



Research Article

Strategy to Optimize the Potential of Bamboo Products in Petungsewu and Pandanrejo Villages, Wagir District, Malang Regency

Dwi Wulandari¹, Putra Hilmi Prayitno^{1*}, Sheerad Sahid², Fikri Aulia³, Fuad Indra Kusuma⁴, Linda Agustin Ningrum¹, and Sefira Oktavia Anggraeni¹

¹Department of Economics Development, Faculty of Economic, Universitas Negeri Malang, Indonesia

ORCID

Dwi Wulandari: https://orcid.org/0000-0003-0532-8745

Abstract.

The production of processed bamboo products has a great potential for establishing welfare among the people of Petungsewu and Pandanrejo villages, Wagir sub-district, Malang district. However, the bamboo products in these villages are still manufactured traditionally and at a smaller scale. The condition of MSMEs in these villages also lacks priority over raw materials, marketing, technical production, and expertise. Therefore, the purpose of this study is to analyze the optimization of processed bamboo products so that they develop rapidly and support the sustainable development goals, optimize creativity, identify problems that cause bamboo products to be constrained and preserve the environment to create go-green areas and improve the economy of the local people in Petungsewu and Pandanrejo villages, Wagir subdistrict, Malang district. This study uses a quantitative approach with SWOT analysis which aims to determine strategies that can be used to develop and maintain the business. Data used are primary data obtained from observation activities and through questionnaires. The primary data obtained were analyzed statistically using SEM and operated through the SMART PLS program. The SWOT analysis is also equipped with analytical methods (Internal Factors Analysis Summary) and EFAS (External Factors Analysis Summary) to determine the SWOT Quadrant Positioning.

Keywords: optimization, local economic development, processed bamboo products

Corresponding Author: Putra Hilmi Prayitno; email: putra.hilmi.fe@um.ac.id

Published 31 July 2024

Publishing services provided by Knowledge E

© Dwi Wulandari et al. This article is distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the BESS 2023 Conference Committee.

1. Introduction

Small and medium enterprises have an important role in the economic growth of a region or country. The creation of a new business can play an important role in the economy where it is recorded that 10-50 workers are absorbed in the creation of new small-scale businesses (Sarker et al. 2019). One of the factors that can affect the welfare of a community can be seen from its healthy economic condition and a community is

○ OPEN ACCESS

²Universiti Kebangsaan Malaysia, Malaysia

³Faculty of Science Education, Universitas Negeri Malang, Indonesia

⁴Faculty of Engineering, Universitas Negeri Malang, Indonesia



said to be prosperous if it can meet its basic needs (BKKBN, 2015). The concept of local economic development is based on several factors, namely local indigenous resources and local supervision, resource expansion, capacity building and new welfare formation. Indonesia itself is one of the countries that has enormous Natural Resources potential where in this case it is expected that people can utilize Natural Resources in their regions optimally to achieve prosperity (Nikawanti, G. 2021).

In East Java, precisely located in Wagir District is the north central part in Malang Regency which is directly adjacent to Malang City, Blitar Regency, Pakisaji District and Petungsewu District which is one of the districts that has Natural Resources that can be seen in Petungsewu and Pandanrejo villages that have bamboo potential. Bamboo itself is a typical plant that is often found in rural areas of Indonesia, bamboo is a type of grass where there are segments and cavities in it. Bamboo has many types which have enormous potential, but bamboo itself still has several weaknesses so that it is still not optimal in its utilization (Rahmawati, et al., 2022). Although many use bamboo to become a ready-to-use product, some bamboo product workers often experience obstacles, namely difficulties in accelerating and enlarging product capacity to meet market demand (Sulistyono, S., &; Eskak, E. 2021).

Bamboo can basically provide several benefits to the community economically and ecologically, but when compared to wood commodities, bamboo is still able to provide an increase in income in a relatively fast period of time which is about 4 to 5 years. Demand that remains high but without being followed by quality improvements and appropriate prices is a consideration and reduces public interest in developing bamboo processed product businesses (Rahmansyah, N., Aryadi, M., &; Fauzi, H. 2020). Not only that, the marketing aspect and the process of making processed bamboo products are also a crucial problem because the distribution method is still conventional. Petungsewu Village and Pandanrejo, Wagir District, Malang Regency are villages that have large bamboo resources which will be useless if not utilized optimally. Processed bamboo products are one of the potentials to prosper and develop the local economy. Based on this, it is expected that the results of natural wealth, especially processed bamboo products and qualified Human Resources can compete and be known to the wider community.

