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STRUCTURAL CHANGE AND ECONOMIC GROWTH IN JAMMU AND KASHMIR

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ABSTRACT

Structural transformation is an important element for sustainable economic growth since it ensures reallocation of factors from less productive sectors into more productive activities. This study investigates the linkages between structural change and economic growth in Jammu and Kashmir in 2010-2020 with special focus on sectoral change, labor transformation, structural change and its implications for policy making. The research adopted descriptive and analytical approach and used secondary data gathered from government sources and national database. Data was analyzed with the help of descriptive statistics, growth trend analysis, structural change index (STI), sectoral contribution index (SCI), correlation analysis and regression analysis. Study results show gradual movement towards service led economy in terms of growing contribution of tertiary sector in GSDP while declining share of primary and secondary sectors. Similarly, employment trends show gradual movement of labor from agriculture to industries and services. Moreover, results of positive correlation and regression analysis showed that structural transformation played vital role in economic growth in region but at the same time persistent problems of limited industrialization, unemployment, infrastructural limitations, regional disparities and institutional constraints were affecting balanced economic growth in the region. The study suggests the need to strengthen industrialization, modernize agriculture, improve infrastructure, develop skill, encourage private investment and governance reforms to ensure balanced economic growth in the region.

Keywords: Structural Change; Economic Growth; Jammu and Kashmir; Sectoral Transformation; Structural Change Index (STI); Sectoral Contribution Index (SCI).

1. INTRODUCTION

Transformation of structure is considered to be one of the most important aspects of economic development as it is the process of long-run shift of labor, capital, and production from less productive industries to more productive industries with potential for earning more income and sustaining economic growth. Structural transformation, in economic development theory, involves not only the expansion of the GDP but also changes in the output of each sector, changes in the employment pattern, changes in the technology, productivity, and quality of life. Sustainable economic growth is now recognized not in terms of the expansion of the gross domestic product but as a result of changes in the composition of the economy improving the efficiency of resource utilization. The region of Jammu and Kashmir is particularly interesting because its economy is traditionally based on agricultural, horticultural, tourism, crafts, and governmental services and is faced by a number of political, geographical, and institutional constraints.

In the last ten years, the economy of Jammu and Kashmir has undergone certain changes with regard to sectoral structure. The rising role of the tertiary sector in terms of its share in Gross State Domestic Product (GSDP), the diminishing role of the primary sector, and the growth in some industrial activities reflect structural changes underway in the region. In addition, labour movement between sectors, rising incomes, and the change in economic output show that the economy of Jammu and Kashmir is moving towards service-driven growth. However, all structural changes have not resulted in a balanced development as the problem of unemployment, low level of industrialization, lack of infrastructure, regional imbalances, institutional barriers, and inadequate investments remain issues that affect the speed of economic development in the region. As a result, to determine whether structural

transformation has led to sustainable economic growth, it is necessary to examine the performance of sectors in combination with existing structural issues.

Despite several attempts to understand different components of the economy of Jammu and Kashmir, the number of researches, which incorporate the issues of sectoral transformation, structural change indices, economic growth, developmental bottlenecks, and policymaking in one conceptual approach, is relatively low. The current research fulfils this gap by focusing on three key aspects: the role of structural transformation in economic growth; the main structural and institutional constraints that hinder regional development; and the evidence-based policies for promoting balanced economic development. Though the overall research pays due attention to the historical background of the regional economy and its transformations in time, the main focus of the paper is on studying the structural transformation in the period from 2010 to 2020.

1.1. Research Objectives

The present research paper has been developed from the following objectives of the doctoral research:

- To examine the relationship between Structural Change and Economic Growth of Jammu and Kashmir.
- To analyse the major challenges and issues in the economic development of Jammu and Kashmir.
- To make suggestions to the Government for policy formulations and implementation on the basis of analysis.

