



International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.699

Volume 15, Issue 1, January 2026

A Geographical Study of Regional Development Disparities between Kota and Bundi Districts of Rajasthan after Independence

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ABSTRACT: The paper provides a geographical and quantitative background of the massive regional developmental difference that exists between the adjacent districts of Kota and Bundi in the Hadoti region of Rajasthan in India since the time of independence in 1947. Although they both have a similar agro-climatic region and the early advantages of the Chambal Valley Project (CVP), they have developed quite differently. This research design is a comparative one with longitudinal information data of the Census of India (1971-2011) and cross sectional data of state and district level statistical reports, such as Directorate of Economics and Statistics and District Credit Plans. The indicators analyzed are the major economic output (Per Capita Income), demographic changes (urbanization tendencies), and economic structure (distribution of workforce), agricultural intensity (irrigation patterns), and socio-financial infrastructure (industrial units, health, and banking). The results are polarized drastically. CVP power and a strategic location have enabled Kota to become a growth pole resulting in 2020-21 Per Capita Income of 60.31% of urbanization. As a major irrigation based on CVP, Bundi is still agrarian with the lower urbanization ratio of 20.05%. This gap is measured in this paper, which shows that due to the boom of the industrial and tertiary sector, Kota was in a cumulative causation effect, and Bundi went through a backwash effect, consolidating its agrarian base. The paper finishes by providing some recommendations based on factual policies: industrial diversification on Bundi and sustainable urban management on Kota.

KEYWORDS: Regional Development Disparities, Chambal Valley Project (CVP), Geography, Cumulative Causation

I. INTRODUCTION

Since independence, Indian economic planning has been based on the principle of achieving a balanced regional development (Govt. of India, 1951). Nevertheless, the interaction of endowments of resources, policy execution, and path dependency usually results in the formation of growth poles (Perroux, 1950), which may cause high level of economic inequality across neighbouring areas. This is the major theme of development geography, which is referred to as polarization (Hirschman, 1958). The case study of this divergence is interesting in the Hadoti region of southeastern Rajasthan. Both the districts of Kota and Bundi, which had a common history, and geographical location were set to enjoy the Chambal Valley Project (CVP) in 1950s and 60s. CVP was a project of multi-purpose with the aim of offering irrigation, production of hydroenergy, and management of soil erosion (Singh, 2008). It was supposed to become a stimulus of common prosperity. The landscapes of development are however very different almost eight decades later. Kota has evolved into one of the most popular industrial and educational focuses in India. In spite of prosperous agricultural production and rich cultural heritage, Bundi is still largely rural and not as diversified economically. In this research, the qualitative observation is furthered to quantify these differences with the help of statistical data. The main research question is as follows: How were the differences in the utilization of geographical benefits and policy stimuli the reasons that the gap in the development of Kota and Bundi was statistically significant after 1947?

The primary objectives are:

1. To follow the lines of development of Kota and Bundi in the post-independence era based on the temporal data.
2. To make a quantitative comparison between key developing indicators (economic, demographic, social, and financial).
3. In order to examine the causal variables, which are based on geographical and economic theory, to the observed differences.

II. THE STUDY AREA

The research area is the Kota and Bundi districts of Rajasthan. They both have fertile black cotton soil (Vertisols) and both are cut across by the Chambal River and the canal system. Both were agrarian economies at independence. Kota town had a certain advantage over the other towns in terms of administrative prominence as a divisional headquarters, and its post-independence development was not predetermined. Its better accessibility as a big railway interchange on the Delhi-Mumbai route was also being a vital logistical edge over Bundi.

