

No. 101
Research Report



***Implementing
basic education
in China:***

***progress and prospects in rich,
poor and national minority areas***

Keith M. Lewin *and* Wang Ying Jie

in co-operation with

Qu Heng Chang, Wang Lu, Li Jia Yong,

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International Institute for Educational Planning

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by

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Preface

Each month at the IIEP we regularly receive several unsolicited manuscripts from external authors who enquire whether we would be interested in publishing the results of their labours. Some of these manuscripts are doctoral dissertations, others are the results of research projects undertaken in fields related to the planning, management and administration of education, while still others are essays on specific themes.

All of them are considered for publication by the Institute but in the end only a few are published. The text of this volume is one of those few.

As you will discover, it is a highly original text, based on an extensive research project in China undertaken by a team from the University of Sussex, the United Kingdom, and the Beijing Normal University, China. It treats a subject – the implementation of basic education in China – which fits in closely with the IIEP's current research programme; in fact, the Institute will shortly be publishing the results of its own research on the equality of primary schools in Zhejiang Province, China.

In deciding to publish the present report, our colleagues at UNICEF are to be acknowledged for the financial support that they provided for the research, as are the many other organizations and individuals who co-operated in one way or another in the undertaking of this study.

Jacques Hallak
Director, IIEP

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This project would not have been possible without the assistance and co-operation of many individuals and groups.

UNICEF has provided the financial support for the fieldwork and has generously assisted with an equipment grant. The British Council has been supporting the collaborative academic exchange programme between Beijing Normal University, China and the University of Sussex, United Kingdom for several years and this has greatly facilitated the development of this research.

Special thanks are due to the numerous people at national-provincial- county- and local-level who gave their support to our efforts and smoothed the path of the fieldwork. We owe a special debt of gratitude to the local officials and teachers who gave their time to our enquiry and answered the many questions we put to them.

The members of the research team worked very hard over two years collecting and analysing data and working long hours to write up material. To those who supported them and patiently allowed the team members to give priority to this work a special thanks must be said.

It is not possible to reflect the richness of all the work undertaken in this summary report. We hope it captures the essence of the insights that we have developed. It has proved a fascinating journey of discovery and it does shed new light and offer a unique perspective on the problems of implementing basic education policy in different parts of China.

Finally we must also thank the International Institute of Educational Planning (IIEP) for agreeing to publish this book.

Keith M. Lewin

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Chapter I

The rationale and the programme of research

1. Introduction

China has the largest education system in the world, a population that is 80 per cent rural, and vast variations in agricultural and climatic conditions. It has experienced a sequence of natural disasters and political upheavals since the founding of the People's Republic in 1949. Despite having more school-age children than any other country participation in formal education has expanded rapidly and primary school enrolment rates have improved to the point where the great majority participate. In many areas nine years of compulsory schooling are now available. China has reaffirmed its commitment to provide access to those currently out of school at the World Conference on *Education for All*, Jomtien, 1990. China's record of educational development is outstanding for a country that remains at a relatively low level of income *per capita*. Its experience in the development of its educational system invites closer study of how participation has been increasing, what mechanisms have been employed to improve retention, promotion, and achievement, and which strategies have been used to meet the need for additional resources to support expansion.

Currently national statistics on basic education are an unsatisfactory guide to policy and decision making in China. Though the overall picture of impressive achievement appears largely justified we are aware that aggregated statistics at the national-level may be unreliable. This is because of the technical difficulties of data aggregation across widely varying circumstances, the uncertainties inherent in the collection of the

data, and the fact that some statistical sources are clearly unreliable. Additionally national statistics only provide one perspective on the extent and quality of the implementation of basic education policy. Judgements on the effectiveness of policy implementation require insights that can only be obtained from case study work at the local-level. It is here that the decisions are made which affect enrolment, drop-out, repetition, resource allocation, teaching quality, and achievement and it is here that an understanding of policy in action is accessible.

This report presents the results of three detailed case studies undertaken in different parts of China to explore the implementation of basic education policy. We have chosen places for case study work that reflect conditions in a more and a less developed region, and in a national minority area. No manageable selection of case study sites could claim overall representativeness of a country as vast and subject to local variations as China. However, we have no reason to believe that the insights that arise from our research do not apply to the other areas in China that have similar characteristics. We are confident that many of the problems and issues identified are also of significance to other countries pursuing universal basic education policies subsequent to the Jomtien conference.

This research has a number of purposes.

First, it seeks to establish for specific cases baseline data on the implementation of the nine year compulsory schooling policy first introduced in the mid-1980s. The primary goal is to establish actual enrolment patterns and validate the magnitude of 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, it collects information related to school quality, including that which illustrates the pattern of deployment of human and physical resources, and the levels of educational achievement. Data are therefore collated on, for example, the financial resources available to support the development of primary and lower secondary schools, the availability of text and library books, equipment and furniture, school buildings, the deployment of teachers, class size in different grades, the qualifications of teaching staff, achievement test performance.

Third, the research explores 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 mobilization, and other incentive systems.

In each case the intention is to develop a picture of the implementation of policy grounded in data validated at the local-level. The research attempts to penetrate in depth the reasons which underlie varying levels of success in implementation and then identifies policy initiatives that are promising and which might enhance the achievement of basic education goals. It therefore goes beyond some other recent studies which are predominantly descriptive in nature.

Before outlining how the research has been conducted in more detail it will be helpful to provide the reader unfamiliar with the structure and recent development of Chinese education with a very brief overview. More detailed reviews of contemporary developments in Chinese education are available in Lewin, Little, Xu and Zheng, 1994; Ahmed et al, 1991; Cleverley, 1985; Epstein, 1991; Hayhoe, 1992; Lofstedt, 1990; SIHRD, 1991.

2. Context

The Chinese school system has three basic cycles – primary, lower secondary, and senior secondary. Selection occurs at the end of each cycle predominantly on the basis of examination performance. Pre-school classes are organized in many areas and often charge parents for their services. Curricula, textbooks, teacher training and qualifications, and examinations have been under centralized control since the founding of the People's Republic. Though greater local autonomy has been encouraged since the mid-1980s the administration of the system is still essentially centralized. Resources for primary and lower secondary education are increasingly the responsibility of local administrations and costs fall on village, district and county budgets. A substantial proportion of the costs in many areas are paid from funds raised from the community at the local-level. Though the Chinese education system is essentially unified and has common features throughout the country practice varies from area to area depending on local factors and differing interpretations

of national policy. Conditions in the economically developed areas on the plains, where the population is almost all Han Chinese, are very different to those in national minority areas, most of which are economically backward and physically remote.

Estimates suggest that by 1949 between 20 and 25 per cent of primary school age children were enrolled in school and 80 to 85 per cent of the population was illiterate. The illiteracy rate among those over twelve years old declined from 38 per cent to 27 per cent between 1964 and 1987. Illiteracy rates vary markedly with figures below 11 per cent in the developed urban areas of Beijing, Shanghai, Tianjin and Liaoning and over 20 per cent (and in some cases as much as 40 per cent) in the rural and minority areas of Guizhou, Yunnan, Tibet, Gansu and Qinghai. Illiteracy rates among women are higher than those among men. For those born between 1973 and 1975 and aged 12-14 in 1987 the illiteracy rate among girls was 11 per cent and among boys 4 per cent (SIHRD 1991).

The structure of the primary and secondary education system follows a 6:3:3 pattern. Children normally enter primary school at the age of six years after completing three years in a kindergarten. If they remain in school and do not repeat a grade they will enter the lower secondary school at the age of twelve and senior secondary at the age of fifteen. This 6:3:3 pattern is an ideal form which many rural areas are still in the process of adopting. 5:4:2 systems and other less frequent variations are still found. Entrance to primary school may occur at the age of seven or even older. Access to lower secondary is neither universal nor compulsory in the less developed areas.

Table 1.1 shows the numbers enrolled in kindergartens, primary and lower secondary schools between 1950 and 1991 and the net primary enrolment rate officially claimed (i.e. the number of school age children enrolled divided by the number in the population).

In 1991 around 22 million students were enrolled at kindergarten level, 122 million in the primary cycle, 40 million in lower secondary and 16 million in the senior secondary. There were about 790,000 primary schools and 75,000 lower secondary schools. Approximately 75 per cent of those who graduate from primary enter lower secondary schools and of those who reach the end of lower secondary approximately 44 per cent progress to the senior secondary. Primary enrolments have grown over four times since 1950 and the net enrolment rate at this level has doubled.

Enrolments peaked in 1975 since when they have declined as the effects of the one child policy have become apparent. Net enrolment rates are claimed to have reached near universal levels.

Table 1.1 Evolution of enrolments – primary and lower secondary school system in China (Millions)

Year	Kindergarten	Primary	Net primary enrolment rate (%)	Junior secondary
1950	.14	28.90	50.0	1.07
1955	.56	53.10	53.8	3.32
1960		8.59	76.4	8.59
1965	1.71	116.20	84.7	8.03
1970		105.20		22.90
1975	6.20	150.90	95.0	33.00
1980	11.51	146.30	93.0	45.40
1985	14.80	133.70	95.9	39.60
1990	19.72	122.40	97.9	38.70
1991	22.09	121.60		39.60

Sources: Educational Statistics Yearbook of China, 1991/1992, People's Education Press, 1992, Achievement of Education in China: Statistics 1949-83, People's Education Press, 1984.

These official statistics exaggerate the true picture and there are technical problems with the way they are calculated. Nevertheless urban net enrolment rates are almost certainly between 90 and 95 per cent and the average in all but the poorest and most remote rural areas is almost certainly above 75. Official gross enrolment rates (the number enrolled divided by the number in the school age population) are currently a little over 130, indicating that overage enrolment and repetition are still significant problems. At the lower secondary level enrolments peaked in 1980, fell back as the cohort declined and have begun to grow again as transition rates into lower secondary have increased. The goal is that all primary completers will eventually be promoted.

China appears to devote a relatively small proportion of central government funding to education. Through most of the 1980s less than

3 per cent of GNP and 6 per cent of the national budget were allocated to education. These figures tended to be less than the mean values for all low income countries though part of the reason for this is that large amounts are generated from local authorities and these are not consistently included in national accounts.

China's most recent commitment to basic education can be traced to three policy documents issued in the 1980s – the Provisional Regulations on the Basic requirements for Universalising Primary Education (1983), the Decision to Reform China's Educational Structure (1985), and the Law of Compulsory Education (1986). Together these established the framework for phased implementation to achieve universal access to basic education for all school-age children. The basic framework has been widely discussed (e.g. SIHRD, 1991; Ahmed et al, 1992; Lewin, Little, Xu and Zheng, 1994). The main features as they affect primary and lower secondary education are:

- a commitment to a compulsory nine year cycle of education, with implementation targets reflecting different economic and social conditions;
- a devolution of power for the administration of compulsory education to local authorities and an increased emphasis on the funding of compulsory education from locally generated revenue;
- the expansion of numbers and improvement in quality of teachers to the point where all are trained.

General criteria have been identified for successful achievement of nine year compulsory education which include net enrolment rates over 93 per cent, retention rates of over 97 per cent within each year, promotion of more than 95 per cent of primary completers to lower secondary (90 per cent in all but the poorest rural areas), net enrolment rates of 95 per cent in lower secondary, and the elimination of illiteracy. Different times are allowed to meet these criteria to recognize different starting points. The first timescale is for cities and economically developed areas in coastal provinces and some parts of the interior where one quarter of the country's population resides; for these lower secondary schooling should already be available for all. The second group are the economically developing rural townships and villages where about half the population resides. Here primary school education of a minimum

standard should be universal by 1995 and lower secondary well developed by this time. Finally the third group are the economically under-developed areas where the remaining one quarter of the population resides. In these areas progress should be as rapid as possible but universalization will not occur until into the next century.

3. The programme of research

In this report we have investigated the implementation of basic education policy in three counties. These are *Tongxian* in the Beijing hinterland, one of the 300 richest counties in China, *Ansai* in Yan'an, Shaanxi Province, an economically disadvantaged district amongst the 300 poorest counties with a majority Han population; and *Zhaojue* the *Yi Autonomous Prefecture* in Sichuan which has a non-Han population and ranks with the poorest 100 counties (see *Map 1*). The first case study provides insights from an area typical of conditions in semi-rural areas around large cities. The second is typical of a relatively disadvantaged area remote from large urban influences which is economically underprivileged. The third has been chosen to explore the special problems confronted in an autonomous region where enrolments are currently a long way below basic education goals. The case study sites correspond to the three different types of place identified in the timescale for the implementation of the *Basic Education Law*.

Different techniques have been used to collect data and cross-check and corroborate between sources. Structured interview schedules have been developed alongside semi-structured interviewing techniques. Existing data collected at the local-level has been used with careful consideration of its likely reliability. Questionnaires have also been deployed in some parts of the enquiry. Schools constitute the central unit of analysis for data collection. Records, interviews and observations at school level provide the basis for the interpretation of data from other levels. Focused questioning and enquiry has been used to explore patterns of implementation and juxtapose data obtained from different levels on issues of concern.

The research programme as a whole had three phases. In the first phase the research design was finalized, instruments were developed and data collection techniques were refined. Instruments were piloted and improved at the first case study site. Analysis of the data was undertaken

Map 1:
General map: Case study sites in China



0 1000 km

and draft case study reports were written at the school, district and county level producing separate case study accounts at school, district and county level. These were then integrated into a single analysis. Phase one enabled modifications to research procedures to be made to increase the efficiency of the fieldwork process and to deepen the penetration of the key issues that were emerging. Phase two of the research identified two further areas in other parts of China for intensive study. Advanced visits were undertaken and detailed plans made. 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 35 sub-studies that had been completed at different levels into this report. The opportunity was taken to look across all the case study material to distil the most important findings.

The initial choice of case study sites (Tongxian, Ansai and Zhaojue) was made after consideration of several alternatives. The sampling frame identified the need for a developed peri-urban case, a poor county case in a Han area and a national minority case. Tongxian was chosen for its proximity to Beijing as the first site. It is fairly typical of rapidly developing areas on the coastal plains, has economic conditions influenced by access to the metropolitan centre, and is a wealthy semi rural area with a large conurbation at its centre. It had the additional advantage of easy access for the fieldwork team so that the preliminary research design could be tried out and developed at manageable cost and convenience. Tongxian has effectively achieved the implementation of nine year compulsory education and data from this case study therefore serve as a comparative reference point for the later studies in areas where implementation is much less advanced.

The second case study site, Ansai, is located in a dry area of low population density in Shaanxi where the majority population is Han. Though having great historical associations with the founding of the People's Republic of China it is an area which is still economically backward and where basic education provision lags behind that in coastal areas by many years. It is fairly typically of inland underdeveloped counties.

Zhaojue in the Yi Autonomous region was selected for the third case study. Initially an area of Inner Mongolia was selected but preliminary research indicated that this was a relatively developed national minority area with higher rates of schooling than the average and an infrastructure

that was well established. We therefore chose a more typical case from the South West of Sichuan, the Yi area, which appears to be in the middle range of educational development in autonomous regions.

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 15-20 primary schools and 2 to 4 lower secondary schools. A selection of schools was made for intensive fieldwork. This sampled from the four main types – lower 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 one to two weeks for each period of field work. The fieldworkers were based in the local community during the research and usually worked in pairs. In addition to the focused work in the schools they therefore had opportunities to explore community characteristics and perspectives through conversations and informal interviews in the community. The fieldwork teams divided their work and met everyday to review progress and identify significant issues (see *Table 1.2*).

Because of the large numbers of incomplete primary schools in Ansai an additional incomplete school was added to the case study sample. It seemed especially important to study these schools since they are representative of those where enrolment rates are lowest. Many are situated in very remote areas well away from transport links and are only accessible on foot. They are rarely visited, even by local officials, have few facilities and are neglected by most evaluation studies. It was therefore important to gather accurate insights into conditions in these schools though they could only be reached after arduous journeys often on foot.

Table 1.2 Basic school sampling frame

County (Xian) 1		
District (Xiang) 1	District (Xiang) 2	
School 1	School 1	Incomplete
School 2	School 2	Complete
School 3	School 3	Central primary
School 4	School 4	Lower secondary

Local government in Zhaojue has an additional layer to the pattern found in most of China because the population is very low. Below the county-level there are major districts (qu) and then xiang level districts. We chose to sample at the major district-level since the xiang here have very small populations and very few schools. Since there is very little lower secondary enrolment in Zhaojue we also concentrated our research on the primary schools and chose four schools in each of two major districts. The schools chosen were the main district central primary school, a xiang central primary school, and two incomplete primary schools.

Fieldwork areas were carefully prepared for the intensive study period. About two months in advance a member of the team visited each area to negotiate access and make preliminary arrangements. This enabled the team to confirm the suitability of the case study site by examining preliminary data provided at the county-level, explain the purposes of the research to the local leadership and school principals whose cooperation was required, and to prepare information for the case study team so that time could be used efficiently during the condensed fieldwork period. It also allowed some analysis to be conducted of data which was only available at the local-level before the fieldwork commenced.

Data collection took a wide range of forms. Interviews were conducted with varying levels of structure and with both individuals and groups. Interviews were arranged at three levels as indicated below.

County-level: Deputy Magistrate for Culture and Education.
Director and Deputy of County Bureau of Education
Inspectors.
Professionals in Teaching and Research Units

<i>District-level</i>	Xiang Government Leadership. Assistant Director of Education. Principal of Xiang Central Primary School
<i>School-level:</i>	Principal and Deputy Principals. Head of Academic Affairs Teachers of: Grade 1 Grade 6 Home room teachers Minban and substitute teachers

Less structured interviews were arranged with a wide variety of informants. These included local guides, other teachers, principals of schools not selected for condensed case studies, and parents and pupils who were available at convenient times in and outside schools. This enabled the team to develop an additional perspective on matters of interest and deepen their understanding of the community around the schools.

Some classroom observations were made. The main purposes of these were not to make judgements about teaching and learning since this would have required more time than was available. Some general judgements could however be made on the basis of overall levels of activity and the apparent level and quality of pupils work. More especially observation time was used to make spot checks on key parameters, e.g. the actual numbers of over and under-age children in classes, the number who had repeated years, the rate of absenteeism amongst pupils and teachers, the number of boys and girls. The latter was of special interest since enrolment disparities between boys and girls are known to be one of the most powerful predictors of low enrolment rates (Colclough with Lewin, 1993). The observations enabled cross checks to be made on data provided by principals and other officials and this proved critical since much aggregated statistical data proved to be unreliable. Opportunities were also taken to note the physical condition of teaching space, the level of equipment and furniture available, library resources etc.

A questionnaire was used in each case study school to accumulate information about all the teachers in the schools. This provided a profile of school staff characteristics and gave some insight into teachers

attitudes which could be followed up in interviews. Documents were collected from all three levels and analyses undertaken of their contents. These included policy and planning documents, data on examination achievement, financial information, and enrolment statistics. Various checklists were developed for use at different levels. Interview schedules were designed so that similar agendas could be covered with different interviewees. In some cases requests for data to be collected were sent in advance of the fieldwork so that time was not wasted during visits searching through records etc.

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. The whole research team were present for this. The initial meeting also allowed the purpose of the research to be elaborated and relationships to be established between researchers and 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. The opportunity was also taken to present preliminary insights to the county officials.

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. Thus much informal interviewing took place before, during and after meals and this proved invaluable in getting below the surface of the issues that we identified.

The pattern of a typical condensed case study day for a fieldwork team of two researchers included the following kinds of activity at school-level.

- (i) Interview with the principal.
- (ii) Observations in a number of classes.
- (iii) Interviews individually or in groups with selected teachers
- (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 pupil's 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.

The research teams were organized in pairs and the school case studies were divided up between the teams. District and county-level work was delegated to particular team members, especially where it required special expertise e.g. in understanding accounting methods. These arrangements were efficient in allowing reasonable coverage of tasks in limited time. Team members acted to check each other's data and generate possible explanations of patterns observed which could be explored more thoroughly the next day. For most of the time the teams were able to work independently without the presence of higher officials which might have inhibited the responses of interviewees.

The research teams were made of up academic staff of Beijing Normal University who were familiar with national policy. As researchers they could present themselves as intellectually engaged scholars rather than officials and this also helped to generate free discussion and open debate once initial contacts had been established and respondents reassured of the nature of the research and its main purposes.

4. The organization of the report

The three case studies are presented in *Chapters II, III and IV*. Each case study provides an overview of the evidence and its interpretation for each area using insights from all three levels – county, district and school. The *chapters* follow a common pattern of organization. The first section provides an overview of social and economic development, the second outlines the development of the education system. The third describes administrative arrangements and local interpretation of national policy. The fourth analyses the resources available to support basic education. The fifth uses field data to describe and comment on enrolment, repetition,

drop-out and promotion rates. The sixth presents selected data on achievement. The final section offers comments and conclusions arising from each case study. *Chapter V* collects together insights from across the research as a whole and identifies the most important conclusions that can be drawn in relation to policy, administration, resource allocation, morale and motivation, school quality, female enrolments, pre-school support, management information systems, and external support.

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Chapter II

Tongxian county near Beijing

1. Social and economic background

Tongxian county was the first site chosen for case-study work. It represents an area close to the capital, East of Beijing, and shares many features in common with peri-urban counties on the coastal plains and around large inland cities in more developed areas. Tongxian is developing as the latest satellite town of Beijing and covers an area of 912 km². Topologically the land is higher in the North and lower in the South of the county but does not include much mountainous terrain. The county borders Sanhe county and Xianghe county in Hebei Province. Transport and communication systems are well developed with all townships having access to the highway system. Three inter-province highways and the Beijing-Shenyang railway, all traverse Tongxian. The Grand Canal links Tongxian with cities in the south.

Economic development has been rapid and Tongxian is one of the three hundred richest counties in China. Between 1978 and 1990 the gross output of agriculture and industry has grown over ten fold averaging over 25 per cent a year. Tongxian has a diversified economic base which includes a wide range of businesses specialising in agriculture, forestry, stock raising, fishery, industry, trade, transport and communications, construction, and services. Recent developments have seen the establishment of enterprises in machinery production, electronics, clothing, building materials, metallurgy, printing and handicrafts. Sustained growth has improved per capita incomes from 108 yuan to more than 1,600 yuan in the rural areas at a rate well above that of price inflation. County government revenue increased over 90 per cent in the five years from

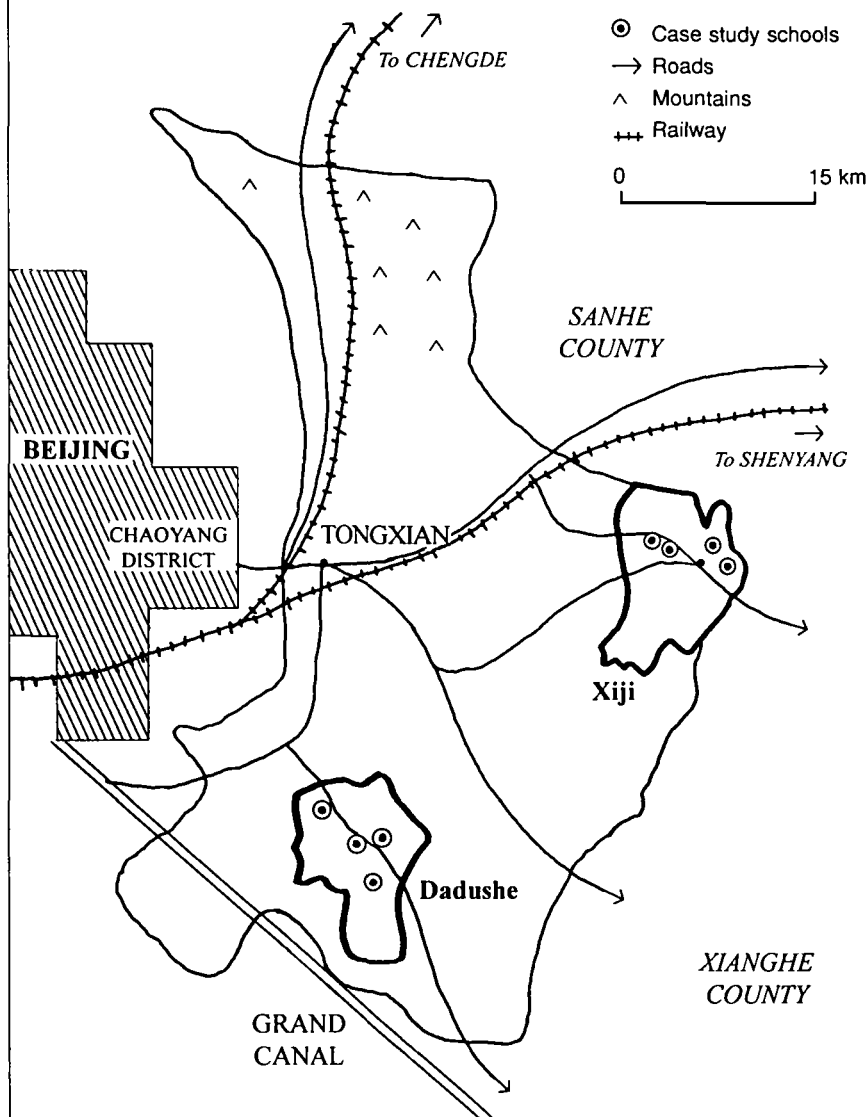
1985 to 1989, a growth rate of 18 per cent, reaching over 170 million yuan by the end of the decade.

Within the county there are 24 xiangs, townships and districts, and 473 villages. The total population exceeds 580 thousand, of whom 450 thousand are resident in rural areas. Females exceed males in the population by about 2 per cent. Official figures for birth rates indicate that these were declining from about 20 to around 15 per thousand by 1989 reflecting the effective implementation of the one child policy. Death rates fell from 7.5 to 6.5 per thousand over the same period.

Two districts were selected for intensive field work – Xiji and Dadushe (see *Map 2*). Xiji town lies 20 kilometres to the southeast of the Tongxian metropolis and neighbours Dachang and Xianghe county in Hebei Province. The district includes 36 villages located in fertile agricultural land. Xiji is one of the most developed areas in Tongxian county with a per capita income over 2,000 yuan in 1990. The gross output value of agriculture and industry exceeded 8,500 yuan per capita in 1989 compared to a little less than 5,000 yuan per capita for Tongxian as a whole. Most of this output (92 per cent) came from the Comprehensive Processing Factory, the Handicrafts Factory and other manufacturing enterprises. Farm labour now only represents 10 per cent of the whole labour force. Xiji had a total reported population of 25,713 in 1990 with 6 per cent more females than males. The birth rate increased in the late 1980s and averaged about 17 per 1,000 by 1990.

In contrast Dadushe xiang, which lies about 20 kilometres to the south of Tongxian county town, is comparatively poor. Dadushe had a population of 16,123 in 1989 with 2 per cent more females than males. The birth rate fluctuated around 15 per thousand in the late 1980s. Dadushe has 16 villages located on land which suffers extremes of saline and alkaline conditions which makes it infertile. The per capita income reached 1,300 yuan in 1989 though it was at the same level as Xiji in 1978. Dadushe has been one of the slowest growing districts in Tongxian. The gross output value of agriculture and industry per capita is only beginning to approach the average for Tongxian county as a whole. Local officials noted that the industrial output of the whole xiang was comparable with that of one large enterprise in an economically developed xiang or township like Xiji. In 1989 the output value of industry represented 51 per cent of the gross output of agriculture and industry. This proportion is lower than that of most other districts around

Map 2:
Site 1 - Tongxian County



Tongxian city. The economic conditions of Dadushe are therefore much less favourable for the universalization of compulsory education than in Xiji.

2. The education system in Tongxian

The Tongxian education system reflects the relatively high level of development that the county as a whole enjoys. The numbers of different types of school in the county and in the two districts selected for study are given below. All the central primary schools are located where the xiang governments are. These schools have overall responsibilities for clusters of complete and incomplete schools in the surrounding area. Complete primary schools (i.e. Grade 1 - 6) are located in larger villages and incomplete schools (i.e. usually Grade 1 to Grade 3 or 4) in the smallest ones. A few very small villages share one primary school. The average village to primary school ratio in the whole county is 1.6:1. Twenty nine of the 45 secondary schools are in rural areas outside Tongxian city. Typically there is one lower secondary school in each xiang or township and one complete secondary school serving three xiangs. One special school exists for mentally handicapped children which has 10 classes and about one hundred pupils – a modest provision given the population in the county. Dadushe does not have a complete secondary school, though it has a more favourable village: primary school ratio than Xiji (see *Table 2.1*).

School size in Tongxian varies widely due to geography, population and transportation difficulties. Primary schools in the county town usually have 24 classes with more than a thousand pupils. In rural areas central primary schools typically have 12 classes and about five hundred pupils and complete primary schools 6 classes and about two hundred pupils. Incomplete primary schools are smallest and often have no more than three or four classes with a total of a hundred pupils or less. In some there are only 2 classes with twenty to thirty pupils. One primary school remains with one teacher and a dozen pupils taught as one multi-grade class. Lower secondary schools are more homogeneous in size. Most have 16 classes with 500 to 600 students in each school. In 1990 the total number of primary school pupils in Tongxian reached 65,118. The expansion in enrolments is shown in *Table 2.2*.

Table 2.1 Tongxian: numbers of schools of different types and ratio of villages to primary schools

	Tongxian	Xiji	Dadushe
Complete secondary	9	1	
Upper secondary	1		
Lower secondary	35	1	1
Secondary vocational	6		
County Town primary	11		
Central primary	22	1	1
Complete primary	138	5	5
Incomplete primary	130	8	7
Ratio village primary school	1.6	2.6	1.2

Table 2.2 Enrolment in primary schools in Tongxian

	1986/87	1987/88	1988/89	1989/90	1990/91
Grade 1	10 747	11 031	11 894	12 972	10 845
Grade 2	8 896	10 401	10 864	11 629	12 860
Grade 3	7 221	8 867	10 395	10 870	11 645
Grade 4	7 341	7 178	8 786	10 321	10 845
Grade 5	8 030	7 462	7 287	8 874	10 437
Grade 6	8 995	7473	6 971	6837	8 486
Total	51 230	52 412	56 197	61 503	65 118

Thus from 1986 to 1990 the total number of pupils increased by 13,900, with an annual average increase of about 10 per cent. After 1983 birth rates stabilized at lower levels and the number of school age children began to diminish as a result. The cohort enrolled shrank by about 5 per cent over the six year cycle suggesting drop out is fairly low. Average class sizes in primary schools have remained around 30 across the county. However class size varies greatly from school to school and from grade to grade. In primary schools located in the county town the range is from 40 to 50 or more. In former key schools like Hounancang primary school there is excess demand for places and its average class

size has exceeded 55. Central primary schools have lower class sizes in the range of 30 to 40 – they average 31 in Dadushe and 39 in Xiji central primary schools. The class size of complete primary schools are lower – 20 to 30 – and the smallest are to be found in incomplete schools. There are three incomplete schools in Xiji with a class size of 10. The largest class sizes are to be found in the lowest grades. Lower secondary schools in Tongxian enrol over 20,000 students. *Table 2.3* shows the enrolment trends for lower secondary school students. From 1986 to 1990, the number of lower secondary school students fell by more than 8300. Part of the reason for this lies in the falling numbers of primary completers who were promoted to secondary. *Table 2.3* shows that the number of students in Grade 9 for the last three years was about 1,000 less than the entry to Grade 7 three years previously. Thus the cohort enrolled at this level shrank by about 12 per cent as it passed through lower secondary. This contraction was caused by repetition, dropout and transfer out. This will be discussed further below.

Table 2.3 Enrolment of lower secondary students in Tongxian

	1986/87	1987/88	1988/89	1989/90	1990/91
Grade 7	9 933	8 994	7 524	6 967	6 836
Grade 8	10 053	9 579	8 793	7 305	6 853
Grade 9	8 612	9 471	8 837	7 918	6 584
Total	28 598	28 044	25 154	22 190	20 273

The patterns of enrolments in Xiji and Dadushe give more insight into the flows of students through the system. Reading diagonally across the tables indicates that promotion rates are high and that most of the cohort entering grade 1 survives to Grade 6 (repetition rates are considered below). In both districts the ratio of boys to girls is fairly constant throughout the grades. In 1991 there were 86 primary school classes in Xiji, with an average class size of 31.8; in Dadushe there were 76 classes with an average class size of 24.6 (see *Tables 2.4* and *2.5*).

Table 2.4 Enrolment in primary schools in Xiji

		1986/87	1987/88	1988/89	1989/90	1990/91
Grade 1	Total	522	446	515	607	473
Grade 2	Total	424	503	453	452	615
Grade 3	Total	300	424	497	462	498
Grade 4	Total	396	295	419	491	458
Grade 5	Total	404	392	293	410	485
Grade 6	Total	433	392	365	272	397
Total	Boys	1 274	1 227	1 284	1 408	1 487
	Girls	1 205	1 205	1 258	1 332	1 439
	Total	2 479	2 432	2 542	2 470	2 926
Girls (%)		48.6	49.5	49.5	48.6	49.2

Table 2.5 Enrolment in primary schools in Dadushe

		1986/87	1987/88	1988/89	1989/90	1990/91
Grade 1	Total	270	392	363	397	350
Grade 2	Total	253	278	313	335	385
Grade 3	Total	291	254	278	305	325
Grade 4	Total	200	263	252	280	294
Grade 5	Total	330	257	256	243	274
Grade 6	Total	326	198	236	237	238
Total	Boys	838	820	886	930	976
	Girls	832	762	812	867	890
	Total	1 670	1 582	1 698	1 797	1 866
Girls (%)		49.8	48.2	47.8	48.2	47.7

The pattern of lower secondary enrolments shows that numbers entering lower secondary are comparable with those enrolled in Grade 6 in both districts. Total secondary enrolments have been declining. In the county as a whole as the age cohort has shrunk. Boys outnumber girls in Dadushe by about 11 per cent, but not significantly in Xiji. Drop out in secondary is higher with Grade 9 enrolments about 14 per cent less

than grade 7 in Xiji, and 7 per cent less in Dadushe. The average class size was 41.7 in Xiji in 1990 and 38.9 in Dadushe. The State Education Commission recommends a ratio of 40 pupils per class in rural secondary schools (see *Tables 2.6 and 2.7*).

Table 2.6 Enrolment in lower secondary schools in Xiji

		1986/87	1987/88	1988/89	1989/90	1990/91
Grade 7	Total	357	306	304	267	230
Grade 8	Total	358	350	298	282	259
Grade 9	Total	359	387	349	262	262
Total	Boys	558	568	552	403	379
	Girls	516	475	399	408	372
	Total	1 074	1 043	951	811	751
Girls (%)		48.0	45.5	41.9	50.3	49.5

Table 2.7 Enrolment in lower secondary schools in Dadushe

		1986/87	1987/88	1988/89	1989/90	1990/91
Grade 7	Total	213	238	142	182	233
Grade 8	Total	129	163	190	131	220
Grade 9	Total	130	128	162	146	131
Total	Boys	239	260	241	219	320
	Girls	233	269	253	240	284
	Total	472	529	494	459	584
Girls (%)		49.4	50.8	51.2	52.3	48.6

Staffing in Tongxian schools at first appears generous. Primary schools formally employ 3,559 staff and an additional 671 substitute teachers. Of this total, 3,677 (87 per cent) are teaching staff and about 20 per cent of teachers are temporary. This represents about 1.7 teachers per class. The basic structure of teaching staff did not change significantly between 1986 and 1991. Over 90 per cent of teaching staff are

graduates of secondary normal schools (i.e. specialist teacher training upper secondary schools). This is well above the 70 per cent required by Beijing Municipal Government to recognize universalization of compulsory education. The professional quality of the teaching force in primary schools is therefore high. The age structure of the teachers is biased towards younger teachers – 46 per cent of the teachers are under 35, and only 4 per cent are over 56. The teachers are not evenly distributed. In Dadushe xiang, only 71 per cent of primary teachers were qualified and substitute teachers made up to 45 per cent of the total number of teachers in some schools. Most substitute teachers are graduates from upper secondary schools with no professional training. A little over 40 per cent of primary teachers are ranked as senior or first rank teachers.