2. LITERATURE REVIEW

Abdel-Khalek et al. (2020) studied the link between military spending and economic growth in India by examining the macroeconomic parameters as well as military expenditure trends. It was observed that the military expenditure had an impact on economic growth due to its influence on public spending, allocation of resources and economic activity. Although military expenditure helped in achieving national security and development of infrastructure, it was pointed out that balance in fiscal policies was necessary in order to ensure that no detrimental impact is made on productive parts of the economy. The study made it clear that sustainable economic growth depended on proper allocation of resources in various sectors of the economy.

Dar (2018) focused on the socio-economic status of households headed by women in India, specifically highlighting the region of Jammu & Kashmir. It was concluded that households headed by women faced many economic risks and these included lack of job opportunities, poor household income, scarcity of productive resources and a weak social security system. The author noticed that these factors negatively impacted the wellbeing of the households and resulted in poor involvement in economic development. It indicated that there was a need for development policies in order to reduce the disparities of the region.

Ganai and Verma (2024) explored the importance of bureaucracy in the administration and development of Jammu and Kashmir. The study revealed that factors such as administrative efficiency, capacity, and the implementation of policies had a great impact on economic development and the provision of services in the region. The authors concluded that bureaucratic efficiency was an important determinant in fostering investments, implementation of development programs, and effective administration outcomes. Nonetheless, factors such as inefficiencies in administration, procedures and institutions had been identified to hamper the rate of economic development.

2.1 Research Gap

Most of the studies reviewed focused on specific aspects of economic development such as the association between military spending and economic growth, socio-economic status of families headed by women, and the contribution of bureaucracy in Jammu & Kashmir. Nevertheless, none of these studies made any effort to offer a holistic approach covering structural

transformation, sectoral development, employment changes, Structural Change Index (STI), Sectoral Contribution Index (SCI), and their association with economic growth in the context of Jammu & Kashmir. In addition, little attention was paid to examine empirically how structural change has impacted regional economic growth while addressing key developmental issues and policy concerns. Hence, the current research aims at filling this gap by examining the contribution of structural change to sustainable economic growth in Jammu & Kashmir.

3. RESEARCH METHODOLOGY

The research methodology gives the approach taken in attaining the objectives of the research. It describes the research design, study area, data sources and methods of analysis used to analyze structural change and economic growth in Jammu and Kashmir.

3.1 Research Design

Descriptive and analytical research methodology was chosen for the study that was intended to identify the correlation between structural change and economic development of the J&K region. The descriptive method was used to describe the trends in various sectors, whereas the analytical method was employed to assess the effect of structural change on economic growth.

3.2 Study Area

This study was done in the Union Territory of Jammu and Kashmir, India. The area was chosen due to its changing economic structure and the major role of agriculture, industry, and services in the economy of the region.

3.3 Data Source and Collection

The study is completely dependent on secondary sources of information obtained from authentic government documents and national statistics. Some important sources are Ministry of Statistics and Programme Implementation (MoSPI), Directorate of Economics and Statistics, Jammu and Kashmir, Reserve Bank of India (RBI), Economic Survey of Jammu and Kashmir, Census of India, Annual Survey of Industries (ASI), Periodic Labour Force Survey (PLFS), and reports of NITI Aayog. Time series data from the years 2010 to 2020 have been considered for the purpose of analysis.

3.4 Data Analysis

The collected data were subjected to analysis using Microsoft Excel and SPSS. The techniques that were applied included descriptive statistics, growth rate analysis, percentage analysis, trend analysis, Structural Change Index (STI), Sectoral Contribution Index (SCI), correlation analysis and linear regression analysis. The results were presented in tables and graphically for better understanding.

4. RESULTS AND DISCUSSIONS

The empirical findings from this research are shown below in this section. The empirical findings have been analyzed from the aspect of structural transformation and its relationship with economic growth in Jammu & Kashmir. The findings are shown in table and figure format along with their interpretation.

4.1 Structural Transformation and Sectoral Performance

Table 1 and Figure 1 show the distribution of Gross State Domestic Product (GSDP) of Jammu & Kashmir from 2010-11 to 2020-21 in terms of sectoral composition. The figures show the proportionate share of primary, secondary, and tertiary sectors in the economic development of the region during the period of the study.

