

Original article

Addressing teacher shortages: Policy and practical experiences from China

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Abstract:

Teacher shortage is a global challenge that has attracted considerable attention from both governments and scholars. In response, many countries have implemented various strategies to ensure an adequate supply of qualified teachers, particularly in developing areas. Over the past two decades, China has adopted a series of targeted policies and accumulated substantial practical experience in addressing this issue. However, these efforts remain largely underexplored in international discourse. This study aims to articulate and analyze China's policy response to teacher shortages by drawing on national-level practices. Using a qualitative research design, it systematically examines teacher supply policies issued between 2000 and 2025 through the collection and coding of official documents. The findings indicate that teacher shortages have been especially acute in rural regions. To tackle this challenge, the Chinese government has implemented policies across three key stages: 1) pre-service training phase, such as the training of free normal students; 2) initial distribution phase, assigning new graduates to underserved areas via government-supported initiatives; and 3) redistribution phase, mobilizing experienced or retired teachers through rotation, exchange, and support mechanisms. Collectively, these integrated strategies have significantly strengthened the national teaching force and offer valuable insights for the global education community.

1. Introduction

Teachers are essential to student learning and school effectiveness. The quality and availability of the teaching workforce are central to advancing educational equity and improving learning outcomes across diverse contexts (Guo & Xu, 2025). Their quality and availability are critical to achieving educational equity and improving outcomes. However, many countries, especially less-developed ones, face growing challenges in maintaining an adequate supply of qualified teachers. According to the *Global Report on Teachers 2024: Addressing Teacher Shortages and Transforming the Profession*, published by UNESCO, the projected global shortfall in primary and secondary school teachers will reach 44 million by 2030 (UNESCO & International Task Force on Teachers for Education 2030, 2024). This landmark report highlights that teacher shortages are not limited to a single national context but have been observed across a wide range of countries and

regions. In recent years, growing concerns have emerged in several high-income contexts, such as the US, the UK, and the Netherlands, where the issue appears to be becoming more pronounced.

In the US, for example, statistical estimates suggest that public primary and secondary schools faced a shortfall of approximately 64,000 teachers during the 2015-2016 academic year. Projections indicated that by 2020, around 300,000 new teachers would be required annually, with the estimated annual shortage expected to rise to 316,000 by 2025 (Sutcher et al., 2016). In the UK, according to a report by the National Foundation for Educational Research, by February 2023, the number of teacher vacancies had increased by 93% compared to pre-COVID-19 pandemic levels (Xing, 2023). In the Netherlands, the national teachers' union AOb (Algemene Onderwijsbond) indicated that nearly 40% of primary and secondary schools were reported to be experiencing sustained teacher shortages (Pieters, 2019).

The shortage of teachers not only affects the normal functioning of schools but also has far-reaching negative impacts on educational equity and quality. In many countries, particularly in rural and remote areas, teacher shortages lead to oversized classes, which severely affect the quality of teaching. At the same time, teacher shortages also result in increased workloads for teachers, which in turn cause burnout and turnover, further exacerbating the vicious cycle of teacher shortages (UNESCO & International Task Force on Teachers for Education 2030, 2024). Therefore, addressing teacher shortages is crucial to ensuring that every student has access to high-quality education.

Ensuring an adequate and sustainable teaching workforce is an important task for global education systems. As a country with a vast education system, China has implemented a variety of innovative measures over the past two decades to address teacher shortages. These measures have not only effectively alleviated teacher shortages in rural areas but also enhanced the overall quality of the teaching workforce.

By systematically analyzing these policies and practices, other countries can gain valuable insights and develop solutions tailored to their own contexts. However, systematic research on these efforts remains limited. This study aims to fill this gap by analyzing the policies and practical initiatives China has adopted over the past two decades to address teacher shortages, with a particular focus on rural teacher supply, in order to provide references for other countries facing similar challenges.