At lower secondary level there are 1,441 teaching staff out of a total of 2,220 formally employed. They are complemented by an additional 341 substitute teachers (19 per cent of the total teaching staff). About 65 per cent of the teachers are graduates from two year teacher training colleges or above which compares favourably with the target of 60 per cent set for universalization by Beijing. Some schools fall below this level – thus in Qutou secondary school 45 per cent are qualified teachers and in Mizidian secondary 46 per cent. As in primary schools most substitute teachers are upper secondary graduates and have not received any formal teacher training. Secondary teachers were also young – 43 per cent of them were under 35 and only 2 per cent over 56. About 24 per cent of lower secondary teachers were ranked as senior or first rank teachers.

In primary schools in Xiji about 29 per cent of teachers were substitute teachers and in Dadushe this proportion reaches 43 per cent. At secondary level the figures were 21 per cent and 31 per cent. In Xiji about 85 per cent of staff in primary schools were teachers, in Dadushe about 82 per cent. At secondary level non-teaching staff account for 31 per cent and 26 per cent of all those employed.

Most of the teachers teaching at lower secondary grades in Xiji secondary school were young teachers of age 35 or less. Among 34 teachers questioned 10 had less than one year and 27 less than ten years of work experience. In Dadushe central primary school teachers had an average age of 26 years. The oldest of the three principals was 35 and the youngest 24. Only five teachers in the xiang were over 45.

Tongxian County near Beijing



The best secondary school in Tongxian.



A new primary school is built to a high standard in Xiji, Tongxian.

Implementing basic education in China



Young pioneers working on new desks in a central primary school in Xiji.



Xiji central primary school after class activities.

Pupil teacher ratios in Tongxian average 18:1 at primary and 12:1 at lower secondary. These ratios have fallen slightly in the most recent period. UNESCO data gives a pupil teacher ratio for China as a whole of 24.9:1 at primary level and 17.2:1 at lower secondary. Pupil teacher ratios at both levels in Tongxian are below this national average. The pupil-teacher ratio is 21.1 in Xiji primary schools and 14.4 at the secondary school – above the Tongxian average. In Dadushe in 1991 the teacher pupil ratio was 1:13.4 for primary schools and 1:13.9 for the lower secondary school. Thus despite being poorer the latter had more favourable staffing ratios.

3. Administration and policy on basic education

Following a reorganization in 1986 Tongxian adopted a new system of administration. Schools are run and supported at county, xiang and village levels, and administered at the county and xiang levels. At the county level a deputy county magistrate is charged with overall responsibility for educational affairs. Under him is Tongxian Culture and Education Office and the Tongxian Educational Bureau which functions as the executive branch of the administration. The responsibilities at the county level consist of:

- Formulating and issuing county regulations and development plans related to education in accordance with the policies of Beijing Municipal Government.
- Raising educational funds.
- Providing qualified teachers for primary and secondary schools and conducting teacher training.
- Providing teaching equipment and books.
- Ensuring that all school-age children are at school and that drop out is prevented with the help of the xiangs and villages.

At the xiang level a deputy director is in charge of education and chairs the xiang education commission which is composed of the deputy xiang director, the educational assistant, the director of the tax office in the xiang, and the principals of the secondary school and central primary schools. An educational leadership group is set up in each village directed by the head of the village committee. Its members include the

head of the women's federation and other village organizations. The xiang government convenes about three conferences on educational affairs each year and the Party Committee and xiang government make decisions as a result. In Tongxian an inspection office has been set up to inspect and supervise all the schools in the county.

Xiang level responsibilities complement those of the county and include:

- Formulating local educational development plans for implementation which reflect policy at higher levels.
- Collecting additional education taxes and raising school funds.
- Providing school buildings and ensuring their safety.
- Monitoring the conduct of school work according to the law and protecting teachers' legitimate rights and interests.
- Adopting measures to minimize drop out and ensure all children of school age attend school (with support from the xiang public security section).

The xiang central primary schools are the core of the leadership system and complete primary schools have responsibilities for incomplete ones. Every central primary school has two main tasks to complete: to run itself effectively and to administer and promote all other primary schools in the xiang. Central primary schools are intended to serve as teacher in-service training bases, centres for research on instruction, and provide role models of good teaching practice.

Within the central primary schools responsibilities are divided between the principal (in overall charge of educational affairs in all the primary schools in the xiang), one deputy principal (responsible for instructional research, and health and physical education in all schools), and a second deputy principal (with the same responsibilities in the central primary school). Other administrative staff include a director of general affairs in charge of supply, finance, statistics and files, a deputy director for instruction, an accountant, a cashier and the counsellor for the Young Pioneers. In Tongxian schools all primary teachers attend the central school every other week to participate in in-service training activities.

A number of measures have been taken in Tongxian to promote national basic education policy. The most important of these are described below.

First, a campaign has been mounted to establish a social climate in which teachers are respected and education valued. Public notices encouraging respect for teachers and valuing education have been displayed, exceptional teachers have been praised and rewarded, representatives have been sent to visit schools and salute teachers on festival occasions, and steps have been taken to protect teachers' rights.

Second, in December 1987 Tongxian county government issued 'Regulations on ensuring the schooling of school age children and preventing dropout'. Each xiang was required to issue its own regulations and identify specific action it would take to prevent drop out. Agreements were signed respectively between the county educational bureau and the county government, the xiang education commission and the xiang governments, each school and the xiang education commission, and teachers and their schools. These all specified targets which would be met within a particular time scale. Factories and enterprises were forbidden to employ children and penalties were announced for those breaking this rule. Parents who did not send their school age children to school without good reason were to be fined. Our research indicated that these measures had been strictly implemented in many xiangs. Thus in Gouxian xiang, more than 20 school age children employed in a factory in the xiang were forced to go back to school by the xiang government. The county has established procedures to monitor students according to a system of registration numbers and monthly reports.

Third, the county government has given special aid to poor xiangs including Dadushe. Every government teacher in these xiangs has been awarded an allowance of 8 yuan each month. The county government has also provided some additional money for the maintenance of school buildings.

Fourth, an inspection office has been established at county level and sends inspectors to schools to promote the implementation of compulsory education policy. These inspectors monitor progress, give advice, sum up good practice, identify problems, and make suggestions for improvement. In 1989 the inspection office inspected the internal administrative system reforms in Liyuan central primary school, Dongfang primary school, Tongxian No. 2 secondary school and Xiji secondary school.

Fifth, Various arrangements have been introduced to try to raise funds to improve school conditions. Besides collecting an additional education tax in accordance with national guidelines, the governments at county and

xiang levels raise educational funds through other channels. Three initiatives are notable.

- In 1987 the county government decided to collect a 'tax for educational equipment' levied on the area of construction of new buildings approved by the county construction committee. This is collected at a rate of about 20 yuan per square metre. This tax raised 1.96 million yuan in 1988.
- In April 1990 the county people's Delegate Conference adopted a resolution to establish a 'people's education fund'. This requires any one with salary income to pay 2 per cent of their salary into the fund. It raises between 4 and 5 million yuan each year.
- Work-study systems and school-run businesses have been promoted. The county party committee has set up a leadership group, led by a deputy secretary of the party committee and a deputy magistrate, to introduce policies favourable to school-run businesses. The county educational bureau has set up a school-business company and some xiang governments have set up school-run businesses. Annual income from school-run businesses grew from 770,000 yuan in 1987 to 6.3 million yuan in 1989. The income varied greatly between different xiangs. Though there were some school-run factories in Dadushe in 1990 they were poorly managed and all of them were closed. Income from this source is therefore minimal. In Xiji, on the other hand, the income is very substantial and comparable to the government budget provided for education.

4. Resources for education

Before 1986, all the funds for basic education came from the state allocation. In 1985 the total recurrent expenditure on education in Tongxian was 15.15 million yuan, a bit more than 160 yuan per pupil. From 1986 additional education taxes were collected and many new sources for raising school funds have been introduced. Spending was over 300 yuan per pupil in 1990 (see *Table 2.8*).

Table 2.8 Education Budget in Tongxian (Yuan millions)

	1985	1986	1987	1988	1989	1990
County Revenue	89.9	101.2	117.4	144.8	172.0	
Education budget	15.2	20.1	26.9	25.6	27.9	
Resources outside the Government budget						
Additional Education tax	-	2.12	4.11	6.10	7.28	
People's Education tax	-	-	-	-	2.48	
School-run Businesses	-	-	0.77	3.73	6.28	7.00
Other contributions		Total amount 1986 to 1989 = 18.00				
Total	-	2.12	4.88	9.83	18.56	
Grand Total	15.15	22.24	31.78	35.43	46.75	

From 1986 to 1989, the government budget revenue for education increased by only 39 per cent. If price inflation is taken into account the actual value of budget revenue probably marginally decreased. However the non-budget revenue in this period increased 7.6 times at an annual rate of increase of 71 per cent. This would have been even higher if funds raised from the community were included. Educational investment has grown in real terms as a result of increased revenue from sources other than the financial allocations of government. Without these additional funds improvement in the conditions of schooling would have been very difficult.

In Tongxian the non-budget revenue of education is mainly from the additional education tax and school-run businesses. This is also true at the xiang (township) level. A problem that follows from this is that since the additional education tax is collected on the basis of the profitability of enterprises it is very difficult to generate funds for schools where enterprises are less developed. In these places the school funds depend mainly on government allocations and funds raised from the community. However government allocations have grown very slowly and contributions from the community may be small. In Dadushe Township the

annual income from the additional education tax at present is only about 20 thousand yuan since all the school-run factories are closed; in Xiji the annual additional education tax is nearly one million yuan and the revenue from school-run businesses is more than 200 thousand yuan each year. The problem of disparity in non-budget revenue is therefore a serious one.

The budget revenue is allocated to secondary and primary schools according to a plan. It is divided between personnel expenditure on school staff salaries, and operating expenditure. The operating budget is allocated based on the number of pupils, 1.15 yuan per month per pupil at primary schools and 2.77 yuan at secondary schools. Operating expenditure covers administrative costs and expenses for water, electricity, equipment and maintenance (see *Table 2.9*).

Table 2.9 Government public expenditure on primary and secondary education in Tongxian

	1985	1986	1987	1988	1989
Total education budget (million yuan)	13.9	18.5	22.0	24.6	27.1
Education as a percent of county Government expenditure	24.2	23.0	27.1	25.9	27.0
Education as a percent of the gross output	13.8	16.2	15.6	12.1	9.0
Per pupil expenditure (yuan)	174	217	257	285	323
Per pupil expenditure as a percent of income per capita	28.9	30.8	24.1	22.4	21.1

Public expenditure on primary and secondary education nearly doubled between 1985 and 1989 with an annual average increase of 14.2 per cent (approximately the same as the rate of price inflation). As noted above there was therefore little growth in the actual value of public expenditure on primary and secondary education. Educational expenditure

as a percentage of agricultural and industrial output and the per capita expenditure as a percentage of per capita income was declining. The former decreased by 4.3 per cent and the latter 7.8 per cent. The growth rate of public budgeted educational expenditure was therefore lower than the general economic growth rate. These observations are only concerned with government budget revenue. Total educational expenditure has increased as a result of the sharp increase in non-budget educational funds which are largely allocated to school buildings, furniture purchase and for teachers' benefits.

The proportion of public expenditure allocated to secondary schools is large and that to primary schools relatively small on a per capita basis. About 183 Yuan per capita was spent at primary level and 582 yuan at lower secondary in 1990. The same proportion of the government budget is allocated to primary and secondary schools though primary schools enrol nearly three times as many students (see *Table 2.10*).

In primary schools personnel expenditure ranges between 70 per cent and 80 per cent of total public expenditure and this is typical of other parts of China. In secondary the proportion allocated to operating costs is much larger. It is often more than 50 per cent of the total (as it has been for two of the last four years in Tongxian). Much of the expenditure is directed towards construction programmes which may favour particular schools. Thus in Tongxian two well known secondary schools in the county town, Luhe and Tongxian No. 3, have been refurbished at considerable cost and have absorbed a large proportion of the total resources available.

Teachers' incomes in Tongxian have been increasing as social and economic development has taken place. The 'structured salary system' introduced in 1989 has further enhanced earnings and has introduced an element of performance into the reward structure. In 1990 average monthly income was about 200 yuan for secondary school teachers and 180 yuan for primary school teachers. These levels are exceeded in some schools with better school conditions. At Luhe teachers' average monthly income was as much as 260 yuan and the highest salary was more than 350 yuan.

Table 2.10 Public expenditure on education in Tongxian by level (million Yuan and percentage)

	1985		1986		1987		1988		1989	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Primary	5.9	42.5	6.8	36.8	7.2	32.6	8.7	35.5	11.9	43.8
Secondary	6.0	42.8	9.3	50.6	11.5	52.3	12.8	52.3	11.8	43.4
Total	13.9		18.5		22.0		24.6		27.1	

At the beginning of the 1980s, teachers' salary level ranked the third from the bottom among the 17 types of professions and occupations listed in Tongxian, but by 1990 it ranked second from the top (this observation only applies to formal income – those in other occupations may have additional earnings from other sources). Some teachers receive allowances for housing, health care and transport. There are still significant numbers of substitute teachers in rural primary and secondary schools where average monthly incomes are likely to be at least 20 yuan less than those of government teachers.

As part of the efforts to improve conditions for teachers Xiji's administration has not only paid the component of the teachers' structured salary increments that it should pay, but has also spent money building 24 residential units for teachers and buying a bus to transport teachers who live in the county town. Dadushe, which has much greater financial difficulties, has always paid the part of teachers' structured salary that it is responsible for and has never delayed payment. Increases in teachers' salary have helped to stabilize the teaching force.

Before 1986 almost 10 per cent of school buildings were classified as dangerous in Tongxian, and most of these were located in rural areas. Non-budget funds have been used to reconstruct school buildings and this problem has been overcome. Some villages have been able to build new school buildings with special classroom facilities from their own funds. Xitanyang village in Dadushe xiang has raised 800,000 yuan and has constructed a new primary school building with 12 classrooms. A proportion of school desks and chairs are directly allocated by the county government, and the remainder are purchased by the xiang (township) governments from their own funds. Desks and chairs are well provided in most schools and many have been renewed.

In rural areas all primary schools except the central school and some of the complete primary schools are short of special classrooms. Secondary schools lack laboratories and special purpose rooms – there is only one laboratory in Dadushe lower secondary school for both physics and biology, and there are no music and art classrooms. Primary and secondary schools in six xiangs (Chengguan, Dadushe, Qutou, Mizidian, Chaichangtun and Caochang) are short of a total of 28 special classrooms.

The situation with respect to school books and equipment is even less satisfactory. Though Xiji is one of the most educationally advanced districts there are only 15 books per student in the central primary school

and 13 in Xiji secondary school. Both these figures are much less than those recommended – 20 per pupil in primary schools and 30 in secondary schools. In the other primary schools the numbers are much less with only a few copies per pupil. Moreover many of the books that are available are too old to be used or inappropriate in content and reading level. Rural schools are short of modern teaching materials and equipment and most primary schools have little equipment for natural science experiments.

The regulations set by the Beijing municipal government specify the requirements for achieving universalization of nine year compulsory education as 'one no, two haves and three equipments' – no dangerous school buildings, each class has a classroom and each pupil has a set of desk and chair, all schools are equipped with qualified teachers, adequate school buildings and playgrounds, and adequate library and teaching facilities. According to the county government officials, 19 xiang in the county had met the standard by September 1990, and the other 4 will meet the standard in 1991. On the basis of our research it seems that Tongxian has made significant progress in accomplishing the 'one no and two haves', but it has not met the standard of 'three equipments' in xiangs that have been recognized as achieving compulsory nine year education, as well as in those that have not. The criteria for the three haves are not being carefully evaluated and the pressure to achieve administrative targets means that they are being treated flexibly.

5. Enrolment, repetition, drop out and promotion rates

Enrolment rates were one of the most difficult things to collect accurate data for in this research. All the officials we interviewed in Beijing Educational Bureau, the county and xiang governments and school principals, used an ambiguous concept of enrolment rate. They did not distinguish between the net enrolment rate and gross enrolment rate. The common view was that if all school age children are at school then the enrolment rate is 100 per cent. Officials seemed largely unconcerned with whether school age children go to school at the right time or whether over aged children remain in school. All the authorities at the county, xiang and village levels claimed that they had achieved an enrolment rate of 100 per cent or very close.

We decided to explore actual enrolment rates and collect our own data from records kept by the Tongxiang Family Planning Office, Tongxian Educational Bureau, and the Education Commission, local police stations and the statistical sections of Xiji and Dadushe xiangs. None of these departments had complete data. Furthermore, the statistical data from different departments were contradictory. For example, the data from the Xiji Family Planning Office show that the number of new born children in 1982 was 264 in Xiji. This implied that the number of 7 year old children in 1989 should be about 264. It is very difficult for people to move from one place to another in the rural areas since there is a residential registration system. The data from Xiji Education Commission, however, indicated that the number of 7 year old children in 1989 was 504, and 607 children actually went to school in that year. The difference between the two sets of statistical data was more than 100 per cent! This experience suggests that data on the number of children and those enrolled must be interpreted with caution and that accurate net and gross enrolment rates cannot be calculated reliably in this area.

Our research uncovered some of the reasons why enrolment rates, though high, are not as great as is claimed officially. First, there are some mentally and physically handicapped children who have not attended school or have left after a short time. Most of these children are apparently regarded as uneducable and are excluded from compulsory education. But some are not seriously handicapped and can be educated. No systematic measures are taken to identify them and they are excluded from the number of school age children when the authorities calculate the enrolment rate. In Yinjiahe village of Xiji there are seven mentally handicapped children between the ages of 7 and 12 years who have not gone to school or have dropped out after a short time. None of them were counted as school age children when enrolment rates were officially calculated. Second, some children are born outside the family plan of the one child policy. During the research in Dadushe and Xiji we found that these children are usually only registered as residents several years after their birth. It is very difficult for these children to go to school at the right age. According to officials in Tongxian Education Bureau a few children were still 'persons without residence cards' even after they went to school. Schools do not count them when calculating the number of school age children. It is therefore likely that some of the children born beyond the family plan are not enrolled at the appropriate age.

Third, there are a few primary schools in Tongxian which enrol students every other year because there are not enough school age children to constitute a class. In these schools part of the school age cohort are intentionally enrolled as over-age students. There are several such primary schools in Dadushe.

The State Education Commission the formula for calculating net enrolment rate is:

$$\text{NER} = \frac{\text{Number of school-age children at school}}{\text{Number of school-age children}} \times 100\%$$

From the observations above there are some children at school who are over-age and some who are not enrolled at all. Thus the number of school-age children in school is smaller than the total number of school age children. The net enrolment rate must be lower than the 99.95 per cent that is officially claimed. Gross enrolment rates are above 100 per cent in Dadushe. There are 1316 primary school-age children in the xiang, and 1866 students enrolled in primary schools. The State Education Commission defines the gross enrolment rate as

$$\text{GER} = \frac{\text{Number of students at school}}{\text{Number of school-age children}} \times 100\%$$

The gross enrolment rate in 1990/91 school year in Dadushe was:

$$\text{GER} = \frac{1866}{1316} \times 100\% = 141.8\%$$

High gross enrolment rates are quite common in the rural areas of Tongxian county. Though we cannot work out the county figure for the net enrolment rate it is less than that claimed. Field visits and enquiries at xiang and village level led us to conclude that the great majority of school age children are enrolled in schools and that net enrolment rates probably do exceed 90 per cent throughout most of the primary grades.

Repetition rates in primary are officially quoted as being less than

2 per cent, having fallen from over 2.5 per cent in the mid 1980s. The rate is very low in the county town where some former key-point schools, such as Hounancang primary school have very few repeating pupils. The official rate is higher in rural areas where it may exceed 3 per cent. The repetition rate has remained around 2.5 per cent in Xiji, but has averaged above 3.4 per cent in Dadushe xiang where it has reached over 5 per cent in some villages. The repetition rate is highest in grade 1 and Grade 5. The rate approaches 4 per cent in Grade 1 in Xiji primary schools, significantly higher than the average repeating rate of whole Xiji primary school system. It is between 4.5 per cent and 5.0 per cent in Grade 5 in Xiji schools and it reached nearly 15 per cent in grade 5 of Xindongyi primary school in Dadushe xiang. Teachers attribute high repetition of Grade 1 to the lack of pre-school education for most children. Moreover, many schools assign new teachers without much teaching experience to Grade 1 and this may be another contributing factor. The major reason for the higher repetition rate at Grade 5 is that the pupils are screened at grade 5 in order to keep the pass rate high at Grade 6. The purpose is to ensure that nearly all graduate successfully. The graduation rate is regarded as an indicator of school performance and is closely monitored.

Repetition in lower secondary grades also averages about 2 per cent. Xiji is below this average but Dadushe has a rate of nearly 4 per cent reflecting the different quality of the schools. There is a correlation between the higher repetition rate of Dadushe secondary school and the higher repetition rate of the primary schools in Dadushe when these are compared to Xiji.

The enrolment statistics for each grade suggest that the drop out rate at primary is very low. In this area most families do not need their children to work in the fields or take care of their younger brothers or sisters. Officially there were only 117 drop-outs in 1987-88 (0.22 per cent of the total student body), and 27 drop-outs in 1988-89 (0.05 per cent) in Tongxian. Teachers give three main reasons for the drop out that does occur. *First*, some pupils lose self-confidence because of poor achievement. *Second*, pupils who repeat several times drop out when they become two or three years older than their classmates. *Third*, a few pupils are simply not able to keep up with the work at all. Eight out of twenty seven drop-outs in 1988-89 were classified as of low intelligence (i.e. bordering on mentally handicapped).

Drop out is more significant at secondary school level. There were 1,400 drop-outs from lower secondary schools (5.0 per cent) in 1987-88; and 738 drop-outs (2.6 per cent) in 1988-9. The rates were higher in rural areas than in the county town. The drop out rate was 6.2 per cent in 1987-88 and 11.5 per cent in 1988-89 at Dadushe secondary school, but it was only 1.3 per cent in 1987-88 and 1.6 per cent in 1988-98 at Xiji secondary school. Survey data suggests that the main reasons for drop out are related to poor achievement (and thus multiple repetition). Nearly half of the drop outs surveyed attributed their drop out to these causes. Other significant reasons given included earning money, poverty, and having no chance to progress through secondary education. When we interviewed teachers, several pointed out that students lost confidence when they entered secondary schools as the examinations are very competitive. It has become fashionable to 'run a business to make easy money' and some students lose interest in learning and drop out to enter small scale enterprises. Professionals may make less money than the labourers and individual businessmen since they have fewer opportunities to generate additional income. This may also contribute to a loss in motivation amongst some students.

Though poverty was noted as a reason given for drop out this is not consistent with the economic realities in this area. At Dadushe secondary school each student's total expenses for a semester, including books, learning materials, accident insurance and transport, were about 40 yuan per year, and the per capita income of peasants was about 1000 yuan. Direct school expenses should not be an unbearable burden for a general peasant family. The reason some parents encourage their children to drop out from school appears to be to make additional money. Absolute poverty is unlikely to be the reason. None of the teachers in Xindongyi primary school in Xiji or in Dadushe central primary felt that schools fees were high enough to discourage enrolment.

Provided a grade six student scores a minimum of 60 per cent in graduation examinations in both Chinese and mathematics he or she is qualified to enter the lower secondary school. The pass rate, graduation rate and higher school entrance rate are basically the same thing at primary school level, i.e. if the pass rate is 95 per cent, the graduation rate and higher school entrance rate should be both 95 per cent using the definitions applied in Tongxian. According to county officials the three rates have remained over 99 per cent in recent years.

Though our investigations confirmed that the rates were high, the rates we calculated were less than 99 per cent. For example, there were five children who failed the graduation examinations at Xiji primary school in 1988-98, which made the pass rate 98.7 per cent. In 1989-90 the number of failures reached 13, including 10 who did not take the examinations, which made the pass rate 96.4 per cent. A more significant issue in this area, where most do reach the end of primary school, is the proportion of overage students. The on-schedule graduation rate provides an indication of the extent of the problem. The State Education Commission's formula for the on-schedule graduation rate is:

$$\text{OSR} = \frac{\text{Number of graduates of standard age}}{\text{Size of standard graduation age group}} \times 100\%$$

Our estimates suggest that because some children did not start their schooling at the standard age, and some pupils did not graduate at the standard age because of repetition, sick leave and drop out, the on-schedule graduation rate was about 90 per cent for primary schools in Tongxian county.

Pass rates, graduation rates and higher school entrance rates are quite different statistics at secondary school level. The pass rate is the percentage of students who pass the lower secondary school graduation examinations as a proportion of the pupils in the graduating classes (Grade 9). The graduation rate includes students who retake the graduation examination and pass. The higher school entrance rate is the number of pupils who gain admission to higher schools as a percentage of the graduating class (see *Table 2.11*).

All the three rates have been rising. The graduation rate is higher than the on-schedule graduation rate for lower secondary which we estimate as around 85 per cent in Tongxian county. As the numbers entering lower secondary have decreased, pass rates and progression rates have increased. Upper secondary school education is not compulsory, and the enrolment in specialized secondary schools is very limited, so only a minority of lower secondary school graduates continue their schooling. Thus the higher school entrance rate is much lower than the graduation rate. This rate is emphasized by the local authorities and schools as a measure of quality and much effort is invested in raising its value.

Predictably this rate is higher in town schools than in rural areas. The gap between the higher school entrance rate at Xiji secondary school and at Dadushe secondary school was 15.2 per cent in 1990.

Table 2.11 Lower secondary school pass rate, Graduation rate and higher school entrance rate in Tongxian

Year	Pass rate	Graduation rate	Higher school entrance rate
1986/87	68.2	94.8	32.59
1987/88	75.6	95.6	36.75
1988/89	88.6	96.5	41.91
1989/90	82.3	98.2	43.42

6. Educational achievement

The various enrolment related rates discussed above provide some indication of educational development in Tongxian. Achievement results add to the picture. Data was collected for Tongxian as a whole and from Xiji and Dadushe. The analysis of primary school examination results suggests a number of patterns.

First, performance has been improving. The excellence rate (a student who gets over 89.5 per cent in each of the two main subject examinations is recognized as excellent) improved from 29 per cent in 1986/7 to 53 per cent in 1989/90 in the primary school graduation examinations for the whole county.

Second, performance at higher grades appears less satisfactory than at lower grades. In Xiji central primary school the scores and excellence rates decline from Grade 1 to Grade 4 – the excellence rate in Grade 1 was 94 per cent and in Grade 42 per cent. Thus higher grades do less well as examinations become more demanding.

Average examination scores vary greatly between schools. The average score in the grade 1 mathematics examination at Dahuidian primary school in Xiji was 97, and its excellence rate was 100 per cent in 1990. In Caoliu primary school in the same xiang the average score was 73, and the excellence rate was 8.3 per cent. Teacher's effectiveness,

school quality and pupil's backgrounds interact to cause large differences in performance.

At secondary level pass rates improved from 68 per cent to 82 per cent in grade 9 over the four years 1986-90 and excellence rates reached about 30 per cent. Achievement in English is the worst of all the subjects as shown in *Table 2.12*. Average scores in the other subjects were all over 70 in 1989, and the pass rate was also greater than 70 per cent. This is a recurring pattern. The teachers we interviewed attributed this to lack of interest amongst the peasants (who could not see much value in English except for those going on to higher education), the shortage of proper teaching equipment, and the poor quality of English teachers. In contrast achievement in political studies is high. Apparently this is because teachers can usually guess the examination items and prepare the answers, which students learn by heart (see *Table 2.13*).

Table 2.12 Achievement in the unified graduation examination for Grade 9 English, (1989)

School	Average score (%)	Pass rate (%)	Excellence rate (%)
Xiji secondary school	48.7	36	12.1
Dadushe secondary school	38.1	19.4	3.7
Rural areas	48.4	33.2	11.3
County town	65.3	65.7	26.4

Table 2.13 Achievement in the unified graduation examination for Grade 9 political studies (1989)

School	Average score (%)	Pass rate (%)	Excellence rate (%)
Xiji secondary school	93.9	99.3	83.2
Dadushe secondary school	89	98.9	70.9
Rural areas	92.5	98.1	81.5
County town	94.1	99.6	87.2

Achievement in zoology and botany is also relatively high. Average scores are above those in other subjects (excluding political studies) and teachers attribute this to the relevance of the subject content to the pupils' daily life. Achievement in mathematics and Chinese is thought to depend more on teachers' competence than in other subjects. Though the general quality of Xiji secondary school teachers is judged to be below that of county town secondary schools, the school has some very strong mathematics teachers. Achievement in mathematics is not only higher than the average for rural schools but also better than the average score of the county town secondary schools unlike in other subjects.

7. Comments and conclusions

The picture presented above shows that Tongxian county has made substantial progress in the universalization of compulsory Education. There are a number of dimensions to the implementation of policy which are worth highlighting and which may be compared with the situation in other areas.

First, the county, xiang, and village authorities have reciprocal responsibilities and co-operate with each other on the universalization of compulsory education. This seems to work reasonably well and ensures that some of the benefits from the rapid development of the economy in rural areas are used to support educational development. The framework of regulations established has played an important role in the implementation of policy. So also has the strengthening of administrative capacity. The County Education Bureau and Inspectors' Office regularly inspect, evaluate and help to improve schools' working practices. Dadushe central primary school has issued various circulars. These regulations give guidance to administrators. They outline job responsibilities and standards for the evaluation of progress. The administration has become more effective as a result. In our interviews, most of the teachers told us that the principals and instructional directors observe classes more often now than in the past.

Second, the county government has successfully motivated the community to support education. Substantial amounts of non-budget revenue have been raised and have been used to build or rebuild schools and to provide school furniture. Basic standards for the universalization of compulsory education of the 'one no and two haves' (no dangerous

buildings, each class has a classroom and each child has a chair and a desk) have been reached. The more demanding standard of 'three equipments' (a school should be equipped with qualified teachers, equipped with play ground, and equipped with a library and proper facilities) has been reached in the county town schools but not in many rural schools.

Third, the qualifications of teachers' have been improved and an in-service training system has been developed. In 1990 90 per cent of the primary school teachers were qualified, above the target stipulated by the city authority. The role of the central primary schools in in-service training, model teaching and instructional preparation has been very heavily stressed in the case study areas. Dadushe has organized all teachers into 9 groups according to their main subjects. All teachers come to the central primary school every other Saturday to exchange experiences, study teaching materials, acquire new teaching methods and listen to lectures on educational theory and practice. The percentage of qualified lower secondary school teachers is lower but still above the relevant standard. Xiji secondary school has an in-service training plan for teachers who can take two years leave to undertake training with full pay and their fees paid. Other teachers are given two days each week to be trained through the TV University and through correspondence courses. Their schools lighten their teaching load.

Fourth, enrolment rates are high and the repetition and drop out rates have been falling. The examination results compare favourably with other counties in Beijing. Tongxian has occupied one of the first three places in the lower secondary school graduation examinations in each of the last three years. Several of the schools with the poorest quality have improved their examination performance through targeted interventions. Thus in Dasongfa primary school in Dadushe the principal observes 40 classes and the instructional director 60 classes a semester, and they systematically monitor teaching programmes. All these practices have helped to improve educational quality.

Fifth, a structured salary system replaced the fixed salary system in 1988. The philosophy of the structured salary system is to provide a direct connection between salary and performance and to break the 'iron rice bowl'. Part of the salary is a basic payment and provides enough to meet daily living needs. Further payments depend on work load and quality according to detailed rules. As a result teachers' average salaries

have increased and this has improved motivation. In the past many teachers did not volunteer to be class teachers as more work and responsibilities were involved. Now that there is an allowance more teachers volunteer. Teachers are also willing to accept heavier teaching loads since they receive increased income. There have even been complaints that some experienced teachers are teaching so much that it is difficult to find classes for new teachers to teach. The majority of the teachers we interviewed were broadly satisfied with their status reflecting the success of attempts to raise their incomes and standing in the community. Motivation and morale seemed to be satisfactory.

Sixth, special arrangements have been made for some pupils with poor levels of achievement. Though overall levels of achievement are good rural schools in particular have substantial numbers of low achievers. In the eight schools we investigated the teachers considered between 10 per cent and 30 per cent of their pupils as pupils having learning problems. Xiji secondary school has adopted the following measures to meet the special needs of low achieving pupils.

- Each member of the school leadership is required to take a special interest in three of these pupils. The teachers are required to keep files on the pupils and monitor their progress. Individual interviews and discussions are arranged periodically. Success in improving pupils performance forms part of the staff appraisal process.
- Extra lessons are provided. Every day one hour before or after class, a remedial class is held for these pupils. At grade 9 an additional hour is used for remedial work. Teaching methods have been improved and the teaching programme has been adjusted to reflect the ability of these pupils.
- Teachers visit pupils' homes once or twice each semester in order to agree strategies co-operatively with their parents to improve performance.

Some indication of the effectiveness of these strategies can be gleaned from the experience of Xiji secondary school. When a teacher took over a grade 7 class in 1987 the pass rate in the final examinations was 75 per cent. The methods identified above were used and the pass rate reached

84 per cent in 1988, and, when the class graduated in 1989, the pass rate reached 95 per cent.

Our research indicated that the learning environment was good in most of the schools visited, the campuses were clean, the pupils were polite and disciplined and respected their teachers, work schedules were followed, and the atmosphere for learning was constructive. Several problems remain. The standard of the 'three equipments' has not been met in all areas. Almost all teachers at primary schools in Tongxian have appropriate qualifications, except for a few fine arts teachers. The qualification problem is more serious at lower secondary school. Up to May 1990, seven of the lower secondary schools in Tongxian county had not reached the qualification rate set by Beijing city government (60 per cent of the teachers with at least two years of college education). In both Hou and Qu secondary schools the qualification rate was about 46 per cent. Some subjects were not offered in schools where the teachers were not available. Music and biology at Longwangzhuang secondary school, biology, music and fine arts in Houhuanzhuang, and Grade 9 music and fine arts in Dadushe, Mizidian and four other xiang were not offered.

There is a considerable shortage of books and equipment in all except the central primary schools. The central primary school in Xiji has a laboratory for science with essential equipment. None of the other schools have a science laboratory or audio-visual equipment. The books per child ratio is only 15:1 compared to the official standard of 20 volumes per child and many are outdated or irrelevant. Xindongyi primary school, one of the best, has only 2,400 volumes (6.5 volumes per child) and no laboratory equipment or audio-visual teaching aids. In Dadushe a similar situation exists. Though according to central records library books are provided to government standards at Dasongfa primary school there are only two volumes per child available. In Nanxiaoyin incomplete primary school there is no record of the number of books and there are very few. In Dadushe secondary school laboratory equipment is inadequate and students have to go to Niubortun secondary school in a different xiang 4 kilometres away to do physics and chemistry experiments.

Our impression from both xiangs is that considerable efforts are being made to improve school buildings and that, with the exception of the incomplete schools, these are of good quality. Much less impressive is the availability of learning material and teaching resources which appears

unevenly distributed and inadequate in quantity in most schools. We conclude that the expenditure is probably concentrated too much in favour of buildings, which are a long term investment, and that recurrent finance for learning material is in short supply.

Though it is difficult to obtain a clear picture of income and expenditure on education we have been able to identify several important issues. A remarkable feature of revenue generation is the extent to which budgeted income from the state is being supplemented by revenue from the xiang level. The contrast between Xiji and Dadushe is very striking (see *Table 2.14*).

Xiji had a revenue base for the central budget of 819,000 yuan which was approximately 231 yuan per student (averaging across primary and lower secondary students). In Dadushe the amount was 516,000 yuan or about 229 yuan per student. Thus approximately equal per capita allocations were being made. The situation in relation to the non-budget revenue was very different. In Xiji this was 2,458,000 yuan or 718 yuan per student, while in Dadushe it was about 46,000 yuan or 20 yuan per student.

