

EXPORT PERFORMANCE AND INVESTMENT TRENDS IN SPECIAL ECONOMIC ZONES OF MADHYA PRADESH

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ABSTRACT

Special Economic Zones (SEZs) have been a central instrument of India's export-oriented industrial policy since the Special Economic Zones Act, 2005. National evaluations document large gains in exports, investment and employment, yet they also record uneven geography, land conflict, fiscal leakage and weak spillovers. Madhya Pradesh is a strategically important inland manufacturing case. The state hosts India's first greenfield multi-product SEZ at Pithampur and a compact information-technology cluster in Indore, but it accounts for only about five operational zones roughly two per cent of India's operational stock. This review research paper undertakes a structured narrative meta-analysis of past work in order to evaluate Special Economic Zones in Madhya Pradesh in depth. It synthesises peer-reviewed studies, official Ministry of Commerce series, committee reports and zone-level evidence for 2005–2025, coding findings along seven dimensions: exports, employment and human development, investment and infrastructure, land and location, fiscal design, spatial spillovers, and Madhya Pradesh-specific evidence. The synthesis reveals a dual-track pattern. Pithampur merchandise exports reached Rs. 14,265 crore in 2023–24, while Indore's IT SEZs contributed Rs. 3,782 crore in software and services. Conversion from approval to operations, however, remains below the national average, land utilisation has been modest, and peer-reviewed causal evaluation of Madhya Pradesh zones is almost absent. The paper concludes that the state's SEZ record is one of concentrated corridor success rather than statewide transformation, and that forthcoming DESH-era reforms will matter only if they restore fiscal predictability, ease domestic-market access and deepen manufacturing beyond the Indore Pithampur belt.

Keywords: Special Economic Zones¹; Madhya Pradesh²; Pithampur³; meta-analysis⁴; export performance⁵; industrial policy⁶; Indore IT/ITES⁷

1. INTRODUCTION

1.1 Policy evolution of special economic zones in India

India's experiment with spatially targeted export enclaves predates the SEZ Act. Kandla was established in 1965 as Asia's first export processing zone, followed by Santacruz, Noida, Madras, Cochin, Falta and Visakhapatnam.

Evaluations of that earlier generation were largely disappointing: small export shares, modest employment, infrastructure deficits and heavy bureaucracy [6], [16]. The Export–Import Policy of 2000 borrowed the Chinese nomenclature of Special Economic Zones, and the SEZ Act, 2005, together with the SEZ Rules, 2006, created a statutory single-window regime, private development, income-tax holidays, duty-free import of capital goods and a positive net-foreign-exchange obligation [1], [2]. The stated objectives were additional economic activity, goods and services exports, investment, employment and world-class infrastructure [1]. The post-2005 boom was rapid. Formal approvals clustered in Tamil Nadu, Maharashtra, Karnataka, Telangana, Andhra Pradesh and Gujarat, and sectorally in information technology and enabled services [12], [19]. By 2023–24, SEZ exports were reported at about USD 163.69 billion even as India's overall shipments dipped, with cumulative investment near Rs. 6.92 lakh crore and employment of 3.07 million persons [19], [30]. Critiques accumulated: land conflict [8], [10]; later Minimum Alternate Tax and Dividend Distribution Tax; GST frictions; denotification; and World Trade Organization pressure on export-contingent subsidies [18], [28]. The Baba Kalyani Committee proposed recasting SEZs as employment and economic enclaves, while the draft DESH Bill, 2022, sought integrated hubs serving export and domestic markets [18], [28]. Any evaluation of Madhya Pradesh must be read against this national arc of enthusiasm, correction and attempted redesign.

1.2 Industrial geography and the Madhya Pradesh context

Madhya Pradesh is India's second-largest state and a classic inland manufacturing economy. Its industrial heart is the Indore–Pithampur–Dewas belt of Malwa, often described as a Detroit of India because of automobile and engineering agglomeration, supported by the National Automotive Test Tracks, an inland container depot, the Indo-German Tool Room and the Pithampur Auto Cluster [29]. The same belt is a pharmaceutical, packaging and engineering hub, and the Delhi–Mumbai Industrial Corridor identifies the Pithampur–Dhar–Mhow Investment Region as a Phase-I node, thereby linking the SEZ question to a larger corridor strategy [29]. The SEZ footprint, however, is narrow. Official lists typically record about twelve approved, seven notified and five operational SEZs in the state [27]. The operational set is dual. The Indore SEZ at Sector-III, Pithampur, developed by the Madhya Pradesh Industrial Development Corporation, is a multi-product zone of about 1,113 hectares and India's first greenfield SEZ. The remaining operational zones are IT and IT-enabled parks in Indore: Crystal IT Park, Impetus Infotech, Infosys and Tata Consultancy Services [27]. An RTI disclosure in 2016 noted that of ten notified SEZs since 2003, only Pithampur and Crystal IT Park were then operational, while proposals such as Hindalco's aluminium SEZ in Singrauli and a private IT SEZ in Indore were denotified [26]. Figure 1 places this thin operational stock against the national distribution and motivates the review: why has a large, industrially ambitious inland state converted so few zones, and what does the existing literature actually tell us about those that function?