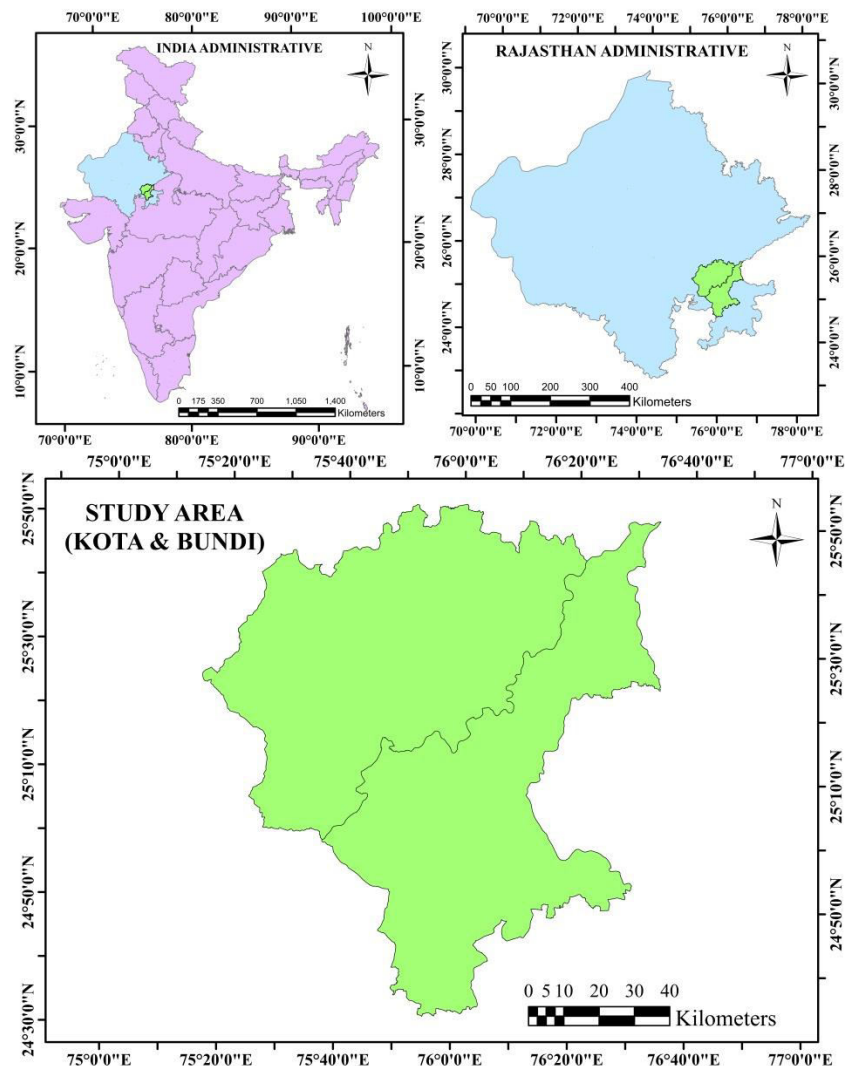


Figure: Study Area Map

III. RESEARCH METHODOLOGY

The research design in the current study is based on comparative and spatio-temporal analysis. It is purely founded on secondary data in order to measure the development differences.

Data Sources:

Census of India (1951, 1961, 1971, 1981, 1991, 2001 and 2011): In terms of time, population, urbanization and literacy.

Directorate of Economic and statistics, Rajasthan: To get data on Gross district domestic product (GDDP) and Per Capita income (PCI).

District Industries Centre (DIC) Reports: To get the information about the registered industrial units.

Department of Agriculture, Rajasthan: To get information about land use and irrigation. Rajasthan:

Directorate of Medical and Health Services: To obtain information on health infrastructure.

Data Analysis

This analysis will compare these indicators directly and the results will be viewed based on the development theories like Cumulative Causation of Myrdal (1957).

IV. RESULTS AND DISCUSSIONS

The statistical analysis of the data of the years (1951-2024) shows that there is a definite, measurable and growing difference between the two districts.

4.1 Economic Indicators

Per Capita Income is the most direct way of measuring disparity. The diversified high-value economy in Kota produces much wealth per capita than the agrarian economy in Bundi.

Table 1: Economic Indicators (2023-24)

Indicator	Kota District	Bundi District
Gross District Domestic Product (GDDP)	₹32360 Cr	₹16220 Cr
Per Capita Income (PCI)	₹1,78,838	₹1,63,119

Source: Directorate of Economics and Statistics, Rajasthan.