This research aims to develop and optimize processed bamboo products in Petungsewu and Pandanrejo Villages, Malang Regency. The main objective is to support the Sustainable Development Goals (SDGs) by encouraging the sustainable growth of the bamboo industry. In this research, the creativity of people in Petungsewu and Pandanrejo villages will be optimized to produce innovative bamboo products. In

DOI 10.18502/kss.v9i21.16736



addition, problems that hinder the development of bamboo products will be identified and solutions will be sought.

This research also aims to preserve the environment by creating environmentally friendly areas ("go-green"). By utilizing bamboo as the main raw material, renewable natural resources can be utilized sustainably. In addition, the development of the bamboo industry is expected to improve the economy of the local community. By achieving these goals, this research is expected to increase natural wealth and Human Resources in Petungsewu and Pandanrejo Villages, as well as provide a positive impact that can be felt by the wider community.

2. Literature Review

Regional business competition is currently tighter due to looser trade barriers and integrated communication and globalization systems, giving rise to competitive markets. Seeing this, economists and the government focus on local community-based economic development as an economic development strategy (Cleave et al., 2016). The government optimizes regional economic potential through an approach to developing the potential of superior local commodities in the area (Adi, 2012). Local economic development is one of the concepts of economic development that is equivalent to the social development approach of Midgley (1995). The existence of a local economic development model is expected as a realistic solution to overcome poverty for local economic development.

The integrated development design based on location or area is intended as an encouragement of synergy that has long existed in Indonesia. Through the Industrial, Agropolitan and Integrated Economic Development Zone (KAPET). The relationship between optimization strategies in Indonesia to local economic development is still not optimal and has not achieved synergism. To achieve synergism, collaboration with other parties or institutions is needed. In synergism, there are dimensions of efforts to increase harmony, collaboration, participation, coordination to encourage the success of local economic development (Tello, 2010). However, collaboration can not always optimize local economic growth because collaboration of local economic development components has not reached the synergism category (Naiyati, 2016).



2.1. Local Economic Development

The efforts of a region in optimizing regional resources by involving participation from the government, private sector, and community organizations are also called local economic development. Local economic development is oriented towards increasing sustainable growth, increasing competitiveness, creating jobs, and being able to ensure inclusive growth (Tello, 2010). The concept of local economic development is based on several factors, namely local indigenous resources and local supervision, resource expansion, capacity building and new welfare formation. In line with the objectives of local economic development to build local economic capacity in improving the quality of life and economy of all components involved (Bambang &; Suprapto, 2014). One of the local economic development efforts carried out by the government is by developing micro, small and medium enterprises (MSMEs). However, the fact is that the development of MSMEs in Indonesia is still not fully optimal, as well as the development of MSMEs for bamboo products in Petungsewu Village and Pandanrejo Village, Wagir District, Malang Regency.

2.2. Optimization Strategy

An action, process, or procedure to make something more functional and effective is included in optimization. In achieving optimal results from a business, a strategy is needed. Optimization requires a strategy where it can begin with structured planning of activities to be carried out in achieving specific goals. The concept of optimization strategy is closely related to the development of a goal undertaken. The same is the case with the development of a business which certainly needs to pay attention to business aspects. Business development is carried out by an institution or organization that produces goods and services needed by the community. When the needs of the community increase and the institution or organization is able to support these needs, it will increase the development of the institution's business.

(Brown and Petrello, 1976). As is the case in Petungsewu Village and Pandanrejo, Malang Regency which produces processed bamboo to meet the needs or demands of the community. According to Kharisma, r. (2022) strategies that can be done in optimizing bamboo processing related to actions, processes and procedures.