Table 2.14 Revenue for Education in 1989 in Xiji and Dadushe (000 Yuan)

	Xiji	Dadushe
<i>Budget income</i>		
State revenue	719	437
Xiang revenue	100	79
Total budget	819	516
<i>Non budget income</i>		
Education tax	726	22
People's education fund	32	18
Registration fee	40	5
School-run Business	160	0
Fund raising from the community	1 500	1
Total non-budget	2 458	46
Total	3 277	562

In Xiji non-budget revenue was 75 per cent of the total; in Dadushe it was a mere 8 per cent. Since the additional education tax is collected on the basis of the success of enterprises, it is very difficult to generate revenue in poor xiangs. Government allocations have grown very slowly and raising funds from the community is becoming more difficult. In Dadushe xiang, the annual income from the additional education tax at present is only about 20 thousand yuan and all the school-run factories are closed. In Xiji township the annual additional education tax is nearly one million and the earnings of school-run businesses are more than 200 thousand each year. The problem of increasing disparities in non-budget revenue between xiangs is therefore a serious problem which is likely to exacerbate differences in the quality of educational provision.

Further issues arise from patterns of expenditure. First, the distribution of the public budget between primary and secondary education seems unbalanced. We have noted above that the distribution in Tongxian as a whole favours secondary. In Dadushe the ratio of primary to secondary school public expenditure in total is about 64:32; in Xiji it is 49:51 (remembering that there are far more primary school children). On the basis of the sums allocated from the public budget (excluding non-budget money) it seems that the per student revenue available in Xiji primary is about 128 yuan whilst it is about 173 yuan in Dadushe. This arises because of different ratios of unit costs between the xiangs at primary and lower secondary. The unit costs at lower secondary are about 383 yuan in Dadushe (2.2 times primary) whereas in Xiji they are about 452 yuan (3.5 times primary). These differences between level and between xiangs seem difficult to justify, the more so since they relate only to the public budget. If the non-budget contributions were included it seems likely that the skews would be even sharper.

Shortages of funds persist and patterns of allocation are inconsistent with some educational policy objectives. The operating budget for schools is 1.15 yuan per pupil each month at primary and 2.77 yuan at secondary. This does not provide sufficient margin to improve conditions since this is barely enough to meet office expenses, water and electricity costs, equipment and library books purchases, and major maintenance costs. Moreover, the operating budget is allocated unevenly making matters worse. The county government allocates a large share to key-point secondary schools in the county town and little to rural schools. Several million yuan were granted to rebuild Luhe and No.3 secondary school,

but only twenty five thousand yuan were granted to poorer xiang to rebuild or maintain school buildings. The operating budget is used largely to maintain school buildings and other expenditure is minimal. Our analysis suggests that building maintenance (which may include construction) accounts for about 75 per cent of the operating budget, office supplies 15 per cent, furniture 5 per cent, equipment 3 per cent and books much less than 1 per cent. Observations in schools confirmed that spending on learning materials and teaching aids was low. Our informants indicated that non-budget funds are mainly used for school buildings, the purchase of furniture and benefits for teachers (salary enhancement, accommodation etc.). Little of these is allocated directly to improving learning resources.

The utilization of teachers is central to the implementation of basic education policy. In Xiji and Dadushe personnel expenditures account for between 75 per cent and 88 per cent of the total for primary schools with the higher figure in Dadushe. At secondary level personnel expenditures account for between 56 per cent and 62 per cent of public expenditure. Teachers' salaries vary over a fairly modest range and are now paid under the structured salary reform system which guarantees a basic wage and associates additional payments with the amount of work done and the quality of performance. We found a general belief that this system worked better than the one it replaced and gave teachers more incentives to perform well. Though there were some differences in salary between Xiji and Dadushe these were not very large. The lowest incomes are amongst substitute and part time teachers. The averages in Xiji, the richer county, are lower than in Dadushe though not by very much. In 1990 the figures were as shown in *Table 2.15*.

Other features of teacher deployment are problematic. First teachers with higher ranks tend to be concentrated in the teaching of higher grade students notably in Grade 6 and Grade 9 where there are selection examinations. This is often part of a deliberate policy to try to maximize pass rates. However it seems to have had the consequence of diminishing teaching quality in other grades and this practice is given as a reason for low achievement and higher repetition rates in the lower grades. This is of particular concern in the reception classes in Grade 1 where it is of the greatest importance to ensure that the basis for further learning is established.

Table 2.15 Primary and secondary teachers salaries in Xiji and Dadushe (Yuan/Month)

	Xiji	Dadushe
<i>Primary</i>		
Average	183	190
Minimum	120	148
Maximum	260	267
<i>Secondary</i>		
Average	195	206
Minimum	93	135
Maximum	290	264

Second, in both Xiji and Dadushe the provision of teachers to the central primary school is more generous than in other schools. In Dadushe the crude pupil teacher ratio is 12.5 in the central school, 14.5 in the complete primary schools and 20 in the incomplete primary schools. The average for the xiang is 13.4. However of the 27 teachers allocated to the central school only 16 actually taught in the last semester giving an effective pupil teacher ratio of 21. In this school it seems that there had been an influx of recently trained teachers who had been employed to replace some of the older staff. Though in principle those who became supernumerary were involved in the support of other schools in the xiang, we saw no evidence that the level of activity in this respect had increased greatly over the previous year when there were only 16 full time teaching staff in the school. The question remains as to why the new teachers were not distributed more evenly across the xiang schools, or used to reduce the number of substitute teachers.

We note that the pupil teacher ratios vary between the xiangs in a way which is difficult to rationalize (see Table 2.16).

Table 2.16 Pupil teacher ratios Xiji and Dadushe

	Xiji		Dadushe	
	Total	Governments teachers	Total	Governments teachers
Primary	21.1	27.1	13.4	26.0
Lower secondary	17.2	18.3	13.9	20.1

Thus Dadushe is far more generous in staffing than Xiji. If the substitute teachers are excluded, the differences collapse to modest levels but the fact remains that these substitute teachers are on the staff and are teaching. The figures we have suggest that elimination of substitute teachers would be possible at present without exceeding national pupil teacher ratios if more efficient use was made of existing teaching staff.

We note also that despite these favourable pupil teacher ratios class sizes are relatively large in Xiji, averaging 34 in Grade 6, but less in Dadushe where they average 23.8. Our three case study primary schools in Dadushe had class sizes in Grade 6 averaging 35, suggesting that there must be very small classes in some of the remaining schools. In Xiji the central school had a class size of over 40, and the figures for the other two schools were 25 or less.

The reason why large class sizes coexist with favourable teacher pupil ratios lies in the timetabling of teachers. Typically teachers were teaching about 9 hours per week (12 periods x 45 minutes), or less than half the number of teaching hours timetabled. Nonetheless, in some schools we came across complaints of work overload. These need to be carefully explored. The requirement reported to us that teaching preparation is allocated 24 hours per week and home room work is allocated three hours per week seems excessive. Teachers normally teach parallel classes in the same grade and therefore repeat lessons that they have prepared. Two hours of preparation for lessons that last 45 minutes and are repeated several times appears over generous. It is true that in Xiji secondary school a number of teachers spend significant amounts of time working the land to supplement their incomes.

Finally we note that the number of non-teaching staff sometimes appears excessive. In Xiji and Dadushe 15 per cent of staff are classified as non-teaching. This includes office staff as well as administrators. In Dadushe central school as many as 30 per cent of the staff are classified as administrators whereas only 12 per cent are similarly classified in Xiji central school. Dadushe has only 13 primary schools yet 13 administrative staff are located in the central primary school.

Our data suggest that the implementation of basic education policy in Tongxian would benefit from action in a number of areas.

First we note that in raising and utilising funds for education it is necessary to have clear ideas of objectives and of the cost benefit of different courses of action. The debate in Tongxian over resources does not give prominence to these. Some of the patterns of investment we identified seem to be contrary to the overall goal of universalization. Thus prestigious buildings constructed to high standards seemed to be regarded as a more attractive investment than more evenly spread improvements in the quality of the total stock of buildings. Benefits of building programmes may also be compromised if adequate investment does not take place in educational 'software' and we were disturbed that the provision of adequate supplies of books, equipment and furniture clearly lagged well behind the programme of construction. No clear strategy to meet these needs appeared to have been devised. The relatively low pupil-teacher ratio, especially at lower secondary, is a source of inefficiency since this is not an area of very low population density. If ratios could be raised to national average levels, about 1,000 secondary school teachers and 600 elementary school teachers would be released in Tongxian as a whole. Salary savings of about a quarter of the current total could then be directed to raising the quality of learning conditions.

Second, our fieldwork illustrated how limited was the information base for decision making. Though an overall picture can be generated it is a matter of concern that non-standard definitions are used in calculating basic statistics which could lead to misleading impressions. Greater co-ordination between the office of family planning, public security institutions, statistics office, and educational administration agencies appears to be needed to identify reliable estimates of the size of the school age populations and the number of children who should be enrolled in

school. Technical training needs to be given to those responsible for statistical information.

Third, some central primary schools have established pre-school classes and more are likely to do so in future. In these schools repetition rates in grade 1 appear lower and there is a case to extend this kind of provision more widely. Since the primary schools are well staffed (with generally low pupil teacher ratios) it may be possible to relocate some teachers to pre-school work. This could have at least three advantages – better learning achievement in Grade 1, additional income to schools from modest pre-school fees, and more efficient deployment of teachers.

Fourth, existing services for slow learning children consist of one school with a capacity of 100 children. There are no accurate statistics on the number of these children though the total is certainly greater than this – there are several dozen in Dadushe and in Xiji. Some of these children are not seriously handicapped and could be enrolled in regular classes, but they are usually excluded from schools since they would suppress promotion rates. Provision for these children and those with more serious handicaps needs more systematic diagnosis and special facilities.

Fifth, in-service support in Tongxian has only been provided for major subject teachers (e.g. Chinese and Mathematics). It has been concentrated on teachers working at central and completed primary schools. Needs tend to be greatest in incomplete schools and schools in remote areas. It seems desirable that efforts should be made to increase access to training and expand its scope to include the full range of subject areas. For this to occur transport problems have to be solved to bring teachers from more inaccessible schools, and more in-service materials need developing to support courses and follow-up activities. County and central elementary schools need to have long range plans to provide in-service training for all teachers in their areas.

Sixth, the different conditions in Xiji and Dadushe highlight a problem of relevance. The two areas are very different in their economic development level. In Xiji 90 per cent of lower secondary school graduates can find a job in business or industry. But in Dadushe most of the lower secondary school graduates have to go back to their home village and become farmers. School curricula follow national guidelines and are essentially the same in both locations as they are in Tongxian town. Though a course on work skills is offered both in Xiji secondary

school and Dadushe secondary school it only constitutes 2.5 per cent of the total class time. This does not seem sufficient to ensure the relevance of much of the learning that takes place to the occupational futures of most of the pupils. There appears to be a need for greater diversity in the curriculum to reflect local needs and occupations.

Chapter III

Ansai county in Yan'an

1. Social and economic background

The second county chosen for case study work has a very different character to Tongxian. *Ansai County* lies in a ravine area on the Loess Plateau in Shaanxi Province and is 40 kilometres north of Yan'an City. Income per capita averaged around 300 yuan per capita in 1990 making it one of the poorest 300 counties in China. It is a transition area from Maowu Desert to the loess ravine, with very rugged terrain of mountains and gullies. Ansai is amongst the counties with the worst soil erosion along the Yellow River. It lies in the temperate zone and the climate is very dry. As local people put it, "the spring is very dry, windy and dusty, the summer is hot and often stormy, the autumn is fine but the temperature falls very fast and the winter is cold and dry". Transport is at an early stage of development. There is no railway and only 685 kilometres of road for automobiles of which 90 kilometres consist of inter-province highway, 154 kilometres are county roads and the rest are village or xiang roads. Most of the roads are not tarred and are not suitable for automobiles. People in remote mountainous areas still depend on donkeys for transport.

Despite the harsh conditions the land is potentially fertile if water is available and is suitable for the development of agriculture, forestry and animal husbandry. There are thought to be oil deposits which remain as yet unexploited. The economy is dependent on agriculture, especially millet, corn, buckwheat, beans and vegetable oil crops. The production of tobacco, sheep, apricots and other fruit has been heavily promoted since the mid-1980s. Presently 94 per cent of total agricultural and industrial

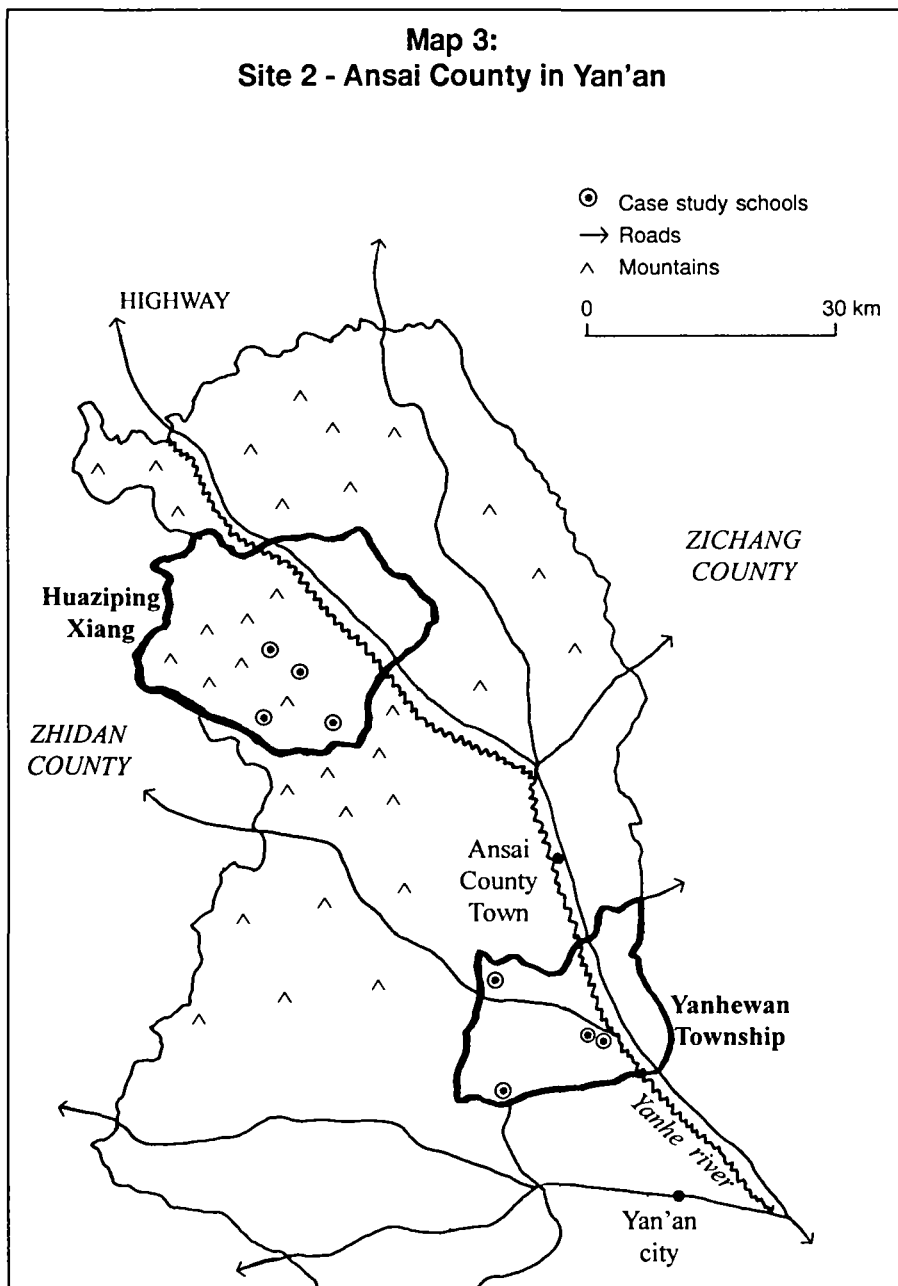
output value comes from agriculture and 6 per cent from industry. Of the agricultural output 56 per cent comes from crops, 15 per cent from forestry, 18 per cent from animal husbandry and 11 per cent from production by households. There are only eight large scale enterprises run by the county. Only the cement factory, which produces 5000 tons a year, makes a small profit. The others are loss making.

Industrial and agricultural output value increased at about 7 per cent a year from 1980 to 1990. During the same period, the per capita income increased nearly five fold at an annual growth rate of 19 per cent to reach 320 yuan by 1990. The county government's revenue has increased about ten times in nominal terms with an annual growth rate of 27 per cent. Currently 70 per cent of the county government's expenditure depends on the direct financial support of the central government. The county has an area of 2950 square km and the population density is low at only 50 people per square kilometre. On average there are 3 mu (0.2 hectare) of farming land per capita and 92 per cent of the population are engaged in farming. The county has 14 xiangs and towns, 204 administrative villages (with administrative powers over other villages), 1,001 villages, and 32,137 families. The total population was 147,914 in 1990. Since 1980 the birth rate in Ansai has fluctuated but has always exceeded the national average. The population increased by 27 per cent between 1980 and 1990 at an average annual growth rate of 2.4 per cent. Officially birth rates in typical years were about 18 per thousand (the national average over this period was 14) and declared death rates 5 per thousand. In this area males consistently outnumber females by about 9 per cent in census data.

Compared to Tongxian the cultural environment in Ansai is quite poor. Among the adult farming population the functional illiteracy rate is about 40 per cent. There are only 200 trained agricultural technicians in the whole county. Most of them work at county level government agencies, only a few work for the xiang and township governments, and there are none in the villages. Traditional superstitions, arranged marriages, and unplanned births are common. Farmers practice extensive farming and use traditional methods of cultivation. They are not enthusiastic about the benefits of education and react slowly to new technologies.

In summary, the gullies, limited transport system, scattered habitation, high population growth rates, underdeveloped economy and conservative

Map 3:
Site 2 - Ansai County in Yan'an



cultural traditions all constrain the development of education. The universalization of 6 year compulsory education remains a serious problem. The county government has given priority to educational development and adopted measures to promote compulsory basic education. The county passed a provincial and prefectural inspection on the universalization of primary education in 1988. As we shall see this does not mean that current conditions satisfy those laid down in the various regulations for compulsory education.

Two areas were selected for closer study – Huaziping xiang and Yanhewan township (see *Map 3*). Huaziping xiang lies about 40 kilometres to the north of Ansai County town, and its western part is contiguous to Zhidan County. Within the xiang there are many high mountains and deep valleys. There is only one unmetalled highway to the outside. Only 20 villages are situated along the highway and two-thirds do not have access to any bus service. Transport is by foot or donkey. Very few villages have electricity even those along the highway. The xiang covers a large area (325 square kilometres) and is 40 kilometres from north to south and 20 kilometres from east to the west. It has only 40 people per square kilometre.

In Huaziping there are 20 administrative villages, which oversee 106 villages and 2800 families. The average cultivated land per head is a little more than 3 mu, and most of this is situated on mountain slopes. Irrigation is uncommon and the area is very dry. Huaziping is totally dependent on agriculture and has no industry. Its agriculture is dominated by millet, rape, soybean, and buckwheat, which account for 70 per cent of the gross output value. From 1980 to 1990, the gross agricultural output value increased by 38 per cent with an average annual growth of 3.3 per cent, and the per capita income increased by 180 per cent with an average annual growth of 11 per cent to reach 308 yuan per year.

In 1990 the population of Huaziping was 13,213. Only 300 were engaged in non-agricultural activities. The official birth rate in 1990 was 12 per thousand though in some previous years it exceeded 20 per thousand. From 1980 to 1990, the total population increased by 23.5 per cent with an average annual growth of 2.13 per cent. Males outnumber females by about 12 per cent. The birth rate has fluctuated widely according to the official statistics (see *Table 3.1*).

Table 3.1 **Population Huaziping**

Year	Total	Male	Female	New born	Births (per thousand)
1980	10 700	5 466	5 234	264	24.6
1982	11 216	5 807	5 409	376	33.5
1983	11 333	5 850	5 483	267	23.5
1984	11 474	5 939	5 535	198	17.2
1985	11 546	6 035	5 511	188	16.2
1986	11 799	6 163	5 636	213	18.1
1987	11 936	6 236	5 700	177	14.8
1988	12 145	6 407	5 738	186	15.3
1989	12 442	6 571	5 871	293	23.6
1990	13 213	6 910	6 303	159	12.0

The census figures do not reveal the complete picture. In this region every family is permitted to have two children. If the two children are girls they may have a third. Our fieldwork indicated that virtually every couple we interviewed had two or three children and some had four or five. The number of new enrolments in primary schools consistently exceeds the number of births registered six years previously for every year in the 1980s. This suggests that the birth rate reported by the local government has been underestimated and that many 'unregistered' children are likely to exist.

In 1988, the universalization of primary education in Huaziping was checked and accepted by the prefectural and provincial government. That meant it had met the requirements of the 'one no and two haves' (no dangerous school buildings, every class has a classroom, and every student has a desk and bench); the 'four rates' (enrolment rate, retention rate, universalization rate and graduation rate); and that all the salaries of public supported teachers were paid.

Yanhewan township, the second case study area, lies about 10 kilometres to the south of Ansai County town. It is bounded by Yan'an city, situated in the hilly and gully areas of the Yellow Earth Plateau and has a continental climate. It includes 28 administrative villages responsible for another 102 villages with 3300 families. The township covers 205 square kilometres, with 79 people per square

kilometre. It has 40 thousand Mu of cultivated land which works out to about 2.5 mu per head. Unlike Huaziping several of the administrative villages are situated on the plain next to highways and transport is comparatively easy. Vehicles can get to most of the villages located in mountain areas. Most (24) of the administrative villages have electricity and 6 have tap water. The economy of the township depends on planting food grains (e.g. millet, buckwheat, soybean). There is no township industry. Since mid-1980s, tobacco, apple, apricot planting and sheep raising have been developed and now account for about one third of gross output value of agriculture. The economy of this township has developed faster than that of Huaziping. The gross output value of agriculture increased 56 per cent from 1985 to 1990, with an annual average growth rate of 9 per cent. Per capita income increased by 143 per cent within six years, with an annual growth rate of 19 per cent. It reached 332 yuan in 1990. The population of Yanhewan township was 16,292 in 1990, of whom 15,845 were classified as the agriculture based population. Only 447 were non-agricultural, working as government officers, school teachers, bank staff, and as small businessmen. Officially between 1980 and 1990, the population increased by 2,882 people, with an annual growth rate of 1.97 per cent (see *Table 3.2*).

Table 3.2 **Population in Yanhewan**

Year	Total	Male	Female	New born	Births (per thousand)
1980	13 410	6 814	6 596	305	22.7
1981	13 641	7 008	6 633	275	20.2
1982	14 091	7 328	6 763	443	31.4
1983	14 263	7 344	6 919	247	17.3
1984	14 404	7 431	6 973	250	17.4
1985	14 559	7 622	6 937	232	15.9
1986	14 690	7 637	7 053	275	18.7
1987	15 530	8 184	7 346	265	17.1
1988	15 506	8 173	7 333	177	11.4
1989	15 592	8 172	7 420	402	25.8
1990	16 292	8 523	7 769	231	14.2

Birth rates in 1990 were claimed to be 14 per thousand though in most previous years they have been higher. Males here also outnumbered females by about 10 per cent. The imbalance has been growing, increasing from a ratio of 0.95:1 female to male at the beginning of 1980s to 0.90:1 by 1990. As in Huaziping if the first two children are girls the family can have a third child.

Yanhewan town was the original capital of Ansai county but the local government moved to Zhenwudong town after Liberation. This township is still prosperous and the second biggest town in Ansai county. Yanhewan township is amongst the most developed in Ansai county, although it is in a poor mountain area with a backward economy and very low per capita income when compared to Tongxian. Huaziping is less developed and more remote and has a sparsely distributed and sharply increasing population. This creates special additional difficulties for the universalization of compulsory education in Huaziping xiang.

2. The education system in Ansai

The Ansai school system has a large number of incomplete primary schools and the schools are widely dispersed. A complete secondary school and vocational secondary school are located in the county town but only one of the central primary schools is to be found there. The others are located with the xiang or township governments as are the 13 lower secondary schools. Complete primary schools are all in the large administrative villages, incomplete schools are in the small administrative and ordinary villages. Typically three or four villages typically cooperate in mountainous areas to run a primary school. The ratio of villages to primary schools for the county is 3.1:1 reflecting the small size of many of the villages (see *Table 3.3*).

Most schools in the case study xiangs are incomplete. Huaziping has five Grade 1-5 schools including the central primary; 15 of the incomplete schools are Grade 1-4 and 20 are Grade 1-3. Yanhewan has 4 complete schools including the central primary, 10 Grade 1-5 schools and 33 schools going up to Grade 4 or less. School sizes vary considerably as a result of variations in population density, terrain and transport links. The county town primary school is the largest. It has 18 classes and more than 1,000 pupils. Most central primary schools have 6 classes and 200 pupils. The complete primary schools usually have 5 to 6 classes and

over 100 pupils. Most of the incomplete schools have a single classroom and 15 to 40 pupils. Lower secondary schools typically have three or four classes and 120 to 150 pupils.

Table 3.3 **Ansai: numbers of schools of different types and ratio of villages to primary schools**

	Ansai	Huaziping	Yanhewan
Complete secondary	1		
Upper secondary			
Lower secondary	13	1	1
Secondary vocational	1		
County town primary	1		
Central primary	13	1	1
	} 374		3
Complete primary			
Incomplete primary ratio		39	43
Village : primary school	3.1	3.2	2.8

In Huaziping *Table 3.3* shows that there is one lower secondary school and 40 primary schools. Here the central primary school remains a Grade 1-5 school because there is insufficient space for Grade 6 classes. Two classes have been established and are held in the lower secondary school. Eventually it will become a complete school with all six primary grades. In Huaziping most of the Grade 1-3 schools and some of the Grade 1-4 schools are single-teacher schools which make use of multi-grade instruction (i.e. mixed Grades in the same classroom). Huaziping has tried to improve access to schools; in remote mountainous regions which are sparsely populated, primary schools have been set up in every administrative village and in villages with better conditions and greater population density two schools have been permitted.

Yanhewan also has one lower secondary school and a slightly larger number of primary schools. Four of these including the central primary school cover the full Grade range 1-6. As in Huaziping the remaining

incomplete schools often have just one teacher teaching multi-grade classes. In most cases there is a primary school for each of the large administrative villages. Very small villages are grouped to share a school between them. Currently twelve very remote villages still have no reasonable access to primary schools.

In 1990/91 there were 15,964 primary school students enrolled in Ansai consisting of 7,781 girls and 8,183 boys. The ratio of girls to boys was 0.95:1 (see *Table 3.4*).

Table 3.4 Enrolment in primary school in Ansai

		1986-87	1987-88	1987-88	1988-89	1989-90	1990-91
Grade 1		4 454	4 895	3 833	5 492	3 100	4 254
Grade 2		2 894	2 800	3 946	3 219	3 803	4 129
Grade 3		2 412	2 402	2 720	2 334	3 344	2 969
Grade 4		2 156	2 140	2 390	1 694	2 415	1 996
Grade 5		1 279	1 371	2 048	1 438	2 073	1 483
Grade 6					274	1 025	1 142
Total	Boys	9 350	8 237	8 170	8 118	7 905	8 183
	Girls	3 845	5 371	6 767	6 333	7 855	7 781
	Total	13 195	13 608	14 937	14 451	15 760	15 964
Girls (%)		29.1	39.5	45.3	43.8	49.8	48.7

We note the following:

The numbers of first grade students increased dramatically in 1988. The main reason for this was a concentration of efforts to persuade parents to send their children to school in 1988 in advance of the provincial and prefectural authorities mission to monitor the universalization of compulsory education in Ansai. After this inspection enrolments of first grade pupils fell back from the unprecedentedly high levels of 1988. The census figures for 1981 and 1982 suggest that 2,500 and 3,400 children were born in these years who would have been eligible for entry.

There is a considerable drop in enrolments between grades one and two. In 1985, 4,454 children were enrolled in Grade 1, but next year only

2,800 remained in Grade 2, i.e. the crude enrolment in Grade 1 decreased by 37 per cent when they reached Grade 2. The crude enrolments of Grade 1 in 1986, 1987, and 1988 decreased by 19 per cent, 16 per cent and 31 per cent respectively. Though there is significant repetition in Grade 1 (see below) it is clear there is substantial drop-out in the early grades. The main explanation for this seems to be that children do not remain in school when their parents are persuaded or cajoled into enrolling them in the first place. Students drop out quickly when they lack motivation or have to help their parents in agriculture and child care.

The number of pupils decreases greatly over the primary cycle. The 4,454 first graders of 1985 decreased in number by 74 per cent to only 1,142 by the time they would have reached Grade 6 in 1990/91 if there was no repetition. The 4,895 first Graders of 1986 fell by 70 per cent to only 1,483 by the time they reached Grade 5 in 1990/91. This suggests that the drop out rate and repetition rate are both high. Our investigation in Huaziping Xiang and Yanhewan Town confirmed this.

In the early 1980s the ratio of female pupils to male pupils was very unbalanced. The ratio of female pupils to male pupils from 1985/86 to 1990/91 was 0.41:1, 0.65:1, 0.82:1, 0.78:1, 0.99:1 and 0.95:1 respectively. The improvement in female participation since the mid 1980s appears to be one of the most impressive achievements of educational development in Ansai. The ratio still displays considerable variation in different areas however. Thus the ratio is only 0.80:1 in Huaziping xiang and it is an open question as to whether these changes can be sustained. They appear in part to have been achieved by enrolling some girls in higher Grades who have not passed through the lower grades. If so it can be anticipated that they may drop out without special support.

At lower secondary level enrolments have fluctuated quite widely. The dramatic decrease in Grade 7 in 1989/90 arises from changes in the length of the primary cycle from 5 to 6 years. In order to fill Grade 6 the Ansai government cut the Grade 7 enrolment in 1988 and kept some primary school graduates on for one more year at primary school. It also encouraged some excellent fourth graders to enter Grade 6 and finish their primary education in five years (see *Table 3.5*).

Table 3.5 Enrolment in lower secondary schools

		1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 7		1 144	1 200	1 327	1 123	402	935
Grade 8		1 062	1 165	1 246	1 257	1 079	464
Grade 9		777	973	1 212	1 194	936	897
Total	Boys	1 938	2 427	2 842	2 234	1 231	1 413
	Girls	1 045	911	943	1 340	1 186	883
	Total	2 938	3 338	3 785	3 574	2 417	2 296
Girls (%)		35.6	27.3	24.9	37.5	49.1	38.5

There were 55 lower secondary school classes in Ansai and the average class size was 42 in 1991. From *Table 3.5* two patterns are worthy of comment.

First, before 1986/7 the number of pupils enrolled increased rather than decreased as the cohort moved through the secondary grades. Thus 1,144 pupils enrolled in Grade 7 in 1985, but the crude enrolment at Grade 9 in 1987/88 reached 1,212. After 1987/88 the number of pupils enrolled has gradually decreased as the cohort progresses. Thus 1,327 pupils enrolled in Grade 7 in 1987 and only 936 pupils remained in Grade 9 in 1989/90; 1,123 pupils enrolled in Grade 7 in 1988, and only 897 pupils remained in Grade 9 in 1990/91. A decrease in the number of pupils as the cohort progresses is what might be expected as students drop out. The increases observed in the earlier period result from high rates of repetition. Before 1988 the school authorities allowed the students to repeat freely. Repeaters were mostly those who wanted to improve their performance in the examinations for specialized upper secondary schools. In 1990 the Ansai government stipulated that repeaters in Grade 9 secondary would no longer be qualified to apply for specialized upper secondary schools. As a result Grade 9 enrolments fell considerably.

Second, an unbalanced ratio of female to male students persists. The ratios of female to male pupils at lower secondary level show considerable variation between years and some tendency for them to diminish (the ratios for the five years from 1985 are 0.54, 0.38, 0.33, 0.60, 0.96, 0.62

respectively). The 1989/90 figures seem anomalous – large disparities in Grade 7 and 8 secondary in 1988/9 disappear in 1989/90 for reasons we could not discover.

Enrolment data from the case study districts provides some more insights. In 1990/91 school year in Huaziping, there were 1,355 primary school students and the boy-girl ratio was 1.2:1. Five-year primary education existed before 1988, hence there were no grade six students before this date (see *Table 3.6*).

Table 3.6 Enrolment in primary schools in Huaziping

		1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 1		409	580	515	366	386	425
Grade 2		219	260	243	255	261	283
Grade 3		151	188	263	198	189	228
Grade 4		115	159	148	133	171	183
Grade 5		87	86	107	127	119	136
Grade 6					23	116	100
Total	Boys	597	726	807	595	740	740
	Girls	384	547	469	507	502	615
	Total	981	1 273	1 276	1 102	1 242	1 355
Girls (%)		39.1	43.0	36.8	46.0	40.4	45.4

Table 3.6 shows several things. *First*, as in Ansai as a whole the number of students in each grade decreased rapidly. Ignoring repetition in 1985 there were 409 grade one students. Six years later when they would have reached grade six in 1991, only 100 remained at school. There were 580 grade one students in 1986, but only 136 remained in March 1991 when they were at grade five (ignoring repetition).

Second, the greatest drop out appears to be between Grades 1 and 2. The number of grade one students in 1985 decreased by 36 per cent when they were promoted to grade two (ignoring repetition). From 1986 to 1989 the number of grade one students decreased by 58 per cent, 50 per cent, 29 per cent and 27 per cent respectively when they were promoted to grade two. This suggests that in spite of improvements in recent years, the problem of drop out (and repetition) remain serious. Our research

suggests the major cause is that though intensive efforts can be made to increase enrolments for a short time, many parents later allow children to drop out for economic reasons including those related to the direct costs and the need to use the children in family work.

Third, since the mid-1980s, the serious problem of the disparity between the number of boys and girls at school has been reduced. It is still a problem however, and the higher the grade is, the greater is the disparity between the number of boys and girls. For example, in the 1985/86 school year, the girl-boy ratio at grade one was 0.76 but in 1990/91 school year when they were at grade six it became 0.66. In the 1986/87 school year, the girl-boy ratio at grade one was 0.83, but in the 1990/91 school year when they were at grade five, it became 0.59.

Data available in Yanhewan are less comprehensive. In the 1990-91 school year there were 1,959 pupils, 864 girls and 1,095 boys. The ratio between girls and boys was 0.79. The ratio for earlier years was not available. The total enrolments for primary schools were as shown in Table 3.7.

Table 3.7 Enrolment in primary schools in Yanhewan

	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 1	402	469	327	553	444	604
Grade 2	350	345	312	340	373	494
Grade 3	364	334	327	267	271	369
Grade 4	317	261	278	206	211	343
Grade 5	214	202	246	204	188	211
Grade 6				24	76	109
Total	1 647	1 611	1 490	1 596	1 563	2 130

Here the enrolment in the 1988-89 school year increased nearly 70 per cent over the year before. This reflects the special efforts made in this xiang when the compulsory primary education status of this township was checked and approved in 1988 (see above). The governments at each level and individual schools made special efforts to increase enrolments. However when the inspection finished the enrolment declined.

The second feature is the enrolment by grade reduces sharply as it does in Huaziping. Thus ignoring repetition, there were 402 pupils in Grade 1 in the 1985 school year, and only 109 left six years later when they were in Grade 6 in 1990-91. There were 469 pupils in Grade 1 in 1986 and only 211 were left by Grade 5.

Like many low density population areas Ansai has had difficulties in ensuring that class sizes are not unreasonably small. The average in the mid 1980s was only 9 students per class at primary school level. As a result of school amalgamations, closure of schools with no facilities and low enrolments, and increased total enrolments, average class size reached 17 students per class in 1991. Further increases in class size are difficult to achieve as a result of geographic and transport difficulties and the low population density in remote areas. The teacher per class ratio in primary schools is only 1.15, which is far below the State Education Commission standard (1.5 teachers and 0.4 non-teaching staff members per class). In Huaziping and Yanhewan the pupil teacher ratios are about 15:1 and 18:1 and the class teacher ratios were 1.12 and 1:1 respectively. Class size varies greatly. It was 58 in primary schools in the county town in 1989/90, but less than ten at some village schools. In central primary schools located close to convenient transport and a densely populated environment the average class size is about 40. Class sizes in Huaziping provide a more detailed picture (see *Table 3.8*).

