

Exploring and Practicing the Implementation Path of Integrated Urban and Rural Water Supply in Yunnan Province

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Abstract

Rural water supply security is not only an important task to comprehensively promote rural revitalization, but also a concrete measure to realize integrated urban-rural development and the equalization of urban and rural basic public services. Yunnan Province is located in the southwest of China, with mountainous and semi-mountainous area accounting for 94% of the province's total area. Due to a large rural population, Yunnan Province rural water supply security task is heavy. After years of construction, all drinking water safety problems for people living out of poverty under the current standards have been solved, but problems still exist, such as the security level of the quantity and quality of water supply sources in rural areas is not high, and there is a big difference between urban and rural water supply operation and management. In 2022, Yunnan Province launched a three-year action to promote the integration of urban and rural water supply, aiming to build a "five similarities" water supply pattern featuring the same origin, same network, same quality, same price and same service for urban and rural water supply, and gradually realize the operation of "water grid" for urban and rural water supply. From 2022 to 2024, 407 integrated urban and rural water supply projects will be implemented to improve water supply security for 17.84 million urban and rural water users, and the proportion of the population served by integrated urban and rural water supply will increase from 43.9% to 87.1%. Based on the analysis of the characteristics of urban and rural water supply in Yunnan province, this paper introduces the main practices and experience results of the integration of urban and rural water supply in Yunnan Province, discusses the problems encountered in the implementation process, and puts forward countermeasures and suggestions from the aspects of project planning and construction, operation and management, investment and financing mode, water price reform and so on.

Main practice

In September 2021, Yunnan Province issued a three-year special action plan for rural water supply security, with a total investment of 20.8 billion yuan and 3,322 construction projects, which will effectively solve the water supply security level of 2.57 million water cellars, water cellars auxiliary water supply and water supply due to drought. Up to now, the investment completion rate is 80.18%. In August 2022, Yunnan Province issued a three-year action plan to promote the integration of urban and rural water supply, investing 57.3 billion yuan to construct 407 urban and rural water supply projects, which will improve the level of water supply security for 17.84 million urban and rural water supply population, and effectively solve the problem of unbalanced and inadequate water supply in Yunnan. Promote the gradual construction of the same origin, the same network, the same quality, the same price, the same service of the "five" urban and rural water supply pattern, and gradually realize the "water network and grid" operation. So far, the investment completion rate is 2.8%.

The existing problems

1. Yunnan has a large mountainous area and scattered villages. The construction and operation costs of integrated urban and rural water supply projects are relatively high, and a reasonable water pricing mechanism has not yet been formed.
2. The property rights of existing water supply projects are complicated, and the operation and management units lack unified coordination. The intelligent degree of transportation and management mode is low, the collection of water charges is difficult, and the management cost is high.

Suggestion and countermeasure

1. Promote water price reform at a high level, and establish a water price and a dynamic adjustment mechanism that reasonably reflects the cost of water supply.
2. Strengthen the guarantee of government funds and actively guide the participation of private capital.
3. Establish and improve the integrated system and mechanism of urban and rural water supply, strengthen departmental cooperation, and consolidate work responsibilities.
4. Strengthen digital empowerment and improve the level of intelligent management services.