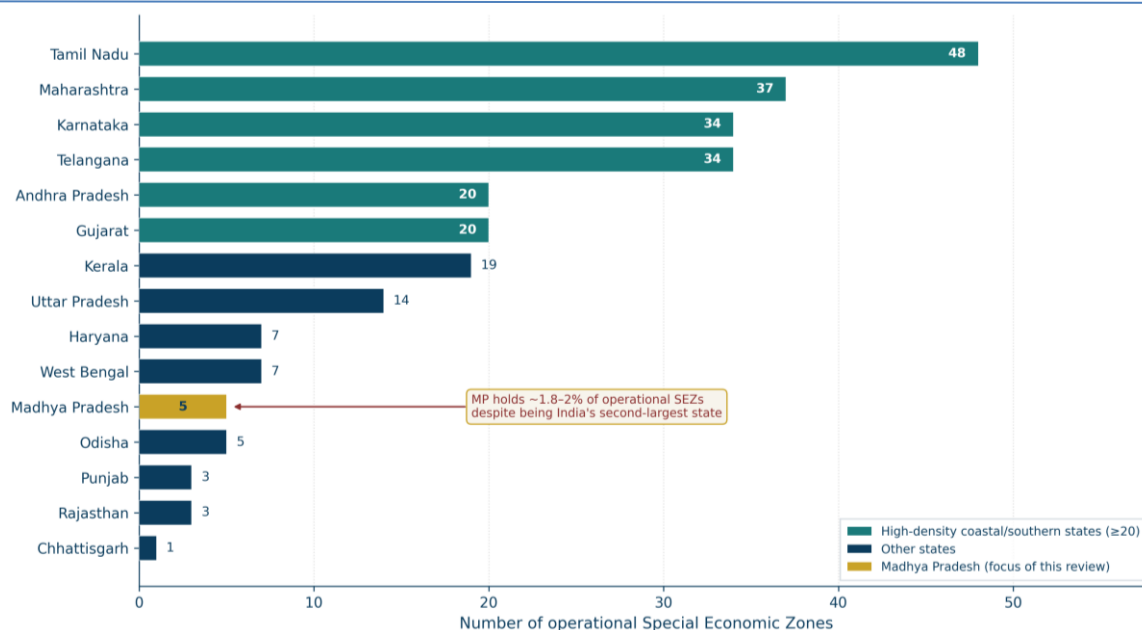


Figure 1: State-wise distribution of operational Special Economic Zones in India,

Figure 1 compiles operational SEZ counts for major Indian states from official Ministry of Commerce series. Tamil Nadu, Maharashtra, Karnataka and Telangana together host the bulk of working zones, confirming the coastal and southern concentration of the national programme. Madhya Pradesh, highlighted in gold, records only five operational zones, comparable to Odisha and far below Gujarat or Andhra Pradesh. The figure is evaluative rather than merely descriptive. It shows that greenfield manufacturing at Pithampur, information-technology campuses in Indore, and corridor plans have not produced a thick SEZ system. Past work must therefore explain how existing zones perform and why so few approvals became functioning enclaves.

1.3 Rationale, scope and organisation of the review

The purpose of this paper is not to estimate a new treatment effect but to evaluate Madhya Pradesh's SEZs through a meta-analysis of past work. Three gaps justify the exercise. First, the Indian SEZ literature is rich at the national scale and in a handful of coastal and southern states, yet Madhya Pradesh appears mainly as a cell in tables of approvals [7], [12], [22]. Second, zone-level reportage on Pithampur exports and Indore information-technology parks is fragmented and rarely placed in conversation with theory on clusters, spillovers and land [4], [14], [15]. Third, policy is again in motion: DESH-type reforms, GST practice and corridor investments will reshape the incentive structure, and a stock-taking of evidence is a prerequisite for state strategy [18], [28]. The review is organised as follows. Section II surveys global, national and state-relevant past work in paragraph form. Section III states the meta-analytic methodology. Section IV offers a critical analysis of that literature. Section V discusses implications for Madhya Pradesh. Section VI concludes. Throughout, evaluation is understood in the multi-criteria sense proposed by Aggarwal [4]: not only export volume, but employment quality, investment, infrastructure, fiscal cost, social impact and regional balance.

2. SURVEY OF PAST WORK: A META-ANALYSIS OF THE LITERATURE

2.1 Global templates and the Indian deviation

The international literature treats special economic zones as place-based industrial policy: geographically delimited, legally distinct spaces that combine infrastructure, fiscal incentives and streamlined regulation in order to attract export-oriented investment [13]–[16], [23], [24]. Wong and Chu, Farole, Zeng and the 2019 World Investment Report converge on success conditions credible policy, customs efficiency, location, linkages, and alignment with national capabilities [14], [15], [24]. Zones fail when they become isolated tax shelters, when land is assembled without logistics, or when incentives outlast learning [13], [23]. China's coastal SEZs succeeded as experiments in reform as much as in export processing; that context does not travel automatically to inland Indian states [5], [14]. Indian writing after 2005 therefore asks whether the SEZ Act reproduced Chinese outcomes or merely multiplied information-technology parks on the outskirts of already dynamic cities [4], [5], [11]. For Madhya Pradesh the question is sharper, because the state is neither a coastal gateway nor a first-generation software capital, yet it did build a genuine multi-product greenfield zone.