2.3. Product Constrains

According to Armstrong and Kotler (2012), product offerings to the market are intended to make consumers interested so that they can satisfy consumer wants or needs. This market desire that must be fulfilled is a big challenge for a business. The era of globalization is inevitable, many new businesses have sprung up automatically as business people who first have to continue to update products because product failure is a risk for a business. Factors that often become obstacles for a business in producing its products are financial, infrastructure, and structural limitations as well as marketing difficulties (Halim, 2020). If people's needs are not met by the market, it causes market failure. The market is said to fail if it is unable to provide the optimal amount of market demand (Biggart, 2002). Market failure is influenced by the inability to function a market efficiently on economic growth. Raw material resources and government regulatory provisions such as price setting, subsidies, taxes, and minimum wages can also make the market inefficient and can lead to production failures and constraints. Product constraints are also faced by bamboo processing businesses in Petungsewu Village and Pandanrejo, Wagir District, Malang Regency. The constraints of processed bamboo products according to Rahmawati, et al (2023) consist of marketing aspects, the manufacturing process is still conventional, and it is difficult to meet market needs. In Petungsewu and Pandanrejo Villages, Wagir District, Malangroduksi Regency, bamboo production is constrained by the unavailability of sophisticated production equipment so that the production of processed bamboo products is still conventional and takes a long time. Lack of human resource expertise in innovating and creating processed bamboo products other than existing products, even though bamboo raw materials are abundantly available in Petungsewu and Pandanrejo Villages. Coupled with product marketing that is still not optimal.

3. Materials and Method

3.1. Research Location

This research was located in Petungsewu and Pandanrejo villages, Wagir District, Malang Regency. The reason for choosing this location is because Petungsewu and Pandanrejo villages are villages that have considerable natural potential, including bamboo. There are several bamboo preparations in the village which is one of the leading sectors in Petungsewu and Pandanrejo villages. Therefore, local communities



are expected to take advantage and be able to optimize existing resources to the maximum.

3.2. Types and Methods of Research

This research uses a quantitative approach with SWOT analysis which aims to determine strategies that can be used to develop and maintain business existence. To be able to look deeper, this research is outlined in the following frame of mind:

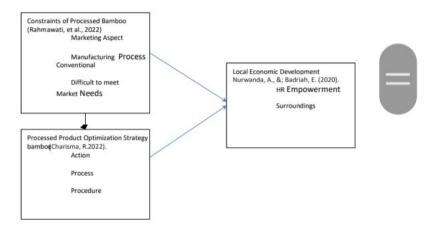


Figure 1:

The framework starts from the constraints of processed bamboo products where by reviewing the marketing aspects of processed bamboo products, the manufacturing process and the difficulty in meeting market needs. Then after knowing and reviewing the constraints of bamboo products, it will identify how the strategy for optimizing processed bamboo products by measuring from indicators of actions, processes and procedures. Furthermore, if you have found and identified obstacles and strategies for optimizing processed bamboo products, it is hoped that it can help local economic development in Wagir District, Malang Regency by reviewing in terms of Human Resources empowerment and the surrounding environment.

Based on this, the steps in the preparation of this research are as follows:

- Drafting
- Collecting information, observation and data collection
- Perform data analysis and processing
- Conducting SWOT analysis methods
- Prepare reports according to systematics
- Evaluation



- Reflection
- Draft revision

3.3. Data Collection and Analysis Methods

The data used are primary data obtained from observation activities and also the distribution of questionnaires to communities in Petungsewu and Pandanrejo villages, Wagir District, Malang Regency. The primary data obtained were statistically analyzed using SEM

(Structural Equation Modelling) operated through the SMART PLS program. In addition, a SWOT analysis was also carried out to obtain information related to the optimization strategy of processed bamboo products in Petungsewu and Pandanrejo villages, Wagir District, Malang Regency. SWOT analysis is also equipped with analysis methods (Internal Factors Analysis Summary) and EFAS (External Factors Analysis Summary) to determine SWOT Quadrant Positioning.

4. Result

Every business person certainly wants his business to grow and be secure. To support this goal, a well-targeted strategy is needed so that businesses can grow, and survive in the industry, both in terms of competitors, and innovation. SWOT analysis and market studies are strategy tools or instruments to determine the right business strategy for a company. SWOT consists of 4 aspects, namely Strength and Weakness as internal factors, and Opportunities and Threats as internal factors.

4.1. The Importance of SWOT Analysis in Product Potential Optimization Strategy

SWOT analysis plays a decisive role in two things, namely the preparation of plans that will affect financial decisions, branding, marketing strategy, and product diversification. In addition, SWOT Analysis also plays a role in determining the company's attitude in order to survive in the industry, both in terms of pricing, quality, and competitiveness with competitors. In this study, researchers used Bamboo Products as a dependen variable. After conducting a SWOT Analysis, you will know the advantages of the product as one of the materials that have many functions in everyday life, especially in the household appliances.