2. Literature review

To address teacher shortages, different countries have implemented various policies and practices. In the United States, for instance, the Grow Your Own Programs like those in Illinois target individuals within the local community who express an interest in teaching. These initiatives offer comprehensive support to develop teachers that align with the community's needs, effectively addressing the issue of subject-area teacher shortages (Garcia, 2024). The British government offers tax-exempt scholarships of up to £26,000 and other financial incentives every year to attract high-quality graduates and career-changers to join the teaching profession (Department for Education, 2019). The Dutch government stipulates that as of September 2018, primary school teachers who return to their positions after leaving will receive a subsidy of 2,500 euros per person if they have worked for more than six months. This measure is designed to help unemployed teachers return to the teaching profession and to address the uneven distribution of teacher shortages (Dienst Uitvoering Subsidies aan Instellingen, 2019). In France, the government has introduced a teacher mobility system, which uses special subsidies to attract teachers to move to disadvantaged areas, addressing the imbalance in teacher distribution. For example, in 2019, the French government increased subsidies for teachers moving to poor school districts, adding an extra €1,000 per year for teachers in Priority Education Network areas (Ministère de l'Éducation Nationale et de la Jeunesse, 2022). Germany has adopted a systematic strategy to address the

teacher shortage issue. For example, it encourages teachers to delay retirement and continue teaching. It also provides supplementary training for in-service teachers to enable them to teach in subjects where there is a shortage. These measures aim to optimize the existing teacher workforce and alleviate the problem of overall teacher shortages and shortages in key subject (Ständige Wissenschaftliche Kommission der Kultusministerkonferenz, 2023). Asian countries have also implemented similar policies, with Japan and South Korea serving as examples. Japan implemented a re-employment system for retired teachers. In April 1999, the revision of Japan's National Public Service Act introduced the "re-employment of public servants" system. As a special type of public servant, Japanese public school teachers are also subject to this system. Therefore, the re-employment system for retired teachers in Japan began to be implemented in 2001 (Ministry of Education et al., 2012). South Korea has implemented a teacher rotation system, providing incentives such as additional allowances for teachers working in remote rural areas and islands to attract them to these regions and thereby mitigate the uneven distribution of educational resources between urban and rural areas (Kang & Hong, 2008).

Literature shows that countries have taken various approaches to address teacher shortages as a global issue. In China, similar efforts over the past two decades have led to valuable experience. However, little research has introduced how the government coordinates teacher allocation through policy measures to an international audience. This study draws on both international perspectives and China's practical experience to distill key insights that may inform other countries facing similar challenges.

3. Methodology

To explore how the Chinese government has responded to teacher shortages through multiple initiatives, this study adopts a qualitative research design, specifically policy document analysis.

3.1 Data collection

The data consist of national-level policy documents related to teacher supply and deployment, collected from the official website of the *Ministry of Education of the People's Republic of China* (MoE). The search focused on the period from 2000 to 2025, corresponding to the beginning of the 21st century to the present, and included only policy documents explicitly addressing teacher supply and deployment. Based on thematic relevance and policy significance, ten key national policies currently in effect were selected for analysis, see Table 1.

3.2 Data analysis

A data-driven coding approach was used to analyze the ten selected policy documents in two steps. First, each policy was examined along four key dimensions: actors (who implements the policy), targets (who is being supplied), content (what is supplied), and mechanisms (how it is implemented). Second, a cross-policy comparison was conducted to summarize how these policies collectively address teacher shortages in un-

Table 1. The relevant policy texts included in the analysis.