Table 3.8 Distribution of class size at primary schools in Huaziping

	Total	Village primary school	Central primary school
Number of schools	40	39	1
Class size			
below 10	3	2	1
11-20	12	12	
21-30	28	28	
31-40	24	23	1
41-50	9	8	1
above 50	4		4

Most of the schools are single-teacher schools and conduct multi-grade instruction. Every teacher has 6-8 periods every day and each period is 40 minutes. The teaching load may therefore be quite heavy. The class sizes are uneven – in the senior grades in the central primary school there are four classes in which the number of students exceeds 50 because it enrolls students from all other schools. Class sizes in Yanhewan also average about 18. In this xiang there are several Daimao completed schools (ie. primary schools with secondary grades grafted on to them) in gully areas that are sparsely populated. In this kind of school there are often only 10 pupils in each class, or even less.

Huaziping lower secondary school mainly serves children from the 20 administrative villages. About one sixth of the students are from other xiangs. A majority of the students' families are far from the school and students have to board. About 60 per cent of the students are residential and in 1990/91 there were 241 students – 156 boys and 85 girls. There were five classes, including two Grade 7, one Grade 8 and two Grade 9 classes. The average class size was 48. Female students have remained slightly more than half the number of male students. In this xiang total lower secondary enrolments have not grown significantly over the last four years. Grade 8 enrolments have often been greater than those in Grade 7 and 9 because repetition is concentrated at this level (see *Table 3.9*).

Table 3.9 Enrolment in lower secondary school in Huaziping

		1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 7		71	81	83	81	32	102
Grade 8		76	78	102	103	112	44
Grade 9		47	48	52	58	79	95
Total	Boys	134	141	165	159	149	156
	Girls	60	66	72	83	80	85
	Total	194	207	237	242	232	241
Girls (%)		30.9	31.9	30.4	34.3	34.5	35.3

Yanhewan secondary school is a 3-year school and is regarded as one of the 27 'backbone' schools in Yan'an district. In the 1990-91 school year, there were 267 students – 150 boys and 117 girls. There were 6 classes, two for each grade and only 24 per cent of students were residential. Female students were about 75 per cent the number of male students. In 1991 the average class size for the school was 44.5 students. Before the 1988 school year there were 7 classes, one of which was a kind of remedial class for students returning to repeat the third year in order to retake the entrance examinations for secondary professional schools. Grade 9 students have decreased in number since new regulations abolished this repeating class. With the elimination of these older students the class size has decreased from over 60 to about 45. Lower secondary education in Ansai is not a part of compulsory education. Children who have finished primary education are not obliged to continue. The ratio of primary school graduates (five years before 1988-89, and six years afterwards) to Grade 7 lower secondary school students has been about 2:1 in most years (see *Table 3.10*).

Table 3.10 Enrolment in lower secondary in Yanhewan

		1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 1		101	98	138	145	92	73
Grade 2		135	127	140	153	103	86
Grade 3		184	178	184	186	113	98
Total	Boys	231	221	253	286	175	150
	Girls	189	182	209	198	133	117
	Total	420	403	462	484	308	267
Girls (%)		45.0	45.2	45.2	40.9	43.2	43.8

Ansai employs 917 educational staff members in primary schools of whom 898 are teachers. Of these 303 are government employees (gongban), representing 34 per cent of the total teaching force and the remaining 595 (66 per cent) are minban teachers – 'people supported teachers'. Most government employed teachers work at the central primary schools. Thus all the 48 teachers at the county primary school

are employed by the government, 12 out of 14 teachers at Huaziping xiang central primary school, and 14 out of 16 teachers at Yanhewan Town central primary school. There are a few government teachers at the completed primary schools, mostly appointed as principals and instructional directors. Almost all of the incomplete primary school teachers are minban.

It is national policy to reduce the number of minban teachers to improve the quality of the teaching cadre. Two strategies are being used in Ansai. First qualified minban teachers are gradually being transferred to government employment. Second, minban are being substituted with graduates from normal (teacher training) schools. The number of minban teachers decreased from 786 in 1986 to 595 in 1991, a 24 per cent reduction. Minban teachers continue play a major role in the development of basic education in rural areas, and particularly in remote mountainous regions. In Huaziping xiang 75 per cent of all teachers are minban and they constitute almost all the teachers in incomplete primary schools. Yanhewan has just over 60 per cent minban teachers mostly in incomplete and Daimo schools.

About 81 per cent of the 303 government teachers are qualified, i.e. are graduates of normal schools or upper secondary schools. In Huaziping 74 per cent are qualified and Yanhewan has 80 per cent, both close to the national average of 80 per cent. Most of these teachers have normal school training. Though nearly 81 per cent of minban teachers are also qualified in Ansai the proportion differs from xiang to xiang. It is only 67 per cent in Yanhewan Town and 63 per cent in Huaziping. However, two thirds of these qualified minban teachers have graduated from upper secondary schools without professional training. Senior and first rank teachers make up two thirds of the government teachers in Huaziping and half of those in Yanhewan. Senior teachers account for 15 per cent and 16 per cent respectively, more than the 11 per cent at this level in Tongxian. In both cases government teachers are a minority of the total number of teachers and minban are generally not ranked. In Tongxian government teachers are a much greater proportion of the total. Teachers at primary level are young – 77 per cent of teachers are in the age range of 20-40 in Ansai as a whole. In Yanhewan 69 per cent fall into this category and fully 90 per cent in Huaziping. There are only 9 female teachers in Huaziping out of a total of 85.

At lower secondary level there are 277 staff of whom 258 are teachers including 23 temporarily employed teachers. Before 1988 there were minban teachers at secondary school level but all have now been dismissed or redeployed. A small number remain temporarily employed to teach subjects, such as foreign languages, where there are not enough government teachers. The proportion of qualified teachers in secondary schools (defined as above) has only reached 50 per cent. It is even lower than this in some schools. In Huaziping xiang only seven out of 21 teachers (33.3 per cent) are college graduates and in Yanhewan the proportion is 43 per cent. Females make up 19 per cent of the staff in the former school 30 per cent in the latter. As in primary schools staff are young - 76 per cent are under 40 in Huaziping and 65 per cent in Yanhewan. There are 2 non-teaching staff at Huaziping lower secondary school but 7 at Yanhewan, representing 30 per cent of all staff.

Average pupil teacher ratios at lower secondary were 9.4:1 for Ansai as a whole in 1990 but were higher in Huaziping (13:1) and in Yanhewan (11:1). The ratios are so low because each xiang has to have one lower secondary school to provide reasonable access to the population. Class sizes average 45 since teacher class ratios are very favourable. Repeaters in Grade 9 were largely eliminated after 1988 when students were no longer allowed to repeat to improve the chances of entry to technical and vocational schools. However the teaching establishment has remained at its previous levels. Current enrolments at secondary are not expected to grow rapidly and there is little alternative employment available for teachers. The low pupil teacher ratio is therefore likely to persist.

3. Administration and policy on basic education

The administrative reforms introduced in the mid-1980s have devolved responsibilities for schooling. The main responsibilities of the county and xiang governments in Ansai are the same as in Tongxian. Ansai secondary school, Vocational secondary school, County primary school and County kindergarten are supported and administered by the county government. Xiang and township lower secondary schools are supported by the county and administered jointly by the county and xiang governments. The central primary schools are predominantly the responsibility of xiang governments and other primary schools are jointly administered by the xiang and village authorities. The system of

"principals' responsibility under the party leadership system" was implemented in 1986. A leadership group on educational reform was formed in 1990 to strengthen the management of education and make overall plans for the development of basic, vocational and adult education. A County Inspectorate was established in 1989 and professional inspectors were assigned to five large xiangs and towns in 1990.

Ansai has organized a network of teaching and research groups at four levels – county, xiang, central primary, complete primary and village schools. The teaching and research group organizes in-service training, provides model teaching demonstrations, and supports teaching and research resource centres. Central primary schools are required to give guidance and advice to teaching and research groups at complete schools which are associated with neighbouring incomplete village schools. The network covers the whole county and is intended to play an important role in improving educational quality.

In 1990, Ansai Party Committee and County government issued a joint resolution that required the leadership at different levels to "acquire a better understanding of the importance of education, change traditional concepts... and implement policy on education as a strategic base for national development". The county government drew up an Educational Development and Reform Plan for 1990-1992, which set the targets for the educational development. The main objectives were fourfold.

First, the teacher force was to be strengthened and the quality of teachers raised. Minban teachers were given particular attention. As noted above substantial numbers were replaced and others have been retrained and converted to government teachers. The pupil-qualified teacher ratio has improved as result and the process is continuing.

Second, the systems for administration and instructional management were enhanced. Historically these were unsystematic and there were no clear guidelines to follow. Now schools are required to have a fixed calendar, primary school pupils have to stay at school for seven hours each school day, and teachers are required to be in the school for eight hours. Schools throughout all xiangs are expected to follow common syllabi, teaching requirements, teaching programmes and achievement tests. Specific regulations on courses available, syllabus formulation, class teaching, homework and tests have also been issued. Our observations suggest these regulations are well known and are being gradually put into

effect. They appear to have had a positive impact on improving conditions for teaching and learning.

Third, some guidance for multi-grade class teaching has begun to be provided through the teaching and research group network. In the late 1980s the majority of the schools had multi-grade classes. The teaching and research groups have compiled *The essentials for multi-graded class teaching* which discusses the principles of multi-grade class teaching, identifies problems, and provides model teaching programmes. The groups have provided in-service training to 30 key teachers in central primary schools who in turn have trained colleagues at complete and incomplete schools. We observed multi-grade teaching in several schools which had benefited from this. A teacher at Huitiaozui primary school did an excellent job in his multi-grade class. The pupils were actively involved and pupils of different ages knew the specific tasks they had been allocated. The class was well organized and well disciplined. However, teachers in many of the other schools we observed were not as practised as this teacher suggesting that it will be a long term task to provide enough guidance and advice to strengthen multi-grade teaching.

Fourth, funds have been raised to improve school conditions. The underlying principles that have been applied is that those who benefit from education must contribute to its funding and those who can afford most must provide more. Ansai has raised funds for education through the following mechanisms:

- Increasing the additional educational tax by 1 per cent.
- Establishing an educational fund by collecting 2 yuan each from each farmer each year, collecting funds from government employees according to their monthly salary each month (1 yuan if he/she makes less than 69 yuan, 1.50 yuan from those making 70-100 yuan), and collecting 0.5 per cent of the sale value from collective enterprises and private businesses.
- Collecting 2 yuan for each square metre of construction from the state and collective organizations that build apartments or office buildings with two or more floors for themselves. And collecting 1 yuan for each square metre that is used for production or business from the oil, coal and other industries.
- Collecting 5 per cent of the maintenance and equipment fund of buildings in urban areas.

Much of the educational fund is used to support minban teachers' salaries. The remainder is used for school building maintenance and to support office expenditures. The county government requires that xiangs and villages grant farming or forestry land to schools. This can be used for buildings and sports facilities and for productive enterprises that generate income for the schools. Fund raising activity has become widespread and diverse and substantial resources are being generated.

4. Resources for education

The education budget in Ansai has increased considerably and it has benefited from subsidies from the national level. The budget for schools has been provided mainly through a national state grant which has covered 70 per cent of expenditure. The residual comes directly from the county government. This explains why the budget for schools was more than the county revenue in some years (see *Table 3.11*).

Table 3.11 Education budget in Ansai (Yuan Thousands)

Year	1986	1987	1988	1989	1990
County revenue	675	972	2 047	5 300	6 172
Education budget	1 405	1 985	2 140	2 710	3 450
School resources outside the government budget	384	525	702	873	1 498
Additional educational tax	4	5	12	27	48
Educational fund					497
School-run businesses profits	150	240	320	400	440
Other contributions	230	280	370	410	513
Total	384	525	702	837	1 498
Total	1 789	2 510	2 842	3 547	4 948

From 1986 to 1990, the school education budget within the government budget increased at an annual rate of about 20 per cent. Resources outside the government budget grew by nearly 31 per cent. The latter is 25 per cent to 30 per cent of the total. This makes an obvious contrast with Tongxian where school revenue outside the government budget is more than 70 per cent larger than school revenue within the government

budget. The total amount available for education grew at nearly 23 per cent which was comparable with the growth rate for the total county government budget which averaged 24.5 per cent between 1980 and 1990 (see *Table 3.12*).

Table 3.12 Recurrent public expenditure on education in Ansai

Year	1986	1987	1988	1989	1990
Total education budget (in thousands Yuan)	1 405	1 985	2 140	2 710	3 450
Education as a percentage of county government expenditure	17	19.8	18.8	16.6	18.7
Education as a percentage of gross output	4	6.7	6.9	6.3	7.2
Per pupil expenditure (Yuan)	81.8	102.3	114.5	143.5	181.1
Per pupil expenditure as a percentage of income per capita	52.4	67.7	61.0	62.2	56.6

Public expenditure on education as a percentage of total government expenditure and of industrial and agricultural output value have been stable, but they are as much as 30 per cent lower than in Tongxian. Public expenditure on education per pupil in Ansai is about 50 per cent of the public expenditure on education per pupil in Tongxian (excluding non-budget income). But, as might be expected, public expenditure on education per pupil as a percentage of the per capita income is more than twice as much as in Tongxian indicating that real efforts are being made (see *Table 3.13*).

The total amount of public expenditure for secondary education has always been larger than the amount for primary education despite the much smaller numbers enrolled at secondary level. This appears contrary to the priority that is attached to primary education by the county government. The justification given at county level is that primary education has already been universalized (i.e. this was recognized by the provincial and prefectural delegations in 1988), and secondary education is especially weak. It is instructive to illustrate how much expenditure per pupil varies between levels (see *Table 3.14*).

Table 3.13 Public expenditure on education in Ansai by level (Thousand Yuan and percentage)

	1986		1987		1988		1989		1990	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Primary	645	46	847	43	915	43	1 078	40	1 550	45
Secondary	760	54	1 138	57	1 225	57	1 632	60	1 900	55
Total	1 405		1 985		2 140		2 701		3 450	

Table 3.14 Expenditure per pupil at different levels in Ansai (Yuan)

Year	1985	1986	1987	1988	1989	1990
Expenditure per pupil at secondary	212.2	227.7	300.7	342.8	675.2	827.5
Expenditure per pupil at primary	42.2	47.4	56.7	63.3	68.4	97.1
Ratio Secondary: primary	5.0:1	4.8:1	5.3:1	5.4:1	9.9:1	8.5:1

We can see the gap between the expenditure per pupil at primary and secondary school level is large and has been getting larger. The universalization of 6 year primary education would seem more likely if this trend was reversed.

Average public expenditure per primary school pupil was 97.1 yuan in Ansai in 1990. But it was only 69 yuan and 58.21 yuan in Huaziping xiang and Yanhewan town respectively. The main reasons for the disparity between the county levels and these xiang statistics are the following:

First, since the system of decentralized administration was put into effect the county government no longer has any definite financial obligation to the xiangs, except for salary payments to primary school teachers. The county government has invested out of preference in county primary schools, and the per pupil expenditure at those schools is much higher than at xiang primary schools.

Second, the county government provides grants for construction and building maintenance. When xiangs produce their statistics they often exclude such grants thus their figure for per pupil expenditure appears lower than the county one.

Personnel expenses appear to account for about 60 per cent of total expenditure and operating expenses 40 per cent. The data we have suggest that the proportion for personnel is lower for primary than for secondary which is the opposite of what might be expected. This probably reflects the fact that the majority of primary teachers are Minban and their salaries only partly fall on the government budget. We noted

that in Ansai 100 yuan is granted by the county government as an operating budget for each officially employed teacher each year at xiang primary schools (with some additional provision for construction and maintenance to meet special needs). As there are very few government teachers at xiang level their operating budgets are very small. There are only 27 government teachers in Huaziping xiang and its operating budget is thus 2,700 yuan, or 2.9 per cent of its total public expenditure on education in 1990. Yanhewan Town with only 44 government teachers received an operating budget of 4,400 yuan (3.6 per cent of its total public expenditure). At the county level 43 per cent of the total expenditure is classified as operating expenditure! Little of this money appears to be spent at the xiang level in direct support of the schools we visited. From our interviews at the xiang level it became clear that their operating budgets were insufficient to cover heating, kitchen facilities, and necessary visits. The schools have to supplement the operating budget with a registration fee paid by pupils and money contributed by school run businesses. As far as we can establish the gap between the county and xiang statistics in the relative size of the operating budget is mostly attributable to the fact that expenditure is heavily concentrated in the county primary schools. This is the most plausible explanation and indicates that the needs of most of the schools are neglected when the operating budget is allocated.

There are virtually no funds available for books or equipment in the schools we visited. Our analysis of data from 1985 to 1991 suggests about 45 per cent of the operating budget at the county level is allocated to office expenses. A similar proportion is spent on building maintenance and construction with minimal amounts for furniture and books (about 3 per cent for furniture and 1 per cent for books). This seems very unbalanced and unlikely to enhance the quality of teaching and learning. From our interviews with Education Commission officials, funds raised from the community, money made by the school-run businesses, and registration fees paid by pupils are mainly spent on school construction and to a lesser extent on furniture. Virtually no money is available from this source for learning materials.

Currently the average monthly salary of government teachers is 172 yuan. The average has grown by 60 per cent since 1985. This is only about 10 per cent less than in Tongxian. The highest salary paid is 240 yuan and the lowest is 118 yuan. The difference between secondary

and primary school teachers' salaries is not large and is typically about 10 to 15 yuan. Minban teachers' salaries are much lower. There are four levels of salary – 58, 64, 70 and 76 yuan a month. The average monthly income of minban teachers was 79 yuan in 1990 consisting of salaries, pay for hair-cuts, health care and a teaching experience bonus. The highest income was 90 yuan a month. Minban teachers may receive some remuneration in grain and may receive allowances for special responsibilities. The salary consists of two parts. The first part is the 40 yuan granted to each minban teacher each month by the government. The second part comes from funds raised from the peasants. Before 1989 the second part was usually paid in the form of grain. Each minban teacher was paid with 150 kilograms of millet a year. As it is not easy to raise funds from peasants, the village authorities often fell behind with payments. Our enquiries established that in early 1990 villages still owed 196 minban teachers (representing 31 per cent of the whole body of minban teachers) 70,000 kilograms millet and 22,000 yuan that should have been paid before the end of 1988. We have some evidence that the situation may be even more unsatisfactory. Thus 10 administrative villages in Yanhewan Town owed 41 minban teachers (who represented 57 per cent of the total) 17,000 yuan in November, 1990 – that is in average of 400 yuan for each minban teacher. The largest amount that a village owed to an individual teacher was 1,300 yuan. The oldest debt was about 6 years. Living standards of minban teachers are low and understandably their motivation is undermined by such delays in payment. Ansai County government and Xiang (town) governments started a people's education fund in 1990 following an order issued by Yan'an Prefecture government. The fund is to be used to pay the second part of minban teachers' salary on a more regular basis.

Since 1984 Ansai County has spent five million yuan to maintain old buildings, build new ones and purchase furniture. A total of 22,000 square metres of old buildings have been renovated and 4,000 sets of desks and benches were purchased by the end of 1990. The condition of many schools has been improved. About 22 per cent of building space is constructed of brick and the remainder is built from clay or located in cave buildings. A significant number of dangerous school buildings still exist. According to county officials there are 107 village school buildings that are leaking and considered dangerous amounting to 110 per cent of the total floor area of all the school buildings throughout the county.

There are eight old and broken buildings at xiang secondary schools. Several of the buildings we visited were almost unusable. The building at Huitiaozui primary school in Yanhewan Town has a leaking roof and wet floor and walls. Some children were thought to have contracted arthritis after being at the school and certainly the conditions were unhealthy. A new school building is now under construction by the town Education Commission and the village. A teacher of Zhangcha primary school in Huaziping xiang told us that her school building is too dangerous to continue to use. She has to teach some of her pupils in her office. The rest are taught in a cave dwelling borrowed from a villager which is so small that in order to study the pupils have to sit on a kang (a heated brick bed), on the top of the kitchen range or on the floor. These conditions contribute to delays in the enrolment of some children since there is no space to accommodate them.

Availability of furniture is also a serious problem. The last inventory showed that the schools in Ansai lacked 1,200 sets of desks and benches. On our school visits we found it was common for three to four children to sit on a bench for two, and some pupils had to stand since there were no chairs. Some pre-school classes had neither desks nor benches. In Huaziping xiang we were informed that over half of the pupils at the schools across Yan River not far from the Xiang government have no desks or benches, and pupils have to take turns to attend classes. According to Yanhewan Education Commission the town lacks 250 sets of desks and benches; if the pre-school classes are included, the number reaches over 500. Almost none of the schools have special-purpose classrooms.

Huaziping xiang Education Commission officials claim that they have achieved the 'two haves', i.e. every school has some classrooms and every class has some desks and benches. In fact the national criteria is 'each class has a classroom and each pupil has a desk and a chair' which has a different meaning. Our observations suggested that Ansai County has a long and difficult path to follow to reach the national standard of 'one no' (no dangerous buildings) and 'two haves'.

A total of 135,000 books are recorded in Ansai schools which represents 7.1 volumes per pupil. All secondary schools have libraries. However the two xiangs and nine schools that we investigated have serious problems with the supply of books. Huaziping xiang has not bought any books since July, 1987, and the 1,000 books they have (three

per pupil) are reserved for teachers. Huaziping Central primary school has only 500 volumes (two per pupil). Yanhewan central primary school has no books for pupils to read after class and the situation is the same in the village schools.

Most of the schools do have some simple equipment for physical education and a playground, but there is a great shortage of laboratory equipment of any kind. There are no laboratories or teaching equipment except in the central primary schools where we found some basic equipment e.g. a globe or a set square. There is no electricity in many mountainous areas. The situation is not much better in secondary schools. Though Huaziping secondary school is a key-point secondary schools for Ansai it has no special purpose classrooms or laboratories. It is therefore impossible to offer practical science teaching.

5. Enrolment, repetition, drop-out and promotion rates

It was very difficult to obtain accurate enrolment rates. Neither the county education authority nor the xiang or school authorities use gross or net enrolment rates as conventionally defined. As in Tongxian if all the school-age children are in school (or even in pre-school class) the enrolment rate is reported as 100 per cent independent of how many children are overage on entry or repeat subsequent Grades. On this basis the county authority estimates the enrolment rate at 96 per cent for Ansai in 1990. A further problem with the methods used is that there are no standardized school age ranges. Some xiangs take seven to eleven years old as the school age range, others take seven to twelve, and the rest take seven to thirteen. We also found that nominal ages were sometimes used (reckoned by the traditional method, i.e. considering a person one year old at birth and adding a year each lunar new year) rather than chronological ages. Thus neither the county nor xiang authorities have reliable statistics for the number of school-age children, nor do they have accurate figures for the number of school-age pupils.

We developed the best estimates we could from data gathered from the schools and the statistics on enrolments that were available. Net and gross enrolment rates were calculated for a number of villages using the standard State Education Commission definition (see *Table 3.15*).

Table 3.15 Enrolment rates in selected villages

School	Location	Grades	Total No.	School age enrolled	School age	Net enrolment rate	Gross enrolment rate
Chengmao School Huaziping	Highway	1-5	57	47	67	70.1	85.1
Baoshan School Huaziping	Mountainous	1-4	13	13	19	68.4	68.4
Yanhewan Central School	Higway, (with Xiang Government)	1-6	249	167	203	82.3	122.6
Lijiawan School, Yanhewan	Higway in largest vil- lage	1-6	97	88	103	85.4	94.2
Huitiaozui School, Yanhewan	Mountainous	1-4	15	12	19	63.2	78.9
Gaoshishi School, Yanhewan	Mountainous	1-4	25	25	36	69.4	69.4

In Chengmao school there are seven girls who cannot go to school regularly as their parents need their help at home or in the fields in busy agricultural seasons. They return to school at other times and the school puts them into different grades depending on their ability. Since they have two months less in school a year than other pupils the school sets a lower requirement for their achievement. If they are counted as regular pupils, the net enrolment rate would be 80.6 per cent, otherwise it is 70.1 per cent as the table shows.

Three observations are relevant from *Table 3.15*. First, the villages where the enrolment rates are high all lie along the highways, whereas those where the rates are low are all located in the mountainous areas which cover most of the county and where most of the county population lives. The former have many over-age children at school, in the latter

many children drop out rather than remain in school. Second, when we calculate the enrolment rate in the mountainous villages only those children of ages seven to eleven are counted as there are only incomplete primary schools (Grade 1 to Grade 4). Typically only two thirds of the graduates of incomplete primary schools get into complete primary schools to continue their studies and the rest drop out because of poor achievement, poverty or because of the long distances between their homes and the complete primary schools. As there is no systematic information about these students they are not counted in calculating net enrolment rate. The rates are therefore higher than they would be if Grade 1 to 6 were considered. Third, our interviews indicated that Huaziping and Yanhewan are among the best areas for enrolment rates in Ansai. The schools we were able to gain access to are also among the best in Huaziping and Yanhewan. If we use these cases to judge the county enrolment rate our estimation about the county net enrolment rate is that it is not more than about 75 per cent and may well be less.

Our enquiries led us towards several explanations for the low enrolment rates. Many parents and some of the educational officials do not take the basic education laws very seriously. They take a relaxed attitude to delays of one or two years in initial enrolment in schools especially in the mountainous areas. Some children never enter school or enter but drop out early and are not followed up by the authorities. It is also the case that a lot of children remain in pre-school classes when they reach primary school age. For example, there are respectively 11, 4, 31, 13, 7 and 11 primary school-age children in the schools listed above who are still in pre-school. School age children who are still at pre-school classes in Baoshan primary school, Huitiaozui primary school and Gaoshishi primary school amount to 31 per cent, 37 per cent, and 31 per cent of all school age pupils respectively in these three schools. The explanation for this is that several of the local authorities stipulate that children must go to pre-school classes first before they enrol in Grade 1. Some parents are not very keen to send their children to pre-school classes at an early age. When they reach school age they are persuaded to send the children to school but they have to go first to pre-school classes. In addition some of the teachers interviewed keep low achieving students in pre-school classes in order to achieve better average scores in the common tests which rank schools from Grade 1. There are even some first grade students who are demoted to the pre-school classes.

We came across examples of children who had stayed in pre-school classes for two or three years and were more than ten years old.

Our analysis of repetition data indicates that the repetition rate has generally been diminishing though there has been little improvement in the last four years. Repetition at Grade 1 is typically higher than in other grades and averages about 8 per cent. In the middle grades repetition appears to be between 3 per cent and 4 per cent and rises in Grades 5 and 6 to 5 per cent or more. Our field investigations tend to confirm these two points. In addition we identified two other characteristics of repetition that are not apparent from statistical data. We sampled classes and identified repeaters directly to get an insight into the actual rates. The result led us to conclude that repetition rates are far higher than they appear. In 1989/90 in Huaziping central primary school, one of the best schools in Ansai, our enquiries established that repetition averaged 22 per cent across several classes in different grades, much higher than is indicated above. In other schools it was even greater and there was considerable variation from school to school and class to class. Repetition was 30 per cent at Gaoshishi primary school in 1989/90 and 53 per cent in Grade 4 at Lijiawan primary school in 1989/90. It even reached 100 per cent in Grade 1 and Grade 2 at Huitiaozui primary school in 1988/89! Repetition is so high for two main reasons. First, the quality of teaching can be very low and as a result students under achieve and are asked to repeat. Second, there are no standard procedures for teachers to follow in making decisions on repetition. In order to improve achievement in common tests at the xiang or county level, some teachers discourage promotion until they are sure that students will perform well at the next level. Teachers then achieve higher average scores than they would otherwise and may stand to benefit through bonus payments for high pass rates.

The fieldwork in Tongxian suggested that attendance at pre-school classes did help reduce repetition subsequently and this was a strongly held belief by a number of teachers. In Ansai nearly every primary school has a pre-school class. This ought to reduce the need for repetition in Grade 1 but this grade has the highest rate. On closer enquiry it became clear that most of these pre-school classes do not really provide education and prepare children for Grade 1 by beginning to teach basic skills. In most of the schools teachers are teaching multi-grade classes or, more accurately given the level of expertise in multi-grade teaching, are

teaching several grades simultaneously in small groups. They are therefore fully stretched and give relatively little attention to pre-school classes which rarely seem to have an organized curriculum with clear learning goals, and appropriate learning material etc. Pre-school classes in this area are often little more than child minding from the observations we made.

Repetition rates at secondary level appear to have been falling. Current data deals with the transitional period from 5 to 6 year primary education and so some caution is necessary in interpretation of trends at secondary level since the flow of students is still adjusting to transition at Grade 6. Repetition rates are highest in Grade 7 (about 10 per cent) and Grade 8 (about 20 per cent). Repetition in Grade 9 precludes application to specialized secondary schools at the next level and this is having the effect of bunching repetition in the lower grades, especially Grade 8. Drop out rates in primary schools are claimed to average 1 to 2 per cent. However a considerable gap exists between these official statistics and what we observed. In the villages that we investigated we saw many school-age children doing work in the fields or taking care of their brothers and sisters when classes were being held in the schools. Many may have been enrolled but they were not attending. They have therefore not officially dropped out but are simply absent. As we travelled to Baoshan Primary school we stopped by Fangjiahe primary school and spoke with six non-attending students who were still registered but rarely went to class.

Official statistics on the drop out rate are clearly inconsistent with other enrolment statistics. For example, there were 4,454 children enrolled in Grade 1 in 1985. When this cohort reached Grade 2 in 1986 it had shrunk to only 2,800. In this area transfer between primary schools is minimal. Thus the 1,654 students missing were either drop outs or repeating Grade 1. But there were only 435 repeaters and 54 drop-outs according to the official statistics for that year. Adding these two categories of children together gives a total 489 – far less than 1,654. If we recognize that a proportion of the 2,800 in Grade 2 are repeaters in reality the shortfall is greater. If the actual Grade 2 repetition rate was 20 per cent, a plausible estimate, then only 2,240 Grade 1 students entered Grade 2 leaving 2,194 to be accounted for by drop out and repetition, nearly 50 per cent of Grade 1 enrolment. Drop out must therefore be considerable, perhaps in excess of 25 per cent. And this takes no account

of the concealed drop out of those registered but whose attendance is sporadic to the point where they are not able to learn much.

This discussion, and our field data, illustrate that the actual rates of repetition and drop out are being substantially under represented in aggregate statistics. Many of the government officials we spoke to agreed that the drop out problem was very serious in Ansai. The county government itself recognized this in its "Decision on Overall Development Planning of Basic Education, Vocational Education and Adult Education" in 1990 which clearly drew attention to "school-age children who are already enrolled in school and are dropping out". The data for 1989 and 1990 on enrolments suggest that drop out between Grade 1 and 2 may have been reduced (the enrolment in Grade 2 in 1990 is actually higher than in Grade 1 in 1989), but this is not the case for other grade transitions where there continues to be substantial attenuation of the cohort from one year to the next. It is thus unsafe to conclude that matters are improving.

We discussed the drop out problem with officials of the county, and Huaziping and Yanhewan educational authorities who have undertaken surveys. Poverty appears the most important factor reported as contributing to drop out followed by poor achievement. Earning income, sickness, and poor relations with teachers were also cited though not as frequently. The surveys by authorities at different levels are not consistent in the factors identified and only provide information on those officially registered as having dropped out.

The Ansai economy is underdeveloped and cultivation is still extensive generating small cash surpluses. Though most parents have sufficient food and shelter, they may hesitate to pay the direct costs of about 20 yuan for their children's schooling. And there are those, perhaps 10 per cent of population, whose basic needs are not met and who have no cash income. A minban teacher interviewed at Baoshan primary school paid 30 Yuan for ten textbooks for her pupils but so far their parents have not repaid her.

Population growth rates have fluctuated over the last ten years and there have been periods during which the birth control programme was not effective. It is quite common for a couple to have three or four children in rural Ansai. The oldest child, especially the oldest daughter, often helps take care of the younger children. Parents with more than one child find it more difficult to afford the direct cost of their children's

schooling, not to mention the indirect costs. The opportunity costs may be quite high, especially in particular seasons when as much labour as possible is required. When the authorities put pressure on these parents they have to send their children to school and they do not really have much choice. When the pressure is reduced they let their children drop out. There are another group of parents who have no financial problem in supporting school attendance for their children. However, if the child's achievement is poor they adjust their expectations to not much more than basic literacy and numeracy and allow children to drop out without completing primary.

The quality of teachers, especially in one-teacher schools, has a direct impact on drop out rates and is of course related to poor achievement. In one of the primary schools in Yanhewan a minban teacher was so irresponsible that all the children dropped out from the school except two who were his relatives! Yanhewan Education Commission replaced this teacher and since then children have gradually come back to the school where there are now 30 pupils.

The enrolment of girls has improved considerably since 1985/6 when girls were less than 30 per cent of enrolment in many primary grades (*Table 3.4*). The improvement to close to 48 per cent of primary children by 1990/91 has to be interpreted with some caution. This may include some catching up on the backlog of girls who were not enrolled previously. If this is the case then this would inflate their proportion of enrolments temporarily. There is no data on possible differences in patterns of non-attendance.

In Huaziping xiang the ratio of girls to boys was 0.68:1 in 1989/90 and 0.83:1 in 1990/91 according to xiang statistics. Enrolment patterns in particular schools suggested that this may exaggerate the actual state of affairs. For example at Youfangping primary school in Huaziping xiang, the ratio of girls to boys 0.60:1 from Grade 1 to Grade 4. However in Grade 6 there were 11 boys out of 12 pupils – the girls had dropped out. The majority of the drop-outs we met were girls though we cannot be sure they were a representative cross section of all drop outs. From our investigations we estimate female drop out is almost certainly higher than the 63 per cent quoted, and it was clear that the majority failed to complete the primary cycle in the xiangs we visited.

Several factors are responsible for high female drop out – girls are more frequently employed on household work, traditional values place

women in a subordinate position within the family, the custom of arranging marriages for a bride price persists. Early marriage is associated with higher drop out rates for girls. Some parents place little value on girls schooling as they eventually will get married and leave the parents. Others hold the view that girls with more education will resist arranged marriages. These factors come most heavily into play in secondary schools where enrolment disparities are still substantial.

Drop out at lower secondary appears to be very low. The official rates are 1 per cent to 2 per cent for most years with higher rates in Grades 7 and 8 than in Grade 9. These rates contradicted our expectations that drop-out would be higher than in a richer area like Tongxian. Official explanations were that only a small proportion of secondary school age children survive to enter secondary school. These are almost invariably children who have better socio-economic backgrounds and are relatively high achieving. Most of these students have a clear goal in sight – that is to get into specialized upper secondary schools. As a result, most study conscientiously and, if anything, will repeat rather than drop out.

On closer inspection we decided that this was not an adequate explanation. In Huaziping secondary school in 1990/91 at the time of the study there were already ten drop-outs and the drop out rate had reached 4.3 per cent. The questionnaire collected from teachers at Yanhewan secondary school showed that there were 11 drop-outs from that school. These rates suggest the actual rate must be much higher than that given by the county statistics. We also realized that the definition of drop out being used is technically flawed. Drop out rates are calculated by comparing the beginning of the year enrolment registered with that at the end of the year. The rates do not take account of those who fail to re-register for the next year. A new baseline number enrolled is created for each grade. Neither do students who fail to attend necessarily become de-registered within the year so they may still be counted as registered at the end of the year when they have long since stopped attending. These technical problems also distort primary drop out rates. We concluded that drop out rates at secondary school are probably around 10 per cent per annum.