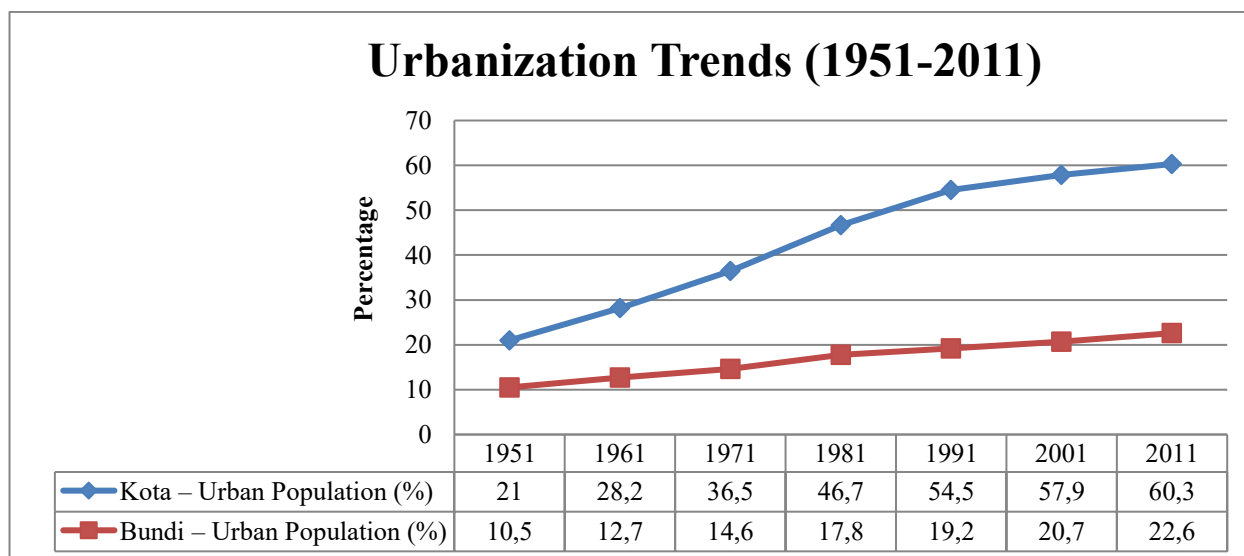
4.2 The Urbanization Trend

The initial policy and the investment of the industry in Kota was a booster, which formed solid economic pull factors. This started a self-reinforcing spiral of growth new opportunities led to migration, which spurred further economic growth, services and urbanization. This was a momentum which grew over decades. On the other hand, Bundi did not have this economic stimulus based economy. It did not exactly generate the massive migrations because, without a major industrial or policy-oriented impulse to generate such pull factors, it lacked such factors altogether. Consequently, it continued to be largely agrarian in its economy and in its urbanization was relatively underdeveloped.

Table 2: Temporal Divergence in Urbanization Rate (1951-2011)

Census Year	Kota Urban Population (%)	Bund Urban Population (%)	Remarks / Major Developments
1951	21	10.5	Both districts mainly agrarian; Kota city emerging as an administrative center.
1961	28.2	12.7	Growth in Kota city; start of industrial and educational institutions.
1971	36.5	14.4	Kota develops as an industrial hub after Chambal Project; Bundi remains rural.
1981	46.7	17.1	Urban growth accelerates in Kota due to industrialization and migration.
1991	54.5	17.3	Kota city expands rapidly; coaching industry begins emerging.
2001	57.9	18.7	Kota becomes a major education and industrial center; Bundi still rural.
2011	60.3	20.05	Kota becomes one of Rajasthan's most urbanized districts; Bundi grows slowly.

Sources: Census of India reports from 1951–2011; Rajasthan Statistical Abstracts.)



As Table 2 shows, Kota had reached a higher level of urbanization in 1951, but the difference has now gone very high in the past 60 years. The urbanization of Kota was driven by rural urbanization which generated a high pool of labor and a consumer market in the future the development of coaching industries. The urbanization rate in Bundi is very low at 20.05, indicating the sluggish non agricultural economy of the city.

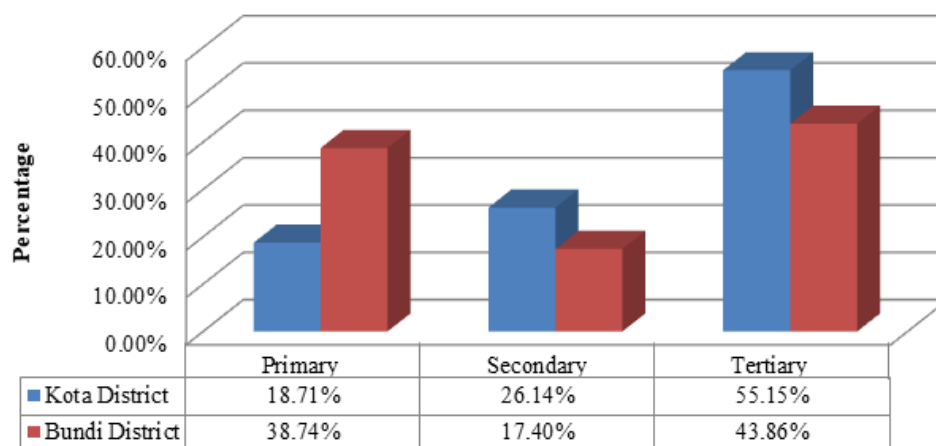
4.3 Divide based on structure Agriculture vs. Industry and Services.