Table 1: Sectoral Share in GSDP

Year	Primary (%)	Secondary (%)	Tertiary (%)
2010–11	10.15	15.04	74.81
2011–12	10.09	14.82	75.09

2012–13	10.06	14.74	75.20
2013–14	10.05	14.71	75.24
2014–15	10.04	14.69	75.27
2015–16	10.04	14.69	75.27
2016–17	9.88	14.61	75.51
2017–18	9.70	14.58	75.72
2018–19	9.55	14.53	75.92
2019–20	9.40	14.47	76.13
2020–21	9.25	14.40	76.35

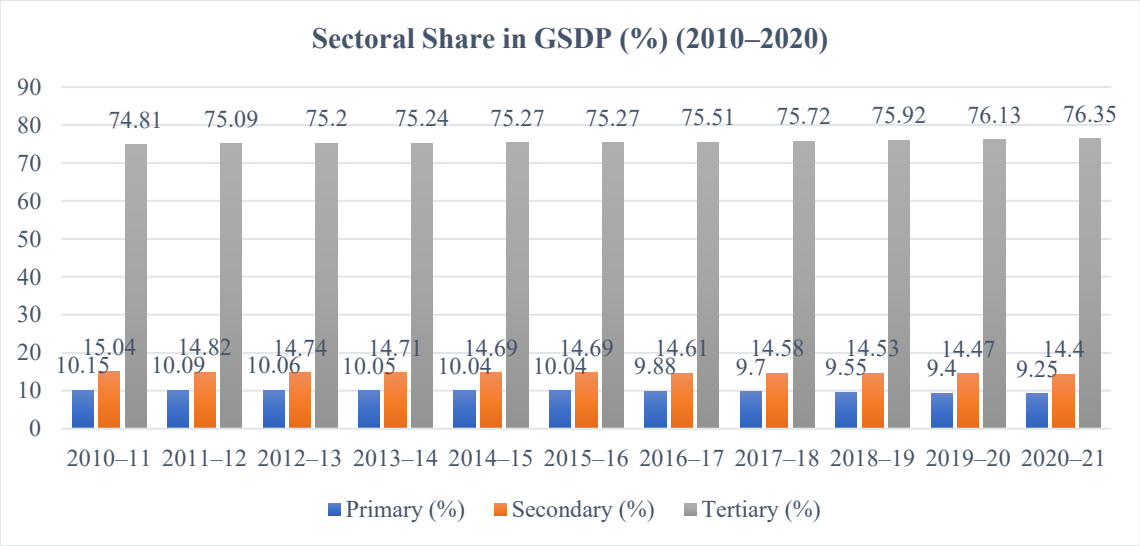

Figure 1: Sectoral Share in GSDP of Jammu & Kashmir (2010–11 to 2020–21)

The findings show that there is a steady transition in the economic structure of Jammu & Kashmir towards an economy based on the services sector. The contribution of the tertiary sector to the economy witnessed a consistent rise from 74.81% in 2010-11 to 76.35% in 2020-21, becoming the major contributor to GSDP in the time frame under consideration. On the other hand, the contribution of the primary sector witnessed a fall from 10.15% to 9.25%, while the secondary sector experienced a modest fall from 15.04% to 14.40%. This shows that the economy of Jammu and Kashmir has grown mainly on account of the growth in the services sector, and the slow growth of the primary and secondary sectors requires a policy shift towards industrial development and agriculture production.

4.2 Employment Transition and Structural Change

Table 2 and Figure 2 show the sectoral distribution of employment in the states of Jammu and Kashmir between 2010-11 and 2020-21. This table and figure reveal the changing trend of employment of people in the three sectors of the economy. This is related to the process of employment transition due to structural change in the region.

