

# Studies on the Distribution of Educational Resources for Urban and Rural Regions in China Regarding Educational Equality

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**Abstract.** The rapid economic and technological development in China induced by the "Reform and Opening Up" has posed significant challenges to education, highlighting the inequalities between urban and rural areas. This article delves into the significant educational inequalities between urban and rural areas in China, arising from disparities in facilities, teacher resources, and e-learning opportunities. The rural areas face significant educational challenges from the inequalities presented, as they cannot retain educational resources with high quality. Following, the article discusses the impact and poses improving suggestions for the education inequality problem from the students' aspect and society aspect. Then, it is shown that inequality causes mental health problems, poor learning performance, and hinders social-economic progress. The article suggests policy reforms and targeted programs to improve rural education, focusing on equitable resource distribution, teacher training, and mental health care. Bridging this gap is crucial for constructing a more equitable and inclusive educational landscape in China.

**Keywords:** Education, urban-rural contrast, Chinese development, educational inequality, mental health.

## 1. Introduction

China has undergone rapid development both in economic and technological aspects since the well-known "Reform and Opening Up". At the same time, the social transformation keeps inducing challenges to education in China [1]. Although the development in the decades has turned the country into one of the greatest economic entities in the world, Inequalities do occur between the urban and rural regions in China. Among all the inequalities, educational inequalities have drawn significant attention from the public. The educational inequality is defined as the quantitative variances between populations that receive different extents of education, at the same time, here the term inequity is defined as the presence of variance that occurs among population groups regarding the available education resources and outcomes [2]. Based on this definition, this article will attempt to investigate the urban-rural educational inequality problem in China. The article will firstly examine the contrast of the educational environment between Chinese rural and urban regions through facility aspects and teacher resources aspect. Secondly, the article will identify the adverse influences of educational inequalities from the perspective of students' learning performance, mental health, and social development. Finally, the article will attempt to raise several suggestions for the future improvement of the educational system in China.

## 2. Current State of Urban-Rural Educational Resource Distribution in China

### 2.1. Hardware Facility of Educational Resources in School

Among all the indexes that may reflect the urban-rural educational inequalities in China, the facility resource of a school would be a straightforward index to reflect the education resources available. If the facilities and equipment show a great difference between the schools in urban and rural areas, it would be reasonable to deduce the presence of severe educational inequalities. The facility resource of a school can be loosely described as the devices and equipment the school can offer the students for their learning, and this could include sites and infrastructures like sports grounds,

teaching multimedia, or comfortable classrooms. The importance of school facilities is that it ensures a better learning experience for the students.

The findings from Leung and Fung show that improved facilities management correlates to enhanced learning behavior of students [3]. Although facilities like projectors, labs, and libraries are prevalent in most schools in urban areas, they are not yet fully introduced to most schools in China's rural areas, and this contrast in educational facilities between rural and urban areas is significant. The study conducted by Xu et al. Have compared the Gini coefficient of different facilities between urban and rural areas, here the Gini coefficient quantifies the resource inequalities of a region. They found out that for universities, and education-training institutions, inequality state ( $0.5 < \text{Gini}$ ) occurs between urban and rural areas. Therefore, it is obvious from the coefficient that many of the higher educational facilities in rural areas have not yet reached the development level as those in urban areas [4]. The data provides statistical theoretical support for the demonstration of the urban-rural inequalities in the availability of different educational facilities.

It is necessary to further investigate resource inequalities concerning electronic education (e-learning) like AIs and multimedia learning. The devices required for e-learning are also a component of the school's hardware facilities. In the 21st century, the introduction of the electronic form of study is beneficial to students in many ways. Su from UNESCO has mentioned that the application of e-learning can help the students from rural areas broaden their horizons and also assist the teachers in their learning [5]. Wang et al. Have analyzed the inequalities in E-learning resources that exist in China between rural and urban schools using the data from China's MOE (Ministry of Education). He found out that the internet coverage in China shows inequalities between East (higher urban proportion) and West (less urban proportion) regions [6]. The insufficient coverage of the internet in some rural areas significantly limits access to e-learning, and thus limits the students' access to better educational resources. To summarize, a lack of access to hardware facilities and improved e-learning infrastructure exacerbates China's inequality in its urban-rural educational resource distribution.