Then it will find out the behavior of target consumers, such as adults, especially housewives. After that, the producer can determine that the branding strategy will be optimized through social media plaappliance

4.2. Types of SWOT Analysis

SWOT analysis consists of two types, namely traditional or qualitative SWOT analysis, and modified type or quantitative SWOT analysis.

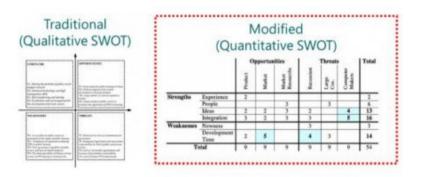


Figure 2:

In this article, we will discuss quantitative SWOT which integrates three matrices, namely IFE and EFE, SWOT, and QSPM. Qualitative SWOT can be used in the initial product design stage, or before there is a production and marketing plan. In general, in the development of bamboo products, a qualitative SWOT analysis will be carried out to show the value of the planned product, and the logical reasons why the product is prospective.

4.3. Quantitative SWOT Analysis Steps

Previously, it is necessary to know some terms in this quantitative SWOT analysis, namely (1) Aspects: S, W, O, or T (2) Key factors: the description of aspects of S, W, O, and T (3) Alternative strategies: formulation of two aspects S, W, O, and T (4) IFE Matrix: Internal Factors Evaluation Matrix (5) EFE Matrix: External Factors Evaluation Matrix

4.4. Internal Factors Evaluation (IFE) and External Factors Evaluation (EFE) Matrix

Step 1: Designing External and Internal Factors Evaluation Matrix.

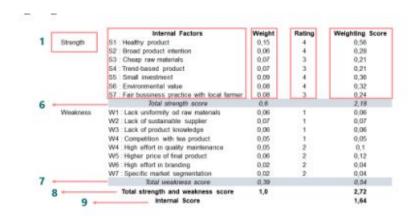


Figure 3:

This matrix contains a list of internal factors (strength and weakness), and external factors (opportuinities and threats). It doesn't stop there, all factors will be given a weight, or a value that indicates 'how influential' the factor is. Then the weight value will be multiplied by the rating value, a kind of times factor that indicates 'how important' the factor is. The results are then summed, to obtain the value of internal and external factors.

4.5. Design IFE and EFE matrix

- Identify key internal and external factors of the product.
- \bullet Give the weight or weight of each key internal and external factors obtained from the value 0.00 0.2. The weight of all 2 factors in the matrix must add up to 1.
- Perform the rating process on a scale of 1-4 for all factors. A scale of 1-4 indicates "how important" the factor is. Scale 1 indicates major weakness or major threats, scale 2 indicates minor weakness or minor minor threats. While a scale of 3 shows minor strengths, or minor opportunities. A scale of 4 indicates major strength or major opportunities.
 - Fourth, multiply the weight value by the rating for all factors.
 - Fifth, add up the total weight value times the rating for all factors.
- Finally, calculate the internal value and the external value, by finding the difference between the total value of the weight times the rating of the two factors in both matrices.

Then what can be interpreted from the IFE and EFE matrix? First is the product's greatest strengths, weaknesses, opportunities, and challenges, second is the product's position in the market.



4.6. Determining the Types of Business Strategies the Company Can Use



Figure 4:

In the previous stage, internal and external values are obtained. The internal value is 1.64, and the external value is 1.26. Furthermore, this internal value is interpreted as the value of the X axis, while the external factor as the Y axis. So that if an intersection is made, or an intersection point will be obtained at the coordinates (1.64, 1.26).

4.7. Designing SWOT Matrix



Figure 5:

SWOT Matrix is the strategy formulation stage. Simply put, the formulation in question is to formulate an alternative strategy to optimize key factors from two aspects. For example, the yellow table in the slide lists alternative strategies formulated based on the opportunities on the left and the strengths above them.

SWOT Matrix is divided into four quadrants, namely

- Quadrant 1: Alternative strategy for S/O, is an aggressive strategy category.
- Quadrant 2: Alternative strategy for W/O, is a development strategy category.
- Quadrant 3: Alternative strategy for S/T, is a defensive strategy category.
- Quadrant 4: Alternative strategy for W/T, is diversification strategyi.