Table 2: Employment Distribution by Sector (%) (2010–2020)

Year	Primary	Secondary	Tertiary
2010–11	42.1	20.0	37.9
2012–13	40.5	21.0	38.5
2014–15	39.2	22.1	38.7

2016–17	37.5	23.2	39.3
2018–19	36.0	24.3	39.7
2020–21	34.8	25.5	39.7
2020–21*	**34.8**	**25.5**	**39.7**

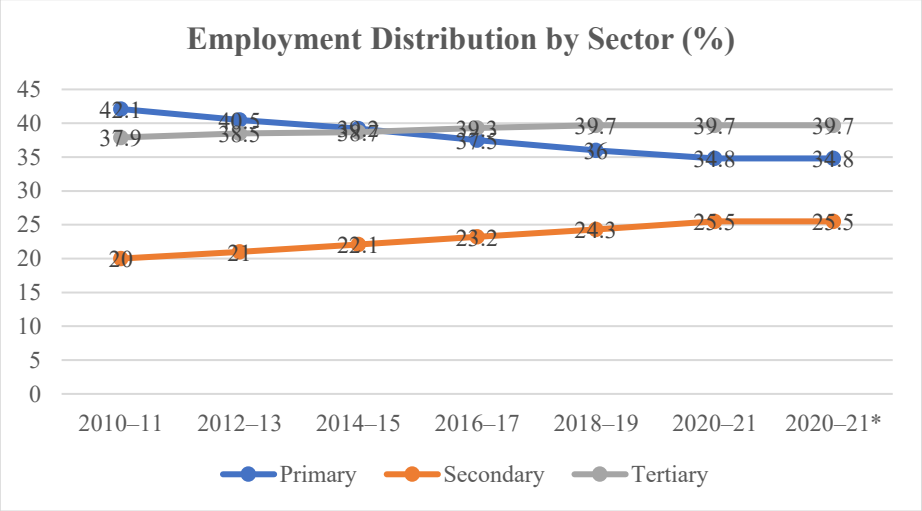

Figure 2: Employment Distribution Across Primary, Secondary, and Tertiary Sectors in Jammu & Kashmir (2010–11 to 2020–21)

The results indicate an increasing trend in employment from the primary sector to the secondary and tertiary sectors throughout the time frame under consideration. The percentage of primary employment declined from 42.1% during 2010-11 to 34.8% in 2020-21, which implies that reliance on agricultural sector and its related activities is decreasing. Conversely, there has been a constant increase in secondary employment from 20.0% to 25.5%, and there has also been a slight increase in tertiary employment from 37.9% to 39.7%. By the end of the period under study, the tertiary sector has emerged as the largest employer sector. It seems that there is a process of structural change taking place in Jammu and Kashmir, in which labor is moving to industrial and service sectors. But the small increment in non-agricultural employment signifies that more effort is needed to boost industrialization in the state.

4.3 Structural Change Index (STI)

Table 3 and Figure 3 show the Structural Change Index (STI) for the state of Jammu & Kashmir for the period from 2010-11 to 2020-21. The STI reflects the degree of change that takes place in the structure of the economy over time through changes in sectoral composition.

Table 3: Structural Change Index (STI) (2010–2020)

Year	STI
2010–11	1.17
2011–12	0.74
2012–13	0.69
2013–14	0.63
-2014–15	0.59
2015–16	0.71
2016–17	0.82
2017–18	0.91
2018–19	1.03
2019–20	1.12
2020–21*	**1.12**