Serial number	Year of promulgation	Promulgating authority	Policy Name	Chinese Name
1	2004	Ministry of Education of the People's Republic of China (MoE)	The Teacher Training Program for Master of Education in Rural Schools	(ShuoShi Jihua)
2	2007	① Ministry of Education of the People's Republic of China (MoE); ② Ministry of Finance of the People's Republic of China (MoF); ③ Ministry of Human Resources and Social Security of the People's Republic of China (MHRSS); ④ Central Organization and Compiling Office of the People's Republic of China (COCO)	The China's Tuition-Free Normal Education program.	(Gongfei Shifan Sheng)
3	2021	① Ministry of Education of the People's Republic of China (MoE); ② Publicity Department of the Central Committee of the Communist Party of China (PD); ③ Central Organization Department of the Communist Party of China; ④ National Development and Reform Commission of the People's Republic of China (NDRC); ⑤ Ministry of Finance of the People's Republic of China (MoF); ⑥ Ministry of Human Resources and Social Security of the People's Republic of China (MHRSS); ⑦ Ministry of Housing and Urban-Rural Development of the People's Republic of China (MOHURD); ⑧ People's Bank of China (PBoC); ⑨ National Rural Revitalization Administration of the People's Republic of China (NRRA)	The Excellent Teachers Program	(You Shi Jihua)
4	2003	① Central Committee of the Communist Youth League of the People's Republic of China (CYLC); ② Ministry of Education of the People's Republic of China (MoE)	The College Student Volunteer Service Western Plan	(Xibu Jihua)
5	2006	① Organization Department of the Central Committee of the Communist Party of China (ODCC); ② Ministry of Human Resources and Social Security of the People's Republic of China (MHRSS); ③ Ministry of Education of the People's Republic of China (MoE); ④ Ministry of Finance of the People's Republic of China (MoF); ⑤ Ministry of Agriculture of the People's Republic of China (MoA); ⑥ National Health Commission (NHC); ⑦ National Rural Revitalization Administration (NRRA); ⑧ Central Committee of the Communist Youth League of the People's Republic of China (CYLC)	The Take community-level posts in education, agriculture, health care and poverty relief	(San Zhi Yi Fu)
6	2006	① Ministry of Education of the People's Republic of China (MoE); ② Ministry of Finance of the People's Republic of China (MoF); ③ Ministry of Human Resources and Social Security of the People's Republic of China (MHRSS); ④ Central Organization Department of the Communist Party of China (COD)	The Special Post Teacher Program	(Te Gang Jihua)
7	2012	① Ministry of Education of the People's Republic of China (MoE); ② Organization Department of the Central Committee of the Communist Party of China (OD); ③ Ministry of Finance of the People's Republic of China (MoF); ④ Ministry of Human Resources and Social Security of the People's Republic of China (MHRSS); ⑤ National Rural Revitalization Administration of the People's Republic of China (NRRA)	The "Three Areas" Talent Support Program	(“San Qu” Rencai Jihua)
8	2014	① The Ministry of Education of the People's Republic of China (MoE); ② The Ministry of Finance of the People's Republic of China (MoF); ③ The Ministry of Human Resources and Social Security of the People's Republic of China (MHRSS)	The Teacher Rotation Policy (TRP)	(Jiaoshi Jiaoliu Lun gang)
9	2017	① The Ministry of Education of the People's Republic of China (MoE); ② The National Development and Reform Commission of the People's Republic of China (NDRC); ③ The Ministry of Finance of the People's Republic of China (MoF); ④ The Ministry of Human Resources and Social Security of the People's Republic of China (MHRSS)	The Ten Thousand Teachers Support Plan for Tibet and Xinjiang	(Yuan Zang Yuanjiang Wanming Jiaoshi Zhijiao Jihua)
10	2018	① Ministry of Education of the People's Republic of China (MoE); ② Ministry of Finance of the People's Republic of China (MoF)	The Silver-Age Lecture Plan	(Yinling Jiangxue Jihua)

derdeveloped regions (e.g., western China) and disadvantaged schools (e.g., rural schools). To ensure the reliability of the analysis, the initial coding was conducted independently by two researchers. First, both researchers read the documents line by line, marking keywords and phrases as initial codes, such as “improving teacher salaries.” Then, they categorized and integrated these initial codes to form themes like “teacher incentive measures.” Based on this, core themes were extracted. Finally, by cross-verifying with literature and expert opinions, the coding framework was adjusted and optimized to ensure the reliability and validity of the research findings.