The real cause is the difference effect of the CVPs. Bundi mainly utilized the agrarian basis by irrigation with the CVPs canals. Kota took the advantage of the power and water of the CVPs by attracting heavy industry.

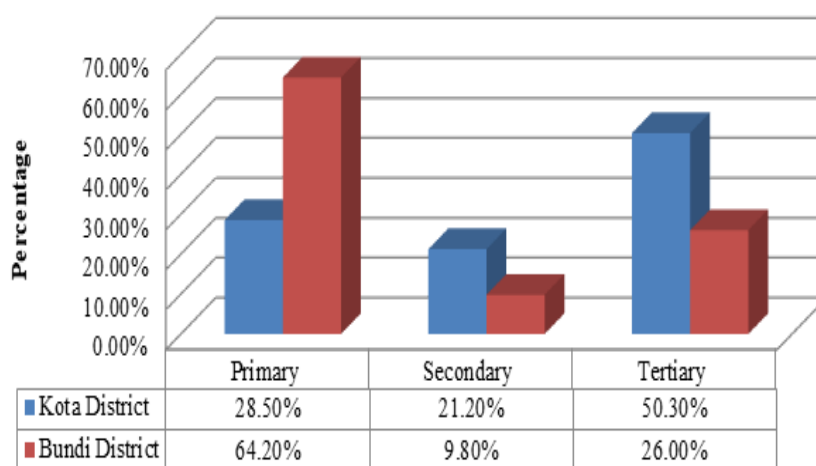
Table 3: Sectoral Share of GDDP (2023-24) and Workforce Distribution (%) 2011

Sectoral Share of GDDP (2023-24)	Kota District	Bundi District	Workforce Distribution (%) 2011	Kota District	Bundi District
Primary (Agriculture)	18.71%	38.74%	Primary (Agriculture)	28.50%	64.20%
Secondary (Industry)	26.14%	17.40%	Secondary (Industry)	21.20%	9.80%
Tertiary (Services)	55.15%	43.86%	Tertiary (Services)	50.30%	26.00%

Sectoral Share of GDDP (2023-24)



Workforce Distribution (%) 2011



Source: Economic Review 2023-24 and Census of India 2011

The economy of the city of Kotas is obviously after-industrial, with the tertiary sector (50.3%) prevailing. This has been spurred first by its industrial foundation (21.2%) and then overcharged by the rise of the private coaching industry that is a high-value service. The economy of Bundi is still in the primary sector (64.2%), which is generally less productive and less productive in terms of income.

Table 4: Agricultural Profile (2019-20)

Indicator	Kota District	Bundi District
Net Sown Area (Hectares)	266399	2,61,376
Net Irrigated Area (Hectares)	257106	2,03,696
Net Irrigated Area %	96.50%	77.90%

Source: Department of Agriculture, Rajasthan; DIC Bundi

Kota (2019-20) had a net sown area of 2,66,399 ha with 96.5% of irrigation and advanced irrigation presented as the Chambal project. Bundi, which is 2,61,376 ha sown area and irrigation at 77.9 percent, is partially rain-fed. Therefore, the agriculture of Kota is more advanced and resistant, whereas Bundi is reliant on the rainfall level, and therefore, it is prone to the weather changes.

