform across the villages partly as a result of the merger of small schools and the extension of boarding for rural children, and it has been possible to increase investment per child as numbers have fallen. In Zhaojue the changes have been greatest since 1990. Here the number of children has grown as has the number of small schools, though new boarding schools have recently been built. The poorest schools in this area have changed little, though those near transport infrastructure have benefitted greatly from new investment in buildings. The judgement here is that despite the improvements it is likely that the gaps between Zhaojue and the other two case study areas are getting bigger, rather than smaller. Both horizontal and vertical equity remain an issue that has to be addressed.

9.2 Ten Issues for Nine Year Compulsory Education

Each case study explores in some detail the achievements and challenges that face local authorities in Tongzhou, Ansai and Zhaojue. The story of the last twenty years is clearly one of considerable achievement, but it is also one that illustrates that the ambitions of the 1986 Compulsory Education Law and the ambitions of 1990s have yet to be realised, at least in two of the three counties. There are many issues that the details in the case studies raise. Ten are listed below as ones which are likely to have relevance to other parts of China as well as to one or other of the case study areas. These summary conclusions serve to provide material for the policy dialogue that must continue around implementing nine year compulsory education.

9.2.1 Early Childhood Care and Health and Nutrition

Poverty remains a serious issue in Zhaojue and is clearly still present in Ansai. This research did not attempt to develop indicators of health and nutrition or of cash or asset based poverty. Nevertheless it was clear from interviews and from observation that children attending the poorest schools would benefit from pre-emptive interventions to ensure adequate nutrition, freedom from common medical conditions associated with poverty and poor hygiene, and early diagnosis of disease that might lead to disability or debilitation. Poor nutrition and health status are likely to be associated with late entry to school, lower enrolment rates, and premature drop out. Some of the problems of achieving universal nine year compulsory education have their origins in events that occur below the school entry age. The earlier these problems are addressed the more likely they are to be resolved.

9.2.2 Age of Entry, Preschool, and Over Age Progression

The logic behind nine year compulsory education is to give every child an equal opportunity to benefit from a quality basic education. Entering school at seven years old rather than six is a disadvantage. At ten years old those starting at six have had 25 % more schooling than those starting at seven. Developmental psychology confirms that many basic skills are acquired most rapidly amongst younger rather than older children. Some studies also indicate that early under achievement is rarely recovered in, for example, reading ability. Late entry leads to over age progression which may be exacerbated by repetition of grades as is the case in two of the case studies. Overage children are more likely to fail to progress successfully, especially if they are two years or more behind their age group. Those who experience pre-school are less likely to enrol late. They also have a head start over children who do not have the opportunity to go to preschool which is widely feel paying and thus rationed by price.

This cluster of challenges is therefore important to address. The medium term goal should be to ensure all children enter school at the age of six whether they are rural or urban. They should also progress and graduate largely on schedule i.e. at 12 from primary school and 15 years old from junior secondary. All high enrolment countries have a low variation in age in grade and this should be realised in China. Pre-school provision is becoming more common. If it is not to embed disadvantage amongst the poorest then ways must be found to subsidise access and extend the reach of pre-schools in affordable ways. This may be premature in the poorest counties. However, it is already the case that some rural village schools are including pre-school grades as demography results in falling enrolments in primary grades. This may provide an opportunity to develop initiatives that take advantage of this opportunity.

9.2.3 Teachers

Teachers are now much better qualified in 1990. However, some substitute teachers remain despite policy which has sought to place every teacher on the government payroll and ensure they are fully qualified. This is an anomaly that should be resolved since these teachers undertake the same work as others with far less salary and no job security.

Teacher deployment remains very uneven. Pupil teacher ratios fluctuate between the over generous (less than 10: 1) to the under staffed (over 45: 1). Successful high enrolment basic education systems gradually eliminate wide variations in pupil teacher ratios to ensure all children have more similar access to teachers. They also deploy teachers and classrooms, and arrange timetables so that teachers work with 20 to 30 children in a class and teach for 80 % or more of timetabled time at primary level. Schools which have pupil teacher ratios much

below 20:1, class sizes over 40, and the number of teachers per class over 2:1 are likely to be expensive and relatively inefficient. Too many schools remain like this in the case study areas.