2.2 From export processing zones to the SEZ Act: national performance studies

Aggarwal's programme of work is the backbone of Indian evaluation [3], [4], [6]. Using Ministry of Commerce data and surveys in Santacruz, Madras and Noida, she argues that employment is the principal human-development channel; wages inside zones are not inferior to those outside; but skill formation and technology upgrading have been limited [3]. Her 2012 monograph integrates cluster theory with a multi-criteria evaluation exports, investment, employment, fiscal effects, land and environment and finds acceleration after the 2005 Act, albeit from a small base [4]. Palit and Bhattacharjee strike a more sceptical note, arguing that Indian SEZs did not replicate China, that their export share remained modest for years, and that myths of automatic regional transformation outran the evidence [5]. Rahoof and Arul document that SEZ export growth far exceeded overall Indian export growth between 2005–06 and 2014–15, and that employment multiplied after the Act [12]. Recent official releases report SEZ exports of about USD 163.69 billion in 2023–24, investment of Rs. 6.7–6.9 lakh crore and employment approaching 3.07 million [19], [30]. These studies establish that the national programme is large. They do not establish that every state captured the gains, nor that inland manufacturing zones behave like coastal information-technology parks.

2.3 Employment, poverty and structural change

A second strand asks whether zones change local labour markets rather than merely relocate them. Aggarwal's early surveys suggested remunerative employment and better working conditions than the small-scale informal sector [3]. Aggarwal and Kokko, using household expenditure data for Andhra Pradesh, find poverty-reducing effects and explore mechanisms of local demand and structural change [21]. Gallé and co-authors report that Indian SEZs raised employment in industry and services, with spillovers extending about ten kilometres, accompanied by a decline in agricultural work, including among women an indicator of structural transformation rather than pure enclave growth [20]. These results sit uneasily with Alkon's 2018 analysis, which finds little evidence of broad statewide infrastructural spillovers [7]. The contradiction is methodological: local labour-market designs tend to find effects; state-level amenity comparisons tend not to. For Madhya Pradesh, where operational zones are few and concentrated around Indore and Pithampur, both stories could be

true detectable effects inside a ten-kilometre ring, and negligible statewide spillover. Past work almost never tests that nested hypothesis for this state.

2.4 Land, dispossession and utilisation

No Indian SEZ debate is complete without land. Levien interprets SEZs as a regime of dispossession in which the state transfers agricultural land to private developers under a logic of speculative real estate as much as of manufacturing [8], [9]. Jenkins, Kennedy and Mukhopadhyay show how state governments used the SEZ Act as a land-assembly device [10]. Mukhopadhyay and Pradhan show that approvals clustered in already developed, high-income states, raising the prospect that SEZs amplify rather than redress regional inequality [11]. The Institute for Studies in Industrial Development documents low processing of notified land, widespread denotification after 2014 especially of private information-technology parks and weak utilisation metrics for several inland states, including Madhya Pradesh in some tabulations [22]. These findings matter because Pithampur is large, of the order of 1,113 hectares, while Indore information-technology SEZs occupy small urban footprints; a hectare-weighted evaluation would look different from a count-weighted one. Past work rarely performs that weighting at state level.

2.5 Fiscal design, GST and the erosion of the original bargain

The original SEZ bargain was a direct-tax holiday in exchange for export orientation and net foreign exchange. The subsequent levy of Minimum Alternate Tax and Dividend Distribution Tax, the sunset of certain direct-tax benefits, and the arrival of the Goods and Services Tax altered that bargain [12], [18]. Under GST, supplies to SEZs are zero-rated, but refund lags created working-capital stress; sales into the domestic tariff area remained dutiable, preserving the enclave character [2], [28]. Industry associations in Pithampur argued that Minimum Alternate Tax and Dividend Distribution Tax discouraged expansion in Madhya Pradesh [26]. The Baba Kalyani Committee recommended shifting from tax holidays to incentives linked to investment, employment and technology [18]. The draft DESH Bill proposed hubs serving domestic as well as export markets and World Trade Organization-compatible subsidies [28]. Past work that evaluates SEZs solely against the 2005 incentive menu is therefore historically bounded. Any contemporary evaluation of Madhya Pradesh must ask whether remaining units survived because of competitiveness in engineering, pharmaceuticals and information-technology services, or because they locked in early fiscal rents that later policy withdrew.

2.6 Sectoral quality of impact and the dual-track problem

The PricewaterhouseCoopers study for the Export Promotion Council for EOUs and SEZs moves beyond counts to quality: manufacturing SEZs' contribution to India's manufacturing exports, foreign-direct-investment quality indicators, female workforce participation, and case studies of technology transfer [17]. It reports substantial contributions to manufacturing exports and relatively rapid job creation inside zones compared with the wider economy, while noting the continued dominance of information technology in the number of parks [17]. This distinction is crucial for Madhya Pradesh. Four of five operational SEZs are information-technology parks, yet the overwhelming export value is generated by the single multi-product manufacturing zone at Pithampur. Papers that count parks would therefore mis-rank the state; papers that count export value would rank Pithampur as a material manufacturing platform. Figure 3 shows conversion; Figure 4 shows the dual-track export

structure. Past work has the concepts needed to interpret Madhya Pradesh, but has seldom applied them to the state's actual zones.