To explore further we estimated graduation and promotion rates. Again we found definitional problems. When the graduation rate is calculated the number of pupils in the graduating grade is counted without

concern for their age. For example, if there are 100 children in Grade 5 and they all graduate, then the graduation rate is considered 100 per cent even if half of them are over-age children. As in Tongxian the graduation rate quoted by the county authorities is very high: 100 per cent in 1989 and 99.4 per cent in 1990. The crude transition rate from primary Grade 6 to secondary Grade 1 in 1990/1 was 91 per cent, ignoring repetition in Grade 1. The rates for the previous two years cannot be calculated meaningfully since this was the period of transition from five to six year primary school. Over the two years before the transition the crude transition rate from Grade 5 to secondary Grade 1 was over 90 per cent. If we use the concept of the on-schedule graduation rate, as previously defined, the picture that emerges is revealing. Assuming that children start their schooling at the age of seven and the length of primary Education is six years, the standard graduation age is 13. There is no reliable information available at the county or xiang level on the cohort of 13 year old children so this cannot be used to compute the rate. With the help of some of the case study schools it was possible to get a clear picture of particular on-schedule graduation rates. In Yanhewan central primary school in 1990/91 there were 3 standard graduation age students who completed and 13 students of the same age in the area the school serves. The on-schedule graduation rate was therefore $3/13 = 23.1$ per cent. At Lijiawan primary school there are two pupils in Grade 6 at age of 13, and there are 31 children who are 13 years old altogether in the whole village in 1990/91. The on-schedule graduation rate is therefore $2/31 = 6.5$ per cent. These figures may or may not be representative of the county as a whole but these schools did not seem unusual.

Using an alternative method we can develop another estimate of the graduation rate by observing changes in the number of pupils in different grades from year to year. We have tried to do this by examining the crude enrolment transition of children enrolled in Grade 1 in 1985 and 1986. The results are as shown in *Table 3.16*.

The table shows that the total number of pupils enrolled in Grade 1 in 1985 and 1986 decreased rapidly as a result of drop-out as the cohort proceeded to higher grades. Since the rate of repetition is uncertain we cannot accurately estimate the on-schedule graduation rate but we can say that it cannot be more than 26 per cent for the 1985 cohort or 30 per cent for the 1986 cohort for Grade 6 (it will be less than this since 30 per cent applies to Grade 5 enrolments, since Grade 6 enrolments were not

available at the time of the study). For Grade 4, the end of incomplete primary schools, the on-schedule graduation rate cannot be more than 38 per cent and 49 per cent in 1988/9 and 1989/90 respectively.

Table 3.16 Enrolment transition profile for Ansai

Grade	1	2	3	4	5	6
<hr/>						
% of 1985						
Grade 1						
enrolment	100	62.9	61.1	38.0	46.5	25.6
<hr/>						
% of 1986						
Grade 1						
enrolment	100	80.6	47.7	49.3	30.3	
<hr/>						

Of course not all children enrolled in Grade 1 were seven years old, and not all pupils in higher grades come from the grade below as there is repetition. If we ignore over age entrants, assuming that their progress through the Grades is similar to that of other students, it is only the rate of repetition that will suppress the on-schedule graduation rate. We know that these repetition rates are substantial and will probably reduce the on-schedule graduation rate by as much as a third. If over age entrants are recognized the on-schedule graduation rate will be even lower since technically no over age entrant can graduate on schedule. As many of a third of entrants are over age. We conclude that the on schedule graduation rate for Grade 6 is probably below 15 per cent, and for incomplete primary schools (Grade 4) is likely to be no more than 25 per cent. These findings are consistent with the range of rates we found in Yanhewan Central primary school and Lijiawan primary School by direct enquiry. Even if there is a transition rate from primary to secondary of 90 per cent it is clear that only a small proportion of the cohort succeed in reaching secondary, and very few achieve this on schedule.

Lower secondary school education is not compulsory in Ansai. Enrolments in Grade 7 are typically about 20 per cent to 25 per cent of those in Grade 1 six or seven years before. We must remember that Grade 1 enrolments are inflated by repetition. The on-schedule graduation rate of primary schools in Ansai is only about 15 per cent. Even if all

the thirteen year old graduates of primary school entered lower secondary and graduated on schedule, the on-schedule secondary graduation rate could not be more than 15 per cent. In reality it must be substantially less. As with primary graduation rates there is no county level data that allows rates to be calculated accurately.

We estimate that overall it is unlikely that more than 5 per cent of an age cohort are reaching and completing Grade 9 on schedule and less than 20 per cent of those enrolled in Grade 1 appear to remain long enough to reach Grade 9 before they terminate their schooling. On the basis of the county estimate that about 10 per cent of lower secondary school graduates enter specialized secondary schools and that fewer enter general upper secondary schools it seems probable that only 2 per cent to 3 per cent of school age students in Ansai are enrolled beyond Grade 9 secondary.

6. Educational achievement

It is only relatively recently (1990) that Ansai has introduced common county wide examinations that allow comparisons to be made between schools. In the case study schools and at the xiang level there were no files of pupils' achievement in previous years. This made it very hard to build up a picture of how educational achievement has been changing. This is in strong contrast to the extensive records available in Tongxian. It is indicative of the level of development of school management which has placed little emphasis on monitoring the progress of children and the performance of schools. The county common examination results for Grade 3 mathematics and Chinese illustrate patterns of performance between xiangs (see *Table 3.17*).

Overall achievement in the county is poor. The average score of 107.5 is below the 60 per cent required for a pass i.e. the majority of students are failing to reach the required level in these two core subjects. Only 27.4 per cent actually succeed in getting a pass in both subjects. Performance disparities are great. Pingqiao's average pupil score is about double that of Yanhewan's which is the lowest. Huaziping is one of the better xiang with a raw score average 63 per cent higher than Yanhewan.

If the tests are taken as a criterion of performance it seems that higher grades fare worse. In Huaziping no Grade 3,4 or 5 students exceeded the pass level in mathematics in the first semester of the 1990/91 school year

and no Grade 5 students passed Chinese. In contrast in Grade 1, 71 per cent reached pass level in mathematics and 49 per cent did so in Chinese. The proportion exceeding the pass level reduced with increasing grade level. Primary schools are ranked within xiangs. The results of the central primary school in Huaziping are generally the best at higher grades where it was ranked first, third and first at Grades 3,4 and 5 respectively. Curiously it was actually ranked worst in the whole xiang for Grade 1 and not much better for Grade 2. This seems to have been the result of problems with particular teachers. The fact that its relative position improved so much in Grade 3 illustrates how significant school factors are likely to be in determining achievement since its basic catchment area does not change. It is the case that in Grade 4 and 5 some of the better students from incomplete schools will have joined the school. At the other end of the scale Baoshan primary school ranked amongst the worst in Grades 4 and 5. On average only 20 per cent to 30 per cent passed the two subjects.

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Table 3.17 Achievement in Grade 3 County unified examinations in Chinese and Mathematics

Xiang	Pass in both subjects (%)	60% average over 2 subjects	Average score out of 200	Rank
Pingqiao	72.6	82.0	141.5	1
Wangjiawan	77.0	88.7	136.9	2
Louping	50.0	69.7	130.0	3
Xihekou	52.5	55.4	121.4	4
Huaziping	26.6	49.7	118.0	5
Zyanyaowan	37.1	51.7	117.9	6
Zhaoan	26.8	32.0	111.3	7
Zhenwudong	16.9	24.0	109.0	8
Gaoqiao	15.0	56.0	109.0	8
County town	2.0	36.0	108.3	9
Wangyao	15.6	33.9	105.5	10
Tianjiaying	17.9	25.3	100.5	11
Haojiaping	7.9	14.7	92.2	12
Liandaowan	7.6	13.4	79.5	13
Yanhewan	7.7	8.2	72.6	14
Whole county	27.4	39.4	107.5	

Achievement in Yanhewan is poorer than in Huaziping. In the xiang unified Chinese and mathematics examinations held in 1990 the average score of the schools that ranked first in the xiang was 31, 54, 50 and 42 respectively from Grade 3 to Grade 6. These scores are all much lower than the pass mark. Schools with the lowest ranks averaged 10 or less indicating little useful achievement. At secondary level the picture is equally disturbing though there are some signs of improvement as a result of improved management and monitoring. Nevertheless, none of the pupils who were admitted to secondary school in 1989 actually passed

the entrance examination by achieving more than 60 per cent in each subject. The poor quality of the new entrants inevitably has implications for the quality of secondary education. Our data suggest achievement is most lacking in science and relatively better in Chinese. (See *Table 3.18*).

Table 3.18 Achievement in secondary school entrance examinations in Yanhewan

Year	1989	1990
Chinese		
average score	39.4	46.8
top score	56	75
bottom score	21	17.5
Mathematics		
average score	18.3	45.2
top score	43	88
bottom score	3	5
Science		
average score	11.8	21.7
top score	26	64
bottom score	0	1
Average across three subjects	69.6	113.7
Minimum admission score	51	90

This distracts them from teaching effectively and lowers their commitment to improve the performance of their students. In these places there are also opportunities for students who lose interest in studying to make money outside the school. In poorer areas, teachers and pupils do not have much access to the outside world, nor do they have alternative income earning opportunities. Teachers may therefore be more dedicated and pupils more motivated – the only chance for the latter to move from the area is success through school. This is seen by some as a contradiction arising in the early stages of the development of a ‘socialist market economy’. The short term income gains available to those in areas that are developing rapidly tend to reduce motivation for education since its benefits may only appear in the medium term.

7. Comments and conclusions

Ansai is one of the 300 poorest counties in China and has a disadvantageous economic and natural environment. Some progress has been made in universalising compulsory education and the county government has placed considerable stress on education since 1987. After the inspection in 1988 the provincial government judged that primary education had been generally universalized in terms of the basic standard of 'one no and two haves' and the enrolment of 95 per cent of school age children in the 7 to 11 years old age range. Our research indicates that in fact this judgement is premature. It is unlikely that enrolments are at these levels as our school level data and estimates of enrolment rates show. There are also substantial shortages of furniture and equipment and a significant but reducing number of dangerous buildings. The research draws attention to the distance that is yet to be travelled. The most important interventions currently underway to support the implementation of basic education policy in Ansai are discussed below.

First, the county government has decided that incomplete primary schools should be within 1.5 kilometres and completed primary schools within 2.5 kilometres of the villages they serve. Over 80 per cent of the primary schools in Ansai have enrolments of less than 40 students and some areas still cannot be provided with schools since the population density is so low. 'Instructional stations' have been built to provide non-regular instruction in the remotest areas. These are not economically efficient but they are essential. If many of the small schools were amalgamated to improve class size and lower costs per pupil there would almost certainly be a deterioration in the enrolment ratio.

Second, a flexible approach has been adopted to the new structure of incentives created by the family responsibility system. This has increased demand for labour amongst rural families, especially at busy times in the agricultural cycle. Some schools (e.g. Chengmao primary school in Huaziping xiang) have been allowed to admit 'slack season pupils'. These pupils are allowed to attend according to a pattern agreed with parents which enables them to come during times when additional labour is not needed. These students are fitted in to classes in different grades and the pass criteria applied is lower for them than for other children. It enables many to reach Grade 4 standard before leaving school whereas before they would have left earlier after repeating lower grades. This

practice is not in accordance with Compulsory Education Law, but is seen as better than no schooling at all.

Ansai has encouraged the organization of pre-school classes and many xiang recommend attendance in them prior to enrolment in Grade 1. Most primary schools now have preschool classes. However our investigations suggest that many do not have an appropriate curriculum and trained staff and there are often many over age children.

Second, improvement in instructional quality in Ansai depends on more guidance in the techniques of teaching multi-grade classes. Over 80 per cent of primary schools have multi-grade classes, 80 per cent of teachers teach multi-grade classes and 80 per cent of pupils are in multi-grade classes. A teachers guide on multi-grade class teaching has been produced and teachers are being trained through the teaching and research group network which visits schools, gives model lessons, and observes teaching. In our investigations we found that some teachers (e.g. teachers in Huitiaozui primary school in Yanhewan) had mastered multi-grade class teaching skills and organized classes effectively. But there were many teachers who still could not handle such classes well, and who concentrated attention on one group of students and lost sight of others.

The Ansai Bureau of Education has stressed improving teacher training as a means of raising the quality of the teaching force. Minban teachers represented 80 per cent of the total in the mid 1980s, and the majority were not qualified at all. Since then minban have been retrained or redeployed but over 60 per cent of teachers are still in this category. Those who remain are paid salaries under a new system to reduce the arrears that were common previously. Part of the People's Fund for education is used to pay some of the minban teachers' salary and provide a more stable income.

Various training programmes have taken place. Since 1985 four teachers have obtained undergraduate diplomas, 31 teachers have received short-cycle college diplomas, 108 teachers have graduated from normal schools, 24 teachers have graduated from colleges through correspondence courses, and 125 teachers have completed correspondence courses at upper secondary school level. A further 30 are currently enrolled. The proportion of qualified primary school teachers has increased from 60 per cent in 1987 to 83 per cent by 1990. Nearly 50 per cent of lower

secondary teachers are now qualified, a dramatic improvement over the very low rates of the early 1980s.

Finally a campaign has been conducted to strengthen morale and motivation in the teaching force because it was felt that some teachers lacked discipline, dedication and a sense of responsibility. A special task force was set up led by an associate magistrate. Teachers studied appropriate documents and regulations and every teacher had to undertake a self-evaluation programme on professional ethics, discipline, dedication and achievement. Using these evaluations as a starting point organizational evaluations were conducted. As a result some teachers were singled out for special praise and reward and some procedures were reviewed.

Though Ansai has made considerable progress in universalization of basic education, it continues to face some serious problems. More specifically our research suggests that a little under 10 per cent of the building stock remains dangerous or inadequate, and officially about 15 per cent of pupils do not have desks or benches. The latter is almost certainly an under-estimate. Most of schools have no library books and the teaching facilities are rudimentary with little more than blackboard and chalk available. As elsewhere in China the state is only responsible for the salaries of government teachers' salaries and a proportion of the salaries of Minban teachers. The county, xiang and village authorities are responsible for all other inputs. As a poor county Ansai has very little capacity to devote more of its own resources to education and is unlikely to be able to afford to provide a larger share of its budget to education. Poverty is therefore a major factor inhibiting the improvement of the school conditions we describe.

Local cultural traditions are another factor and these impede attempts at fund-raising for education. In our research we noted a much greater willingness to contribute to the building of new temples than to contribute to the costs of schooling. Peasants appear reluctant to donate a couple of yuan to aid schools and are much more enthusiastic about contributing larger amounts to build and restore shrines. Cultural factors also manifest themselves in the lower enrolment rates of girls and in propensity to drop out from school. Changing these traditions is not a simple task, nor one that is likely to be approached successfully without deep understanding of their basis.

The efficiency of existing educational investment can be judged on both internal (pupil teacher ratios, class teacher ratios, unit costs, the balance of investment between levels) and external (absorption into the labour market, satisfaction of employers) criteria. Currently the pupil-teacher ratio at primary school is 17.1 (similar to Tongxian) and has been declining. Considering the undeveloped transport system and the dispersed population of Ansai, this ratio is unlikely to be reduced further, though it is relatively expensive in resource terms. Primary schools in Ansai have few full-time administrators compared to Tongxian where as many as 10 per cent of teachers are full-time administrators. In this respect Ansai is more efficient. The picture is different at secondary school. The current pupil-teacher ratio is only about 9.0:1 in Ansai – lower than Tongxian's – even though most secondary schools are located in population centres. It is also the case that secondary unit costs are accelerating away from those at primary. Class teacher ratios at primary are lower than the national guidelines advocate (the 1.15:1 class teacher ratio is well below the 1.5 suggested). Though this could be seen as an indication of efficiency it is better interpreted as a consequence of small school size and the financial implications of employing additional teachers (in most schools these would be minban and the costs would fall on local revenue unlike in areas where most teachers were government teachers as in Tongxian).

The unit costs to qualified graduates are high as a result of high levels of repetition and drop out. We have estimated the primary school on-schedule graduation rate as very low at about 15 per cent. Repetition consumes considerable resources. Only about one quarter of the pupils enrolled in Grade 1 can be enrolled in Grade 6 with current levels of expenditure. Improvements in both repetition and drop out carry cost burdens which are not likely to be met from local resources without deterioration in unit costs. Nationally the State Education Commission estimates that on average each pupil studies for 6.3 years in primary schools with 5 grades. This means that each pupil consumes 1.3 years more educational investment for graduation than they would if there was no repetition. In Ansai each graduating pupil requires the investment of considerably more pupil years of schooling given the rates of drop out and repetition suggested by our analysis. Thus the Ansai education system appears much less efficient than the national average.

The pattern of deployment of resources is likely to have an impact on efficiency. In Ansai we identified some particular problems.

First, the Ansai county government places considerable emphasis on secondary education and focuses its educational investment at this level. This diminishes the total resources available for primary and has resulted in a rapidly widening gap in unit costs between the two levels.

Second, the bulk of the operating budget is allocated to office expenditures rather than to books or equipment. This may slow the improvement of educational quality since its consequence is that little teaching material is available in schools.

Third, there is some evidence that some funds are used extravagantly. Thus, for example, the County Bureau of Education spent 40,000 yuan on building an impressive gate to the County secondary school. With this amount of funds at least 600 sets of desks and benches could have been purchased.

Judgements of external efficiency are difficult. As almost none of the primary school graduates are employed in industry or business it is difficult to find opinions on relevance and utility. The proportion of primary school graduates who qualify to enter lower secondary school could be an indicator of the efficiency of investment in areas where the nine year compulsory education is not universalized. In Ansai as we have seen few reach this level. Even if more did, it is the number of places that can be provided in lower secondary that determines how many will be promoted more than the level of achievement that they reach.

Ansai is mainly a crop planting area. Tobacco, sheep, fruit and apricot have become the leading products. This defines the basic economic environment which school leavers enter. Most will be engaged in farming. By implication it might be thought that the goals of basic education in Ansai should be orientated to the basic skills of learning and those related to agriculture, otherwise it is likely that the external efficiency of the system will be low. The reality is that primary education centres on preparation for lower secondary school even though most fail to complete primary or be promoted to secondary. The primary schools do not offer courses related to agricultural production and technologies. The schools that own farms or forests only use them primarily to generate additional funds, not for learning activities. The pupils neither learn any agriculture-related knowledge or skills, nor seem challenged to question traditional preconceptions that farming does not need much education.

It is therefore unsurprising that many students see primary education as of limited relevance. External efficiency might be improved by the use of more learning material that supplemented the national textbooks with locally relevant and economically useful content and concepts. This might also help change parents' and pupils' traditional tendencies to place little value on education. It might increase pupils' motivation and decrease repetition and drop out rates. In contrast to primary schools many lower secondary schools do offer production related and vocational courses. Thus Huaziping lower secondary school teaches courses in tobacco and apple cultivation. Some schools offer intensive pre-career training for 20 days in July for graduates going back to their villages.

From the analyses above, we can see that there are many factors that influence the efficiency of educational investment. Substantial improvements in the educational status of Ansai in the short term will have to be supported from state or other resources external to Ansai. In the longer term sustainable development will only be possible when the local economic base becomes more developed and generates larger surpluses. Neither of these will occur unless there is consideration given to the cultural changes that may need to take place to persuade the population to place less value on superstition and traditional beliefs which lead to the undervaluing of education. This may make it possible to mobilize greater community support but this will not be a rapid or easy process.

In our interviews with xiang and village cadres we found widespread support for the current administrative system and a desire to allocate more resources to primary education (despite their actual preferences for investment at secondary level). The budgetary realities do indicate that they lack locally based means to achieve this. In the past the cadres had more control over the resources for education since they had direct responsibility for production. After the collapse of the collective economy it has become very difficult to raise additional funds for education. Though it is often possible to get farmers to contribute labour to help in school building it is not at all easy to ask them to donate cash to support schools on a recurrent basis. While the family responsibility system has raised incomes it has not provided mechanisms to replace all the functions of the collective economy in providing public services like education. Some xiangs have allocated pieces of land and organized peasants to plant crops. The income which this generates is then used to support schools. Though this has met with some success inevitably many prefer to invest

their labour power in individual rather than collective income generation.

The second area which remains problematic in addition to resource based problems concerns the four key rates – enrolment, repetition, drop out and graduation. All are unsatisfactory and on our evidence are less than officially claimed. Technical problems of non-standard definitions occur widely and this further confuses the picture. The '4 Rs' and closely related indicators are the basic criteria used to judge if the universalization of compulsory education has been achieved. In Ansai we note that the various authorities place much more emphasis on the 'one no and two haves' criteria than the '4 Rs'. Most of those we spoke to do not know the meaning of gross enrolment rate or net enrolment rate, and still fewer know how to calculate on-schedule graduation rates. The statistics provided at xiang level and above are therefore not reliable or consistently defined. Training is needed to rectify this and to improve the quality of the local and national statistical base.

Improvements in performance measured against these rates is likely to require an approach on several fronts.

First, the status of the compulsory education law needs to be widely publicized amongst parents in the area so that there is a more general understanding of the obligations it creates. Rigorous enforcement may not be possible but compliance could be encouraged more actively than appears the case at present.

Second, we have identified a need to clarify the purposes of preschool classes and provide more support for their operation. The current situation, where these classes are often little more than child minding, is not evidently beneficial. Curriculum guidelines and material for teachers are needed along with at least the rudiments of training to develop early childhood teaching skills. It should also be possible to restrict the length of preschool enrolment to one year and encourage the enrolment of 6 year olds only. Younger children should be in kindergarten or at home and older ones in primary school. There seem few good reasons why preschool classes should retain school-age children.

Third, low educational quality appears to be a major factor in causing high repetition rates and low on-schedule graduation rates. If we take test scores as an indicator of quality, instructional quality in Ansai is very low. Ansai ranked the tenth among thirteen counties in Yan'an Prefecture in the common lower secondary school examinations. It is impossible to associate patterns of achievement with indicators of levels of investment

because the statistical base is so weak and inconsistent. However, what evidence there is suggests that it is likely that substantial gains in achievement could be made at relatively modest levels of cost through selective interventions designed with this in mind.

A high proportion of government employed teachers are new graduates of normal schools. They lack teaching experience and are often from other areas and may not initially have a high level of commitment. Most of the remaining minban teachers are more experienced, but two thirds of them have not received professional training. Though 80 per cent of all teachers meet the minimum educational standard for teachers, instructional quality is often judged low and professional training and support are sparse. A critical illustration of the problem is that currently there is very little research on multi-grade teaching and no training related to this in most primary school teachers' training institutions, for example, Yan'an Normal School. Nor do in-service training programmes offer much training for multi-grade teaching. The only guidance available comes from a small number of teachers in the county Teaching and Research Group. This is clearly an area where action is needed to improve instructional quality.

We have noted that most investment has gone into school building, with considerably less in purchasing furniture and equipment. Great emphasis has been placed on the 'one no and two haves' but our research indicates a relative neglect of improvements in the daily management of teaching activities. As a result the organization of teaching and learning is problematic in many schools, monitoring and record keeping is unsystematic, and instructional quality has suffered. Since last year the county and xiangs have started to pay more attention to school management issuing the 'Regulations to Strengthen School Management' and the 'Criteria for Primary School Teaching'. This has had an impact – Yanhewan was judged amongst the worst managed systems and has now improved under the guidance of new leadership appointed to improve management systems.

Pupils' achievement is poorest in science and modest in maths and Chinese. One reason for this advanced by many teachers was that much of the content on which lessons are based is unfamiliar to rural pupils. Moreover there are no facilities for practical subjects like science and some of the content is itself beyond the understanding of teachers. This exacerbates the learning difficulties that children experience as a result

of their home backgrounds. Currently there are no supplementary teaching materials incorporating locally relevant content, especially that which relates to improved agricultural practice and health and nutrition. Neither are there materials designed to help teachers understand subject matter with which they are unfamiliar.

Many teachers attribute the low quality of educational performance to the low motivation of pupils. Eight out eleven teachers of Yanhewan Central primary school felt that most of their pupils were not motivated to study well. The main reasons advanced for this centred on the observation that only 10 per cent of primary school pupils would enter upper secondary schools (including specialized secondary schools). Most will become employed in agriculture. They have few chances to get other jobs and basic education is not recognized as an advantage in the extensive agriculture that is practised. Thus parental support is often not forthcoming and many pupils are not convinced that it is useful to have much education.

A final observation is that differences in the developmental level of different areas do not seem to be considered when targets are set. Thus the criteria for universalization of 6 year Compulsory Education set by Shaanxi Province Education Commission are applied to all xiangs. One criterion requires that there must be one vase of flowers and one piece of sports equipment for each pupil. Ansai could not meet this criterion unless it moved vases of flowers and sports equipment from school to school whenever there was an inspection. Part of the problem is that criteria are not classified into those that are essential and those that are merely desirable. Neither are conditions for meeting them varied to reflect realistic goals in communities at very different levels of economic development. In Ansai measures are needed which raise school quality and the perceived relevance of school attendance. Sustained increases in enrolment and on-schedule graduation rates, and lowered repetition and drop out rates appear to depend on a combination of enhanced resources, more effective family planning, changes in cultural attitudes towards education, and a reduction in discrimination against women.

Chapter IV

Zhaojue county in the Yi Autonomous Prefecture

1. Social and economic background

The third case study site was *Zhaojue county*, which lies 100 kilometres East of Xichang, the capital of the Yi Autonomous Prefecture in Sichuan. Zhaojue is located in the centre of the craggy Liangshan Mountains in an area populated by the Yi nationality. There are altogether 5 million Yi people in China living in Yunan, Guizhou and Sichuan. 1.5 million Yi live in Liangshan Yi Autonomous Prefecture where Zhaojue is one of the four counties where they are concentrated. Zhaojue is the poorest of the case study areas with a per capita income of about 250 yuan a year. This places it in the poorest 100 counties and in the middle range of income for Autonomous regions. About 30 per cent of rural families are estimated to live in conditions below minimum acceptable standards of nutrition and shelter.

The climate is harsh as a result of the altitude. The altitude varies between 500 m and 3,900 m above the sea level and much of the population lives on and around high plains and basins. The mountains account for 80 per cent of the area of the whole county. Climatically the winter is cold and dry and very long, the summer is hot and humid. Annual rainfall is over 1,000 mm and mostly falls between May and October. The average annual temperature is 11 degrees centigrade and varies between -20 degrees and 32 degrees. The four seasons can be experienced in one day when moving from valleys to mountains.

Before 1950 the Yi people existed within a feudal society with traditional landowners and serfs working the land. The economy was at

a very early stage of development with no modern industry and primitive subsistence farming was the main occupation. Yields were low typically averaging only 50 kilos of corn per mu. Food and shelter were inadequate to meet the needs of most of the population. Rival clans fought over small quantities of essential commodities imported from outside the area, e.g. salt. Since Liberation the pattern of social administration has been changed and some economic development has begun to take place. The reforms after 1956, and more recently the open door policy, have brought benefits in the 1980s. The county government has focused on promoting economic development and has stressed improvements in both agriculture and husbandry and has introduced rotation of crops and cultivation of the grassland. Hybrid rice varieties have been introduced, and thin plastic covers have been used to promote the production of corn in the plain areas. Yields have increased and now average about 500 kilos per Mu (the highest was 750 kilos). The per capita grain production has been raised from 175 kilos in the 1950s to 418 kilos in 1990. Grass has been planted on 100,000 Mu of land and there are now about one million horses, cattle, sheep and pigs, compared to about 140,000 in the 1950s. The county is now an important producer of sheep products and there are 150,000 sheep of improved breeds. The county even exports some buckwheat food to Hongkong.

As in Ansai the major economic activity is agriculture. About 82 per cent of all industrial and agricultural output is derived from agriculture. Corn, potato, rice, buckwheat and oats account for 53 per cent of agricultural output and animal husbandry, sideline production and forestry represented 33 per cent, 11 per cent, and 4 per cent of the total respectively. There is also a small scale fishery. Industry essentially consists of hydroelectric power production, a copper mine, wool spinning, leather processing, and small scale food processing. Total output grew by 66 per cent between 1980 and 1990 at an annual rate of growth of 4.7 per cent. Per capita income increased from 61 yuan to 252 yuan over the same period growing at about 14 per cent annum. Local government revenue increased by about 4.6 per cent a year. Fully 85 per cent of the county government budget has to be financed from state government grants since local resources are so limited. Thus though economic development is taking place the economy of Zhaojue weak and under developed.

The county covers 2,700 square kilometres, and the population density is low averaging only 76 people per square kilometre. As little

as 9 per cent of the total area of 320,000 mu (about 21,300 hectares) is farming land giving a per capita ratio of 1.7 Mu per person. About 25 per cent of the land is forested and 52 per cent is grassland. There are many rivers and an abundance of water resources. However, the rivers contain a lot of sediment and soil erosion is a very serious problem. Copper, iron, coal and limestone are mined but the industry is relatively undeveloped. Transport is very limited. There are no railways and there are only 100 kilometres of provincial highway. The remaining roads are unmetalled dirt tracks. About 40 per cent of the xiangs are not accessible through the road system.

Zhaojue county administers 7 districts, 62 xiangs, 1 town, 267 villager's committees and 836 villager's groups. The total population in 1990 was 201,400 including 12,520 non-agricultural people. Of these 193,120 are Yi, representing 96 per cent of the total population. There were 8,030 Han people, 140 Muslims and a few Mongolians and Tibetans. There are 47,430 families of whom 42,630 are designated rural residents. Population growth rates remain high and are a serious problem. Official birth rates are recorded as averaging around 25 per thousand having fallen from over 40 in the early 1980s. The death rate appears to be about 11 per thousand. Males consistently outnumber females in the population by 4 per cent to 5 per cent.

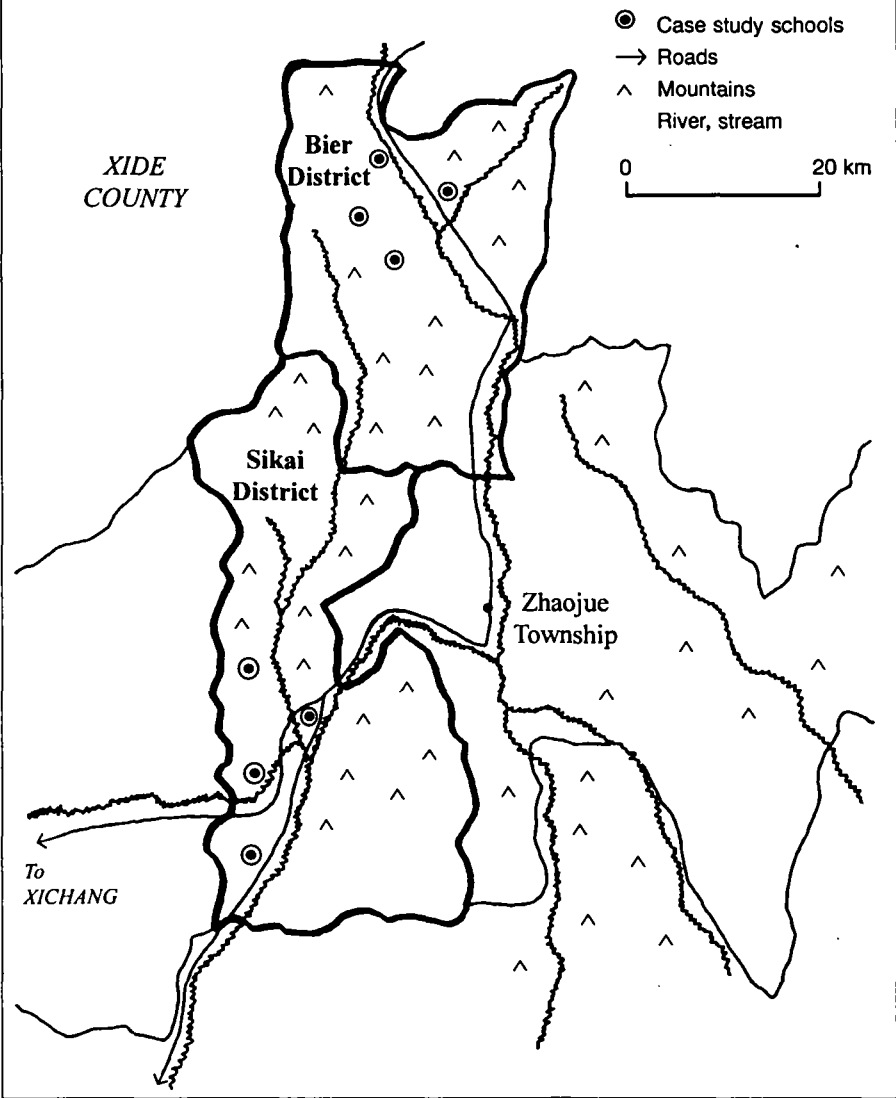
National family planning policy applies in Zhaojue but is not strictly implemented. A farming couple are allowed to have three children. Our field studies indicated that it is quite common to have more. For example, there are 72 families in the Zuer Farming and Husbandry Service Co-operative in Bier District, where three new babies were supposed to be born according to the family plan in 1990, but in fact five were born. Twenty three babies more than the family plan were born in Yumin Village between 1987 and 1990. In the 1980s the birth rate for Zhaojue was over twenty per thousand in all but one year. The death rate was over ten per thousand every year as health care was very poor. Officially the population in Zhaojue increased by 8.7 per cent between 1980 and 1990 growing at less than 0.8 per cent per annum – much lower than the national average. This result is however inconsistent with the quoted differences in birth and death rates. These suggest that the population should have grown by 15 per cent or more over the decade. In interviews local leaders suggested that many people had moved out of Zhaojue. But our investigations in Sikai and Bier District told a different story since

there seemed to be little migration outward. The birth rate appears to be much greater than that officially recorded and the proportion of the population that is young is large. There are usually at least two or three school age children in a family and, in one of our case study xiangs, most families appear to be larger than this.

The social and cultural environment in Zhaojue is impoverished. Those with any educational qualifications mainly work in the education system. There are very technically qualified staff and they are concentrated in the county town and in a few factories. There are only two people with engineering qualifications in Zhaojue. Almost all of the farmers were illiterate before 1980. A literacy campaign has been carried out since then and officials claim that about 80 per cent of young and middle aged people have learned to read Yi script. However a substantial number have probably reverted to illiteracy as there is lack of educational opportunities and basic reading materials. The county is in a very disadvantaged situation in terms of communication. Most of the farmers do not speak Chinese and only speak Yi. There are no books, journals or broadcasts in Yi. Even the mass media in Chinese are not easily accessible. Sikai District is one of the more developed areas, but there are few radios, and only three farmers have television sets. The situation in Bier District is worse, and there are no television sets at all.

Two areas were selected for case studies in Zhaojue. These were Bier and Sikai (see *Map 4*). Bier District is 32 kilometres north of Zhaojue County. It links with Yuexi County in the north and Pangxide County is adjacent 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 2,500 metres and a high point of 3,900 metres. Amongst the 11 xiangs five have county level roads and three have xiang level roads. Another three xiangs have no roads at all. There is therefore very little transport available. Some of the villages in the seven xiangs along the river have electricity but there are still 4 xiangs with none. In Bier the population density is low with only 64 people per square kilometre and the grazing is very poor. Frost and hail are major natural hazards which can destroy the crops. In the 1984 and 1985 successive hail storms meant that virtually no grain was harvested. The situation has been improved by the anti-hail measures taken (cloud seeding from cannon), however hail still occurred twice in 1991.

Map 4:
Site 3 - Zhaojue County in
Qong Shan Yi Autonomous Region



Five xiangs are in semi-mountainous areas and six in high altitude mountains. They contain 51 villages, 143 agricultural and stock raising services and 6,660 families. Cultivated land covers 53,450 Mu, or 1.8 Mu per head on average. Most of the land is on mountain slopes without any irrigation. Agricultural development is taking place and growth in output value is claimed to average nearly 20 per cent a year. In 1990 the output value of all kinds of crops was 4.5 million yuan, and of stock raising 5.5 million yuan. Per capita income in Bier was 210 in 1990, well below the Zhaojue average. Despite the development that has taken place Bier is still one of the poorest districts in the county. Almost half of the agricultural families lack food and shelter of an acceptable standard. There is little local cash income and the development of education is seriously constrained by this.

Bier is inhabited almost entirely by the Yi nationality and the total population in 1991 stood at 29,950. Only 230 individuals were classified as non-agricultural. Officially the birth rate of this district averaged about 14 per thousand in the late 1980s with females outnumbering males in many years. The census data available contain some contradictions (see *Table 4.1*).