Teachers in rural and remote schools, and working in areas away from their home towns may have to be offered incentives to remain motivated and effective. The current structured salary scheme attempts to do this but may not be sufficient to compensate for the deprivations associated with rural postings. Higher quality living accommodation, travel subsidies, accelerated promotion, and bonus payments are all mechanisms that may encourage teachers to work in difficult environments.

9.2.4 Out of School Children

A small but significant number of children never enrol in Zhaojue. Much larger numbers enrol but drop out. In all three areas enrolment through to the end of junior secondary appears not to be universal, though it is much higher in Tongzhou than elsewhere. There are several steps that need consideration. First, there needs to be a clear and accurate accounting of out of school children. The number and location appears not to be known accurately. Second, it should be clear which agency is responsible for locating and acting to encourage unenrolled children back into school. Third, the steps that might be taken depend on the diagnosis. Most certainly the reasons will be different for older and younger children, boys and girls, those with disability, orphans, and others. Some reasons invite a supply side response—if school buildings are dark, uninviting, cold and empty of furniture the problem is on the supply side. If children value paid employment more than the benefits of schooling the issue is on the demand side. Fourth, most obviously the solutions to drop out first lie within the school once children are enrolled. Monitoring and evaluation systems should be sensitive to the likely precursors of drop out (e.g. irregular attendance, low achievement, repetition of grades) and should seek to intervene before rather than after the event.

9.2.5 Boarding and Small Schools

National policy on rural education favours increasing the proportion of boarding schools with the aim of improving quality and concentrating resources. In Ansai this has resulted in a radical reduction of the number of small schools. In Zhaojue the existing boarding schools have been upgraded and expanded but the proportion of boarders has remained about the same as in 1990. The debate about the desirability of boarding has been discussed in the case studies. Key issues include the costs to the state, as these may be higher since staffing levels have to be greater; the cost to parents, the effects on younger and older children's learning and

emotional development; the impact on teachers' quality of life; the quality of the environment for children's development; and the educational potentials and benefits. Topography, demography, and macro economic development, and patterns of migration are all also relevant to strategy on boarding. So also is investment in small schools. As communication improves, transport reaches out across rural areas, and information technology connect the remote with the metropolitan it may be that the original reasons for promoting boarding schools are less compelling. The issues should be revisited in the light of changing conditions and local circumstance to establish which pathways forward are most efficient and equitable.

9.2.6 The Education of Migrants, Girls and Orphans

Migration has become a feature of the educational landscape in Tongzhou and Ansai. In the former migration is from the countryside to Tongzhou and from Tongzhou into Beijing suburbs. In some places there are now more migrants than locally born residents. This creates instabilities in patterns of schooling and imbalances between schools and districts. It also generates problems of transition into junior and senior secondary school since migrants may return to areas of domicile to improve their chances of enrolling in the best secondary schools. Migrants do not qualify for regular senior secondary schools in Tongzhou, but can enrol in technical and vocational schools where demand for places is less competitive. Migrant children may also have difficulty adjusting to Tongzhou schools when they arrive since standards can vary as well as language dialect and curricula experience. There is no monitoring system to track migrant children in the county, nor is there any systematic policy on managing the flows and the supporting the special needs of this growing number of children. Teachers in rural schools are now themselves increasingly likely to be "local migrants" in the sense that they live in the towns and commute daily to the schools and thus no longer live in the communities whose children they teach.

In Ansai migration has a different character. Most migration is outbound and is reflected in falling enrolments. This has generated the need for demographically driven adjustments to the school system and has hastened the pace at which boarding has been introduced on a large scale across the area. Urbanisation is occurring alongside the development of improved infrastructure that has made many rural areas much more accessible. Outward migration of older children in search of work is appearing and is affecting secondary school enrolments. The numbers of "left behind children" have also been increasing as parents seeking work leave behind school age children with grandparents and other relatives. As in Tongzhou the changing patterns of migration and their impact on the education system do not appear to be systematically monitored and managed, and there is no clear view bout how these can and should develop.

In Zhaojue migration is on a smaller scale than in Tongzhou and Ansai and is all outbound. As in Ansai, there are some "left behind" children, and it is clear that

some older children seek work in other parts of China before they complete secondary schooling. They may or may not return and try to re-enrol. A small proportion of children succeed in being transferred to schools outside Zhaojue. Most of these are from richer households who can pay the costs of private schools, or are scholarship holders.

