

# Incentive effect of "Replacing Plastic with Bamboo" policy on rural revitalization

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## Introduction

Since the "Bamboo instead of plastic (BIP)" initiative be implemented, Xingwen county of Yibin City, Sichuan Province, takes the bamboo industry as a key industry, focusing on the development of "BIP, bamboo food, bamboo fiber" and became the high-quality development cultivation of bamboo industry in Sichuan province .

## Materials and methods

This study selects four modes of bamboo cutting, shoots, plant and seedling cultivation in 12 townships in Xingwen County from 2021 to 2023.

Through the Simultaneous Equation (SEM) and the Robust Standard Error Model, this study analyzes the driving effect of the BIP policy on the output value of bamboo forest and the degree of support for rural revitalization.

## Results

The output value of bamboo shoots harvesting and seedlings contributed the most to the bamboo industry. The management mode of village capital company has the greatest impact on the income of bamboo cutting, followed by professional cooperatives and single-family management of farmers. Each rural paying the total salary of farmers increased by 10000 Chinese yuan, the number of workers can be increased by about 50 people. The number of workers increased by 1 person, the increase of the cutting bamboo amount by 1.027 tons, bamboo shoots 0.146 tons, planting bamboo 24.232 Chinese mu, and seedling increased by 70. For each additional unit of these four bamboo industry model, the output value will increase by 390, 5620, 490 and 42700 Chinese yuan.

Different bamboo management models (DBMM) impact on output value annually

## Conclusion

It is necessary to improve the business model of the village capital company. Stabilize the demand for bamboo cutting and bamboo harvesting for forestry farmers and the contribution to the economic development of the forest area. Train and hire professional and technical personnel, cultivate excellent bamboo species, and provide high-quality and sufficient bamboo rawmaterials for the BIP industry.

## References

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DBMM impact of production, workers and salary on output value based on SEM

Year	B Cutting	B Shoots	Plant B	B seedings
2021	0.987*** (0.020)	1.020*** (0.007)	0.027 (0.021)	0.950*** (0.066)
2022	0.980*** (0.014)	1.001*** (0.005)	0.041** (0.014)	0.975*** (0.028)
2023	0.985*** (0.017)	1.006*** (0.006)	0.018 (0.016)	1.012*** (0.018)

	B Cutting	B Shoots	Plant B	B seedings
Production	0.039*** (0.002)	0.562*** (0.010)	0.049*** (0.002)	4.247*** (0.093)
Workers	1.027*** (0.059)	0.146*** (0.002)	24.232*** (2.368)	0.007*** (0.001)
Salary	49.766*** (9.871)	51.679*** (0.662)		