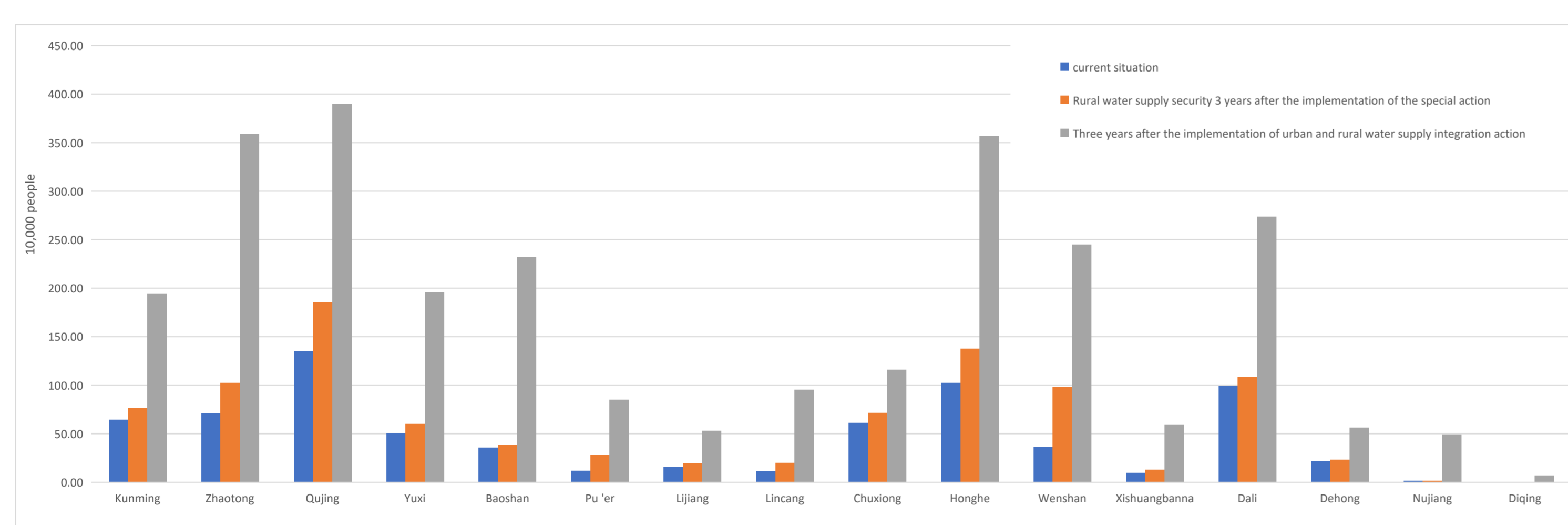


Fig.1 Population served by Urban and Rural Water Supply Integration (excluding urban population)

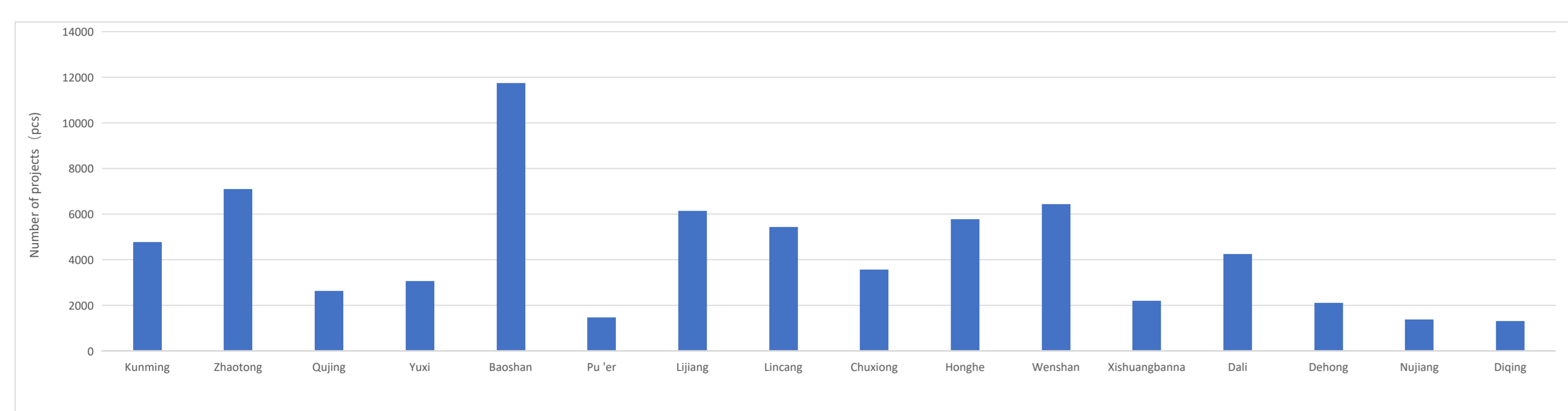


Fig.2 Distribution of centralized water supply projects in Yunnan Province after the implementation of the three-year Action of Urban-Rural water supply integration