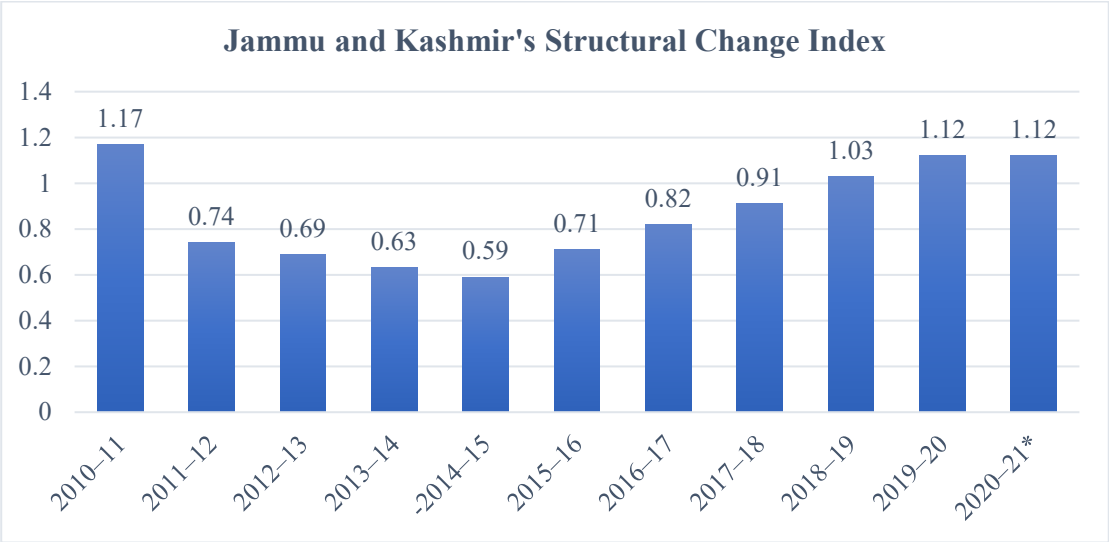

Figure 3: Structural Change Index (STI) of Jammu & Kashmir (2010–11 to 2020–21)

According to the findings, there has been a fall in the Structural Change Index from 1.17 for 2010–11 to 0.59 for 2014–15, which implies a relatively slow rate of structural transformation in the early periods of analysis. Afterwards, the STI was on a continuous increase trajectory and rose up to 1.12 for 2019–20 without any change for 2020–21, implying the acceleration in sectoral reorganization. The increase in the values of STI in the latter periods is due to the fact that there has been a steady improvement in the structural transformation owing to the changes in the economic activities in different sectors.

4.4 Sectoral Contribution Index (SCI)

Table 4 and Figure 4 show the SCI for the primary, secondary, and tertiary sectors of Jammu and Kashmir for the periods of 2010, 2015, and 2020. The SCI shows the relative contributions of the sectors to GVA, which indicates the change in the economic structure in the chosen periods.

Table 4: Sectoral Contribution Index (SCI)

Year	Primary	Secondary	Tertiary
2010	0.102	0.150	0.748
2015	0.100	0.147	0.753
2020	0.093	0.144	0.763

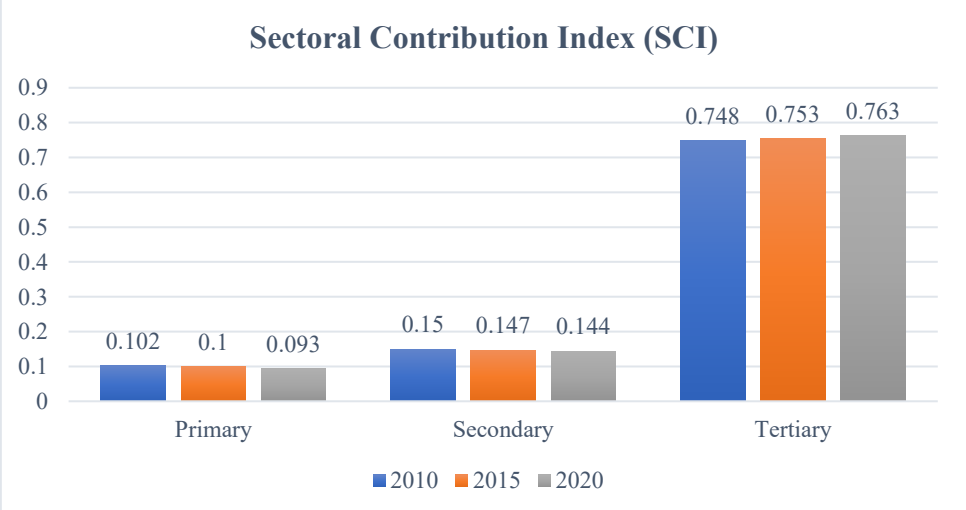

Figure 4: Sectoral Contribution Index (SCI) of Jammu & Kashmir Based on GVA (2010, 2015, and 2020)

According to the results, the tertiary sector continued to make the most significant contribution to the economy of the region, as there was an increase in the SCI of the sector from 0.748 in 2010 to 0.763 in 2020. The primary and secondary sectors have shown a reduction in contribution, with their SCI falling from 0.102 to 0.093 and from 0.150 to 0.144 respectively. This shows that there has been a steady trend towards the development of a service economy, whereby the tertiary sector emerges as the main driver of economic development in the state.