## **2.2. Inequality in Teacher Resources**

Teachers are also an essential and indispensable component of the educational process. The availability of qualified teachers is a determining element in educational equality. In China, one great difference between urban and rural areas is the income. In China, the effect brought by the low income is the lack of teacher employment in rural areas. Li et al. have specifically pointed out that the severely impoverished Liangshan County, Sichuan Province, has long been in an undeveloped and closed state [7]. The region is in deficiency of educational resources and hardware facilities, and the region is short of a rural labor force with higher quality. Taking the Liangshan Region in Southwestern China as an example, the number of rural teachers there is far from enough. To address the problem, the province has put forward policies to ensure the quality and number of outstanding teachers [7]. Even though the country has encouraged and supported teachers to work in rural schools, the living condition still limits the teacher resources there. It remains very hard to attract and keep sufficient numbers of qualified teachers in rural schools, who are also faced with the dilemma of balancing the quantity and quality of teachers [8]. As a result of multifaceted challenges for the teachers, the education quality in rural schools is below the level of which in urban areas. Hence, the distribution pattern of the educational resources leaned to urban areas, which follows the trend.

## **3. The Adverse Influence of Education Inequality in Educational Resources Distribution**

### **3.1. The Impact of Urban-Rural Educational Inequalities on Students' Learning Performances**

There is an enormous gap in children's educational performance between rural and urban China. Statistics from a survey conducted by Zhang et al. constructed an educational performance indicator

using the self-declared education performance and exam scores, and they compared the performance between these rural and urban children. The educational performance of urban children is generally higher than that of rural children. For instance, regarding the study performances (grades), there are 61% of urban participants think that their children perform greatly in school, while 37% think that their children study with good behavior. Conversely, only about 40% of rural residents think that their children have great study performance, while around 55% think that their children have good school behavior"; additionally, the urban children have higher average self-reported scores than rural children. The results obtained by the indicator have statistically proved the enormous gap in children's study performances between urban and rural areas in China [9]. This shows that the imbalance caused by the aforementioned gap has a very large impact on students' self-awareness and learning outcomes. Further reform is needed to address this issue.

### **3.2. The Influence of Educational Inequalities on Students' Mental Health**

With the development of pedagogy, schools have paid increased attention to caring for students' mental health. Students are vulnerable to a variety of challenges such as stress from school workload and complicated family conditions. Educational inequalities driven by urban-rural disparities may also lead to higher rates of mental illness in rural schools. A study by Chen et al. analyzed the mental status of rural-to-urban migrant students. The results have indicated that the prevalence rate of mental health problems, that for rural children is way higher than that of urban children [10]. Their findings are derived from several facts that are related to the educational inequalities: first of all, the parents of these migrant students have typically only received secondary level in their rural areas of birth, and as a result, they are less able to provide their children with mental health care; secondly, as is aforementioned, the shortage of quality teacher resources in rural areas includes an insufficient number of psychological or mental health care educators, which increases the likelihood that there be insufficient care and attention for students' mental health. To sum up, inequality in education causes mental health problems for students in both their families and schools.

### **3.3. The Impact of Rural-Urban Educational Inequalities on Social Development**

According to some scholars, urban-rural educational inequality significantly impacts human capital development in China, hindering the nation's socio-economic progress. As it is aforementioned, rural areas often face a shortage of qualified teachers, roughly built school facilities, and therefore unavailability of educational resources. This lack of quality education prevents rural students from acquiring the critical skills and knowledge needed to compete in the modern workforce, which increasingly demands specialized skills and adaptability. Consequently, many rural students are deprived of access to higher education and high-paying jobs, limiting their upward mobility and perpetuating a cycle of poverty. This inequality not only constrains the individual potential but also affects the broader economy by reducing the overall pool of skilled workers. In the end, rural regions face a talent drain, where the people who attain higher education often migrate to urban areas, leaving rural communities with even fewer resources to foster economic development. Thus, the imbalance in educational opportunities exacerbates socio-economic disparities and limits China's ability to harness the full potential of its population.

On the other hand, educational inequality between urban and rural areas in China also hampers innovation and technological development. Urban areas benefit from advanced educational infrastructures, such as universities and research institutions, which foster innovation. In contrast, rural areas lack such facilities, restricting access to scientific and technological education. This disparity creates a significant gap in innovation. Without equitable access to education, rural regions cannot contribute effectively to technological advancements, resulting in an innovation environment dominated by urban perspectives. This limits diversity in problem-solving approaches and hinders the development of agencies that address rural challenges. Bridging this educational gap is crucial for fostering a more inclusive and dynamic innovation landscape that can drive sustainable economic growth across the country.