4. Findings

This study finds that China’s teacher supply policies operate across three key stages: pre-service training, initial distribution, and redistribution. The pre-service training phase focuses on cultivating future teachers—namely, normal university students—through initiatives such as the China’s Tuition-Free Normal Education program (*gongfei shifansheng*). The initial distribution phase directs newly qualified teachers to underserved and rural schools via programs like the Special Post Teacher Program (*Te Gang Jihua*). The redistribution phase promotes the mobility of current teachers through exchange and rotation mechanisms. By integrating efforts across these stages, the Chinese government aims not only to alleviate teacher shortages in less-developed areas but also to enhance teacher quality, thereby advancing educational equity.

4.1 Pre-service training phase: Government-sponsored targeted programs with service commitments

To cultivate qualified teacher candidates for underserved regions, China’s pre-service training phase within its teacher supply policy system adopts a reservation-based training approach. These initiatives are characterized by full government sponsorship and service commitment agreements, providing financial support throughout teacher education and requiring graduates to teach in designated locations for a specified period. Such contractual arrangements typically specify the geographic area of service, along with the required service duration and penalties for non-compliance. By linking initial teacher preparation to employment obligations in underserved regions (usually at the county or township level near the candidates’ place of origin), these programs offer a coherent mechanism for expanding and sustaining the teaching workforce in regions with persistent shortages. Within this framework, three major initiatives fall under the pre-service training phase: the Teacher Training Program for Master of Education in Rural Schools (*ShuoShi Jihua*), the China’s Tuition-Free Normal Education program (*Gongfei Shifan Sheng*), and the Excellent Teachers Program (*You Shi Jihua*).

The Teacher Training Program for Master of Education in Rural Schools (*shuoshi jihua*). The Program was launched by MoE in 2004 to strengthen the teaching force in underdeveloped rural areas. Under this policy, outstanding graduates with bachelor’s degrees are selected from local universities authorized to offer Master of Education programs. These

students are admitted into a specially designated master’s track and sign agreements with local education authorities, through which they are granted formal teaching posts upon enrollment. After completing their training, they are required to teach in rural middle schools located in national or provincial key counties for poverty alleviation, typically for a minimum of five years (Ministry of Education of the People’s Republic of China, 2006). In 2010, the program was expanded and integrated with the Special Post Teacher Program (*Te Gang Jihua*), further aligning pre-service training phase with rural teacher deployment strategies.

The China’s Tuition-Free Normal Education program (*gongfei shifansheng*). The Program is a government-sponsored teacher education initiative that offers tuition-free training for selected students in normal universities, coupled with mandatory service in designated schools after graduation. Participants receive comprehensive financial support, including waived tuition and accommodation fees, along with a monthly living stipend, and commit to teaching in local primary or secondary schools for a minimum of six years. The program consists of two tracks: 1) The national track, launched by the MoE in 2007, is implemented by six key normal universities directly affiliated with the national ministry. It adopts an integrated “4+2” model, combining undergraduate study with a Master of Education program. Graduates are assigned to schools in non-capital prefectures in central and western China and must teach for at least six years, including one year in a rural compulsory education school if initially placed in urban areas (State Council General Office, 2024). 2) The local track, formally established in 2012, is led by provincial governments and typically follows a four-year undergraduate model. It targets local students and aims to prepare committed teachers for rural schools. Graduates are placed in designated counties or districts within their home provinces and must fulfill a six-year service commitment (State Council General Office, 2012).