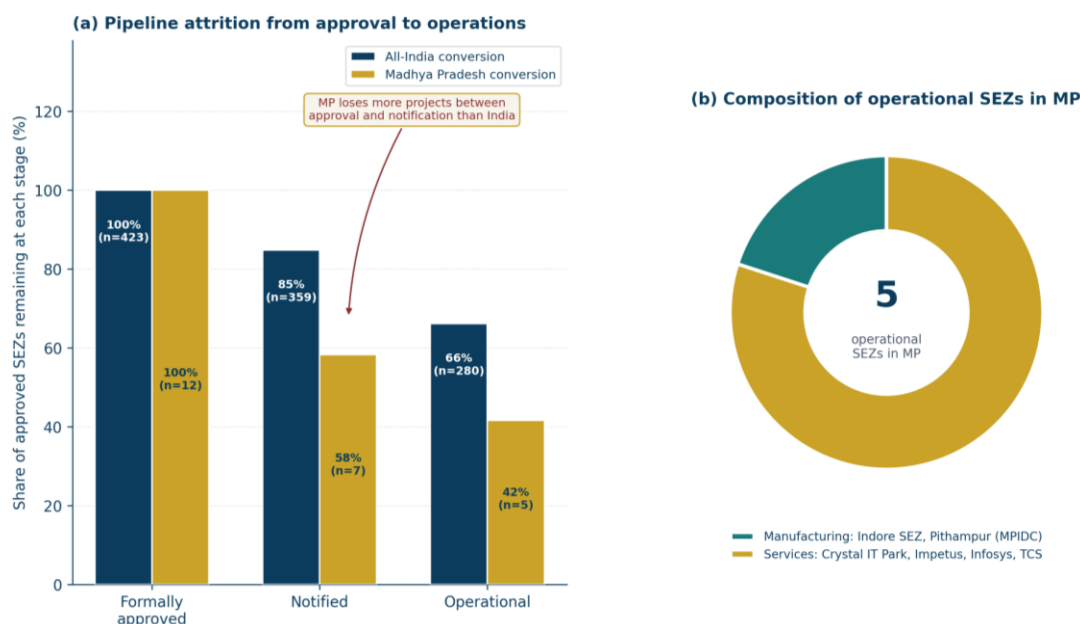


Figure 2: Conversion efficiency from formal approval to operations

Figure 2 translates the survey's institutional story into a conversion pipeline. Panel (a) indexes approved SEZs to 100 and shows the share that remain notified and operational. India retains roughly two-thirds of approvals as working zones; Madhya Pradesh retains about two-fifths, with the steepest loss between approval and notification. Panel (b) shows that of five operational zones, four are information-technology parks in Indore and only one is a multi-product manufacturing zone. The state therefore looks weak when counted by parks, yet it possesses a large manufacturing SEZ whose export weight, shown in Figure 4, dwarfs the software parks. Conversion failure and dual structure must be read together.

2.6 Madhya Pradesh in the literature: a thin but consistent trail

State-specific academic evaluation is scarce. What exists is a trail of official lists, journalistic reportage and incidental cells in national tables. The operational directory of the Ministry of Commerce consistently lists Indore SEZ, Pithampur (multi-product, Madhya Pradesh Industrial Development Corporation); Crystal IT Park (information technology, same corporation); Impetus Infotech; Infosys at Tigariya Badshah; and Tata Consultancy Services at the Super Corridor [27]. Pithampur is repeatedly identified as India's first greenfield SEZ, about thirty-five kilometres from Indore, with historical figures of the order of Rs. 41,900 million in investment, around 16,000 workers and several dozen units in pharmaceuticals, engineering, agro-processing, packaging and technical textiles [25], [26]. Development Commissioner figures show Pithampur merchandise exports rising from Rs. 12,795 crore in 2022–23 to Rs. 14,265 crore in 2023–24 [25]. Indore information-technology SEZs exported Rs. 3,782 crore of software and services in 2023–24 [25]. An RTI account in 2016 recorded that only two SEZs had become operational in thirteen years [26]. Land-use analysis places Madhya Pradesh among states with incomplete utilisation and some denotified area [22]. Delhi–Mumbai Industrial

Corridor planning documents, by contrast, treat Pithampur–Dhar–Mhow as a high-potential investment region with automobile, pharmaceutical, apparel and logistics components [29]. The juxtaposition is the empirical puzzle of this review: corridor plans are thick; the SEZ stock is thin; the functioning manufacturing zone is export-significant; the scholarly evaluation of that zone is almost non-existent.

Table 1: Operational Special Economic Zones in Madhya Pradesh (compiled from the Ministry of Commerce operational directory).

S. No.	Name of SEZ	Location	Type	Developer
1	Indore SEZ (Sector-III)	Pithampur, Dist. Dhar	Multi-product	MPIDC (formerly MPAKVN Indore)
2	Crystal IT Park SEZ	Bhawarkua Road, Indore	IT / ITES	MPIDC
3	Impetus Infotech SEZ	Badiyakima, Indore	IT / ITES	Impetus Infotech (India) Pvt. Ltd.
4	Infosys Ltd. SEZ	Tigariya Badshah, Indore	IT	Infosys Ltd.
5	Tata Consultancy Services SEZ	Super Corridor, Indore	IT / ITES / BPO / KPO	Tata Consultancy Services Ltd.

Source: Compiled from the operational SEZ directory of the Department of Commerce, Government of India, and the Indore SEZ office listing [27]. Counts of operational zones vary slightly across vintages (five or six); this paper uses the five-zone official core listed above.