Table 4.1 The population in Bier district

Year	Total	Male	Female	New born babies	Births per thousand	Deaths per thousand
1980	27 136	13 296	13 840	na	na	na
1981	27 872	13 797	14 075	na	na	na
1982	28 017	14 065	13 952	640	22.8	17.8
1983	27 724	13 584	14 140	420	15.1	19.2
1984	27 602	14 078	13 524	396	14.3	18.4
1985	27 668	14 111	13 557	400	14.4	21.3
1986	28 009	13 948	14 061	397	14.1	15.9
1987	28 387	14 051	14 336	393	13.8	17.5
1988	28 549	13 989	14 560	405	14.1	16.0
1989	28 724	14 364	14 360	399	13.9	14.8
1990	29 260	14 610	14 650	421	14.3	19.7

These figures suggest that the total population in Bier has increased 7.8 per cent from 1980 to 1990, at an annual growth rate of 0.69 per cent. But during the same period, the birth rates were lower than the claimed death rates for all the years except 1982. The secretary for the district argued that the death rates were so high because of the poor medical conditions. The growth in the total population was explained as arising from the inward flow of people from other areas. We examined migration and the change in numbers of people over the last two years when we went into villages in the deep mountainous area. Our findings cast doubt on the figures provided by the district government. Thus there were 21 new born babies and 15 deaths in 1990 in Haile Village giving a birth rate of 25/1000 and death rate 11/1000. The birth rate was much higher than the death rate. In Zuer Agriculture and Livestock Service Commune for the same year, there were 5 new born babies and 1 person died, the birth rate was 16/1000 and the death rate 13/1000. In 1991 (up to September) there were 4 new born babies and 2 persons died, thus the birth rate was also higher than the death rate. Our survey of families indicated that most couples have 3 children, and some four or five. The birth rate was therefore not only higher than the death rate in all the areas we examined but it is also higher than the figures offered by the government. There is little evidence to support suggestions of population migration. It is most unlikely that people move into this district.

Sikai District was the other case study area chosen. It lies more than 20 kilometres 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. Of the 9 xiangs in the district, 5 are in plain areas, and the others are in the mountains. On average it is 2,200 m above the sea level, and the highest point is 2,800 m. It is a little warmer than Bier and has a higher rainfall. The transport system in Sikai is better than in Bier. There are provincial highways across 2 xiangs and county highways or ordinary dirt roads in 4 xiangs. Bus services have not reached 3 xiangs in the high mountains. Six xiangs have electricity. The 9 xiangs contain 42 villages, 142 family groups, and 7,410 families in an area a little more than half the size of Bier. Since Sikai has a larger plain area its area of farming land (58,000 mu and 1.7 Mu per capita) is a little larger than that of Bier and is more fertile. Some areas by the sides of the rivers are irrigated.

The distribution of population is uneven and is concentrated on the plains. Agricultural output value is claimed to have risen by about 19 per cent a year since 1980 and 40 per cent is from crops, 40 per cent from animal husbandry and 20 per cent from forestry. In the plain areas, new agricultural technologies such as hybrid rice and thin plastic covers over corn land have been introduced. Per capita incomes reached 237 yuan in 1990 and had been growing at about 18 per cent per year though it is still below the average for Zhaojue as a whole. It is estimated that nearly 20 per cent of the rural families are still not able to meet the basic needs for food and shelter. There are no district or xiang run enterprises, and trading business activities are not developed. This district has found it impossible to develop its own system of revenue raising to support the development of education since so few activities generate cash incomes.

Like Bier, Sikai is almost entirely populated by Yi nationality people. The total population in 1991 was 35,400 with Yi making up 99 per cent of the total. Only 200 are non-agricultural residents. The official birth rate in Sikai is higher than in Bier and has averaged around 20 per thousand. In recent years claimed death rates have been lower than birth rates. Between 1980 and 1990 the population increased by 12.8 per cent with an average annual growth of 1.1 per cent. As in Bier we suspect that the real rate of growth may be higher. In Sikai females have only recently approached 50 per cent of the total population (see *Table 4.2*).

Table 4.2. The population in Sikai district

Year	Total	Male	Female	New born babies	Births per thousand	Deaths per thousand
1980	30 973	17 574	13 403	809	26.10	16.75
1981	31 744	17 969	13 781	767	24.20	13.30
1982	32 253	18 245	14 008	509	15.80	12.60
1983	32 579	18 063	14 532	498	15.30	11.30
1984	32 571	17 601	14 970	370	11.40	17.90
1985	32 973	17 646	15 327	482	14.60	13.30
1986	33 116	17 336	15 780	473	14.30	12.30
1987	33 391	16 891	16 500	752	22.50	13.90
1988	33 692	16 690	17 002	747	22.20	12.30
1989	34 797	17 676	17 121	607	17.40	11.50
1990	34 943	17 630	17 313	602	17.20	11.10

Compared to Bier, Sikai has a better overall cultural environment, but it is still very poor. At present there is only one 4-year college graduate, two 2-year college graduates, 112 secondary specialized school graduates, 70 senior secondary school graduates, 549 lower secondary school graduates, and 4550 primary school graduates in the district. Only 2.1 per cent of the population have an educational level at or above lower secondary. Only three families in this district own a TV set. There are very few radios, newspapers, and journals and very limited contact with the outside world. The medium of common communication is Yi language and almost no people understand Chinese except a few district and xiang cadres and teachers.

2. The education system in Zhaojue

Before 1950 there was no formal schooling before 1950 in Zhaojue and amongst the Yi. What education there was consisted of informal learning at the feet of a small number of special members of the community. The master, who was called a Bimo, taught his disciples, who were mostly the members of the master's extended family. The rest of the population had no provision made for them. This learning was religious and based on superstition and was taught only in Yi. Most of the people who knew Yi written language were slave owners. In the early 1950s it was estimated that less than 3 per cent of the total population read Yi, and there were even fewer people who were able to act as Bimos. Though the Yi language has more than one thousand years of history it is a simple and irregular language and the written language transmitted by different Bimo varied, there being no standard form.

The government of Xichang Prefecture established the first primary school in Zhaojue in Sikai District in 1940. It enrolled 30 boys but it soon closed. A new government was established in June 1950 with a Department of Education. Three primary schools were set up by the end of the year. Schooling was free and all costs were paid by the government. In 1958 when China experienced the Great Leap Forward, a mass campaign was undertaken to build schools. All xiangs built completed primary schools and many villages built their own primary schools. The government was unable to pay the full costs of the staff so not all such schools functioned. In the 1970s, during the Cultural Revolution all villages had their own schools and the enrolment rate of primary schools

was claimed to be 91 per cent. However many of these schools lacked buildings and trained teachers, and attendance was irregular. In the 1990s school provision is as shown below in *Table 4.3*.

Table 4.3 Numbers of schools of different types and ratio of villages to primary schools – Zhaojue

	Zhaojue	Bier	Sikai
Complete secondary	2		
Upper secondary			
Lower secondary	1		
Secondary vocational	1		
County town primary	2		
District central primary	7	1	1
Xiang central primary	62	11	8
Incomplete primary	131	25	19
Ratio village: primary school	1.3	1.4	1.5

Zhaojue has two complete secondary schools and one lower secondary school specifically for minorities. Three of the primary schools have attached lower secondary school classes. There is also one teacher in-service training school. All are located in the county town. The primary schools with attached lower secondary school classes are the central primary schools in Fucheng, Sikai and Zuer Districts. The two primary schools in the county town are former provincial key point schools and the seven central primary schools at district level are all complete schools. Only ten of the 62 xiang central primary schools are complete. The remaining village schools are widely dispersed and often shared by more than one community or farming and husbandry service co-operative which jointly run individual primary schools. Usually the large administrative villages have their own primary schools. Typically village schools only have grades one and two.

In Bier of the 37 primary schools only the District central primary school is complete. Most of the 11 xiang central primary schools cover Grade 1-3. If the students who have finished three-year schooling want to continue their education they have to pass entrance examinations and transfer to other districts or county town schools. The 25 village schools

usually only offer Grades 1 and 2. There is one school for each large village, otherwise several villages share schools. The county government has ruled that no school should be established in places where there are fewer than 25 students because of the shortage of teachers. As a result there are no schools in the deep mountainous areas. Sikai has 28 primary schools including one district central school and 8 xiang central schools. Only the district school and 3 xiang central schools are complete. The 19 village schools mostly cover grades 1 and 2 as in Bier. There are few schools in high mountain areas and the local regulations are the same as in Bier with no school being formally permitted with an enrolment of less than 25.

The primary schools in the county town are the largest with enrolments of more than one thousand pupils. District central primary schools typically have six classes and two hundred pupils though some are larger. Bier central primary school has twelve classes and 424 pupils. Most village schools have a single classroom (occasionally two) with one teacher and a couple of dozen pupils. Each lower secondary school grade attached to the primary schools usually has one class with about 30 pupils.

In the academic year 1990/91 11,509 primary school pupils were officially enrolled of whom 31 per cent were girls and over 95 per cent were members of the Yi national minority. Primary education lasted five years before 1989 so there were no Grade 6 enrolments before this date (see *Table 4.4*).

Table 4.4 Enrolments in primary school in Zhaojue

		1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 1		4 721	3 388	3 040	4 366	3 018	3 728	4 489
Grade 2		2 657	2 599	1 938	2 180	2 303	2 313	2 750
Grade 3		1 360	2 122	2 025	1 782	1 997	1 921	2 058
Grade 4		787	818	968	1 322	1 121	1 204	1 376
Grade 5		541	601	584	878	1 130	843	583
Grade 6							176	253
Total	Boys	6 420	7 189	5 930	7 562	7 041	7 557	7 963
	Girls	3 646	2 339	2 625	2 966	2 528	2 628	3 546
	Total	10 066	9 528	8 555	10 528	9 569	10 185	11 509
Girls (%)		36.2	24.5	30.7	28.2	26.4	25.8	30.8

The *first* observation is that total enrolment shrinks rapidly as the cohort progresses to higher grades. Thus 4,720 pupils were enrolled in Grade 1 in 1984 but five years later there were only 1,130 left in Grade 5. Grade 5 enrolments average less than 25 per cent those of Grade 1. The decrease in crude enrolment numbers between grades varies greatly. It averages 35 per cent from Grade 1 to 2, 13 per cent for Grade 2 to 3, 39 per cent for Grade 3 to 4, 25 per cent for Grade 4 to 5 and 77 per cent from Grade 5 to 6. Grade 6 has just been established so the last figure may be expected to fall. The largest declines appear between Grade 3 and 4, and between Grade 1 and 2. Enrolment decreased by 39 per cent on average between Grade 3 and grade 4 from 1985 to 1991. In 1991 the average decline in Bier was 50 per cent and in Sikai 33 per cent. As noted above pupils have to pass admission examinations to be promoted to Grade 4 which only exists in the county town schools and in the district central primary schools. There are not nearly enough places for all the children who wish to continue beyond Grade 3. Many village school pupils are precluded from continuing since they live in high mountain areas very far from the district central primary schools and their parents are disinclined to send them to schools where they will have to board. Other reasons for drop out are discussed below.

Second, the proportion of girls is very low representing only 30 per cent of the primary school children in the whole county. This proportion has not changed much since the mid-1980s. The proportion of girls in some rural areas is much lower than the average. Over the last five years the proportion of girls enrolled in Bier has been 18 per cent and in Sikai 12 per cent. What is worse is that the proportion has been declining. It was 21 per cent in Bier in 1984-85 and it declined to 14 per cent in 1989-90. In Sikai it was 14 per cent in 1985-86 and it declined 11 per cent in 1989-90.

Third, according to the statistics the proportion of girls appears to increase in higher grades. It was 18 per cent in Grade 1, and 37 per cent in Grade 5. But in our case study areas the reverse is true. The proportion of girls averaged 21 per cent in grade 1, 18 per cent in Grade 5, and zero in Grade 6 in Bier in the last five years. And it was 16 per cent in Grade 1, 3 per cent in Grade 5, and zero in Grade 6 in Sikai.

Class sizes in Zhaojue at primary level averaged 24 in 1990 and had been stable over the previous three years. County town and district central schools may have more than 40 pupils in each class, and some

have as many as 60 pupils (e.g. in Grade 6 in Bier District central primary school). Usually the class sizes in Grade 1 are the largest. The higher the grade, the smaller is the class size because of drop out. There are only 11 pupils in Grade 6 in Liutie xiang central primary school in Bier and only 10 pupils in Grade 6 of System 1 (see below) in Bier central primary school.

Compulsory education only applies to the first six years of schooling in Zhaojue. Enrolments are very small at lower secondary school level though the proportion of girls is much higher than at primary school. The explanation is that only a few of the children from rural areas go to lower secondary schools. Most of the pupils at the lower secondary schools come from families in the county town who represent only 7 per cent of the total for the whole county. About half of the pupils from the town are girls. Though girls make up 54 per cent of Grade 7 enrolments they only account for 39 per cent of those in Grade 9 (see *Table 4.5*).

Table 4.5 Enrolments in lower secondary school pupils in Zhaojue

		1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 7		461	501	466	461	486	544
Grade 8		515	430	498	451	454	406
Grade 9		435	480	378	448	394	430
Total	Boys	798	859	864	871	819	776
	Girls	613	552	478	489	515	604
	Total	1 411	1 411	1 342	1 360	1 334	1 380
Girls (%)		43.4	39.1	35.6	35.9	38.6	43.7

More detailed data from Bier and Sikai illustrate patterns of enrolment at the local level. Bier had 1,672 pupils enrolled in primary in late 1991 of whom 14 per cent were girls. Though the total number enrolled was growing the proportion of girls appears to have been falling. The great majority of females are deprived of schooling reflecting their low social status (see *Table 4.6*).

Table 4.6 Enrolment in primary schools in Bier district

		1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 1		438	405	445	509	478	534	682
Grade 2		299	346	274	243	337	335	415
Grade 3		197	190	265	215	203	198	185
Grade 4		49	67	77	170	107	89	131
Grade 5		25	38	60	74	92	71	53
Grade 6							17	15
Total	Boys	798	837	908	973	998	1 008	1 273
	Girls	210	209	213	238	219	236	208
	Total	1 008	1 046	1 121	1 211	1 217	1 244	1 481
Girls (%)		20.8	20.0	19.0	19.6	18.0	19.0	14.0

In Bier, as in Zhaojue as a whole, enrolment decreases rapidly as the Grades increase. There were 438 new students for Grade 1 in 1984 but only 92 left when the cohort reached Grade 5 in 1989. Only 17 were promoted to Grade 6. The following year Grade 5 enrolments were even less. The largest attrition appears to take place between Grades 3 and 4 – on average Grade 4 is 50 per cent smaller than Grade 3. The reduction in numbers between other grades is between 25 per cent and 30 per cent. Xiang central schools and village schools usually only enrol Grades 1-3. Further progression involves a change of school which may be both inconvenient and expensive in transport costs. Places for student in these schools are also limited. About 80 per cent of students enrolled in Grade 5 do not progress to Grade 6 because the latter has only just been introduced.

A similar picture emerges from Sikai where enrolments decline even more rapidly through the grades. Grade 5 is often less than 20 per cent of Grade 1 five years earlier. The highest rate of decline is between Grade 1 and 2 where on average Grade 2 is about 50 per cent less than Grade 1. The proportion of girls is very low and fell to only 11 per cent in 1989/90. In Grade 6 there are no girls at all (see *Table 4.7*).

Table 4.7 Enrolment in primary schools in Sikai district

		1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91
Grade 1		969	596		638	699	773	734
Grade 2		295	366		451	151	410	421
Grade 3		158	238		219	337	127	322
Grade 4		98	49		124	150	222	133
Grade 5		37	28		75	124	107	134
Grade 6							14	85
Total	Boys		1 097		1 319		1 475	
	Girls		180		188		178	
	Total	1 557	1 277	1 412	1 507	1 461	1 653	1 829
Girls (%)			14.1		12.5			10.8

Bier district has 72 classes in primary schools with an average class size of 20.6 pupils. Grade 1 and Grade 2 usually have more than 30 students in each class and over 40 in Grade 1 of the district central school. Some higher grade classes are much smaller. In Waer xiang central school, there are 46 students in a Grade 1 class, but only 14 students in the Grade 3 class. Sikai has 76 classes and an average class size of 26.9. In the district central school there are more than 60 pupils in each class in Grade 1. Liuqie xiang and Haogu xiang central schools have only a dozen pupils in Grade 6.

Bier had a lower secondary class from 1975 to 1984. By 1984 seven classes had graduated with a total of 175 students. The class was cancelled in 1984 since it was considered uneconomic to maintain and in 1991 there was no secondary school provision in Bier. Sikai set up lower secondary school classes in the district central primary school from the fall of 1990. A class of about 35 is enrolled each year.

Zhaojue has 673 government employed workers in the primary schools in Zhaojue of whom 645 are full-time teachers. In addition there are 57 Minban teachers and 250 substitute teachers (making up 32 per cent of the total number of teachers). This proportion is much lower than in Ansai. Furthermore the proportion of qualified government teachers who meet the minimum standards laid down (92 per cent) is higher than in the two other case study areas. Part of the reason is that the average age of teachers is very low with over 50 per cent under 30 years old. More than 20 per cent of teachers are of senior rank and another 20 per

cent are classified in the first rank. However almost all of the senior teachers work in the county town and district primary central primary schools. There are 26 senior teachers in one of the county town primary schools and this is more than half of the total! And even the level 1 and level 2 teachers mostly work in the district or xiang central primary schools. The village primary schools are the 'kingdom' of the Minban teachers and substitute teachers. None of the 57 Minban teachers left are qualified according to their educational level. Many of them have been teaching for between twenty and thirty years. Two thirds of the total government employed teachers are Yi and the rest are Han. And the Minban and substitute teachers are all Yi and are predominantly male.

Bier had 65 formally employed educational staff members in the academic year 1991-1992. Among them were 14 administrators, 12 peasant full time educational administrators, 4 support service staff and 35 teaching staff. In addition there were 14 public supported teachers, 35 temporary teachers and 4 other temporary staff. Thus there were altogether 84 teaching staff of whom 42 per cent were government teachers. The qualified teacher ratio in the district is 70 per cent which is far lower than the average of 92 per cent cited for the county. Most government teachers are qualified but none of the public supported teachers satisfy the criteria. Temporary teachers are mostly lower secondary school graduates. Senior and first rank teachers account for 22 per cent of all teachers which is also much lower than the average 43 per cent for the county. There are only 17 Han people among the staff members, the rest are all of Yi nationality. All except 6 of the teaching staff are male and 11 of the 14 public supported teachers are between the ages of 41 and 50. The other three are older.

In 1991/1992 in Sikai there were 84 government employed school staff members, including 10 administrators, 1 school service worker, and 73 full-time teachers. 15 were females. In addition, there were 7 public supported teachers and 44 substitute teachers. There were altogether 124 full-time teachers of whom 59 per cent were government teachers. 83 per cent of teachers are qualified in terms of educational level and about 27 per cent are senior or first rank teachers. Public supported teachers' educational levels are low. There is only one lower secondary school graduate among the 7 people-supported teachers. Most of the substitute teachers recently graduated from lower secondary schools and are short of teaching experience. Of the 91 government and public

supported teachers, 71 are Yi, representing 78 per cent of the total. All the substitute teachers are Yi. More than half the teachers are under 30 years old and are recent graduates from secondary normal schools. Our interviews suggested that many teachers did not like teaching and wanted to leave schools for other jobs.

In the secondary schools in Zhaojue there are 293 employees, including 247 full-time teachers, 46 staff members and workers, and four substitute teachers. These figures refer to both lower and upper secondary school teachers. According to the county Bureau of Culture and Education, there are about 190 full-time lower secondary school teachers, of whom 40 per cent have graduated from colleges, 50 per cent from normal schools, and the rest from lower secondary schools. We found in our study that the teachers with higher levels of education mostly worked in the county town secondary schools. In the lower secondary school classes attached to the Bier District central primary school there is only one teacher with higher education who graduated from a short cycle college one year ago. The proportion of qualified teachers is very small in strong contrast to the situation in primary schools.

The overall teacher-pupil ratio in Zhaojue is 1:12.8. There are 500 primary school classes, and on average 1.9 teachers per class. Neither the teacher-pupil ratio or the number of teachers per class reaches the standards set by the State Education Commission. Our case study data suggest that in Bier and Sikai teacher-pupil ratios were higher at 1:17 and closer to the national average. They had not changed markedly over time. The average teacher class ratio for Bier was 1.2:1, and 1.6:1 for Sikai. These ratios are not excessive if we take into account the physical characteristics of the area. In the case study schools every teacher has about 18 periods per week. Teachers in single teacher schools have heavier teaching loads of 24 periods or more.

Part of the reason for the apparently low pupil-teacher ratio given for Zhaojue as a whole may be the result of a classification problem. According to the official statistics there are only 28 staff members and workers throughout the primary school system. This is not true. This study identified 18 staff in Bier and 11 in Sikai District. The number of staff members and workers in these two districts alone is thus already greater than the number given officially for the whole county. Standard classification rules are probably not being applied. In some districts administrators with teacher's ranks are counted as teachers and this

reduces the apparent pupil-teacher ratio. It is also the case that although about 15 per cent of substitute teachers are not teaching they appear to be counted as teachers. Pupil teacher ratios are lower than they would be if multi-grade classes were organized in Zhaojue. Often there are only ten pupils in each class in the senior Grades in the rural areas but they are taught as separately timetabled groups.

At lower secondary level the teacher pupil ratio is about 1:7. There were 41 lower secondary school classes in 1990, and 4.6 teachers per class. These two ratios appear very generous by State Education Commission standards. Two main reasons contribute to the low pupil-teacher ratio. First, the number of teachers in the county town secondary schools is well over the quantity justified by the number of students. Second, in some primary schools with attached lower secondary grades there is only one class in each grade but a full complement of secondary subject teachers. The latter are therefore under-employed.

3. Administration and policy on basic education

Until 1988 personnel issues, finance, and instruction were all the responsibility of the Bureau of Culture and Education of the county government. Gradually this is changing to devolve responsibility to lower levels in line with national policy but the transition is slow and most of the power remains at the county level. The Bureau of Culture and Education discharges the county governments obligations to support education with the same range of activities as in Tongxian and Ansai. Unlike the other case study areas, Zhaojue has no Education Commission and no inspectorate has been set up. As a consequence there are no systematic procedures for evaluation and assessment.

Some districts are beginning to establish leadership groups to administer education. In Bier there is a deputy district head who leads a group with representatives from the district women's federation, the communist youth league, and the Party branch and which also includes the principal of the district central primary school. A comparable group has not been formed in Sikai District. The leadership groups focus on persuading parents to send their children to school, lobbying the County to build new village schools, and implementing instructions from higher educational authorities. Some of the officials we interviewed at district level were not very happy with their responsibilities, arguing that they had

obligations but no real powers. At the next level down (which in this area is xiang level) all xiangs in Bier and some in Sikai have educational leadership groups whose functions include discouraging drop-out, organising farmers to donate labour time or materials to buildings, and providing financial aid for substitute teachers together with the village committee (though some in Bier cannot afford to grant the aid). Village committees are responsible for school furniture.

In most rural areas the actual management of the school system is undertaken by principals through central district primary schools. Vice principals are responsible for instruction in the central school and instruction and administrative work in other schools in the district. Central schools therefore oversee staffing, check attendance records, allocate funds granted monthly by the county Bureau of Culture and Education to the schools in the districts, place and transfer teachers to the different schools in the district, authorize the hiring of substitute teachers, and promote teaching and research activities in the district.

Our research identified seven features of policy implementation on basic education which reflect the emphasis being given to improve access to schools.

First, the xiang People's Congress has devised local regulations to encourage enrolment. These usually require that each family sends a certain number of its children to school otherwise it will be fined. Thus in Naituo village in Sikai, if a family has three school-age children it has to send one to school otherwise it will be fined 50-100 yuan. In Waer xiang the following rules apply:

- "If a family has two children, it has to send one to school, and if it has three, it has to send two, and so on".
- "The responsibility system should be used to promote education. Each level from the individual family to the co-operative, village, and xiang must guarantee a certain proportion of children go to school".
- "Farmers who do not send their children to school according to the rules will be fined one mu of land".

Our observations suggest that school principals do take these rules seriously and there are some recent cases of farmers being fined as much

as 100 yuan. So far nobody has been fined by forfeiting land as this is so precious.

Second, tuition and registrations fees have been reduced and/or exemptions given. A significant number of families are either outside the money economy altogether or have very low per capita incomes. These families cannot afford the direct costs of schooling. The county government follows the "Measures to Promote Compulsory Education" set by Liangshan Yi Autonomous Prefecture. Article 6 says that "children receiving compulsory education should be exempted from tuition fees". Thus tuition fees are not officially charged at primary or lower secondary level. In rural areas pupils in ordinary primary schools do not need to pay the registration fee either and this is also the case in some of the district central primary schools. Schools should provide textbooks and exercise books for most of their pupils from income from school-run businesses. Some teachers pay for textbooks for pupils out of their salaries.

Third, special classes for girls have been organized. Female enrolments are very low and this constrains the universalization of compulsory education and creates barriers to social and economic development. The large disparities in enrolments between boys and girls are an important indicator of the backwardness and relatively closed nature of the community. In order to change traditional values and encourage girls to go to school, some schools e.g. Bier District central primary school and Haogu xiang central primary school in Bier, have formed all girl classes and allocated additional resources. Preliminary indications are that this does have some effect in maintaining enrolments in these schools. An all girl class was established in Bier central primary school in 1987. The county Women's Federation donated 100 yuan. The school gave special support to the class, e.g. the school paid for textbooks and exercise books for 60 per cent of the girls in the class; a good teacher was selected to be the classroom teacher; and experienced teachers were selected to teach the class. The class did excellent work and its examination scores were much higher than other classes in the county unified examinations. At the end of 1989-90 school year, the pass rate of the girl class in grade 1 was 100 per cent in the county unified examinations for Chinese and Mathematics. The average scores were 90 and 89 respectively, and these can be compared favourably to the county averages of 28 and 49. The all girls class performed much better than the other classes in the same school. The principal of the school argues that

these arrangements for girls should not be a permanent feature. They can help to change parental attitudes and when this has happened the special classes will be unnecessary.

Fourth, subsidies have been granted to improve school conditions. State, provincial and prefectural governments have granted a total of 4.6 million yuan since 1983 to Zhaojue to rebuild school buildings. This has been supplemented by appeals from the Zhaojue government in 1989 for contributions to rebuild collapsing school buildings. Farmers donated labour and construction materials worth about 200,000 yuan. Most of the unsafe buildings have been repaired. Although this demonstrates it is possible to generate additional resources from the community to support schools external government grants are indispensable. This is particularly true in cases of village schools where local resources can be very limited. For example, each farmer donated a piece of wood and a day of work to build a very simple school building in Zuer Agriculture and Husbandry Co-operative in a mountainous area of Bier District. The co-operative borrowed 300 yuan from a bank to buy roofing felt. The building does not have glass windows despite the cold climate. The head of the co-operative is concerned that there is no obvious way to repay the loan since the school has no source of income.

Fifth, special efforts have been made to try to stabilize the teaching force. It is very difficult for young teachers coming from other areas to adapt themselves to the Zhaojue environment, which is physically poor and may be culturally unfamiliar. Many of the teachers we interviewed want to transfer to areas on the plains or change their job. Bier authority assigns teachers from other counties to the District central primary school or schools with better conditions along the roads, and assigns teachers from other districts to the schools either along the roads or in the semi-mountainous areas. Local teachers are posted to the schools in the high mountain areas and are encouraged to contribute to the educational development of their home village. The district authority grants financial aid to local teachers who have children enrolled in the District central primary school or in the primary schools in the county town. Unmarried young teachers are assigned to schools close to each other in order to create opportunities for them to socialize. According to the principal of the District central primary school, these policies have had some effect. Only two of the eight female teachers coming to Bier from other areas in the 1980s moved away.

The last two initiatives are concerned with the introduction of a boarding system and bilingual instruction policy both of which are discussed further below.

4. Resources for education

About 85 per cent of public expenditure in Zhaojue comes from the state grant. School expenditure in Zhaojue has increased since 1986 as shown in *Table 4.8*.

Table 4.8 Education budget in Zhaojue in Yuan ('000)

	1986	1987	1988	1989	1990
County revenue	1 615	2 260	3 300	2 900	2 300
Education budget	2 419	2 664	3 122	3 275	3 735
Resources outside the Government budget					
Additional education tax		2	15	14	15
People's education fund					
School-run businesses	23	28	33	56	50
Other contributions	39	37	34	30	32
Total	62	67	82	100	97
Total	2 481	2 731	3 204	3 375	3 832

The government educational budget increased by 54 per cent from 1986 to 1990 growing at about 9 per cent a year. Income outside the government budget accounted for about 2.5 per cent of the total and thus makes little difference to the resources available. This contrasts with the other case study areas where extra budgetary income makes a significant contribution. The annual growth rate of educational revenue was slightly higher than the annual growth rate of the county government revenue (7.3 per cent), and higher than the annual growth rate of industrial and agricultural output value. Expenditure per pupil in Zhaojue has increased at a modest rate below that of the general increase of expenditure and

only increased by 25 per cent over a four year period. The unit expenditure level in Zhaojue (238 yuan) appears high compared to Ansai (181 yuan). The reason is that a much higher proportion of teachers are government employed in Zhaojue and there are more boarding costs. Levels of expenditure per capita as a percentage of per capita income are also about a third more than those in Ansai for the same reason. Tongxian has much higher per capita expenditure and a much lower unit cost as a proportion of per capita income as might be expected (see *Table 4.9*).

Table 4.9 Expenditure per pupil in Zhaojue

	1986	1987	1988	1989	1990
Expenditure per pupil (in yuan)	190	182	234	227	238
Expenditure per pupil as a Per-cent of income per capita	92.7	77.1	81.8	77.2	94.4

In contrast to Ansai, most expenditure is on the primary level in Zhaojue and about 60 per cent of the budget is directed towards these schools. Personnel expenditure constitutes by far the greatest part of the budget and has been growing as a proportion of the total at both primary and secondary levels. Personnel consistently accounted for more than 90 per cent of the budget at primary and secondary in the last three years and exceeded 95 per cent in data for the last year available. Very little is provided as operating expenditure (see *Table 4.10*).

Expenditure per pupil has grown faster at secondary than at primary but not very markedly so. The ratio of secondary to primary costs has risen slowly from a low of 2.5:1 to 2.9:1. This is much lower than in Ansai. Operating expenditure per pupil has been falling, as noted above. It has fallen from over 20 yuan to less than 7 yuan per year at primary level since 1985. At secondary level it has fallen from nearly 70 yuan to 28 yuan per year per pupil. As in Ansai most of what little operating expenditure there is goes to building maintenance and office expenses. Almost nothing is left for library books or teaching aids. This was borne out by our observations in schools (see *Table 4.11*).

Table 4.10 Public expenditure on education by level in Zhaojue

	1986		1987		1988		1989		1990	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Primary	1.4	57.8	1.5	57.7	1.7	57.6	1.9	60.1	2.2	61.3
Secondary	0.8	33.7	0.7	27.5	1.0	32.7	0.9	28.8	1.1	28.3
Total	2.4		2.6		3.1		3.2		3.7	

Table 4.11 Expenditure per pupil by level in Zhaojue

	1985	1986	1987	1988	1989	1990
Expenditure per pupil at secondary school	369.6	421.1	370.4	526.6	517.9	582.3
Expenditure per pupil at primary school	133.3	163.3	146.3	188.1	193.4	198.9
Ratio secondary: primary	2.8:1	2.6:1	2.5:1	2.8:1	2.7:1	2.9:1

Incomes of teachers have increased in Zhaojue. Government teachers salaries average 189 yuan and 201 yuan at primary and secondary levels respectively in 1990. Between 1980 and 1990 they grew at about 14 per cent a year. The range in primary schools is from 110 to 270 yuan. Teachers' real income has increased when inflation is taken into account. The basic salary of teachers in Zhaojue is more than in Ansai and comparable to Tongxian. This is justified by reference to the harsh living conditions in Zhaojue. Minban and substitute teachers earn much less. The former are only paid 50 yuan a month though all have worked for more than 20 years. Substitute teachers are paid 40 yuan a month by the state. In districts with better economic conditions such as Sikai, substitute teachers are given an additional 20 yuan a month (or grain to this value) from the village. As minban and substitute teachers are residents of rural areas they are allocated a piece of land from which they can make additional income. This may be hard work where the climate is harsh and markets are far away.

Efforts have been made in Zhaojue to improve the physical condition of the school buildings and most are now safe. The bulk of the money for these improvements (85 per cent) has come from central government with about 10 per cent being raised at local level. Central primary school buildings are mostly built of bricks and wood. About 1 square meter per pupil is available for those enrolled. The main problems identified by our fieldwork are the following:

First, there is a shortage in the number of school buildings. Some of the schools have to reject pupils because of a lack of classroom space. Both Sikai and Bier district central primary schools use laboratories as

ordinary classrooms, and some, such as Liutie xiang central primary school, have been forced to transform their staff meeting room into classroom. Classrooms allocated for special purposes only exist in some of the central primary schools.

Second, problems of maintenance are compounded by petty theft. Window glass and other fittings are often stolen if schools are not well guarded. This reflects the very scarce supply of building materials in the area.

Third, most of village school buildings are very simple and crude, far below the state standard. Zuer village school is typical. It has a single room of 20 square meters, the roof is only 2 meters high and the door 1.5 meters. The floor is mud and the roof is of asphalt felt. There are no windows or electrical lights. The classroom is dark and very wet when it rains. It serves 30 pupils.

Shortages of furniture are even more serious. More than half the rural primary school pupils apparently had no desks or benches before 1986. Some efforts have been made to improve this situation and 1,500 sets of desks and benches were purchased from 1988 to 1990 to bring the total recorded to 5,480 sets for Zhaojue. Officially about 20 per cent of pupils still do not have desks or benches. This is almost certainly a considerable underestimate. Our research indicated that 35 per cent of the pupils in Bier and 34 per cent of pupils in Sikai lacked furniture. In Naituo village school there were 102 pupils but only 7 sets of desks and chairs. In Liutie xiang central primary school, there were 70 pupils but only 22 sets. Even in Sikai and Bier central primary schools, two classes in each have no desks or benches. The pupils have to use mud bricks with wooden boards on as desks and sit on the earth. This is unlikely to support improved learning and may also contribute to poor health.

The records show that there are about 7,900 library books in Zhaojue schools, i.e. 0.64 volumes per pupil. Most of these books are in the county town primary schools. In Bier central primary school, there are only 700 books and in Sikai central Primary there are none. Village schools invariably have none. In principle textbooks are guaranteed for all pupils, and they are available at the beginning of the semester. In poorer schools we came across examples where teachers bought textbooks for the pupils from their own pockets, and in other cases the schools paid for them with the funds earned by school-run businesses. Teachers in Naituo village school paid 50 yuan for textbooks in the second semester

of 1990-91, and paid again for books for 13 poor pupils in the first semester of 1991-92.

There are basic teaching aids in two primary schools in the county town, but this is not the case in other primary schools. For example, there is only one old musical keyboard, one globe, and a small number of wall maps, compasses and set squares – only enough for one class – in Bier central primary school. It is more or less the same in Sikai central school. No basketballs or volleyballs have been purchased in last seven years in any of the county primary schools because of lack of funds. The only basketballs we saw were old and punctured and were in the central primary schools. There was no physical exercise equipment in the village schools. The teachers in Naituo and Zuer village schools told us they could organize only one kind of physical exercise – wrestling – as it does not need any equipment or special court.

4. Enrolment, repetition, drop-out, and promotion rates

Official statistics indicate that enrolment rates in Zhaojue have been improving and are now quoted as 46 per cent for primary education. This level remains the lowest in Liangshan Prefecture. The reliability of this figure is difficult to ascertain since it is subject to the same uncertainties noted in the other case study districts. There is no alternative source of basic data at the prefectural and county level to check the reliability of these quoted rates. As elsewhere we have used data from officials and teachers to arrive at independent estimates based on the situation in particular places. We have worked out rates for Waer xiang, Zuer co-operative in Waer xiang, Haile village and Yumin village in Haogu xiang in Bier District, Liuqie xiang, Haogu xiang and Naituo village in Sikai District. From this we can get some insight into the plausibility of the official rates. The following tables show the net and gross enrolment rates calculated using the standard State Education Commission definitions (see *Table 4.12*).