## **4. The Suggestions for Future Education Development in China**

### **4.1. Policy Improvements for the Equitable Distribution of Educational Resources**

The education reformation in China has been successful in various aspects. In today's rural education system, almost all kids attend compulsory education from kindergarten to high school [11]. The periodic review report on compulsory education by the Ministry of Education (MOE) of China pointed out that there's a 99.85% to 99.92% increase in the national primary school total enrollment rate from 2012 to 2021, and the junior high school net enrollment rate continued to remain above 100%. Through targeted poverty alleviation and targeted assistance measures, the enrollment rate of children with special needs in the compulsory education stage reached more than 95% [12]. It can be seen that in the past 10 years, China has successfully provided people in all regions with more equal and higher-quality educational opportunities. The successive continuation of the current policy is required. Nevertheless, the visible imbalance in educational resources between urban and rural areas is still present. For example, the hardware facilities, artificial intelligence, and teaching staff mentioned in 2.1 and 2.2 of this article still fall behind those of urban schools. In summary, to carry out future education policies, the specific conditions of each village in China should be taken into account to determine whether general policies apply to the village; if the policy is appropriately refined and implemented according to each specific region, it can help optimize rural education resources [7]. After all, educational equity should be seen as a central goal during the development stage of educational policies, and its implementation is an urgent call to action.

### **4.2. The Formation of Teaching Groups in Rural Area Schools**

As can be seen from the Rural Teacher Support Plan ("RTSP Plan"), the portfolio policy aims to ensure that rural teachers learn and apply the portfolio's-best teaching practices, which mainly include: teaching practice training to ameliorate rural teachers' teaching quality; providing sufficient training hours and principals for all rural teachers; rural occupation title evaluation and honor system. Aiming to improve the education of rural teachers, these measures are gradually applied to the rural education system [13].

In the future development of education in urban and rural areas, the government can provide rural teachers with continuous professional development programs and vocational training to help them improve their teaching ability [7]. In addition, to address the inequalities problems among teaching groups indicated in section 2.2, the government can subsidize schools in poor areas, and improve teaching equipment, school hardware facilities, and teacher treatment, this improvement will help motivate teachers to better develop their teaching expertise and skills, provide students with personalized and targeted learning plans, broaden the horizons of students in rural areas, thereby obtaining better educational resources and alleviating the inequality of educational resources between urban and rural areas.

### **4.3. Students' Mental Health Care**

Due to the uneven distribution of urban and rural educational resources, the pressure on families and students is aggravated. A classic example is the college entrance examination, which is also called "Gaokao", rural students receive fewer educational resources than urban students, and it is more difficult for them to enter China's higher education institutions. They have to endure more hardship and are subject to greater pressure. Therefore, schools should set up psychological counseling and start psychological classes to care for students' psychological conditions. In addition, before entering university, students need to make career plans and life plans. Some students may be confused when entering their adolescence age, and schools need to pay more attention to students' mental health issues before the college entrance examination. Mental health needs to be cared for in both urban and rural areas. Although most schools in cities have started psychological classes, they may be taken over by math teachers and become "math classes". Local education bureaus should strengthen school management and control to reduce student pressure and construct a well-organized student mental

care office. Offering common mental care resources guarantees equity from the perspective of mental health education, and thus ensures all-around educational equity.

## 5. Conclusion

This study tries to analyze the impact of urban-rural educational resources inequality on students and social development in China. It has been found that schools in rural China have not fully introduced facilities such as projectors, laboratories, and libraries and that inadequate Internet coverage in some rural areas significantly limits e-learning opportunities, while in urban areas the situation is the opposite, such scenario exacerbates the inequality in education between urban and rural China. The second major finding is that there is a shortage of teachers in rural regions, and the quality of teachers is poor. It is arduous for rural schools to attract and retain enough qualified teachers, and this results in better academic performances among urban children than rural children. What's more, the imbalance of educational resources has a great impact on students' learning outcomes. Besides, the study also found that educational inequality caused by rural-urban differences may lead to mental health problems in rural families and schools. To sum up, this paper provides a deeper insight into the unbalanced distribution of educational resources between urban and rural areas in China and the future development of education in China. More efforts should be made to realize educational equity in the future.

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