Participation rates in schooling for girls are now much closer to parity than in 1990 in Ansai and Zhaojue so considerable progress has been made. This has happened alongside a general increase in enrolment rates. More may need to be done to ensure that schools are girl friendly, travel to and from them is safe, that boarding arrangements are conducive to well being, and that subsidies and incentives are offered to those who might otherwise exit schooling early. Though there are some girl only classes it remains unclear what effect they have. As they have been operating since 1990 there should be enough evidence to decide whether to replicate them throughout the system, or at least to introduce those elements that have few costs if these are effective. Thus grouping girls together for teaching has few costs unless class sizes are very small. Providing additional stipends is an additional cost.

Orphans were not visible in the 1990 research. By 2010 "left behind" children who were virtual orphans were present in Ansai and Zhaojue. Zhaojue had also experienced orphanhood related to HIV and AIDS. The vulnerabilities of orphans should be addressed both diagnostically and in terms of special support where this is needed. Without access to household resources any fees charged become exclusionary, so all fees should be waived for all orphans. Stipends are needed to cover living costs. Sponsored orphan classes offer assistance to some but not all orphans. There needs to be a clearer acceptance of public responsibility for orphaned children who fall under the mandate of the nine year compulsory education law.

9.2.7 Management and Finance

More resources have been made available and the basic system of managing and financing nine year compulsory education has been transformed. The state now takes the responsibility for providing the great majority of the resources needed, which is the common mechanism in high participation countries. This replaces the system dependent upon local revenue raising which failed to work efficiently, especially in the poorest counties and when there were slowdowns in economic growth. The amounts allocated per child have grown considerably and are more evenly distributed than they were in 1990. However, they may still be insufficient in the poorest areas to compensate for the lower levels of accumulated stock of buildings, equipment and learning materials in poorer counties. They may also not be sufficiently sensitive to the varying conditions from place to place that generate different needs and costs e.g., of transport, housing, food and communications.

Though the basic system has changed at the county level it remains the case that central primary schools administer funds and manage lower level schools.

This remains and subject of discussion since it appears that some central schools are reluctant to pass on the full benefit of capitation and subsidies to the schools they administer. The dynamics are understandable but not necessarily the best mechanisms for efficient and effective disbursement that is equitable across schools and children.

9.2.8 Buildings and Infrastructure

New buildings have been provided in all the case study areas. They co-exist with the stock of older buildings some of which are no longer fit for purpose, especially in Zhaojue where rural village schools are still of very poor quality. This research could not assess needs for the construction and rehabilitation of buildings. It was able to identify some issues that may be relevant to future planning. First, investment appears to have been concentrated more on large scale central sites than distributed across the school system. Second, several sites had dormitory accommodation that was cramped and overcrowded, even after new construction. Third, sanitation and washing facilities were often of lower quality than the quality of the buildings. Fourth, lack of heating in harsh climates may save money but may undermine health and well being. Fifth, impressive investments have taken place in some information technology facilities but it is not clear how much value they add to learning. Similarly library space and stock were well provided in new school buildings, but evidence of usage and borrowing was not indicative of intensively used resources.

From the fieldwork it was clear that some dangerous and inappropriate buildings remain. Some have facilities that cannot meet standards necessary for safe, secure and welcoming learning spaces for young and older children with appropriate furniture and learning materials. Resolving these issues therefore remains a priority.

9.2.9 Assessment and Monitoring and Planning

Children's attendance, progress, and achievement needs monitoring regularly if all children are to successfully compete nine years of schooling. This occurs systematically in larger central schools where record keeping is fairly comprehensive and systematic. It still seems problematic in small and incomplete schools where there appear to be few records and little historic record of children's progress and achievement. Some standardised tests are used at a local level but it is not clear how much this leads to diagnostic evaluation rather than simple summative judgements.

In 1990 inspection and evaluation systems were under development. These have now matured, to the extent to which we could ascertain how they were

operating, it appeared to be the case that the inspection and evaluation system was preoccupied with simple quantitative targets, and rarely extended its interests and visits away from the larger central schools. The infrastructure that supports teachers in small schools depends on the central primary schools and the effectiveness of their teaching and learning groups. More sensitive local level inspection and monitoring may be needed to track progress and needs and to direct resources to where they will make most difference.