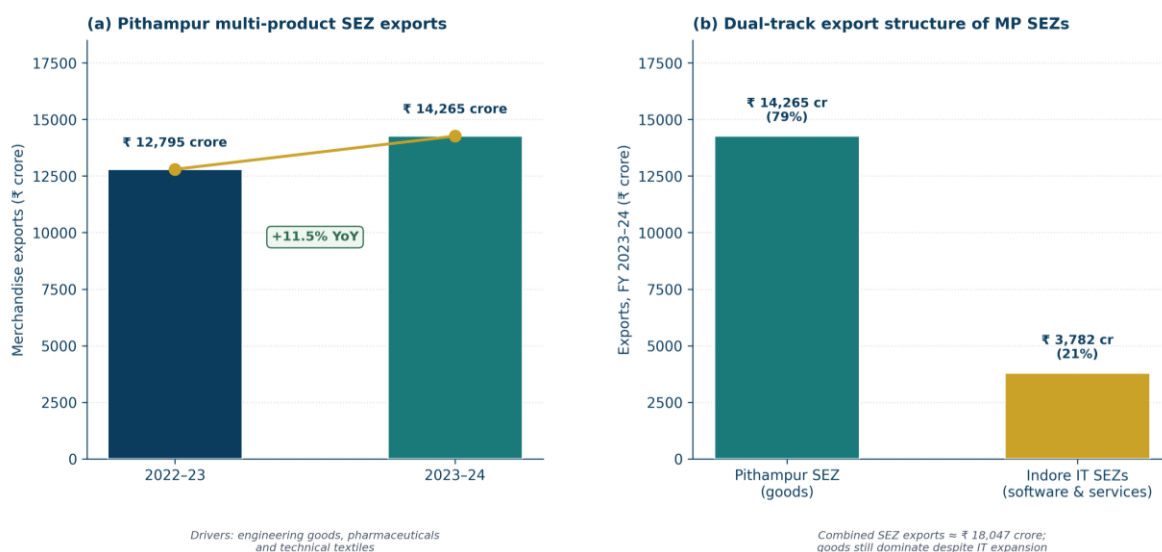


Figure 3: Recent export performance of SEZs in Madhya Pradesh: (a) Pithampur multi-product merchandise exports, 2022–23 to 2023–24; (b) dual-track comparison with Indore information-technology SEZs in 2023–24.

Figure 3 reports the only consistently cited recent performance numbers for Madhya Pradesh zones. Panel (a) shows Pithampur merchandise exports rising from Rs. 12,795 crore to Rs. 14,265 crore, an 11.5 per cent increase led by engineering goods, pharmaceuticals and technical textiles. Panel (b) places that figure beside Rs. 3,782 crore of software and services exports from Indore's information-technology SEZs. Goods still supply about four-fifths of combined SEZ exports of roughly Rs. 18,047 crore. The figure does not prove causality, but

it disciplines the literature: few parks do not mean a weak manufacturing platform, and software campuses do not carry the export ledger.

2.7 What the past work jointly implies

Read as a corpus rather than as isolated papers, past work supports five propositions that structure the remainder of this review. First, Indian SEZs as a class have expanded exports, investment and employment since 2005, with a pronounced information-technology and southern-coastal bias [4], [12], [19]. Second, local labour-market effects are more credibly documented than statewide infrastructural spillovers [7], [20], [21]. Third, land assembly and low utilisation remain the programme's most persistent political and efficiency failures [8], [10], [22]. Fourth, fiscal redesign after Minimum Alternate Tax, Dividend Distribution Tax and the Goods and Services Tax, together with the proposed DESH shift, means that historical incentive-driven evaluations cannot be mechanically extrapolated [18], [28]. Fifth, Madhya Pradesh appears mainly as a residual: a large inland state with one important multi-product zone, a handful of information-technology parks, below-average conversion from approval to operations, and no dedicated peer-reviewed impact evaluation. The meta-analysis treats that residual status as a finding. Absence of academic papers is not absence of economic activity. Evaluation must bring Pithampur and Indore under the same analytical roof already built for Santacruz, Madras and Noida. Doing so would also allow a fairer comparison with Gujarat, Maharashtra and Tamil Nadu, whose manufacturing zones are routinely evaluated in the peer-reviewed corpus, and would stop treating inland India as a residual in national SEZ tables rather than as a research site.

3. METHODOLOGY

This paper adopts a narrative meta-analysis, sometimes called a structured qualitative meta-synthesis, rather than a pooled statistical meta-analysis of effect sizes. The choice is forced by the nature of the past work itself. Studies of Indian SEZs are heterogeneous in design, unit, outcome and period: commentaries, official series, surveys, spillover tests, household studies, land ethnographies, consultancy assessments, and journalistic reconstructions [3], [7], [9], [17], [20], [25]. No common estimand exists that could be averaged without violence to meaning. The appropriate analogue is therefore the systematic review with coded findings, of the kind used in industrial-policy evaluation when the evidence base is mixed-method [4], [13], [15]. The review question is multi-criteria: what does past work, read as a corpus, allow us to say about SEZs in Madhya Pradesh along exports, employment, investment, land, fiscal design and spillovers? Figure 2 displays the conceptual framework. Global theory, the 2005 Act and the DESH agenda, Madhya Pradesh industrial and corridor policy, and two decades of empirical work are passed through a common coding protocol and then interpreted along the state's two tracks Pithampur manufacturing and Indore services against leading-state benchmarks.