Table 4.12 Enrolment rates for selected Xiang and village schools in Zhaojue (1991)

School	Location	Grades	Total No.	School age enrolled	School age	Net enrolment ratio	Gross enrolled ratio
Wacr Xiang	Plain 2 km to district Govt	1-5	129	97	354	27.4	36.4
Haile + Yumin village	In hills Mud roads 3 km to district Govt	1-5	37	29	166	17.5	22.3
Zuer Co-operative	Semi-Mountain No roads 4 km to district Govt	1-5	31	15	35	42.8	88.6
Liuqie Xiang central	Plain 6 km to district Govt	1-6	77	64	185	34.6	41.6
Haogu Xiang central	Plain 2 km to district Govt	1-6	262	222	480	46.3	54.6
Naito village	High Mountain 6 km to district Govt	1-6	101	65	280	23.2	36.1

The figures for Waer xiang school include 48 pupils going to the district central primary school and a school in another xiang and those for Naituo include 15 enrolled elsewhere. In Zuer the situation is complicated – there was one school between 1970 and 1980 which was then closed for 10 years during which time no children went to school in this co-operative. The school was rebuilt in the autumn of 1990 and 20 pupils were admitted to Grade 1. In the autumn of 1991, 10 more pupils were admitted giving a total of 30 pupils all in Grade 1. Thus the enrolment rate has increased dramatically. Curiously the district authority is of the view that all these pupils should study for six years at the school but if they do the school will not be authorized to admit new children since it has no more space or extra teachers. If this decision is put into effect the enrolment rate in this area will fall dramatically in the future.

The schools that we studied all have access to the transport system except the village schools located in the foothills and high mountains. Taking these schools as the basis for calculating the county enrolment rate is likely to over-estimate the actual situation. Many villages and co-operatives in the high mountains have no schools and the children do not have access to schools elsewhere. For example, there are 1,800 residents in the three villages situated in Liuqie xiang, but there are no schools in any of these villages. We estimate about 200 school age children in this area have no accessible school. Net enrolment rates in the parts of Zhaojue we studied are very low. The highest is only 46 per cent, and the lowest less than 20 per cent. If we accumulate the samples together, the net enrolment rate averages 33 per cent and the gross enrolment rate 43 per cent.

We believe these enrolment rates reflect the real situation more accurately than the statistics provided by the Zhaojue Bureau of Culture and Education. The main reasons for the discrepancies are threefold.

First, the county official statistics includes the county town primary schools where about 95 per cent of school age children are enrolled in school. If these pupils were included in our estimates the enrolment rate would be higher, but not as much as is claimed.

Second, the county authority overestimates the number of school age pupils, and under estimates the number of over-age pupils and pupils younger than school entry age. Its calculated enrolment rates more closely resemble gross rather than net enrolment rates. For example, according to the statistics offered by the authorities in Sikai there are no pupils

enrolled under school entry age, and there are only 15 pupils older than 13 years. But our interviews established that there were 25 pupils younger than school age and 15 older than 13 years in Haogu xiang alone. Similarly official statistics in Bier for 1991 list 41 under and over age pupils in the whole district, making up 2.4 per cent of the total number of pupils. We located 51 cases in the two villages and one co-operative of Waer xiang, and the two villages of Bier xiang. These cases represented 26 per cent of the total number of pupils in the schools in the above mentioned villages and co-operative schools. There are 51 villages and 143 co-operatives altogether in the district so the official figures cannot possibly be correct.

Finally we also note that the authorities take 7-11 years as the school age range when calculating enrolment rates. But primary education has been extended to six years since 1990. The higher the Grade, the lower the enrolment. The enrolment rate is inflated by comparing enrolments over Grades 1 to 6 with the age group of 7 to 11 year olds.

Our data establishes that enrolment rates are very low and do not seem to have been improving significantly. Low enrolment rates are partly inevitable given the minimal enrolment of girls in many rural schools where they form less than 20 per cent of the total. In several parts of the district there are no schools available to children within feasible distances.

The history of schooling in the modern sense is very short in the Yi minority areas. School attendance is not strongly linked to social and economical development in people's minds and education is still not regarded as an important part of social, economic and cultural life. A lot of people think that there is no point in sending children to school. Many families are poor and keep their children at home to help with household chores or take care of sheep, pigs, and cows. There are few jobs available for those with educational levels above primary. Despite this our interviews established that there were some communities in more remote mountain areas where there is demand for more school places but local governments cannot afford to provide enough school buildings, equipment or teachers (or the teachers available are not willing to go to mountain areas to work). Thus representatives from the three villages mentioned above in Sikai go to the xiang authority every year to ask for support to build schools for their children. Their request has not been granted so far.

In our research we noted that there were a surprising number of pupils who are younger than the school entry age. These pupils represent about 26 per cent of the total enrolled, and 53 per cent of the total number of school age children in Zuer Co-operative School. They represent 13 per cent of the total enrolled in Liuqie xiang central primary school. The explanation for this has two main elements. A proportion of parents regard the schools as free kindergartens. They let the schools take care of their younger children whilst they are working. The other reason is that in Zhaojue a family has to send one or two children to school, otherwise it will be fined. Some families prefer to send their under age children to school in order to avoid the fine, but keep the older ones, specially the older sisters, at home to help with domestic duties.

Repetition rates in Zhaojue are claimed to average about 6 per cent. Much higher rates appear to prevail in Grade 1 and the 1990 level officially reached more than 18 per cent. Our enquiries at school level suggested that these average rates were often exceeded in particular schools. The county Bureau of Culture and Education has decided that promotion rates to the next grade should exceed 95 per cent and repetition rates should not exceed 5 per cent. As a result pupils who would not have been promoted in the past are being allowed to enrol in the next grade so that the repetition rate falls below this threshold. Thus we found schools where pupils whose examination scores were lower than 20 per cent (in both Chinese and Mathematics) were promoted as long as they were better than the lowest 5 per cent. The emphasis on high promotion rates also explains why there were no repeaters recorded in Grade 5. If the national standards set by the State Education Commission were applied there would be very few pupils progressing to the upper Grades, and educational resources would be used inefficiently in the sense that repetition rates would be very much higher. Normal patterns of instruction would be interrupted, parents would be less willing to send their children to school, and there would be more drop-outs. It seems likely that levels of achievement may be as much as two grades below those found in coastal city schools by Grade 5.

Secondary repetition rates are not supposed to exceed 5 per cent in schools in Sichuan. Zhaojue has a special dispensation because of its difficult conditions to permit repetition up to 10 per cent in Grades 7 and 8. The schools have very different levels of repetition. Zhaojue secondary school, a provincial key-point school, has a very low repetition

rate, but the other schools have much higher rates which exceed 10 per cent. There is virtually no repetition in Grade 9 since this is of no advantage in gaining access to further schooling.

Drop-out rates in Zhaojue are greatest in Grade 1 and 3 where they have averaged 20 per cent to 30 per cent over the last five years though there is some evidence they are falling. These annual rates are high, particularly when it is remembered that drop outs are often not counted if they are students who fail to re-register from one year to the next. The shrinking of the enrolment cohort (see above) suggests that drop out rates may be even higher than these figures indicate and that they are unlikely to be less. Closer examination of the statistics for Bier produced estimates of primary drop out which averaged around 30 per cent for Grades 1 to 4 and which showed no clear pattern of improvement. These were consistent with enrolment data we collected. Drop out in lower secondary schools is much lower than at primary and averages 3 per cent to 5 per cent in Grades 7 and 8. Pupils who enter lower secondary schools are more able and have higher expectations. These pupils and their parents are more cautious in making decisions to drop out and generally have more family resources to support the direct and indirect costs of attendance.

As in Ansai, drop out is attributed to a mixture of factors, the most commonly identified are those related to poverty and the need for children to help in household work or herding sheep and cattle. Other reasons given less frequently stress that some pupils lose confidence because of poor achievement and give up. Some parents think there is little value in schooling if there is no hope of going to schools at higher levels. In neither Sikai or Bier has a systematic analysis of the reasons for drop out been undertaken but interview data were consistent with the above analysis. They added an additional possibility – that the quality of the village school teachers was so poor that the pupils often did not learn much. Our observations confirmed that learning achievement was inferior to that in other areas we visited.

Drop-out rates in many areas are highest between Grade 1 and Grade 2, and between Grade 3 and Grade 4. The latter is a result of the need for most pupils to transfer schools after completing Grade 3 locally. High drop out from Grade 1 arises partly because there is no pre-schooling in rural areas to prepare children for primary school. In Zhaojue many will have to start learning in Chinese which they may not

have even heard until arriving at the school. Some may achieve poorly and give up soon if they cannot keep up with the other children.

A kind of drop out that is not apparent from enrolment data is the result of sporadic attendance. Absenteeism is especially frequent in the middle and senior primary Grades where a large proportion may be absent on any given day. The next day different pupils will be absent. This phenomenon is called 'rotating absence'. We made some spot checks on absenteeism. The morning of Sept. 17, 1991 dawned with continuous rain but after ten o'clock this stopped and the sun began to shine. In Waer xiang central School there were only 8 pupils sitting in Grade 3 at the beginning of school time. By 12 o'clock 14 were present. The teacher indicated that almost every day was like this. On the morning of Sept. 18, 1991 there was light rain. In Bier central School there were only 57 pupils sitting in Grade 1 instead of the 103 registered and in Grade 2 there were 44 instead of 75! The teachers told us that two thirds of pupils in senior grades were absent everyday. Weddings or funerals at home, visiting relatives, herding, caring for youngsters, rain or wind can all be excuses for absence. And in the busy agricultural seasons absenteeism is even higher. In Liuqie xiang primary school it was not uncommon for some pupils to be absent for much of a month when additional labour was needed in the fields. The implementation of the responsibility system in rural areas has heightened demand for labour in this area and has reduced the perceived value of regular school attendance.

Primary graduation rates are claimed to be between 90 per cent and 95 per cent and the entry rate to lower secondary fluctuated between 45 per cent and 65 per cent in the last three years. These figures are misleading for similar reasons to those cited in the Ansai case study. When graduation rates are calculated in Zhaojue, the number of pupils in Grade 5 and Grade 6 are included no matter how old they are and drop outs are not included. Thus if there were 100 pupils in Grade 5 at a school, and they all graduated, the graduation rate would be considered 100 per cent, even if half of these pupils were over-age, and there had been 1,000 pupils instead of 100 when they started schooling in Grade 1. The county stipulates that none of the pupils in the graduating class be allowed to repeat and this further influences the reported rates. Using the standard definition of the on-schedule graduation rate we were able to make estimates based on the different number of pupils enrolled in different grades. If we examine the changes in the numbers of pupils first

enrolled in Grade 1 in 1984, 1985 and 1986 respectively we can construct the *Table 4.13*.

Table 4.13 Enrolment transition profile in Zhaojue

Grade	1	2	3	4	5	6
% of 1984 Grade 1 enrolment	100	55.1	42.9	28.0	23.9	
% of 1985 Grade 1 enrolment	100	57.2	52.6	33.1	24.9	5.2
% of 1986 Grade 1 enrolment	100	71.7	65.7	39.6	27.5	

Most pupils graduate after Grade 5 and only a few are promoted to Grade 6. If the pupils in the newly introduced Grade 6 class are included with those in Grade 5 the graduating class is about 5 per cent greater. We know that all pupils in higher grades are not necessarily promoted from the previous year as there are repeaters and pupils who return from sick leave or temporary drop out. When the graduating pupils in 1989 are compared with pupils enrolled in Grade 1 in 1984 this gives an indication of the maximum rate for on-schedule graduation. If all the pupils enrolled in Grade 1 in 1984, 1985 and 1986 were 7 years old, and all 7 year old children in Zhaojue went to school, the on-schedule graduation rates according to the State Education Commission formula would be 24 per cent, 30 per cent and 28 per cent, respectively. Since no more than two thirds of the pupils in graduating classes are of standard graduation age, and Grade 1 pupils make up only about 40 per cent of the population of school entry age children, the actual on-schedule graduation rates for Zhaojue can be estimated as no more than 7 per cent in 1989, and 8 per cent in 1990 and 1991. Estimates based on our data for Bier and Sikai suggest rates of 4 per cent to 6 per cent in the former and 3 per cent to 5 per cent in the latter. These are the lowest on-schedule

graduation rates we observed and illustrate how far Zhaojue is from universalising primary education.

Transition rates into lower secondary schools appear to have fluctuated around 70 per cent of those graduating from primary schools. The number of lower secondary entrants has remained stable at around 500 for the last five years. Any increase in the number of primary school graduates will cause the transition rate to drop unless more secondary places are made available. The absence of significant increases in the flow of students through the primary system has meant the transition rate has not declined so far. Lower secondary schooling is not compulsory in Zhaojue. Overall no more than 20 per cent of pupils appear to complete primary education, and about 70 per cent of those who do are enrolled in lower secondary schools. On this basis, taking into account secondary drop-out and repetition, less than 10 per cent of children seem likely to experience complete lower secondary schooling. The on-schedule graduation rate at lower secondary must be even lower than that at primary.

5. Educational achievement

Educational achievement is very low, and the average scores in both Chinese and Mathematics were lower than the pass score in four successive years. Achievement has not been improving over this period and there remains a large gap in achievement between the town schools and rural schools. Typically the lowest scores in Chinese in town schools are nearly double the average for rural schools (where Chinese is not spoken outside the school). In mathematics the lowest scores in the town are comparable with the rural averages. Closer examination of the performance of particular schools illustrates how large disparities in levels of achievement can be (see *Table 4.14*).

County schools have the highest averages and the largest numbers scoring over 80 per cent. District central primary schools fall in the middle rank and the xiang central schools are the worst (none of the village schools have Grade 5 classes so they do not appear in these lists). The county town schools are as good as the better ones in the big cities. By contrast some xiang central schools in Zhaojue with more than 20 years of history have never had a pupil admitted by a lower secondary school.

Table 4.14 Scores of prefecture unified lower secondary school entrance examinations in Zhaojue 1991

School	No.	Chinese language			Mathematics		
		Average	<40%	>80%	Average	<40%	>80%
Donfanghong	142	81.9	0	99	74.4	5	85
Sikai central	63	55.5	19	79	45.6	44	35
Bier central	24	71.3	0	83	75.0	0	88
Shiyou Xiang central	9	12.4	89	0	6.7	100	0
Juejia Xiang central	9	2.4	100	0	1.7	100	0
Zhaojue town	198	82.6	0	99	78.5	4	89
21 Xiang central	214	21.8	82	4	13.5	95	2
Whole county	649	52.3	32	49	46.3	45	38

In the 21 xiang central schools the great majority of pupils score less than 40 per cent (82 per cent score less than 40 per cent in Chinese and 95 per cent score less than 40 per cent in mathematics). Though some officials in Zhaojue argued that educational quality, as measured by examination achievement, 'has been much improved', the data we collected show both that levels are very low compared to other areas and that there remains considerable scope for improvement.

At lower secondary level average scores in the different subjects for the lower secondary graduation examination were as shown below. The average scores over the last two years in all subjects but political studies are lower than the 60 per cent pass score for the graduation examinations. In every subject apart from political studies it is also the case that more than 60 per cent of the examinees achieved scores lower than 60, and a good proportion of the examinees achieved scores below 40. Achievement levels are very different in the different subjects. Political studies is easiest apparently because good scores can be achieved through memorization alone. English is very difficult – there are few teachers and no opportunities to hear the language used. Poor achievement in physical education and health is attributed to lack of interest and perceived relevance (see Table 4.15).

Table 4.15 Scores and pass rates for lower secondary graduation examination – Zhaojue

	1989		1990	
	Score	Pass rate	Score	Pass rate
Politics	69	72	69	75
Chinese	55	45	54	39
Mathematics	46	40	43	34
Physics	43	27	44	26
Chemistry	46	32	47	39
English	26	6	36	12
Physical education and health	30	7	37	11

Upper secondary school admission scores also illustrate the poor educational quality of lower secondary schools. In 1990 Han pupils had to take entrance examinations in political studies, Chinese, mathematics, foreign language, physics, chemistry and physiology and health, and the Yi pupils had to take an additional examination in Yi. The full score for Han pupils was 700 and the admission score was 275; and the full score for Yi pupils was 750 and the admission score was 245. These scores are low compared to those required in more developed parts of China.

6. Comments and conclusions

Zhaojue is located in the Liangshan mountainous area which is populated by the Yi national minority.

The *first*, three primary schools were established in 1951 when the people's government was formed. This replaced the traditional 'Bimo' system which only educated a small number of the land owning class. The education system for Yi people has developed since liberation. Most recently in the last decade local government has been engaged in rationalising the number of schools, improving their geographical distribution, and reforming the educational leadership system, school support system, and teaching methods. New legislation has been passed,

and attempts have been made to improve enrolment rates, but these still remain very low by national standards.

Development has meant that now most of the buildings of the central schools are made of wood and brick, and old buildings have been repaired. Farmers have been encouraged to donate construction materials and have helped to build village school buildings. These buildings are very simple and crude but they are basically safe and provide a minimum standard where they exist. Since the late 1970s about 15,500 primary school pupils, and 7,200 lower secondary pupils have graduated. Over 1,000 have been admitted to specialized secondary schools, and 600 to higher colleges. One of the most important accomplishments is that many students have attended normal schools or teacher's colleges as part of the programme to localize teachers. The proportion of Yi teachers has increased from only 3 per cent of the total in the 1970s, to over 65 per cent in 1990. Substitute and Minban teachers are all Yi and 90 per cent of the district and xiang central primary school principals are now Yi.

Five initiatives stand out as important in influencing progress towards universalising primary education. First, several policies recognize the special needs of Zhaojue as a national minority area. Social, economic and cultural development in Liangshan Yi Autonomous Prefecture as a whole is lower than in Han areas in Sichuan Province. Zhaojue, with a majority Yi population, is less developed than other areas with mixed populations of different nationalities. Special grants have been given to rebuild old buildings since 1983. The prefectural government also grants 1.5 million yuan each year to support boarding schools for minority pupils. Government teachers receive a 40 Yuan subsidy over and above what they would earn elsewhere in Sichuan.

Other special measures include concessions for entry to colleges. The admission standard is lowered by 20 points for Han students living in minority areas and by 40 points for minority students in order to maintain the proportion of students from underdeveloped areas and minority groups. The Zhaojue government has a similar policy for county secondary school admission. Additionally all pupils in rural areas are exempted from school registration fees. Poor minority pupils in the county primary schools are also exempted. Some districts and xiangs pay for textbooks and exercise books for poor pupils.

Second, as noted above the teaching force has been localized. In the 1960s, most of teachers in Zhaojue came from other areas. A quota on

entrance to the four normal (teacher training) schools in the prefecture guarantees that 65 per cent of the admissions each year are on a quota assigned to minority applicants. About 900 graduates from the teacher training institutions are assigned to teaching positions each year in Liangshan Prefecture. Zhaojue receives about 50 new teachers through this route, most of whom were born in the county. Currently older Han teachers are retiring and 'go down the mountain', and they are being replaced by Yi teachers.

Third, various regulations have been made to encourage attendance. It is recognized that it is impossible to provide adequate learning conditions for all school age children. Most peasants cannot afford to send two or three children to school at the same time. Consequently xiang regulations typically specify that a proportion of the children in each family should attend school. In addition some district and xiang central primary schools have formed classes for girls and provide special encouragement for their continued attendance.

Fourth, three forms of boarding system have been introduced to promote attendance. In the 1950s, when the first primary schools were established, the state paid all the costs. As the education system has grown various costs have been transferred to pupils and their parents e.g. registration fees, the costs of textbooks and living cost. In the 1980s boarding schools were re-established and assistance with living costs was provided for minority pupils. The three forms of boarding are the key-point, general and semi-boarding systems. Zhaojue government started to implement these from 1980.

The key-point boarding system is in effect for classes of Yi pupils in the county town primary schools; the general boarding system is for the district central primary schools, and the semi-boarding system is for xiang central primary schools (currently about one third of xiang central primary schools do not have semi-boarding classes in senior grades). The pupils in all the boarding systems live on the campus. Financial assistance varies with type. Pupils in the key-point boarding system receive 25 yuan each month (enough to buy a whole quota of grain at state set prices which are lower than the free market price). Those in the general boarding system receive 10 yuan each month enough for 7.5 kilos of grain at the state price. Female pupils in the semi-boarding system get only 8 yuan each month and males only 6 yuan. If the aid is not enough to meet the schooling costs the parents are asked for contributions. The

state also grants 100 yuan for each pupil in key-point boarding system and 80 yuan for each pupil in the general boarding system to buy clothing and bedding.

The pupils are streamed into these different systems according to their examination achievement. In order to use the grant system effectively, Zhaojue government has ruled that only minority pupils at senior grades in primary schools, whose families are in rural areas, qualify for entrance to the boarding schools. However, we found that in some districts, such as Bier, there are boarding classes as low as Grade 3.

The boarding schools differ in orientation. The main purpose of the key-point boarding system is to prepare children for the next level of schooling; the schools in the other boarding systems are intended to prepare children for entry into the world of work with only the best expected to continue in school. The boarding system has developed rapidly over the last decade – there were only 43 boarders in 1980 but nearly 3,000 by 1990, representing 22 per cent of the total number of minority pupils in the whole county. About 25 per cent were in the key-point boarding system (including some secondary school pupils), slightly more in general boarding and the rest in the semi-boarding system. Boarding pupils apparently achieve better results as a result of having more time to learn and more consistent attendance. They are disproportionately successful in gaining access to higher levels of education. Most of the cost of the boarding system is provided by subsidies from higher administrative levels with only a small part granted by the county government.

The boarding system is popular with officials and teachers who believe that it is necessary for educational development. Many Yi parents cannot afford to send their children to school or are thought to be unenthusiastic about the idea. The boarding schools help retain children in education to higher levels. The streaming system into different types of boarding school is defended by arguing that the state cannot afford to put all students in the high cost schools and that it is appropriate to invest more in the best pupils. The measures seem appropriate and effective. However, as currently organized they do not coincide entirely with the principles of the compulsory education act which implies that a more even pattern of investment might be more appropriate.

Fifth, in this area language policy is a special concern. Yi people have their own language unrelated to Chinese. The language of instruction

in almost all the first schools was Chinese before and during the Cultural Revolution. Most people do not understand Chinese and Yi is the basic language of communication. Historically this has been a major reason why few pupils reached the achievement levels set in the teaching programmes. The Constitution and the *Act of Autonomy in Minority Regions of the People's Republic of China* states that "the Autonomous region's government has a right to act on its own to develop education for minority people" and to "select for use in instruction languages from the region". Some of the schools in rural areas started to offer Yi in 1979, and the primary and secondary schools in the county town started to offer Yi for boarding classes in 1982.

Since 1986 two systems of bilingual instruction have been practised. System 1 uses Yi as the medium of instruction and Chinese is offered as a subject from Grade 2 to Grade 6. The pupils are expected to master more content from Yi textbooks than from the Chinese ones. System 2 uses Chinese as the medium of instruction and Yi is offered as a subject from Grade 3 to Grade 6. Here the emphasis is on the content of Chinese textbooks with less content from Yi books. There are variations to the two systems. A modified form of System 2 is used in Haogu xiang central primary school. Instruction is given in Yi from Grade 1 to Grade 3 using the textbooks written in both Yi and Chinese compiled by a provincial agency. A special research office was set up to do research and deliver guidance on bi-lingual aspects of education.

There are now five xiang and two county town schools piloting System 1, with 1,233 primary school pupils involved. Five secondary schools use System 2 involving 678 pupils, and 20 primary schools involving 1,280 pupils. About 23 per cent of pupils are in either system 1 or 2 schools. Chinese is the only medium of instruction for the rest of the pupils, and the teachers use Yi to explain what the children do not understand in Chinese. In 1990 the first 112 pupils graduated from the primary schools of System 1 and 80 were admitted to Yi lower secondary schools. The transition rate was 71 per cent, which is higher than the county average transition rate (66 per cent).

The bilingual programmes have a very short history and problems of teaching quality, and lack of availability of written materials are still serious. Many people still have doubts about the bilingual programmes, especially about System 1. The main criticisms are the following:

- since there are no schools at higher levels for the graduates from the schools of System 1 further education chances are limited.
- the examinations held for recruiting government employees or workers are all in Chinese, so the employment chances of Yi stream students are restricted.
- time spent learning Yi reduces time spent learning other subjects.
- the Yi language is too simple to explain the complex modern world, and there are problems in translation, and it is easier to teach subjects like science in Chinese rather than in Yi.

Those who argue in favour of bi-lingualism note that the minority class at Donfanghong primary school is a bilingual class and has examination achievement levels amongst the best for the whole prefecture. Evidence on the educational consequences of bi-lingualism requires more data than are currently available.

Educational development in Zhaojue is well described by a senior official of the Bureau of Culture and Education who observed "Zhaojue has made great achievements and has experienced an inter-century leap but it is still in a poorer and more backward condition than most other parts of China". Five problem areas are conspicuous from our research and these are discussed below.

First, poor physical conditions in schools are widespread. Though these have been improving our observations of rural schools showed that they are still very much below national standards. Though there appear to be few dangerous buildings village schools are often simply four walls and a roof and many are converted from other uses (e.g. cattle sheds). At least 30 per cent of pupils in rural areas lack desks and benches, and we estimate that in village schools more than half the children sit on the floor as there is no furniture. About 300 teachers in the county do not have access to a teachers' room and 200 do not have even have proper beds. There is no physical education equipment or other teaching aids in most of the village schools and no library books.

The immediate reason for the poor school conditions is the shortage of funds. Average educational expenditure per pupil is not especially low in Zhaojue. The average of 198 yuan per primary pupil in 1990 is in fact twice the level of Ansai (this is because Zhaojue has a much greater proportion of government teachers whose salaries are higher than those of minban and temporary teachers and it is these teachers that are the

basis for calculating the per capita figure, it is also the case that a smaller percentage of children are enrolled than in Ansai). However personnel expenditure forms 96 per cent of the total (including the government aid for boarding provision) in Zhaojue, and only 4 per cent is left for operating purposes. This is not even enough to cover office expenditure and is insufficient to support the improvement of conditions in the schools.

Though the county government encourages villages to enhance the operating funds for schools this is often unrealistic. About one third of peasants cannot meet their basic needs for food and shelter and cannot contribute to school expenditure. Thus solutions depend on increasing state investment in education in the short term until local economic development is capable of providing more resources. In the recent past development investment has favoured economic reconstruction projects and educational investment has been a much lower priority. The potential to involve schools, which have a relatively rich reservoir of educated human resources and can interpret new knowledge and information, more centrally in the development process has not been exploited. Thus none of the schools appear to be used to run small scale model farms and promote local economic development by showing local farmers new ways and techniques in farming. The school-run farms could raise revenue and be a show case to let farmers see some of the benefits of schooling if carefully developed.

Second, net enrolment rates and on-schedule graduation rates are very low, especially for girls, and drop out and repetition rates are unacceptably high. These are very difficult problems as they involve not only education but also the legal system, cultural traditions, and economic development policies. As time passes parents and officials are becoming more aware of their legal obligations under the Compulsory Education Act and the local rules which govern its implementation. Family planning issues are relevant since it is very common for people in this area to have more children than the family plan anticipates, many of whom cannot be enrolled in school. Traditional concepts of valuing boys more than girls discourage female enrolment. Child marriage and arranged marriages where money changes hands are quite common in Zhaojue. These old traditions are major reasons contributing to the low enrolment and high drop out rates of girls. Thus equal rights for women still needs

reinforcement and special policies to encourage girls to go school will be needed for some time.

Since it is impractical to build schools in all the remote settlements in the area other alternatives have to be considered. More support grants may be made available to assist the boarding system to develop and offer educational opportunities to school age children living in the mountain areas. Other options may include increased flexibility in school organization using 'mobile teachers' giving instruction in different places, establishing instructional stations for periodic use in remote places, running classes in the farming slack season, and mounting special literacy classes. Whilst medium term development of the school system is likely to depend on the success of attempts to develop the local economy in the short term Zhaojue cannot but be dependent on assistance from outside the area to improve its primary school system. Some internal re-allocation of resources may be possible, and would reflect genuine local commitment, but this is unlikely to be sufficient to meet the range of needs identified.

Third, educational quality remains low despite the efforts made to improve matters. The county requirement is that sixth grade students in System 1 should reach Grade 4 levels of achievement in Chinese to graduate from Grade 6, and sixth graders in System 2 should reach Grade 4 levels in Yi. This means that an acceptable performance is two grades below that of children in schools on the plains. Teachers at Bier central primary school confirmed that their sixth graders in the System 1 could not reach Grade 3 level in Chinese and many do not understand Chinese when they leave school. Educational achievement at village and xiang schools is even worse. We examined the second grade children in Chinese in System 2 at Waer xiang central primary school, and we found most unable to read or understand simple Chinese. Class teachers indicated that less than a third would reach the pass level for that grade.

Low achievement arises partly from language problems. The Yi language is very different from Chinese and Yi children live in a Yi speaking environment with no contact with Chinese native speakers. It is therefore very difficult for them to adapt to a new language environment. This problem may be compounded if the relevance of schooling is perceived to be low. Half of the teachers questioned at Bier and Sikai central primary schools attributed lack of 'learning motivation' as a major reason for low achievement. This in turn they saw as related to the lack

of opportunities to benefit from schooling through access to non-agricultural jobs and higher levels of education. Achievement levels are also adversely affected by the short length of the school day and by absenteeism. Transport is poor and many pupils live very far away from their schools. Pupils usually have only two meals a day in rural areas. Classes often do not commence until late morning (11:30) and end by mid afternoon (3:30). Pupils in village schools may be in school for even less time and many of them have only two or three periods a day. Irregular attendance is widespread and seriously disruptive of learning continuity. Finally learning material is also a problem. Textbooks based on national guidelines are used. These can be too difficult and contain too much content for the time available. Textbooks in Yi are essentially translations of the standard textbooks. Pupils are not familiar with some of the content of the textbooks as they live in a closed environment.

Fourth, teacher shortages persist. Currently there are about 700 government employed primary school teachers in the area and there is a shortage of 200 in Zhaojue. The primary schools have to hire substitute teachers who are unqualified and untrained. Though 40 to 50 new teachers are added to the teacher cadre each year, about the same number of teachers retire or 'leave the mountain'. Thus the problem of teacher shortages will not be solved in the near future. If the enrolment is going to be raised by 3 per cent each year, as the county plan provides, the problem will become even more serious.

Over 90 per cent of the teachers in Zhaojue are qualified if we judge them according to their educational background. This qualification rate is not only well over the national average but also surpasses the rate in some more developed counties. With such a high qualification rate it is paradoxical that educational quality appears so low. Much depends on the actual teaching skills of teachers, their attitudes towards their work, their sense of responsibility, and their experience. Most of the teachers assigned to Zhaojue are graduates of Zhaojue Normal School and other normal schools in Liangshan Prefecture. The levels of educational achievement in these schools are not very high. According to county officials, one third of the graduates are judged unable to teach, and one third require additional in-service training before they are allowed to teach. Only about one third are properly qualified on graduation. What is more serious is that quite a few of the teachers want to transfer to other fields, or to 'go down the mountain'. These teachers do not work with

commitment, and do not prepare lessons and mark books conscientiously. Teachers were asked to respond to a question asking if they would rather do another job – 71 per cent of the teachers in Sikai and 50 per cent in Bier indicated their preference lay outside teaching, indicating how serious the problem has become.

Teachers' salaries are not low compared to typical officials and may even be more than an official with the same educational background. The average yearly income of teachers is about 10 times the net average income per capita of the rural areas in Zhaojue. This gap between the teachers' income and the per capita income in rural areas is larger than in the most other parts of the country. Despite this many still want to change their jobs for reasons that include the following.

- Lack of respect. More than two thirds of the teachers in Bier and over 80 per cent in Sikai indicated that they had little respect from the communities they served.
- Lack of additional income. Though teachers' salaries are higher than many officials, teachers do not have other income and few privileges. Some local governments grant teachers subsidies to buy vegetables and meat but not in Zhaojue
- The desirability of urban residence. It is very hard for family members of teachers to change their identification from rural to town (though government employed teachers all have town identification even though they may work in the rural areas). Some teachers may have to wait for 20 to 30 years or even longer to change residence.
- Physical insecurity. The problem of theft is quite serious in Zhaojue. Many teachers, specially female teachers coming from other areas are anxious about this. Several teachers in Sikai have had all their possessions stolen more than once in the same year. Even assault is not unheard of and adds to the insecurity felt by some teachers.

A final problem is concerned with the level of emphasis on education and the quality of educational administration. Those we interviewed disagreed about the attitude of the different levels of government toward education. Officials at each level argue that they place great stress on education and give it first priority in their agendas. Inadequate financial

support is frequently identified as the main difficulty they face. In contrast staff of educational institutions argue that the various levels of government have not paid enough attention to education. Some go as far as to say that government officials “only stress education orally but not in actions, and they stress education in the meetings but not after the meetings”. Our evidence suggests that though the authorities in Zhaojue have paid attention to basic education, they have not really placed the highest priority on it. We note that:

- Many government officials do not want to take responsibility for education. A typical view is that “family planning is the most difficult work to do and education is the most complicated work to undertake. It is not easy to see accomplishments in education and gain recognition”.
- The indicators set by the prefecture and county government to evaluate the performance of government officials cover their achievements in economic development, family planning and public security, but not in education. The interpretation of these made at xiang level does not always include education.
- The county government has not favoured educational investment. The district officials illustrated this by referring to the fact that the county government spent more than 300,000 yuan to buy a luxury car whilst many schools have no furniture.
- A practicable plan for universalization of compulsory education has so far not been developed for Zhaojue.
- The leadership at most levels appears weak and unprofessional with few educationally qualified officers. County level regulations are often not adopted energetically at xiang and village level and there is no inspection system to oversee implementation.

Chapter V

Policy and practice in basic education: ways forward

1. Introduction

This research has presented three detailed case studies of the implementation of basic education policy in China. It provides new insights into the problems of converting policy ambitions into practice. Our research indicates that in all three case study areas real achievements have taken place in implementing basic education policy. In Tongxian nine year compulsory education has been largely achieved for some time in a quantitative sense and it is fairly certain that virtually all school age children are enrolled. Though there is drop out at lower secondary level this is a small scale phenomena. The attention in Tongxian has now switched to quality improvements and we have identified many useful initiatives that are being taken.

In Ansai significant progress on increasing primary school enrolments has been made over the last five years and female participation has improved dramatically. Drop out is still a major problem, however, and a large proportion of the cohort appear not to complete primary school up to Grade 5 or 6. There is evidence that the situation will continue to improve if more adequate resources are made available. Zhaojue started with the worst educational conditions of the three case study areas. Schooling has only been available since the 1950s. The growth in enrolments over the last five years has been slow though the population growth rate appears high. Female enrolments remain a small proportion of the total despite the special programmes established for girls. The relative lack of progress in Zhaojue in implementing basic education

policy should not be taken to indicate that little has been done. Partly it reflects the very difficult starting conditions and the need for greatly increased support if enrolments are to be brought up to levels comparable with richer counties and the quality of achievement is to be improved.

Since the Reform of China's Educational Structure (1985) and the passing of the Nine Year Compulsory Education Law (1986) considerable progress has been made. All the xiangs we visited appear to have policy frameworks in place for basic education; local fund raising has been energetically pursued and raises substantial amounts of additional resources for education in richer areas; dangerous buildings have been greatly reduced in number; teachers' salaries have been raised and their status improved; in many areas enrolment rates have improved and boy girl disparities have diminished; teachers' qualifications have been improved and in-service training is widely available.

Our case study data indicate that there are causes for concern that the picture of national implementation of nine year compulsory education presented in many recent documents is not without a number of problems. Not least amongst these it appears that national statistics, and even those at county, and xiang level do not tell the whole story of the extent to which targets are being met. Aside from problems of varying definitions it is clear that performance on some key indicators e.g. enrolment rates, drop out, repetition, on-schedule graduation, is almost certainly less than is claimed in aggregated statistics. This is true in all our case study areas with particularly striking disparities in the poorest counties.