Educational management and information systems are being developed to contain data on schools and children. These need to be used actively to manage towards defined objectives set at a local level as well as within national frameworks. Flexibility to respond to local circumstance is important.

Planning systems now have access to much more data and can therefore project into the future the impact of demographic transitions, migration into cities and left behind children in rural areas, and changing demand in the labour market. School location and the deployment of teachers has to be efficient if it is to offer value for money, reach all children and allow investment in improved quality. Planning methods therefore need to be developed and applied on a rolling basis to assist decision making for resource allocation.

9.2.10 Equity and Distribution

It was clear in 1990 that there were tensions between national policy and planned resource allocation, and local level decision making subject to local priorities. The decentralised system allowed large differences to develop and be reinforced between districts and within them. There were commitments to promote more equitable distribution of resources for nine year compulsory education to favour those with greatest disadvantage, the mechanisms that existed seemed unlikely to deliver the result. The case studies illustrate that in some respects these observations from the past were prescient. The data from the case studies too often suggest that growth in participation has exaggerated some pre-existing inequalities, and has generated new ones, despite the renewed commitments to universalise access and extend opportunities to the most disadvantaged.

There is, therefore, a need to identify new targets for implementation that assess distribution and progress on equity issues, and go beyond the simple averages and aggregates that conceal large inequalities. Public expenditure per child should be fairly similar in different parts of China with more allocated to the most challenged counties. The variation in pupil teacher ratios, class sizes and teachers per class between schools should fall within an accepted margin of efficiency and effectiveness. The chances of completing nine year compulsory education should be similar across the country and not be strongly related to household incomes. And achievement levels on tests of basic competencies should reveal less rather than more difference between the highest and lowest scoring administrative areas.

9.3 Growing Needs to Address Inequalities

Twenty five years after the first Compulsory Education Law nine-year participation in compulsory education is a reality in many parts of China. In 1991 there was considerable inequality between and within the three case study districts. Teachers' income, expenditure per student, pupil teacher ratios, amount of books and desks and chairs per child and other indicators varied across sites by a factor of three or more. There was clearly a risk that rapid growth might exacerbate rather than reduce these differences. Such was the increasing concern about growing inequalities that a revised Compulsory Education Law was issued in 2006. This, and the Mid and Long Term Educational Development Programme (2010–2020) published in 2010 identified several major equity issues for attention. The need for ***balanced development*** of basic education has at least four dimensions.

9.3.1 Disparities Between Regions

Firstly, in many areas physical access has not been assured. However, there remain large gaps in teaching quality, the availability of resources for learning, and learning outcomes. The three main concerns are first with ***disparities between regions.*** In the economically more developed areas parents have much higher incomes and are willing to invest more in their children's education. This enables them to support schools more actively, contribute financial and non financial resources, and encourage the employment of high quality teachers who may be paid additional income over and above their public salaries. State resources, and those of parents, are less in under developed regions. This has negative impacts on investment into the development of compulsory education which is not compensated for sufficiently by transfers to the poorest regions (Zhang and Zou 2010).

Regional disparities noted by the Task Force on Narrowing the Gap in 2005 indicated that variations between the eastern, middle and western Provinces in overall expenditure per student. In 2001 average spending per student at primary and junior secondary level in the middle region of China was 41 and 44 % respectively of that in the eastern region; the figures were 48 and 56 % for primary and junior secondary in the western region. Thus children in the more developed eastern region had nearly twice as much spent on them per student. Task Force (2005: 19/20). By 2010 the figures for the middle region were 45 and 54 %, and for the western region 50 and 56 %. The gap had closed most between the eastern and middle regions, but had not changed much between the eastern region and the west. Spending on non-salary items has become more equitable. In 2001 in primary and junior secondary in the middle region the allocation was only 15 and 18 % of that in the eastern region. In the west it was 25 and 27 %. By 2010 in the middle region it had reached 46 and 61 %, and in the west 62 and 74 %. This reflects the implementation of new policies to give subsidies to poor students

and free text books. Non salary expenditure is however only about 20 % of total expenditure per student so the other inequalities remain more significant (Research Centre for Inspection and Evaluation 2010: 85/86).