The Excellent Teachers Program (*You Shi Jihua*), officially known as the Targeted Training Plan for Excellent Teachers in Underdeveloped Areas of Central and Western China. The Plan, introduced in 2021 by the MoE in collaboration with eight other national departments, is a targeted teacher education initiative aimed at strengthening the teaching force in underdeveloped areas of central and western China. According to the Plan, both Ministry-affiliated and local normal universities are required to enroll approximately 10,000 teacher candidates annually through region-specific admission plans. The program focuses on 832 counties, including formerly poverty-stricken and land-border counties, with the goal of addressing chronic teacher shortages in rural schools (Ministry of Education of the People’s Republic of China, 2021). University graduates are required to sign binding service agreements, committing to teach for a minimum of six years in designated counties within their home provinces. While the service region is predetermined, specific school placements are arranged later by local education authorities. By cultivating a pool of well-trained, locally committed teachers, the program contributes significantly to advancing educational equity and supporting China’s rural revitalization efforts.

4.2 Initial distribution phase: Diversified channels to attract talent to work in under-resourced areas

In the initial distribution phase, a key focus of China's teacher supply strategy is to motivate, support, and attract college graduates to begin teaching in teacher-shortage areas. These programs are designed to channel new graduates into schools facing severe teacher shortages, particularly in rural and underdeveloped regions. By offering financial incentives, career entry pathways, and institutional support, they aim to inject new energy into local education systems and address urgent staffing needs through the strategic deployment of young teaching talent. To achieve this, the government has implemented a series of targeted initiatives, including the College Student Volunteer Service Western Plan (*Xibu Jihua*), Take community-level posts in education, agriculture, health care and poverty relief (*San Zhi Yi Fu*), and the Special Post Teacher Program (*Te Gang Jihua*).

The College Student Volunteer Service Western Plan (*Xibu Jihua*) was launched in 2003 by the CYLC and several other national agencies. Each year, the plan recruits recent college graduates and postgraduate students to serve in rural township communities across western China for a period of one to three years, following principles of open recruitment, voluntary participation, merit-based selection, and centralized placement. Within the broader program, the Special Program for Basic Education plays a central role. Volunteers in this track are placed in primary and secondary schools located in poverty-designated counties, where they typically serve for one to two years. Their responsibilities include classroom teaching, instructional support, and school management assistance. By introducing well-educated young people into rural school systems, the program helps to address short-term teacher shortages and enhance educational quality in underserved regions (Central Committee of the Communist Youth League, 2025).

The Take community-level posts in education, agriculture, health care and poverty relief (*San Zhi Yi Fu*) is a major national initiative launched in 2006 to encourage college graduates to serve in grassroots communities across rural China. Among the four components, education support plays a central role by deploying graduates to teach in rural schools for a two-year term, with the goal of strengthening teacher capacity and raising the quality of education in underserved regions (General Office of the CPC Central Committee et al., 2006).

The Special Post Teacher Program (*Te Gang Jihua*), namely the Special Post Program for Teachers in Rural Compulsory Education Schools, is another major initiative in Mainland China aimed at guiding and encouraging college graduates to teach in remote rural areas and easing the shortage of teachers in those regions. Launched in 2006 with the issuance of the Notice on the Implementation of the Special Post Teacher Program by the MoE and other departments, the program recruits recent college graduates—regardless of whether they majored in teacher education or not—and assigns them to compulsory education schools in township-level and lower areas, particularly in western and underdeveloped

regions. It features large-scale recruitment, wide geographical coverage, flexibility in candidate background, and prioritization of teaching positions in shortage subjects and hard-to-staff schools (Zheng et al., 2019). Through these measures, the plan has effectively expanded the rural teaching workforce and improved both its quantity and structural composition.

4.3 Redistribution phase: Encouraging outstanding teachers to serve in areas with teacher shortages

In the redistribution phase, teacher supply policies focus on mobilizing experienced in-service teachers and outstanding retired educators who are willing to continue contributing their expertise. Through mechanisms such as temporary teaching assignments and exchange programs, these teachers are encouraged to work in underserved areas to help balance teacher distribution across urban and rural regions. This approach aims to address both the quantity and quality gaps in specific locations. In chronological order, four major policies have supported this effort: the “Three Areas” Talent Support Program (“*San Qu*” *Rencai Jihua*), the Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*), the Ten Thousand Teachers Support Plan for Tibet and Xinjiang (*Yuan Zang Yuanjiang Wanming Jiaoshi Zhijiao Jihua*), and the Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*).