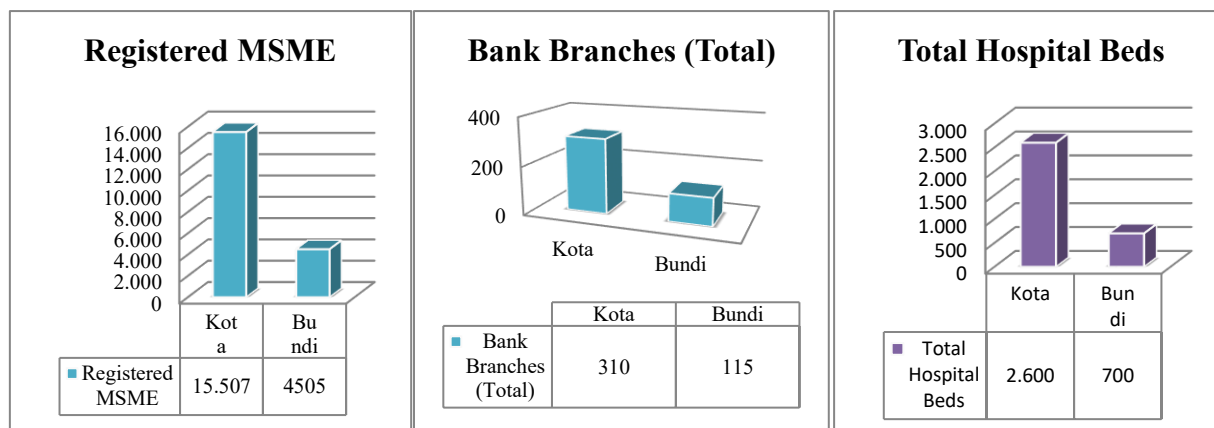
4.4 Infrastructure: Cumulative Causation in Action.

The development of the economy and infrastructure develop a feedback loop. The initial industrial base in Kota required more financial and social infrastructure, and this is where more investment was attracted--this is the typical cumulative causation of Myrdal, (1957). Without this original impulse Bundi suffered a kind of backwash procession and its capital and talent were absorbed into Kota.

Table 5: Industrial, Financial, and Health Infrastructure (2021-22)

Indicator	Kota	Bundi
Bank Branches (Total)	310	115
Registered MSME	15,507	4505
Total Hospital Beds	2,600	700

Source: Compiled from District Credit Plans, DIC Reports, and Health Dept. Reports.



The data in Table 5 is stark:

Industry: Kota almost triples MSMEs.

Finance: Kota also has close to three times the Total Branches of Banks.

Health: Kota acts as the medical Hub of the region, and there are more than four-fold the amount of government hospital beds, maintained by a medical college and many private hospitals. Bundi (according to Yadav et al., 2022) has a serious issue with internal medical inequalities since it is serviced by one district hospital and highly developed care.

V. CONCLUSION

The historical geographical, infrastructural, economic, and administrative factors that have historically been leaning towards Kota in its developmental process are made up of the developmental difference between the Kota and Bundi districts of Rajasthan. Kota is situated on the fertile plains of the Chambal River, and closer to the Delhi-Mumbai Industrial Corridor, and this geographical positioning has offered a solid base in terms of agricultural or farm productivity and industrial growth (Rajasthan Economic Review, 2023). On the contrary, the topography of Bundi is hilly and the irrigation capability of the area is limited, which have limited agricultural diversification and the development of infrastructures (District Census Handbook, Bundi, 2011).

Industrialisation was further boosted by the setup of large hydroelectric and thermal power stations in Kota like the Kota Thermal Power Station and a river valley project like the Chambal River Valley project which provided employment and brought in investment (Rajasthan Industrial Development Report, 2022). Bundi in any case was mainly agrarian and the only industry was cement production at Lakheri and small ventures here and there on the countryside. Urban centers are not the centres of growth and development only but have also been the centres of education since the ancient times that has contributed to the regional dominance of Kota as well (A. Gautam 2018). The city became a national educational center in the field of engineering and medical entrance preparation, which triggered the development of the service sector and urbanization based on migration (NITI Aayog, 2021). In Bundi, however, the urban growth and urban out-migration of young people in search of education and other job opportunities were low (District Statistical Abstract, Bundi, 2022). The disparity in infrastructural connectedness also contributed to this difference; the presence of the National Highways 27 and 52 and the city as a big railway intersection contributed to trade and movement in Kota (Government of Rajasthan, 2023). Kota was in a position of administrative authority, being a divisional headquarters, which gave it more attention of the government, institutional concentration and investment by the government, whereas Bundi was a peripheral district and had less administrative importance. Thus, the aggregate impacts of supportive geography, manufacturing investment, urbanization and administrative eminence caused Kota to become a regional growth pole, and Bundi the topographical limitations, poorly developed infrastructural foundation and lack of industrialization held its growth comparatively dormant. All these interconnected inequalities highlight the uneven spatial distribution of development in the Hadoti region, which requires a balanced policy intervention to bring about inclusive development.

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