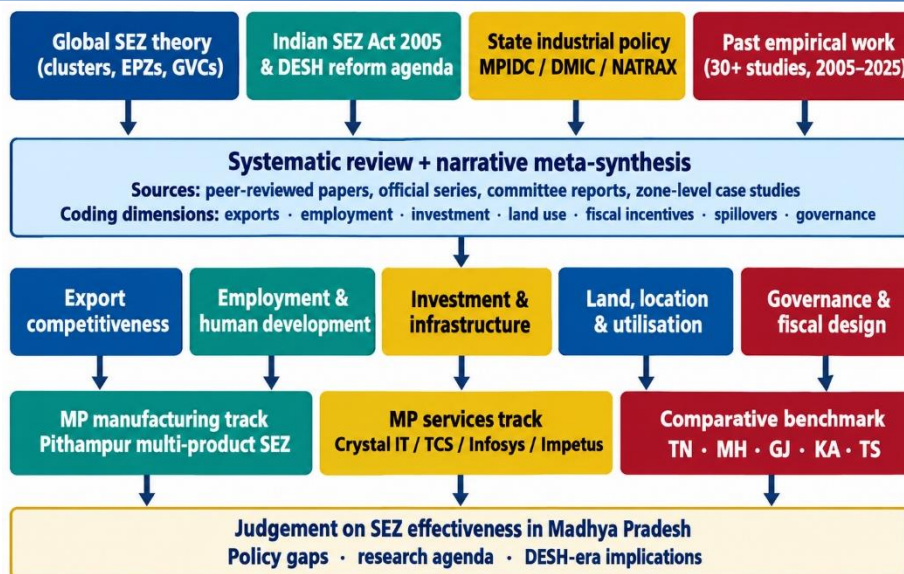


Figure 4: Conceptual framework for a meta-analytic evaluation of Special Economic Zones in Madhya Pradesh, linking global theory, Indian statute, state industrial policy and past empirical work to a dual-track judgement.

Figure 4 is the methodological spine of the paper. Four inputs global zone theory, the SEZ Act and DESH agenda, Madhya Pradesh industrial and corridor policy, and past empirical work from 2005 to 2025 feed a systematic review with narrative meta-synthesis. Findings are coded on exports, employment, investment, land and fiscal design. Those codes are then read through the state's two operating tracks, Pithampur manufacturing and Indore information-technology services, and benchmarked against Tamil Nadu, Maharashtra, Gujarat, Karnataka and Telangana. The terminal box is a judgement on effectiveness, policy gaps and a research agenda. Evaluation is therefore multi-criteria, state-specific, and historically bounded by changing tax rules.

The search window is 2005 to 2025, with earlier export-processing-zone studies admitted when they establish the institutional baseline [6], [16], [24]. Sources include peer-reviewed journals, ICRIER and ISID working papers, research monographs, World Bank and United Nations reports, the Baba Kalyani Committee report, the draft DESH Bill, Ministry of Commerce lists, PricewaterhouseCoopers assessments, corridor documents, and Development Commissioner reportage [17]–[19], [22], [25]–[29]. Inclusion required that a study evaluate SEZs on at least one of seven dimensions: exports; employment and human development; investment and infrastructure; land, location and utilisation; fiscal and regulatory design; spatial spillovers; or Madhya Pradesh-specific evidence. Promotional material without an evaluative claim was excluded. Each included study was coded for coverage intensity on a four-point scale from absent to core finding, producing the evidence map in Figure 5. Where vintages conflict five versus six operational zones in Madhya Pradesh; slightly different all-India totals the paper reports ranges and uses the five-zone core listed in Table I for state-level interpretation.

Synthesis proceeds in three steps. First, vote-counting of the direction of findings on each dimension is used only as a map of the literature, not as a substitute for effect sizes. Second, a structured narrative reconciles conflicts by design: Alkon's weak statewide spillovers [7] are not treated as a refutation of Gallé and co-authors' local labour-market effects [20], because the two papers answer different spatial questions. Third, Madhya

Pradesh zone facts are triangulated across official directories, RTI-based reportage and Development Commissioner export figures [25]–[27]. The principal limitations are acknowledged at the outset. No state treatment effect can be pooled because none has been estimated. Grey literature is necessary because peer-reviewed state evidence is thin. Export values are not deflated. These limits are why a review of past work is the right first evaluation: it shows what is known, what is merely repeated, and what has never been studied for this state.

4. CRITICAL ANALYSIS OF PAST WORK

The first weakness of the past work, viewed from Madhya Pradesh, is a unit-of-analysis problem. The most cited Indian evaluations are either all-India descriptive accounts [12], [19], [30] or surveys of the largest and oldest zones Santacruz, Madras, Noida whose industrial histories began as central government export processing zones [3], [4]. Econometric papers that do move below the nation typically exploit cross-state or cross-district variation in the number or timing of SEZs [7], [20]. In that design Madhya Pradesh contributes a small treatment dose because it has few operational parks. The state's one large manufacturing zone is thereby averaged away. A related counting bias treats an information-technology campus of a few hectares as equivalent to a thousand-hectare multi-product estate. Palit and Bhattacharjee, Mukhopadhyay and Pradhan, and the Institute for Studies in Industrial Development land paper all warn, in different vocabularies, that location and land not headcounts of notifications are the right primitives [5], [11], [22]. Yet subsequent reviews continue to rank states by approved, notified and operational numbers. On that metric Madhya Pradesh is a minor player; on a value-of-exports metric, Pithampur is not. Past work has not resolved which metric should govern evaluation, and the choice is not innocent for an inland manufacturing state.