The “Three Areas” Talent Support Program (“*San Qu*” *Rencai Jihua*) is a flagship national initiative (*Sanqu rencai zhichi jihua*) was introduced in 2012 by the MoE in collaboration with nine other ministries, with the goal of addressing persistent teacher shortages in China's most underserved regions. These “Three Areas” refer to remote poor areas, border ethnic regions, and former revolutionary base areas, as defined in the official Implementation Plan of the Talent Support Program for the “Three Areas” (Ministry of Education et al., 2012). Under this initiative, from 2013 to 2020, 30,000 qualified teachers from kindergartens, primary and secondary schools, and vocational institutions were selected annually to serve in these areas for one year. Simultaneously, 3,000 local backbone teachers and those in hard-to-staff subjects received targeted training each year to strengthen the long-term capacity of the local teaching force (Ministry of Education et al., 2012). This dual strategy—combining short-term deployment with sustained professional development—was designed to not only alleviate immediate staffing shortages but also promote systematic capacity building in disadvantaged regions. By mobilizing external teaching resources while cultivating local talent, the program contributed to improving the equity and quality of education across geographically and socioeconomically marginalized areas of China.

The Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*) is a key national initiative aimed at optimizing teacher allocation, promoting educational equity, and improving the quality of compulsory education. Primarily implemented at the county or district level, the policy organizes regular rotation of public-school teachers and principals across schools to encourage mobility and resource sharing. In 2014, the MoE and other departments issued the *Opinions on Promoting the Exchange*

and Rotation of Principals and Teachers in Compulsory Education Schools within Counties (Districts), stipulating that the rotation cycle should be no less than one year, typically two years, with some regions encouraging a three-year academic-stage rotation. In recent years, several localities have expanded the policy to municipal and provincial levels, reflecting its growing institutionalization and scale (Ministry of Education et al., 2014).

The Ten Thousand Teachers Support Plan for Tibet and Xinjiang (*Yuanzang Yuanjiang Wanming Jiaoshi Zhijiao Jihua*) is a targeted teacher-replenishment initiative implemented by China to strengthen the teaching workforce in peripheral ethnic minority regions such as Tibet and Xinjiang. In 2017, the MoE and three other departments issued the *Implementation Plan of the Ten Thousand Teachers Support Plan for Tibet and Xinjiang*, which outlines the principles of rationality, sustainability, and feasibility. Under this plan, a group of outstanding teachers is selected annually from schools across the country—primarily in STEM subjects, with some from other disciplines, and mainly from secondary schools, with a portion from the primary level—to provide instructional support in Tibet and Xinjiang. These teachers are not only responsible for classroom teaching but also for mentoring and training local educators, with the goal of cultivating a high-quality, dedicated, and locally rooted teaching force capable of serving rural and peripheral ethnic minority regions (Ministry of Education of the People's Republic of China, 2017).

The Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*) is an initiative launched by the MoE in 2018 to mobilize retired educators in support of rural compulsory education. According to the *Implementation Plan for The Silver-Age Lecture Plan*, jointly issued by the MoE and MoF, the plan recruits outstanding retired principals (The general retirement age for men is 63 years old, and for women it is 58 years old), senior subject experts, special-grade teachers, and experienced educators to teach and mentor in rural primary and secondary schools. These retired teachers are expected to provide classroom instruction while also mentoring local teachers, serving as a valuable supplementary force and exemplary model in the effort to improve collective teacher quality and promote educational equity. The target areas primarily include contiguous poor counties, national and provincial designated poverty alleviation counties, and deeply impoverished regions, with recipient schools located in county and rural areas. The standard service period is no less than one academic year, and those who meet performance expectations are encouraged to continue their service (Ministry of Education & Ministry of Finance, 2018).

