

Research on Value Assessment of Ecological Products in Water Beauty Village

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Objectives

The construction of water beauty villages is a systematic project with “Water beauty” as the core, comprehensive rectification of countryside living environment as the content, and green development of countryside as the goal. It is a major initiative to implement Xi Jinping's ecological civilization thought and assist in rural revitalization. Ecological products in water beauty village are an important component of ecological products, and their research is conducive to enriching the connotation of ecological products. Based on the theories of ecological hydrology and ecological economics, this paper elaborated on the connotation and extension of ecological products in water beauty village, identified the ecological service functions and quantity indicators of water beauty village construction, and developed a value accounting model for ecological products in water beauty villages.

Methods

Assisted by investigation and statistics, the quantity index data of the ecological products in water beauty villages was obtained through remote sensing image pattern recognition. And then, the value of ecological products in water beauty villages was assessed from four aspects: material supply function, ecological regulation function, cultural service function and ecological premium function. The value of ecological products for material supply was assessed using the market price method, and the value of ecological products for ecological regulation was evaluated by the replacement cost method. The value of ecological products for cultural services was assessed using the replacement cost method and the travel cost method. The value of ecological products for ecological premium was assessed using the market price method.

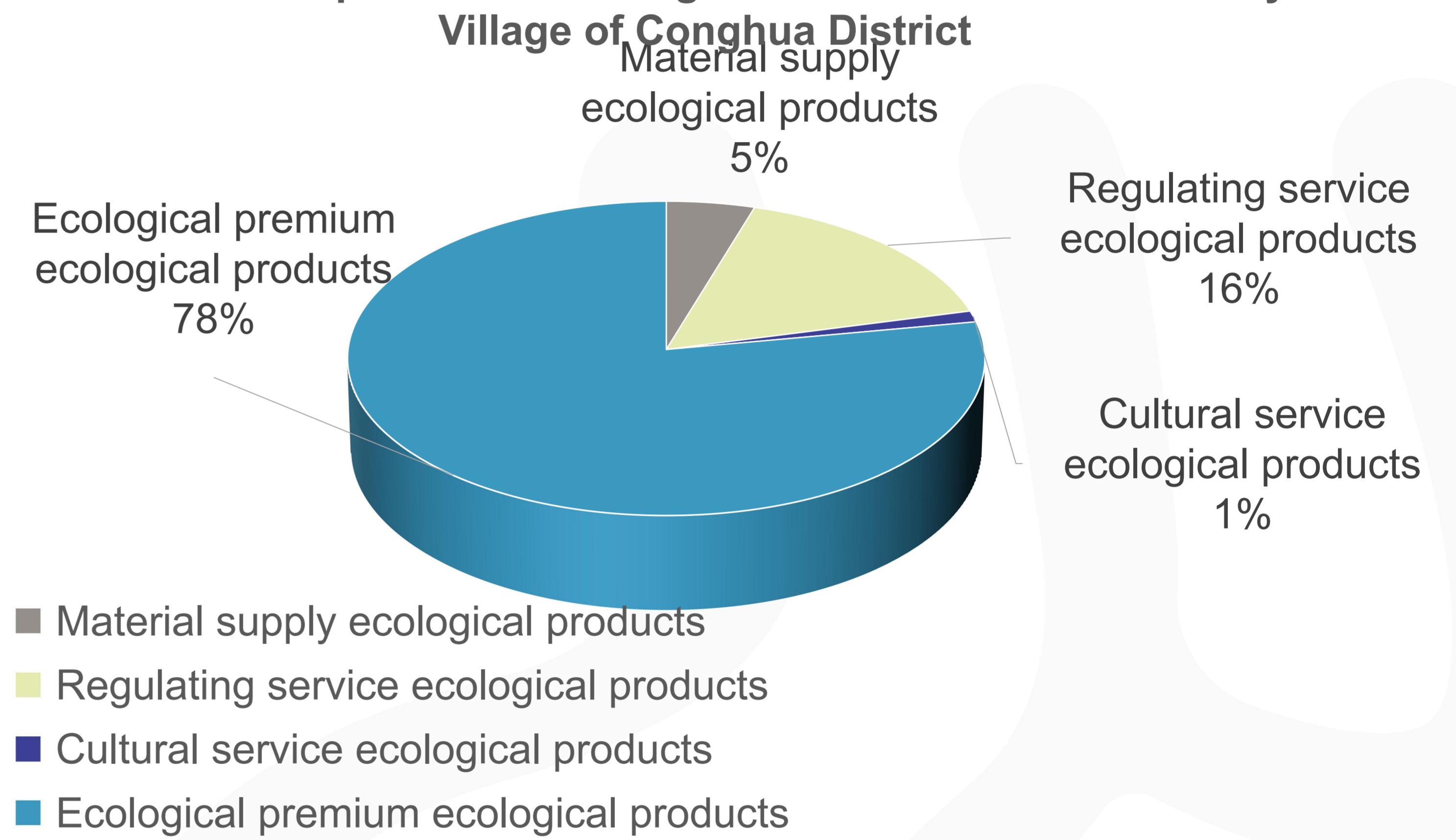
Results

Taking Conghua District of Guangzhou City, a national pilot project for water system connectivity and water beauty rural construction, as a typical research area, the results show that the ecological service functions identified in this paper were consistent with the actual construction of the water beauty village in Conghua District, and the value accounting model developed can objectively assess the value of ecological products in water beauty village in Conghua District.

Value Composition of Water Beauty Village Ecological Products in Conghua District, 2022

Index		Value (million)	Proportion(%)
Material supply ecological products	Water supply	113.09	0.14
	Freshwater aquaculture	3764.30	4.59
Regulating service ecological products	Water conservation	9481.17	11.56
	Flood regulation	76.81	0.09
	Water and soil conservation	286.63	0.35
	Water purification	1938.43	2.36
Cultural service ecological products	Climate regulation	1555.56	1.90
	Water-related leisure and entertainment	213.39	0.26
Ecological premium ecological products	Rural tourism	725.54	0.88
	Featured agricultural and animal husbandry products	1515.94	1.85
	Land	62348.40	76.02
Total		82019.25	100.00

Value Composition of Ecological Products in Water Beauty Village of Conghua District



Conclusions

The total value of the ecological products of the water beauty village in Conghua District was RMB 82.02 billion in 2022, including RMB 63.86 billion for ecological premium, RMB 13.34 billion for ecological regulation, RMB 3.88 billion for material supply and RMB 0.94 billion for cultural services.

The research can play a certain theoretical promoting role in establishing a sound mechanism for realizing the value of ecological products and has practical guidance significance for the construction of water beauty village.

Subdivision Composition of the Value of Ecological Products in Water Beauty Village of Conghua District (Excluding ecological premium products)