4.5 Relationship between Structural Change and Economic Growth

The correlation matrix between the Structural Change Index (STI) and various economic growth variables is given in Table 5. These variables include GSDP Growth, Per Capita GSDP, and NSDP Growth from the year 2010 to 2020. The correlation study was undertaken to establish the degree of association between structural change and economic growth in Jammu and Kashmir.

Table 5: Correlation between Structural Change and Economic Growth (2010-2020)

Variables	GSDP Growth	Per Capita GSDP	NSDP Growth	STI
STI	0.71	0.68	0.66	1.00
GSDP Growth	0.71	0.73	0.79	0.66
Per Capita GSDP	0.68	1.00	0.75	0.64
NSDP Growth	0.66	0.75	1.00	0.62

The outcomes reveal that there is a direct link between the Structural Change Index and all chosen economic growth variables. STI correlates highly and positively with GSDP Growth (r = 0.71) then with Per Capita GSDP (r = 0.68) and finally with NSDP Growth (r = 0.66). Also, the economic variables correlate highly and positively among themselves with the highest correlation found between GSDP Growth and NSDP Growth (r = 0.79). This clearly indicates that an increase in structural change leads to economic growth and increases in income implying that structural reallocation has played a positive role in the economic development of Jammu and Kashmir.

Table 6 shows the regression analysis results of Structural Change Index (STI) on GSDP Growth in the state of Jammu & Kashmir for the duration of the study period. This model gives the correlation coefficient (R), coefficient of determination (R^2), adjusted R^2, and standard error of estimate to determine the strength of the relationship between structural change and economic growth.

Table 6: Regression Analysis – Impact of Structural Change on Economic Growth

Model	R	R^2	Adjusted R^2	Std. Error
1	0.71	0.50	0.45	2.11
Dependent Variable: GSDP Growth				

The regression analysis results indicate a positive association between structural changes and economic growth, with a correlation coefficient of R = 0.71. With R^2 of 0.50, it is observed that about 50% variations in the rate of GSDP growth are accounted for by the structural transformation. With the Adjusted R^2 being 0.45, it can be said that there is a moderate degree of explanation power of the model after adjusting for the complexities in the model. With the standard error of 2.11, it shows an acceptable predictive capacity of the model.

5. POLICY IMPLICATIONS AND RECOMMENDATIONS

According to the findings of the study, it seems that for sustainability of economic growth in J&K, some policy measures should be adopted which will focus on the process of structural transformation along with overcoming the challenges posed by the current situation of

development. Improvement in the industrial structure of the region by improving infrastructure, creating incentives for investments, and supporting MSMEs would help in creating economic diversification and employment generation.

Further recommendations from this research include the development of transportation, energy, and communications infrastructure, which will lead to increased connectivity and business development within the region. In addition to this, other policies such as skill development, entrepreneurship, and training of the labor force in response to new economic possibilities must be adopted. Another key aspect that must be improved is governance and creation of a better environment for investments.

Moreover, an effort to bring about regional balance can be made by way of selective investments in those regions which are less economically developed and the development of those sectors which have high potential like tourism, horticulture, handicrafts, and information technology. Such a comprehensive policy approach will ensure economic development in the region of Jammu and Kashmir.