5. Discussion

Teachers play a central role in educational development, and ensuring an adequate supply of qualified teachers is a foundational step toward achieving high-quality education. Without a sufficient number of teachers, efforts to improve educational quality are likely to fall short. In response to this challenge, countries around the world—including China—have explored various policy approaches to secure and

sustain their teaching workforces. The present study builds on and contributes to existing research in the following ways.

China's approach to addressing teacher shortages shares similarities with those of other countries in that there is government intervention rather than relying solely on market mechanisms. Various measures have been adopted by different countries to allocate teaching staff. Overall, these can be summarized into two main aspects: first, using economic incentives to attract and retain teachers (See et al., 2020). For instance, since 2018/19, the government in England has been piloting early-career payments for some shortage-subject teachers and student loan reimbursements for science and language teachers in some local authorities to encourage these teachers to remain in the profession (Foster, 2019). The San Francisco Unified School District (SFUSD) in California, USA, has implemented the Quality Teacher and Education Act, which stipulates that teachers will receive retention bonuses of \$2,500 after their 4th year of teaching and \$3,000 after their 8th year of teaching to improve teacher retention rates (Hough & Loeb, 2013). Similar measures can also be seen in China. For example, starting from January 1, 2024, the Chinese government has increased the salary subsidies for teachers in special posts. In central regions, the annual per capital subsidy has been raised from 35,200 yuan to 38,800 yuan, while in western regions, it has been increased from 38,200 yuan to 41,800 yuan. These increases aim to improve teacher retention rates and stabilize the rural teaching workforce (Ministry of Education of the People's Republic of China General Office & Ministry of Finance General Office, 2024). Second, there are measures to encourage in-service teachers to move to less developed areas, such as the teacher mobility system in France and the teacher rotation system in South Korea. China has also adopted similar measures, such as the Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*), and the Ten Thousand Teachers Support Plan for Tibet and Xinjiang (*Yuan Zang Yuanjiang Wanming Jiaoshi Zhijiao Jihua*). These initiatives are mainly carried out through a “demand reporting by the recipient area—teacher selection by the supporting area” approach for targeted assistance. The selected teachers are specifically matched in terms of school level and subject, thus achieving precise support (Zheng et al., 2019).

China's teacher supply policies share similarities with those of other countries but also have unique characteristics tailored to the national context. For instance, the pre-service training initiatives, such as the “Tuition-Free Normal” Education program and the “Excellent Teachers” program, are similar to the “Grow Your Own” programs in the United States, which aim to cultivate local talent to meet community-specific needs (Garcia, 2024). However, China's programs are more centrally coordinated and typically involve long-term service commitments to ensure the sustained presence of qualified teachers in underdeveloped areas. This contrasts with some Western models, which have shorter-term service requirements and rely more on short-term incentives and voluntary participation (Teach For America, n.d.). Moreover, China's teacher supply policies adopt a phased approach—pre-service training, initial placement, and redistribution—which reflects a systematic and integrated strategy. This is different from many international

efforts that focus primarily on one aspect, such as recruitment or retention. For example, while the United Kingdom offers financial incentives to attract new teachers (Department for Education, 2019), China's policies not only attract teachers but also ensure that they are well-trained and strategically placed where they are most needed. The Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*), and the "Three Areas" Talent Support Program ("*San Qu*" *Rencai Jihua*) further enhance this integration by promoting the mobility of in-service teachers and sharing resources. This comprehensive approach is crucial for addressing both the quantity and quality gaps in teacher supply, especially in rural regions.