The second weakness is conflict without arbitration. On employment and human development, Aggarwal is cautiously positive [3], [4]; Aggarwal and Kokko find poverty reduction in Andhra Pradesh [21]; Gallé and co-authors find local structural change [20]; Alkon finds little statewide developmental spillover [7]; Levien finds dispossession without development [8], [9]. These results are often cited as if they cancelled one another. They do not. They measure different outcomes, at different scales, in different decades, under different fiscal regimes. A meta-analysis that merely lists them as mixed findings wastes their design. The more precise statement is that Indian SEZs appear capable of local labour-market effects and incapable, on present evidence, of transforming state-wide public goods. That statement is highly consequential for Madhya Pradesh, whose operational zones are clustered in one urban-industrial belt. If Alkon is right at state scale and Gallé is right at ten kilometres, then Pithampur and Indore may be successful enclaves inside an otherwise weakly affected state an interpretation that neither the promotional literature nor the land-critique literature quite owns. Past work has not tested it.

The third weakness is fiscal and historical bounding. Many performance papers treat the 2005 incentive menu as the treatment [12]. But Minimum Alternate Tax, Dividend Distribution Tax, the Goods and Services Tax, the sunset of some direct-tax holidays, and the still-pending DESH redesign mean that the treatment changed while the outcome series continued [18], [26], [28]. Pithampur industry associations explicitly named the tax changes as a deterrent, and investment in Indore SEZ was reported to have slumped in the mid-2010s [26]. Evaluations that ignore this break will mis-attribute later export growth either to the original Act or to its erosion. The Baba Kalyani Committee and the DESH draft are themselves evaluative documents, yet they are under-used as

evidence in academic reviews, which prefer journal articles even when committee evidence is closer to the policy mechanism [18], [28]. Conversely, consultancy and government series are under-criticised: they rarely publish a counterfactual, a cost of tax expenditure, or a displacement estimate for units that would have exported from the domestic tariff area in any case [17], [19]. For Madhya Pradesh, where one zone dominates merchandise exports, the absence of a displacement study is especially costly.

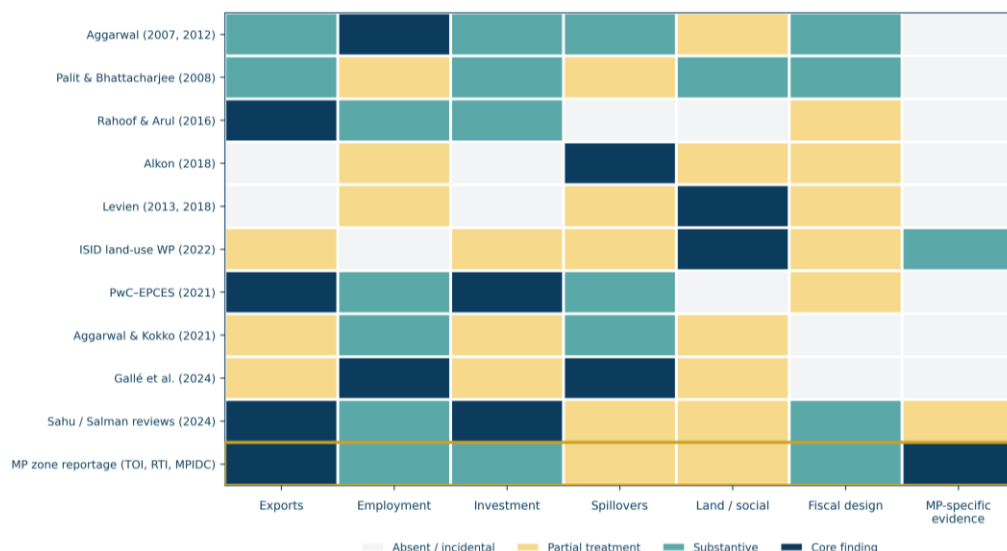


Figure 5: Evidence map of past work: coverage intensity of leading studies across seven evaluation dimensions. Darker cells indicate that the dimension is central to the study; pale cells indicate absence or incidental mention. The gold outline marks the only row with core Madhya Pradesh-specific evidence.

Figure 5 is the critical-analysis device of the paper. Rows are landmark studies; columns are seven coding dimensions. Aggarwal is strong on employment, Palit on myths, Alkon on spillovers, Levien on land, the land-utilisation paper on processing, PricewaterhouseCoopers on export quality, and Gallé on local labour markets. The Madhya Pradesh-specific column is almost empty until the final row of zone-level reportage. The map does not claim national papers are wrong; it claims they are silent where this review must speak. Core state evidence remains grey, official or journalistic, so Pithampur is still treated as a residual in national tables.