9.3.2 Disparities Between Regions

Secondly, there are growing ***disparities between urban and rural areas.*** County towns and local economic and cultural centres have concentrations of better quality educational resources. Elitist educational practices encourage schools and parents to compete for entry to the better schools in the belief that better students should go to better schools. The education resources of schools in cities and towns benefit from being on a larger scale and having more specialised facilities and thus can offer higher quality. Rural schools have fewer facilities from the outset and have difficulty offering quality at higher levels. They are often relatively short of public and private investment and have difficulty in attracting and retaining better quality teachers and students. They can therefore suffer from a spiral of declining quality. Paradoxically the policy to increase the number of rural children who are boarding may further reduce quality in the remaining rural schools.

The Task Force in 2005 (ibid) identified cost ratios in urban and rural areas of 1.9 at primary and at junior secondary, and for non salary recurrent funding 3.3:1. It also noted that only 5 % of dangerous classrooms and school buildings were thought to be in urban areas. Rural areas also had much lower proportions of qualified teachers, and more than 10 % substitute teachers remained, almost all of whom were in rural schools. Pupil teacher ratios were consistently lower in urban areas by an average of 20 %.

Disparities remain in the promotion rates into junior and senior secondary schools. In urban areas, more than 98 % of the primary school graduates can enter junior secondary schools. But in many rural areas the proportion who are willing and able to enrol is below 90 %. From junior secondary to senior secondary (excluding vocational senior secondary schools), the promotion rate is over 60 % for urban areas, but not much more than 20 % in rural areas (ibid: 12).

9.3.3 Disparities Between Schools

Thirdly ***disparities between schools*** may be growing. Key schools remain a feature of many local school systems. This minority of specially favoured schools benefit from preferential allocation of various resources from government as well non-government channels and they have superior infrastructure, equipment and learning materials. Their high prestige allows them to the privilege of charging high prices from students from outside the catchment area of the school. By contrast many rural schools face problems of having too few students, not least

because of falling birth rates and temporary or permanent internal migration to richer areas and urban centres.

9.3.4 Disparities Between Social Groups

Lastly, ***disparities between social groups*** are becoming increasingly visible. In particular, these groups include many children from national minority groups, girls in some areas, migrant children without residence entitlements, children left behind in rural areas by parents who migrate for work in other places, and HIV/AIDS orphans. These groups can suffer from very unequal educational opportunities, be neglected and excluded prematurely, and can be subject to negative discrimination.

9.3.5 Other Inequalities

Two other points are worth noting. Issues remain for ***tuition and fees***. The policy is that compulsory education is paid for by the state and is "free of tuition and fees". However, fees can be charged for things other than tuition and this has led to some problems and abuses. National curriculum materials should be free, as should basic workbooks. Where it is necessary to charge fees for additional material this has to be agreed by local price departments. Schools cannot market services that they require children to pay for, whether it be school lunches, reference books, or teacher prepared materials. But there are risks of "creeping markertization" where what is not expressly forbidden is tolerated and as competition increases in urban environments especially many kinds of fees and contributions are appearing that are largely unregulated.

Though physical access has improved in many areas **quality remains problematic**. With most children now enrolled the range of capability is wide but whole class teaching is the normal style of classroom teaching with all children proceeding at the same pace. In addition the national curriculum varies little from location to location, though there are many variations in environment, language and livelihoods across China. Much effective pedagogy is in use, but universalisation of access throws up new challenges of how to adapt these pedagogies to suit the needs of different communities, and the needs of special groups vulnerable to exclusion.

The responses to these concerns for horizontal and vertical equity, and reductions in growing inequalities that mirror the realities of China's rapid economic growth and social transformation, will now shape progress on nine year compulsory education over the next decade. Growing disparities will not serve to achieve the goals of the compulsory education policy. Universalisation requires both better distribution of access through to grade nine, and much more investment in quality

to address both the supply and demand side constraints. Only then will the benefits of knowledge and skill that come with completing nine years of imaginative, attractive and engaging education be shared by all Chinese children. Sustainability, the theme of the new U.N development goals, challenges educational development over the next decade to find ways of ensuring the gains of the past are not lost, that universalization of basic education does finally reach out to the most marginalised, and that increasingly what is taught and what is learned serves the purpose of endowing future generations with more capability at sustainable costs.

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