This creates a challenge for planners and policy makers. There is a need to improve the information and management systems that generate the data on which decisions are based. Without more accurate baseline information on the situation as it really is, rather than how it ought to be, there is a risk that future policy will assume effective implementation prematurely. The danger is that this will result in the identification of new priorities before the existing ones have been achieved. Implementing basic education policy is complex and contextually sensitive. The problems that we identify do have common features between the case study counties, but these also illustrate that qualitative characteristics differ in important ways from place to place. Consequently appropriate policy responses will not be singular, but multi-faceted reflecting local variations in conditions, infrastructure and resources.

An important key insight we can draw from the fieldwork is that successful implementation of basic education policy is as much a local as a national issue. The national policy framework has many well thought out and appropriate dimensions. The problems we identify do not appear to be the result of any fundamental problems with national policy. Rather they are the result of different interpretations at local levels, and varying levels of commitment to strategies consistent with the ambitions of the nine year compulsory education law. Too frequently, it seems, the priority attached to basic education in principle is not being matched by patterns of resource allocation, teacher deployment, and quality improvement programmes. These are often not clearly targeted where they are most needed – in areas where enrolment rates are lowest, achievement is least satisfactory, and towards the most educationally marginalized students (those out of school, in under-enrolled incomplete schools and, in some counties, girls).

Behind the analysis offered in this book lie thirty-five sub-studies at the school and xiang level. This extensive empirical base gives us confidence that the conclusions we reach here do derive from the real situation in the areas in which we worked. Though not representative of the whole of China, as no manageable study is, there are many areas similar in character to those we have studied so that the lessons we can learn are of more general relevance. The most important conclusions are collected below.

2. The policy framework

The formal basis for the new policies on basic education is to be found in the Provisional Regulations on the Basic Requirements for Universalising Primary Education (1983), the Reform of China's Educational Structure (1985), and the Law of Compulsory Education (1986). This legislation committed China to achieving nine years of compulsory education throughout the country. The regulations require all areas to develop their own detailed plans for the implementation of the policy. They also set out targets for enrolment rates, retention, graduation and participation. Legislation exists on most aspects of basic education policy which includes explicit performance indicators against which progress is to be assessed. National criteria for universalising basic nine year education include:

- (1) 93 per cent enrolment of school-age children in primary schools;
- (2) an annual retention rate of at least 97 per cent for each grade (retention is defined as the ratio of enrolments at the end of the year to those at the beginning);
- (3) graduation rates for the final year of primary school above 95 per cent for urban schools, above 90 per cent in average and above average rural areas, and 80 per cent elsewhere;
- (4) gross participation rates for 12-15 year old children of more than 95 per cent (defined as enrolment in any grade);
- (5) criteria for the elimination of illiteracy.

These criteria are widely publicized and administrators at all levels are expected to be aware of them. The national criteria are supplemented by a range of targets defined at Provincial level and below. Typically these include the elimination of dangerous buildings; the provision of classrooms for every class; sufficient desks and chairs for all students; adequate accommodation, playground space, equipment laboratories, library space and books; teaching staff for all major and minor subjects; at least 60 per cent of teachers graduating from teacher training courses and higher education; the training of all teachers and replacement or upgrading of all those currently under-qualified; the prohibition of the employment of those who have not completed nine years of schooling; the local collection of resources for schools.

Our research indicated that there was often a surprising lack of clarity about national policy priorities with local officials not being especially well informed about the detailed nature of these. Far more significant were locally derived criteria which existed at county, xiang and village level and there was a much greater awareness of these. Targets identified and authorized by county magistrates seemed to have much greater influence than those promulgated from higher levels. There did seem to be a relationship between the extent to which the process of outlining detailed targets for xiang and village level had been accomplished and the energy that was invested in their achievement. We noted that the more measurable physical outcomes e.g. the elimination of dangerous buildings, seemed to be more susceptible to a bureaucratic/regulatory approach, than those outcomes concerned with improving the quality of teaching and learning.

The attitude of local officials to basic education policy is critical to implementation. In most cases we found that formal policy statements were entirely consistent with national and county level aspirations for basic education. However actual patterns of resource allocation, and sustained support for a balanced programme of improvement in access and quality that was weighted towards those with the greatest unsatisfied educational needs, were often not conspicuously pursued. Rather local decisions concentrated resources in improving conditions in better endowed central primary schools and in enhancing provision for a minority of students at secondary level. This problem is not only a function of local officials persistence and conscientious pursuit of national policy. Quite clearly there are some situations where the local officials are doing all they can to make appropriate choices to meet locally established criteria for the implementation of basic education policy. They can be frustrated by decision makers in higher positions who may place less emphasis on educational development goals and more on economic infrastructure and investment in directly productive enterprises. They may also be discouraged by strong traditional dispositions – against the enrolment of girls, and against academic schooling in rural areas where few succeed in entering secondary schools. Overcoming these difficulties may be more difficult than simply allocating more resources to school provision.

There seems little doubt of the value of the locally developed plans for basic education which appear to be more influential than national policy statements in encouraging appropriate action. The risk of over specification exists, such that much administrative energy is invested in drawing up lengthy lists of criteria and methods for assessing progress. To become a reality the criteria specified have to be feasible, sufficiently simple to be understood by those expected to achieve them, and supported by the allocation of resources.

3. Administrative and managerial effectiveness

The system of educational administration in China is extensive and complex. It could not be otherwise in such a large and diverse country. The conventionally recognized danger that “when the mountain is high the emperor is far away” is more than just an aphorism. Long tradition emphasizes the local at the expense of the national. Undoubtedly there

is a coherent system of educational leadership organized from the State Education Commission downwards and basic features – national syllabuses, teachers salaries – are centrally determined. However this is essentially an administrative system which is not predominantly concerned with professional issues in education, nor does it yet have effective monitoring and inspection mechanisms to explore how policy is being implemented. The implementation of basic education at a local level depends both on the regulatory structure and policy framework provided by higher levels and on the adequacy of the school management that converts these aspirations into reality.

At the most local level of the school there is evidence of management practices that seem counter productive in terms of basic education goals. Universally in the case studies the pupils in the lowest grades have the worst learning conditions. Class sizes are largest, often by a factor of 3 or 4 when compared to Grade 5 or 6, especially in rural schools. Where furniture is in short supply it is the Grade 1 and 2 classes that have no chairs and use piles of bricks as desks. Qualified teachers are disproportionately allocated to the upper grades. Repetition rates tend to be greatest in the first grade, suggesting that learning is least effective at this level. Where money is collected from pupils to assist in school expenses, it is collected from all pupils though it seems that where investments are made in learning resources they tend to be for the benefit of the higher grade classes.

Moreover in the most deprived locations we have studied attendance of pupils is very irregular and that of teachers is also problematic. In Zhaojue it is common for a third of the pupils to be absent on any particular day, yet special arrangements in the organization of the curriculum to accommodate this are not generally made. In many cases few school records are kept making it difficult or impossible to trace the educational progress of children. Over-age enrolment is common and under-age enrolment surprisingly also occurs. In the latter case children may be enrolled early to satisfy the requirement that at least one child in the family is enrolled (as in Zhaojue) and regarded as child minding facilities whilst parents work. The latter occurs in Ansai – as many as half the children in a preschool class we identified were over-age and were not being promoted at the correct age – partly it appeared to assist in organising the pre-school pupils, and partly to defer the entry into Grade 1 of poor students to reduce the likelihood of exceeding the

repetition level targeted in local regulations. Many of the rural schools we worked in appear to have never been visited by supervisory staff who might be able to offer advice and mobilize more resources where they are most needed.

For all these and other reasons school management appears to be a critical area of weakness. The efficient use of the scarce human and physical resources that are available is being compromised by management practices that are at best questionable, and at worst simply wasteful of human potential. In some cases this may be the result of inappropriate standards being applied to extremely resource poor environments where they cannot be met. This discourages staff to the point where motivation is undermined. More often it seems that many aspects of local policy are simply not conscientiously followed and that monitoring and support from outside the school is conspicuous by its absence. Strategies that might produce disproportionate benefits include taking steps to ensure that teaching time approaches national norms more closely, providing recognition and incentives on a modest scale for schools succeeding in improving retention and learning performance, and modifying resource allocation procedures to ensure greater flows to schools with the most acute shortages.

The quality and quantity of management information was deficient at all levels of administration in the case study areas. So many inconsistencies appeared in basic data provided by different sources that it was difficult to have confidence in the reliability of much of the data on which decision making is based. Several observations are critical.

First, the use of standard definitions for key parameters is not widespread. Our research illustrates that officials at different levels have different ways of calculating enrolment rates of different kinds, drop out rates, on schedule graduation rates etc. and many are not familiar with the standard definitions. Thus figures from one source or one area may not be comparable with those from others. The standard definitions that the State Education Commission has published are not rigorously applied, even where they are known. Some definitions that are used seem technically problematic. Thus retention rates (the converse of drop out) are defined in a way which compares beginning of year enrolment with end of year enrolments. This practice ignores those students that enrol one year but do not return for the next. It is likely to seriously

underestimate drop out. Many staff with responsibilities for data collection and analysis have little or no statistical training.

Second, the most basic statistical data sometimes does not exist in a usable form. Thus, birth data, and the population of 7-11 year olds is not reliably recorded. It is clear that registration of children occurs in an irregular way, even in developed districts. National statistics based on aggregating statistics from districts must suffer from these sources of error. Our case studies repeatedly reveal that data provided at xiang and even school level on some parameters e.g. repetition cannot be reconciled with spot-checks on individual classes. Though the average repetition rate claimed in Ansai is about 5 per cent, there are schools where more than 50 per cent of Grade 4 students have repeated at least once in their school career. The data suggests that no more than 30 per cent of students complete primary school within 6 years in Ansai and that this is a result of high rates of repetition more than high rates of drop out. Thus considerably more than 6 student-year places are being provided for each primary school graduate in this area. Where targets are vigorously promoted – for example less than 3 per cent repetition, less than 2 per cent drop out – schools and xiang authorities feel obliged to demonstrate that they have met these on paper though the real situation is different. Policies developed on the basis of this quality of information are unlikely to have the consequences that are intended.

Third, school record keeping varies greatly from fairly comprehensive to virtually non-existent. Where it is collected it may not be retained at the school level but sent to higher administrative levels so that continuous records of student achievement etc. are not maintained at school level. This must make it very difficult to monitor the learning progress of children. Attendance records of pupils and teachers are also of variable quality indicating a basic weakness in school management information systems.

4. The allocation of resources

China has succeeded in achieving high gross enrolment ratios at much lower levels of cost to the national budget than many other developing countries. There are three main reasons which help explain this impressive record of progress. The first is that a growing amount of expenditure is not provided directly by central government but is financed

from lower tiers of government and from community revenue generation. This has been a consistent policy since the mid-1980s when a range of revenue generating mechanisms began to be introduced. Schools now commonly derive their income from at least five main sources.

- The national government, and county or municipality provide a block grant broadly based on the number of students enrolled. Government teachers salaries are paid directly from these funds. Buildings and equipment may also be provided.
- Local education taxes are levied on industry and other economic enterprises by local authorities who also have the responsibility for disbursing the money. A typical kind of arrangement might require rural businesses to be levied at a rate of 5 per cent on their profit before taxes, and to expect urban factories to contribute 2 per cent of the value of production.
- People's Education Funds have been established, usually based on a salary tax paid by state employees. In some cases the salary tax is paid by other workers including farmers. This is generally collected at the rate of about 2 per cent of gross salary for every employee, but the rate may be income related.
- Many schools are linked to factories or other productive enterprises and often have shared management. There are no fixed rules about the amount of support available. In general it will be dependent on profitability in particular years, the generosity of the local leadership concerning how much to allocate to schools as opposed to other types of investment, and on the performance of the school.
- A Social Fund administered at the district level may exist which accumulates donations from individuals and organizations that wish to support the schools.

Increasingly school run businesses of various kinds are appearing which may also contribute additional funds. It is now common, especially in city schools for kindergartens to be organized which are fee paying which contribute revenue to school funds.

The second factor that makes it possible to support high enrolments with an apparently low expenditure base is that teachers salaries are themselves both absolutely and relatively very low. The average teachers'

salary is currently comparable to GNP per capita. In the low income countries as a whole primary teachers salaries have a median value 6.1 times GNP per capita and the mean is 4.9 times. Largely as a result of relatively low teachers' salaries China's public expenditure per primary pupil was about US\$13.4, representing 4.9 per cent of GNP/capita in 1985. The latest official figures indicate that average public expenditure per child in 1988 was about 60 yuan (about US\$15) which was still only about 5 per cent of GNP/capita.

This compares with a mean of 13.5 per cent for low income countries. Thus higher enrolment ratios are possible than is feasible in countries where teachers salaries, and unit costs, are much greater multiples of GNP/capita. The third factor is demographic. National population growth rates have fallen from 2.2 per cent (1965-80) to 1.2 per cent (1980-87) and are projected to remain at this low level into the next century. More particularly the rate of growth of the 6-11 year old age group declined from 3.3 per cent (1965-75) to 0.6 per cent (1975-80). From 1980-85 the age group contracted at a rate of -3.9 per cent. This contraction is a direct result of family planning and the one child policy. The 6-11 year old age group is now expected to grow at only 0.8 per cent for the rest of the decade. For low income countries as a whole projected growth rates for 6-11 year olds to the year 2000 average 3.0 per cent (2.7 per cent weighted mean). The consequence of these low growth rates is that expansion in enrolments as a result of increased cohort size is not a dominant feature of educational financing.

Notwithstanding this analysis of relative cost effectiveness at the internationally comparative level our case studies reveal a number of disturbing resource problems. There appears to be chronic underfunding in Ansai and Zhaojue in relation to the achievement of basic education goals. Though these counties are amongst the poorest there are many others with similar characteristics. Several observations are pertinent. On the limited evidence we have central government support does in fact favour the more deprived areas. Thus direct government spending in Zhaojue appears significantly greater than in Tongxian on a per pupil basis. But of course infrastructure and stock (buildings and equipment) is impoverished and additional investment is needed to improve the existing facilities to the level of those in Tongxian. The comparison of per pupil expenditure is also a little misleading because those not enrolled do not generate income from central government (funding is related to the

numbers enrolled). Government supported expenditure on primary education per child (including those not enrolled) would be much lower in the poor areas if all children were included in the per capita calculation.

Disturbingly government support for salaries is concentrated on government teachers. The proportion of non-government teachers (minban and substitute teachers) remains substantial in poor xiang and rural areas. These teachers depend heavily on support from local resources. Government primary school teachers currently earn about 170-200 yuan per month on average. Minban (public supported teachers), on the other hand, may have much lower incomes. In Ansai, where 66 per cent were publicly supported teachers in 1990, these teachers' average income was 79 yuan, though they also received a grain allowance, which was often in arrears. In more developed areas, like Tongxian, less than 20 per cent of teachers are likely to be publicly supported, and in cities and towns virtually none. Thus the financial system appears to offer greater subsidies to town schools with a majority of government financed teachers.

Most anachronistic of all perhaps is that capitation payments for non-salary recurrent support to schools are linked to the number of government teachers in a school. In Ansai, school operating budgets depend on the number of government teachers employed at the rate of 100 yuan per teacher. However most rural schools have only a small proportion of such teachers – one third or less of the total – whereas in most town schools all teachers are paid by the government. Thus the operating budget generated from the 100 yuan per teacher varies greatly and is reflected in the amounts available to support teaching and learning. Thus non salary income from the state is least where the proportion of non-government teachers is highest and as a result many rural primary schools have almost no budgets for use to improve teaching and learning and school conditions despite the fact that their needs are greatest.

The encouragement of local mechanisms to increase the support for basic education has undoubtedly increased the total resources available. Our case studies provide striking evidence of the magnitude of the inequalities between counties and between districts which are emerging as a result. Even in a rich county (Tongxian) we can identify disparities growing to seemingly unacceptable proportions. In Xiji non-government income reaches more than 75 per cent of that provided centrally, in Dadushe it is no more than 8 per cent. Though overall per pupil revenue

for education from the government is similar in both xiangs at about 230 yuan/student, non government revenue per pupil is 718 yuan in Xiji and only 20 yuan per pupil in Dadushe. Similar disparities are arising in other counties and the consequences of local revenue generation without complementary redistributive measures need careful consideration if gaps in the quantity and quality of basic education provision are not to grow rather than diminish. We might also note in passing that the per capita income disparity between Tongxian and Ansai has increased from 2.5:1 in 1978, to over 3.2:1 in 1985 and 6.6:1 in 1988. Similar changes have taken place with respect to Zhaojue. Educational subsidies from central funds have not increased at a rate which would compensate poorer districts for the relative worsening of their resource base, and hence their ability to fund educational development from local taxation and donations.

Skews in budgetary allocations contrary to basic education policy appear too frequently to be dismissed as aberrations. In all the case study areas *de facto* priority appears to be being given to investment in improvement of the quality of secondary education. Resource allocations per pupil are much greater and the disparity between these and those at primary level seems to have been growing in a good number of cases. Per student expenditure on primary from the public budget alone in the Xiji primary system is about 128 yuan whilst it is about 173 yuan in Dadushe. The unit costs at lower secondary are 452 yuan and 383 yuan respectively. The differences can be much greater – in Ansai the gap between expenditure per pupil at primary and secondary school level increased from a ratio of 1:5 to over 1:8 since 1985 despite the emphasis placed on basic education (the gap would be even bigger if non budget income were included). In this poor county expenditure from the public budget per primary student was 97 yuan in 1990, significantly less than in Tongxian. These average amounts were heavily skewed. In Ansai the county government has invested more in county primary schools, which have much higher unit costs, than xiang level schools – case study data suggest that at xiang level expenditure may be as low as 60 yuan per student. In Ansai more than 40,000 yuan was spent on a secondary school gate – a sum representing many times a typical rural primary school non-salary budget. This is indicative of a tendency observed in all the case study areas to allocate large sums to buildings, particularly to prestigious secondary schools and central primary schools, and little

to improving the physical quality of ordinary rural primary schools, especially those with an incomplete grade range.

These funding developments have implications for teachers salaries. Teacher's salaries have been increasing in recent years but so also have earnings of other groups. In particular income in addition to basic salary is now substantial for many employees as the implications of the responsibility system work their way through and greater flexibility is given to small scale production for the private market. In relatively rich areas, like parts of Tongxian, teachers salaries may be supplemented by various additional payments that enable them to remain broadly competitive with other workers. This may be linked to the various methods of 'structured salary reform' which link payments to performance in various ways. However in poor areas, additional revenue for bonuses is generally not available. Full time teacher's basic salary income may then fall below the total income of other workers and the temptation increases for teachers to devote more and more time to 'spare time' income earning activities where opportunities for these exist. In the poorest areas the scope for this may be very limited however. These are complex issues, but very important ones since teachers salaries are the greatest burden on recurrent funding for primary education. Their relative level must have a relationship to motivation, though not necessarily a simple linear one. The challenge here is to identify ways in which material living standards of teachers can be improved, especially in the poorest areas, which do not distract teacher's energies from the primary job of organising effective teaching and learning. Part of the solution may be to consider the non-salary benefits that can be offered or enhanced (housing, free medical care, food subsidies etc.) which may not have the same recurrent cost implications as substantial salary increases. The position of minban and substitute teachers is also an important part of the problem of rationalising the reward structure for teachers.

Demographic developments have been a very significant element in the progress that has been made nationally in participation rates. However, our case study data identify a number of problems. It has proved very difficult to reconcile data on births, deaths, 6-11 year old population and enrolments in all three case study areas. Despite intensive efforts many of the contradictions could not be resolved. It does appear that often more children are being born than appear in official records of births. Many are probably registered some years after their births, and

an unknown but substantial number appear to be in excess of national family planning guidelines. The educational and financial implications are too important to be ignored. If there are in fact many more children, especially in the poorest counties, then more school places, teachers and buildings have to be budgeted for if basic education enrolment targets are to be met. If underlying rates of population growth are 2 to 3 per cent rather than less than 1 per cent this dramatically changes the problems of providing basic education on the demand side. Not only are greater subsidies to the poorest areas likely to be needed to reduce disparities in access and quality and compensate for previous relative neglect, but additional resources are needed to keep pace with the growing size of the cohort of school age children. This first step in addressing this issue is to take further the work we have begun in trying to estimate the magnitude of the emerging problem.

Allocations for books and equipment tend to be very low and are of the order of 1 to 2 per cent of total expenditure. The consequence of this is that most rural schools have very little in the way of learning resources apart from textbooks. No library books are to be found in the majority of rural schools, and where there are some they are often outdated or inappropriate to the age range of the children. Textbooks are widely available, however, and are usually purchased by parents. In the poorest areas teachers may buy books for their students from their own income since there is no other disposable income available. Alternatively subsidies are given to schools to purchase them as in Zhaojue.

A final observation is concerned with the relationship between student teacher ratios, class sizes and teachers workloads. Teacher class ratios at primary level generally vary between a little over 1:1 and 2:1. The lower levels are found in incomplete primary and small rural schools which may have only one teacher per class. In cities higher levels are not uncommon. At lower secondary level the ratio is frequently around 2:1 and may reach 3:1 in specially favoured schools. Primary student teacher ratios average about 23:1 which is much less than the mean for low income countries which was 39 in 1985. There are approximately 30 teaching periods/week in primary schools and teaching loads of about 15 - 20 periods are common. At secondary level teaching loads are lower - perhaps 12-15 periods per week. There are great variations in class size - 45-50 students is common in cities and towns and densely populated rural areas; in more sparsely populated rural areas 15-25 is

more common. Most principals and vice principals do not teach, and non teaching administrative staff may be a sizeable proportion (15 per cent to 25 per cent) of the total staff in medium and large schools, especially at secondary level, which in some case study schools seemed excessive. By international standards this level of teacher utilization is low – if teachers taught more periods a week fewer trained teachers would be needed and class sizes could be smaller. The position is not quite as simple as it appears since many teachers do have duties which extend beyond those associated with full time teachers in other countries. In rural areas where class sizes are small multigrade teaching could increase the utilization rate of trained teachers – currently training for this and curricula adaptation to make this possible is rare.

5. Female enrolments

Disparities between male and female enrolments are amongst the strongest predictors of low enrolment rates. Quite obviously high net enrolment rates cannot be achieved unless similar proportions of boys and girls are enrolled. Our data suggest that the situation with respect to these disparities has probably been improving in Ansai but deteriorating in Zhaojue over the last five years. In Bier and Sikai female primary enrolments were only 14 per cent and 10 per cent of the total respectively. In small rural schools the disparities remain large in both places. Overall drop out in both these areas is high but there is some evidence that once girls are enrolled they drop out at a lower rate than boys. This partly reflects the fact that greater proportions of female enrolment are from towns where drop out rates are generally lower. Thus the balance between boys and girls improves in town schools at higher grades. But in some parts of Zhaojue, e.g. Sikai only 3 per cent of Grade 5 and 6 enrolments are girls, with the majority concentrated in the first two grades. This issue is therefore very serious.

All girl classes provide one strategy to encourage greater female enrolment which has some potential. The effects of this are not yet clear since the experiments are relatively recent and it has not been tried in all schools in Zhaojue. Initially there may be some substitution where girls who would have attended school anyway are enrolled in all girl classes. Nevertheless the example of Bier central primary school is encouraging. Here the all girl classes were supported by a 100 yuan grant from the

Women's Federation and the result has been 100 per cent passes and dramatically improved average achievement scores many times better than county averages.

Special boarding schools are another strategy being used to promote enrolments which might be thought to affect female enrolments. This seems more problematic for basic education policy. The costs of these schools are high, and the way they are organized, at least in Zhaojue, results in a hierarchy of high and lower cost institutions with selective entry. This is clearly to the benefit of the best scholars who experience relatively high quality schooling in town boarding schools. But it does direct resources away from populations that currently have little or no access to schools. It is therefore in a sense inequitable. The reasons for the boarding policies are understandable in low population areas and there will be some economies of scale associated with the creation of larger institutions. Local community members and officials are enthusiastic about the boarding system as a key factor in maintaining and improving enrolments. But no analysis seems to have been undertaken of the equity costs of pursuing this strategy and allowing it to develop further. When coupled with the observation of growing inequities between primary schools and between primary and secondary schools noted above, there must be some concern to moderate the concentration of resources in elite and higher level institutions.

6. Pre-school classes

Pre-school classes are becoming widespread in the case study districts. The policy behind this is not clearly stated. Pre-schools should provide a sound basis for learning in Grade 1 and act to improve achievement levels of pupils by giving them a 'head start'. We did observe some well run pre-school classes in central primary schools where pupils were engaged in structured learning tasks and qualified teachers were involved in organising the classes. In these the classroom environment was cared for and educational materials were available. These developments seemed very valuable for the promotion of basic education policy.

In many other pre-schools the reality observed was different. There are several reasons for this. *First*, pre-school children are often counted in enrolment statistics for Grade 1 to 6 thus inflating the enrolment rate.

Second, pupils are retained, sometimes in large numbers, in pre-school if it is thought they are unlikely to complete Grade 1 successfully. *Third*, a major purpose in establishing pre-schools is to generate additional revenue for the schools. *Fourth* it is convenient for many parents to regard pre-schools as low cost child minding whilst they are at work. This encourages the enrolment of under age students. There was very little evidence in the case study areas of qualified teachers working with pre-school groups, and there were no formal curricula to be followed. Often children were simply being minded, sometimes by older children, and few attempts were being made to provide a stimulating learning environment or any structured learning tasks for them.

Thus it appears that these developments, though in principle to be welcomed, in practice appear to be functioning in ways which have limited educational benefits. It may not be easy to rectify this but without some action to regularize policy and make clearer the purposes towards which pre-school education is directed it seems likely that the benefits will be very marginal. This is a missed opportunity. Pre-school age children are at a critical stage of intellectual development where small inputs may pay large dividends. This is a period of greatest intellectual growth which can lay the foundation for future learning. The more impoverished home backgrounds are the greater the importance of access to structured learning experiences at an early age in the schools. As noted earlier we observe that characteristically least investment is made in the learning of the youngest children. This observation is strengthened by our insights into pre-school classes and is a tendency which seems to contradict national basic education policy.

7. The motivation of teachers and students

The working conditions of teachers in the areas we have studied have been improved over the last decade. It is clear that efforts have been made to provide more adequate housing and salaries have increased as noted above. There are still substantial problems in rural and remote areas where living conditions are often very basic and teachers lives are difficult. In small village schools and incomplete primary schools accommodation remains problematic and morale is difficult to maintain. Attempts are 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 but the case study illustrates that the process of localization will take a considerable time. It remains very difficult to encourage females to become teachers in this area. Teachers difficulties can be summed up as a combination of:

- feelings of low status in society with little opportunity to exploit position and connections to improve their living conditions when compared to other government employees – this is especially a problem for primary teachers;
- lower total incomes (additional payments and alternative income are difficult for many primary teachers to generate);
- limited fringe benefits in terms of the quality of housing and medical care when compared with other groups of educated workers;
- difficulties in obtaining city and town registration for spouses and children;
- lack of safety in some xiangs.

Minban teachers are particularly deprived. They have lower incomes, they 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. Though they may do the same job as government teachers their rewards are generally significantly less. They still represent a significant proportion of teachers especially in schools in areas where the enrolment problem is most severe.

Teaching is not a popular occupation, particularly at the primary level. There are problems about attracting enough new teachers into the profession and, especially amongst town children, it is a low priority for good students to enrol in teacher training courses. Our case study data indicates that, in some locations, quite large proportions of teachers would prefer to be allocated to other jobs. Thus we found cases where fully half the teachers were not in school in a particular week, preferring to work agricultural plots to gain additional income. In some schools large numbers indicated in the questionnaire that they would take other jobs if they could.

There also appear to be difficulties that arise from low student motivation, though it is reasonable to suppose that this is partly a result of interaction between teachers motivation and that of students. In those

areas where there is currently little chance of promotion to higher levels of lower and senior secondary school children who survive as far as the upper grades of primary begin to lose the motivation to work hard when they realise that they cannot continue beyond Grade 6. This is partly a problem of perceived relevance. The national curriculum is not modified in ways that might reflect the particular needs of these children when they leave school and enter the labour market. The curriculum is more preparatory for study at higher levels than it is terminal for those who leave. Increasingly lower secondary schools are academic institutions and the number which have a strong vocational bias is declining as part of the reform process. This may be premature in areas where transition rates to upper secondary are very low and where the majority of students at both primary school leaving level and at the end of lower secondary enter the workforce.

This kind of problem is not simple to overcome and will take time. It must depend partly on the rate of local economic development that provides opportunities for graduating students. In predominantly agricultural areas, where formal employment is very limited, motivation to acquire basic skills must be related to the utility of those things taught in school. Parents and students need to perceive that the content of schooling does provide learning outcomes that have economic benefits as well as have cultural value.

8. Quality improvement

The Chinese school system has an unusual structure that can play a substantial role in quality improvement. In most areas teaching and research groups exist at different levels with responsibilities for improving teaching and learning. Where these function efficiently they can provide information on new teaching methods, help teachers to gain better understanding of existing curricula, and devise learning materials and teaching aids. They also provide an arena for the discussion of professional problems that can assist in enhancing morale and provide recognition for effective teaching through in-service activities. A recurrent problem is that Teaching and Research Groups have few resources and little influence over how resources are allocated for school improvement.

Improved school management practices can also play a major role in quality improvement. Those schools that seemed to be performing better

were more likely to have principals taking an active role in observing teaching on a regular basis and supporting the activities of Teaching and Research Groups. Bier central primary school provided an example where an active leadership had succeeded in developing its own quality control mechanisms and had improved its performance despite being located in a very poor district. Many of the measures that can lead to improved quality are not necessarily resource intensive. Thus some of the things that can make a difference – more regular supervision, systematic monitoring of pupil progress through class tests, continuous attendance by teachers, efficient timetabling of teaching, balanced distribution of resources within the school etc. – do not have large direct costs.

Not all areas have inspection and monitoring systems established. Where these do not exist it is difficult for administrators at higher levels to have much knowledge of the level of implementation of basic education policy in all but the most accessible areas. Where they do exist most attention seems to be focused on administrative inspection, with little attention given to qualitative issues. There is therefore considerable pressure to achieve targets, which are mostly quantitatively expressed, for enrolments, drop out, promotion etc. with the result that often the achievements seem to be exaggerated. Almost no considered analysis is undertaken of qualitative outcomes that would give deeper insight into the status of teaching and learning. And actions subsequent to inspections rarely seem to involve improvements to curricula, teaching methods, and learning materials. Indeed follow up to inspections seems unsystematic and often ad hoc if the opinions we found in schools are to be believed. Rarely are there checks to establish if problems identified have been overcome several months after inspections take place. There also seems to be less interaction between the inspection system and Teaching and Research groups than is desirable – often the two seem to function independently.

The achievement of pupils in many of the case study schools is not impressive. Predictably the more remote rural school have the lowest performances and there are large disparities in pass rates between these and those in urban areas. Performance in incomplete primary schools is generally the poorest in the case study xiang. Comparisons are not always easy to make since much testing is not standardized between schools although increasingly county and xiang and district level tests are being introduced. This would seem to be a positive step in so far as it allows

more effective monitoring of performance between schools and can indicate whether improvement is taking place. However, expertise in the design of assessment design and the interpretation of patterns of results was in chronically short supply in the case study areas. Though we were not able to examine the question in depth it also seemed that much school testing was of limited educational value – much of what is assessed requires little more than the recall of information.

From what we could establish it seems likely that pupils in some areas are as much as three grades below the standards in developed areas by the time they reach Grade 6. Thus in Zhaojue this seemed to be the case and pass rates, even on specially adjusted tests for the area, were indicated to be as low as 10 per cent at Grade 6. Thus many children were almost certainly being promoted through the primary grades with little mastery of material in the previous grades. The wide variations in performance between schools were also striking with many cases of primary schools that had never succeeded in gaining entry to lower secondary for any of their pupils, and others where a majority were promoted. 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, which themselves were often not standardized, 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. This seemed to be counter to national policy designed to ensure that all children reach minimum levels of achievement.

9. Some options for external support

The magnitude of the problems we have identified in the implementation of basic education policy in China is such that they can only be solved through the efforts of all those involved at different levels who work within the education system. External assistance may have some role in supporting domestic efforts where there are specific needs that cannot be met from existing resources. Possibilities include:

Support for pilot projects to establish the effectiveness of interventions to increase female enrolments and levels of achievement

The impact of girl only classes has not been researched, nor have the most effective ways of organising their instruction. Given the central importance of increasing female enrolments in meeting overall enrolment rate targets this is a priority area. It may also include intervention programmes to increase the proportion of female teachers in those areas where they are in a minority if it is thought that this would improve the motivation of girls to enrol and remain in school.

Targeted support for the work of Teaching and Research Groups to improve school quality in selected districts

These groups provide the most obvious vector to act on low levels of achievement and improve the quality and relevance of school experiences. Yet they are often resource poor groups with little support which find it difficult to develop and maintain programmes of quality improvement across districts. Demonstrating what could be achieved at modest levels of cost may be an important way forward. Some of these groups could be encouraged to develop locally relevant curriculum materials whether as substitutes for, or enrichment of, national materials. This could reflect concerns for increasing the environmental awareness of the agricultural population so that sustainable forms of development can be more widely appreciated. These groups could also, with modest additional support, function to monitor achievement actively and support inter-visiting between schools to reduce the professional isolation that may be so deleterious to the morale of teachers in remote schools.

Intervention programmes that link health, nutrition, and educational development

In the two poorest counties in which we undertook research the basic food and shelter needs of the population are only partially met. Mortality rates are high and standards of health, hygiene and nutrition are low. Improvements in these requires different actions in different places. It is clear that successful implementation of basic education policy should be part of interventions with broader social welfare objectives. These could

take many forms including the inclusion of health and nutrition information in the curriculum, advice on disease control and treatment for common maladies, and the training of some teachers with special skills to promote health messages.

Sponsorship of experiments in pre-school education that would replace current practices that offer little of educational value to pre-school children with those that have real educational benefits

There are several related dimensions of need that include the training of teachers and community members in basic skills related to pre-school provision, developing low cost learning aids that can be simply deployed and used to enrich the learning environment of pre-school children, designing progressive curriculum suited to the age and cultural conditions of pre-school children in different areas.

Investing in improvements to the quality monitoring and management information systems for the administration of primary education

The need is to develop much better information systems for decision making. This has a number of dimensions which include:

- more reliable basic statistical information;
- the design of widely available indicators of student learning achievement;
- the identification of effective compensatory mechanisms to concentrate more resources on the most deprived groups.

10. Concluding remark

In the two poorest counties there is a long road to travel before the nine-year basic education policy can be said to be fully implemented. Educational conditions are improving, though this appears to be more true in Ansai than in Zhaojue. In both cases the rate of improvement seems to fall below that required to make a reality of *basic education for all* over the next seven years, especially if quality improvement to levels comparable with more developed parts of the country is considered as part of the goal. Our research identifies many promising initiatives which if

pursued with vigour could dramatically change the picture we observe. Not all of these have large resource implications. Much could be achieved with some redistribution of existing effort, more efficient enrolment planning, better teacher deployment and appropriate curriculum enrichment and adaptation to the special needs of small schools where attendance may be sporadic.

Any researchers who study the implementation of basic education policy in China must be struck by the immensity of the task which is being undertaken and the extraordinary success that China has had in making at least six years, and in many areas nine years, of basic education available to most school-age children. They must also be impressed with the vigour and commitment of the many officials and dedicated teachers at all levels who enable educational aspirations to be converted into opportunities for learning even in the remotest places.

Our research has inevitably concentrated more on the problems of implementation than on the scale of the achievements. We deliberately started empirical work in an area where we knew that enrolments were high and that good practice was widespread. Many similarly focused studies exist. Our special concern was to trace through the implementation of basic education policy to those areas where much remains to be achieved. This is the essential step in extending understanding from the core of the education system to the periphery. The analysis we offer is critical but not unsympathetic to the efforts of those working to achieve basic education goals under the most difficult conditions. The purpose of policy relevant research is to offer new perspectives and insights based on evidence that can lead to more informed decision making and the refinement of implementation strategies. This study offers a rich vein of ideas that can contribute to the development of basic education policy in China and in other countries confronting similar educational challenges.

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