It can be understood that the quadrant in the SWOT Matrix is the description of the four types of strategies in the same quadrant when determining the previous type



of strategy. So from this SWOT Matrix it can be concluded that specifically, alternative strategies that can be taken are in quadrant 1 (Q1), namely: SO1: Innovation with broaden product and claim, SO2: Broaden the collaboration with various suppliers, SO3: Intensive healthy lifestyle with tisane campaign, SO4: Improve production quality and quantity, SO5: International market expansion, SO6: Gain the partnership with similar company, SO7: Maintain good relation with partner.

4.8. Determining the Best Strategy based on QSPM

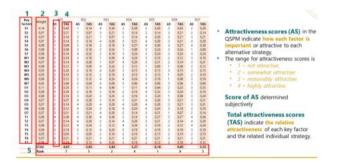


Figure 6:

QSPM stands for Quantitative Strategic Programming Matrix, which at this stage will determine the best strategy from several alternative strategies that have been obtained in the previous stage (7 alternative S/O strategies). The steps to design QSPM are as follows: (1) First, create a key factor column from S1 – T7 and their weights based on the IFE and EFE matrix. (2) Specify the AS value, with the categories as shown in the figure. The US score here indicates 'how related' a factor is to alternative strategies. For example, how is the relationship between the S1 factor (Healthy Product) to the alternative SO2 strategy, (expanding collaboration with various partners). Subjectively, it can be judged that this factor is not related, either in terms of marketing, quality, branding, or anything else, so give it a value of 1, or unrelated. (3) Multiply the weight value by the AS value of each factor to find the TAS value. And so on until the last alternative strategy column. (4) Calculate the STAS value, by adding up the TAS values of each alternative strategyf. (5) Perform the ranking process from the largest to the smallest value from the tests that have been carried out, the best strategy used by producers to improve the quality of bamboo products is the International Market Ekpassion.



5. Conclusion

SWOT Matrix is the strategy formulation stage. Simply put, the formulation in question is to formulate an alternative strategy to optimize key factors from two aspects. For example, the yellow table in the slide lists alternative strategies formulated based on the opportunities on the left and the strengths above them.

SWOT Matrix is divided into four quadrants, namely (2) Quadrant 1: Alternative strategy for S/O, is an aggressive strategy category. (2) Quadrant 2: Alternative strategy for W/O, is a development strategy category. (3) Quadrant 3: Alternative strategy for S/T, is a defensive strategy category. (4) Quadrant 4: Alternative strategy for W/T, is diversification strategy.

After SWOT analysis, the next form is to create IFE and EFE tables that function as tools to analyze factors from outside and from within. Then after EFE and IFE are formed and implemented, then one method that is superior to each of the 4 strategies is taken, then it is to conduct QSPM from data obtained from SWOT, IFE and EFE and in this case produce one method, namely International Market Ekpassion where the method is most suitable to be applied by producers to develop the quality of bamboo products.

References

- [1] Adi RK. ANALISIS PEMETAAN STATUS PENGEMBANGAN EKONOMI LOKAL (PEL) DI KABUPATEN SUKOHARJO. 2012.
- [2] Amstrong G, Philip K. Dasar-Dasar Pemasaran. Jilid I, Alih Bahasa Alexander Sindoro dan Benyamin Molan. Jakarta: Penerbit Prenhalindo; 2012.
- [3] Bambang, Suprapto. Sinergitas Kebijakan Local Development dan Pembangunan Pedesaan Sebagai Upaya Peningkatan Daya Saing Desa. Journal Proceeding FEB Universitas Jendral Sudirman. 2014:4(1).
- [4] Biggart NW. Readings in Economic Sociology. Blackwell Publishers Ltd.; 2002. https://doi.org/10.1002/9780470755679
- [5] BKKBN. Rencana Strategis Badan Kependudukan Dan Keluarga Berencana Nasional Tahun 2015-2019. Badan Kependudukan Dan Keluarga Berencana Nasional; 2015.
- [6] Brown RD, Petrello GJ. Introduction to business, an integration approach. Beverly Hills: Glen Coe Press; 1976.
- [7] Halim A. PENGARUH PERTUMBUHAN USAHA MIKRO, KECIL DAN MENENGAH TERHADAP PERTUMBUHAN EKONOMI KABUPATEN MAMUJU. 1(2). 2020.