6. CONCLUSION

The study highlights the significance of structural transformation in influencing economic growth in Jammu and Kashmir for the period 2010-2020. It is evident from the findings that there has been gradual structural shift towards the formation of service-based economy as indicated by the increasing contribution of the tertiary sector to GSDP, decreasing share of primary sector, and gradual shift of employment from agriculture to industry and services. This trend is corroborated through the calculation of SCI and STI, while the results of correlation and regression analysis have also revealed the existence of positive relationship between structural transformation and economic growth. Although these are some encouraging signs, however, issues such as lack of industrialization, unemployment, poor infrastructure, uneven regional development, and institutional factors keep on hampering the balanced and inclusive economic development in the state. Thus, it can be stated that for sustained and inclusive economic growth in Jammu and Kashmir, an integrated policy approach involving industrial diversification, agricultural modernization, infrastructural development, institution building, and investments is highly needed.

REFERENCES

1. *Abdel-Khalek, G., Mazloum, M. G., & El Zeiny, M. R. M. (2020). Military expenditure and economic growth: the case of India. Review of Economics and Political Science, 5(2), 116-135.*
2. *Dar, T. B. (2018). Analysis of the femaleheaded households, situation in India with special reference to Jammu and Kashmir. International Journal of Research & Review, 5(9), 43-51.*
3. *Ganai, A. I. T., & Verma, A. (2024). Role of bureaucracy in Jammu and Kashmir. International Research Journal of Humanities and Interdisciplinary Studies (IRJHIS), 5(4), 364–373.*
4. *Hassan, B., Bhattacharjee, M., & Wani, S. A. (2020). Economic analysis of high-density apple plantation scheme in Jammu and Kashmir. Asian Journal of Agriculture and Rural Development, 10(1), 379-391.*
5. *Ioan, B., Malar Kumaran, R., Larissa, B., Anca, N., Lucian, G., Gheorghe, F., ... & Mircea-Iosif, R. (2020). A panel data analysis on sustainable economic growth in India, Brazil, and Romania. Journal of Risk and Financial Management, 13(8), 170.*
6. *Jahan, B., & Ahmad, P. (2020). Impact of the international crises on the external trade of Kashmir (1870-1947 AD). Open Journal of Social Sciences, 8(10), 171-192.*
7. *Kachroo, M. M., Baba, S. H., Bhat, A., Rashid, M., & Hamid, F. (2019). Empirical investigation on forest sector in Jammu and Kashmir: Structural changes and determinants of growth. Journal of Pharmacognosy and Phytochemistry, 8(6), 1866-1872.*

8. *Agarwal, M. K., & Malik, M. Y. (2020). Government expenditure, revenues and economic growth in Jammu and Kashmir (India). Indian Journal of Economics, 2(401), 215-225.*
9. *Baba, S. H., Husain, N., Zargar, B. A., Bhat, I. F., & Malik, I. (2019). Growth of fisheries sector in J&K. Journal of Pharmacognosy and Phytochemistry, 8(4), 909-912.*
10. *Cash, T. A., & Antahal, P. C. (2019). Regional Disparities in Infrastructural Development in Jammu and Kashmir: A District Level Analysis. IASSI-Quarterly, 38(4), 682-699.*
11. *Baba, S. H., Khan, O. F., & Kawoosa, T. (2018). Human resource development, agricultural productivity, and household income in rural Jammu and Kashmir. International Journal of Education and Management Studies, 8(2), 315-322.*
12. *Katoch, O. R. (2024). Exploring the relationship between expenditure on power and state finances: An empirical study in Jammu and Kashmir, India. Environment, Development and Sustainability, 26, 26397–26413.*
13. *Majeed, I., Bhat, A. H., & Azam, R. (2023). The role of government in promoting handicraft industry: a case study of Kashmir. ShodhKosh: Journal of Visual and Performing Arts, 4(1), 429-442.*
14. *Ministry of Micro, Small and Medium Enterprises. (2023). Annual report 2022–23. New Delhi: Government of India.*
15. *Nasir, T., & Raina, D. I. (2024). Quantifying the tourism potential and satisfaction of tourists from wildlife tourism destinations: A study of National Parks and wildlife sanctuaries of J & K, UT of India. Journal of Advanced Zoology, 45(S1), 17-27.*