Compared with international practices, China's approach to addressing teacher shortages presents three notable features: 1) It adopts a comprehensive and differentiated strategy to tackle various types of shortages. Given the country's vast territory and uneven regional development, teacher shortages occur both in underdeveloped central and western regions and in rural schools nationwide. In response, China implements national-level programs such as the Teacher Exchange and Rotation Policy, which facilitates the flow of experienced teachers and principals to rural and underperforming schools, alongside region-specific policies targeting deeply impoverished and remote ethnic areas. 2) China emphasizes both the quantity and quality of its teacher workforce. Efforts to address shortages are accompanied by strict recruitment standards, structured training, and ongoing professional development. For example, by 2020, one major national program had recruited 950,000 teachers for over 30,000 rural schools, with 83.6% holding bachelor's degrees and 1.1% holding master's degrees—demonstrating a clear focus on improving teacher qualifications alongside expanding supply (Education Information Network, 2020). 3) China relies on encouragement and incentives rather than administrative mandates to attract and retain teachers in underserved areas. Policy documents frequently use terms such as "encourage," "support," and "reward." For instance, the Special Post Teacher Program (*Te Gang Jihua*) calls on graduates to "engage in rural education" voluntarily (Ministry of Education of the People's Republic of China, 2006), while the Teacher Exchange and Rotation Policy encourages capable regions to expand the initiative based on their local capacity (Ministry of Education et al., 2014).

6. Conclusion

This study adopts a qualitative research design and applies policy document analysis to systematically review China's policy responses to rural teacher shortages. Covering the period from 2000 to 2025, ten official policy documents were collected from the Ministry of Education's website, all directly related to the recruitment and deployment of teachers in under-resourced rural areas. Through a combination of individual policy analysis and comparative cross-policy coding, this study investigates how the Chinese government has structured and implemented teacher replenishment mechanisms to address the uneven distribution of educational resources and the persistent shortage of qualified teachers in disadvantaged regions.

The findings reveal that China's teacher replenishment

policies constitute a comprehensive and multi-tiered system spanning three key phases: pre-service training phase, initial distribution phase and redistribution phase, covering the entire teaching career from training to induction and continued service. Across these phases, the government has introduced targeted measures to cultivate and deploy teachers, with a clear emphasis on addressing shortages in rural and under-resourced regions. In the pre-service training phase, initiatives such as the Teacher Training Program for Master of Education in Rural Schools (*ShuoShi Jihua*), the China's Tuition-Free Normal Education program (*Gongfei Shifan Sheng*), and the Excellent Teachers Program (*You Shi Jihua*) aim to secure a steady pipeline of qualified teachers for rural areas through targeted recruitment and state-sponsored education. In the initial distribution phase, programs like the College Student Volunteer Service Western Plan (*Xibu Jihua*), take community-level posts in education, agriculture, health care and poverty relief (*San Zhi Yi Fu*), and the Special Post Teacher Program (*Te Gang Jihua*) attract university graduates to teach in disadvantaged and remote schools, alleviating short-term shortages. In the redistribution phase, experienced and retired teachers are mobilized through mechanisms such as the "Three Areas" Talent Support Program ("*San Qu*" *Rencai Jihua*), the Teacher Rotation Policy (*Jiaoshi Jiaoliu Lun gang*), the Ten Thousand Teachers Support Plan for Tibet and Xinjiang (*Yuan Zang Yuanjiang Wanming Jiaoshi Zhijiao Jihua*), and the Silver-Age Lecture Plan (*Yinling Jiangxue Jihua*), helping to rebalance teacher distribution and improve education quality in rural and hard-to-staff areas. Collectively, these policies reflect a systemic and stage-based strategy to strengthen the rural teaching force in China.

Future research could focus on the implementation of these policies by adopting mixed-method research designs to further evaluate their effectiveness, particularly in relation to school effectiveness. In addition, international comparative studies are needed to account for contextual differences and to facilitate mutual learning and experience sharing. Such efforts would contribute to the refinement of teacher replenishment policies both in China and in other countries.

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Conflict of interest

The authors declare no conflict of interest.

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