- [8] Midgley J. Social development. The development perspective in social welfare. London: Sage Publication; 1995.
- [9] Naiyati S, Simanjuntak RA. Sinergisme Komponen Pengembangan Ekonomi Lokal Untuk Peningkatan Kesejahteraan Sosial di Kawasan Perdesaan Telang dan Batu Betumpang. Kajian Ekonomi dan Keuangan. 2016:19(3):218–245. https://doi.org/10.31685/kek.v19i3.143
- [10] Nikawanti G. Ecoliteracy: Membangun ketahanan pangan dari kekayaan maritim Indonesia. Jurnal Kemaritiman. Indonesian Journal of Maritime. 2021;2(2):149–65.
- [11] Nurwanda A, Badriah E. Analisis Program Inovasi Desa Dalam Mendorong Pengembangan Ekonomi Lokal Oleh Tim Pelaksana Inovasi Desa (Pid) Di Desa Bangunharja Kabupaten Ciamis. Dinamika. Jurnal Ilmiah Ilmu Administrasi Negara. 2020;7(1):68–75.
- [12] Rahmansyah N, Aryadi M, Fauzi H. STRATEGI PEMBERDAYAAN MASYARAKAT LOKAL BERBASIS BAMBU DI KECAMATAN LOKSADO. Jurnal Hutan Tropis. 2020;8(1):91–8.
- [13] Rahmawati A, Febriarto P, Nugroho HS. Peningkatan Kapasitas SDM Melalui Manajemen Jaringan Usaha Produk Kerajinan Bambu UKM Pring Gedhe Dusun Brajan Kecamatan Minggir Kabupaten Sleman. Society. Jurnal Pengabdian Masyarakat. 2022;1(2):95100.
- [14] Sarker NI, Rahman Z, Cao Q, Xu Z. Impact of Small Entrepreneurship on Poverty Alleviation and Sustainable Livelihood of Street Vendors. Int J Innov Appl Stud. 2019;25(4):1241–54. Available from: http://www.ijias.issrjournals.org/
- [15] Schubert SF, Schamel G. Sustainable tourism development: A dynamic model incorporating resident spillovers. Tour Econ. 2020;27(7):1561–87.
- [16] Song H, Li G, Cao Z. Tourism and Economic Globalization: An Emerging Research Agenda. J Travel Res. 2017;57(8):999–1011.
- [17] Sukarni Novita Sari D. Pengembangan Pariwisata Dalam Upaya Pembangunan Ekonomi Masyarakat Di Pulau Pari Kepulauan Seribu. Jurnal Abiwara. 2021;2(2):6–12.
- [18] Sulistyono S, Eskak E. (2021, November). Alat Tepat Guna untuk Mendukung Diversifikasi Desain Produk Kerajinan Bambu. In Prosiding Seminar Nasional Industri Kerajinan Dan Batik (Vol. 3, No. 1, pp. 06-1).
- [19] Tello, Mario D. (2010). From National to Local Economic Development: Theoritical Issues. Cepal Review 102, Desember 2010. Economics Department, Catholic University telof Peru.



- [20] Tirado Ballesteros JG, Hernández Hernández M. Challenges facing rural tourism management: A supply-based perspective in Castilla-La Mancha (Spain). Tour Hosp Res. 2020;21(2):216–28.
- [21] Van Holm EJ. Makerspaces and Local Economic Development. Econ Dev Q. 2017;31(2):164–73.
- [22] Vrontis D, Christofi M, Giacosa E, Serravalle F. Sustainable Development in Tourism:

 A Stakeholder Analysis of the Langhe Region. J Hosp Tour Res (Wash DC).
 2021;1096348020982353: https://doi.org/10.1177/1096348020982353.
- [23] Wickramasinghe K, Naranpanawa A. Systematic literature review on computable general equilibrium applications in tourism. Tour Econ. 2021;13548166211006988: https://doi.org/10.1177/13548166211006988.
- [24] Wu Z, Lai IK, Tang H. Evaluating the Sustainability Issues in Tourism Development: An Adverse-Impact and Serious-Level Analysis. SAGE Open. 2021;11(4):21582440211050384.
- [25] Xu S, Zuo Y, Law R, Zhang M. Impact of farmers' participation in tourism on sustainable livelihood outcomes in border tourism areas. Int Sociol. 2021;02685809211024019: https://doi.org/10.1177/02685809211024019.
- [26] Zhang J. The nonlinear effects of tourism on rural income inequality and urban–rural income inequality: evidence from China. Tour Econ. 2021;13548166211041802: https://doi.org/10.1177/13548166211041802.