The fourth and decisive weakness is the near-absence of Madhya Pradesh as an object of peer-reviewed evaluation. Figure 5 makes the gap visible. Canonical papers are rich on exports, employment, land or spillovers at national scale, and almost empty in the Madhya Pradesh-specific column. The cells that are filled for the state come from grey literature, official directories and newspaper reconstructions that cite the Development Commissioner [25]–[27]. Those sources are not worthless without them this review could not report Pithampur's 2023–24 exports but they are not designed to answer the questions Aggarwal posed in 2007: employment quality, skill formation, technology upgrading, net fiscal cost, and poverty effects [3]. No published paper, to the knowledge assembled here, estimates a difference-in-differences or synthetic-control effect of Pithampur SEZ on Dhar or Indore labour markets; none surveys workers inside the zone as Aggarwal surveyed Santacruz and Noida; none reconstructs land compensation around the 1,113-hectare estate with Levien's care; none compares Pithampur's export sophistication with the manufacturing SEZs studied by PricewaterhouseCoopers [17]. The literature has a theory of Indian SEZs and a handful of facts about Madhya Pradesh, and it has not yet put the

two together in one design. That is the principal critical finding of this meta-analysis, and it is a finding about research, not only about zones. Statewide success-or-failure claims therefore remain premature.

5. DISCUSSION

What, then, can be said about the evaluation of Special Economic Zones in Madhya Pradesh once the past work is read critically rather than catalogued? The most defensible judgement is dual, and it is a judgement about structure rather than about a single success-or-failure score. On the manufacturing track, Pithampur is a functioning multi-product enclave whose recent export growth is real, sectorally diversified across engineering, pharmaceuticals and technical textiles, and large enough to matter in the state's external trade [25]. It sits inside a genuine industrial agglomeration automobile, auto-component, pharmaceutical and packaging reinforced by test-track, tool-room and corridor infrastructure that the international literature would recognise as complementary public goods [14], [29]. On the services track, Indore's information-technology SEZs have brought national firms into the city and generate a smaller but non-trivial stream of software and services exports [25], [27]. On the statewide track, conversion from approval to operations is weak, denotification has occurred, land utilisation has been modest, and there is no credible evidence of broad developmental spillovers beyond the Indore–Pithampur belt [7], [22], [26]. Madhya Pradesh therefore illustrates, in one state, both the cluster-success story and the enclave-failure story that the national literature has spent twenty years arguing as alternatives. The meta-analytic implication is that the right evaluative question is not whether SEZs work, but for whom, over what radius, and on which criterion of success.

Policy implications follow from that duality rather than from slogans about replicating China or abandoning zones. First, counting parks is a bad steering indicator for this state; export value, capacity utilisation, net foreign exchange, employment quality and linkages into the Pithampur Auto Cluster are better ones [4], [17]. Second, DESH-type reforms that ease domestic-market access and drop a rigid net-foreign-exchange test could help manufacturing units for whom India is both a production base and a market, provided that World Trade Organization-compatible incentives remain tied to investment, jobs and technology rather than to location alone [18], [28]. Third, information-technology SEZs in Indore should be evaluated as urban employment and skill platforms, not as substitutes for merchandise exports; their hectare productivity is high, their statewide transformation potential is limited. Fourth, the Delhi–Mumbai Industrial Corridor will not automatically redeem the SEZ instrument. Corridor infrastructure can raise the returns to Pithampur, but only if fiscal predictability, logistics and a workable domestic-tariff-area interface are restored [26], [29]. Fifth, the state needs an evaluation cell that publishes zone-level employment, female share, wages, domestic procurement and tax expenditure the variables national research has shown to matter and that Madhya Pradesh does not yet place in the public domain [3], [20], [21]. Without those series, the next decade of reviews will repeat this one. A sixth implication is academic: until Pithampur is studied with the survey and quasi-experimental care already applied to Santacruz, Madras and Noida, claims about inland SEZs will remain extrapolations from the coast. That is the research agenda this review is written to force, and without it inland manufacturing zones will remain footnotes to coastal software parks.

6. CONCLUSION

This review research paper evaluated Special Economic Zones in Madhya Pradesh by meta-analysing past work rather than by claiming a new causal estimate. The national literature is mature on exports, employment, land and spillovers, and immature on inland manufacturing states. Madhya Pradesh, despite hosting India's first greenfield multi-product SEZ and a cluster of Indore information-technology parks, remains a residual in that literature. The synthesis offered here yields a dual conclusion. Pithampur is an export-significant manufacturing platform whose 2023–24 merchandise shipments of Rs. 14,265 crore, growing at about 11.5 per cent, sit inside a real automobile-pharmaceutical-engineering agglomeration. Indore's information-technology SEZs add a smaller services stream. The state's conversion of approvals into operations is nevertheless weak, land utilisation has been modest, fiscal breaks after Minimum Alternate Tax, Dividend Distribution Tax and the Goods and Services Tax chilled expansion, and peer-reviewed evaluation of local labour markets, fiscal cost and linkages is almost absent. SEZs in Madhya Pradesh have produced corridor-level success, not statewide transformation. Closing that gap is a task jointly for DESH-era policy design and for a research programme that finally treats Pithampur and Indore as objects of study rather than as cells in an all-India table. Until that programme exists, evaluation should remain multi-criteria, dual-track and historically bounded: count exports and jobs, but also conversion, land, fiscal cost and the ten-kilometre radius within which past work suggests effects, if any, actually occur. That is the evaluative standard this paper recommends for Madhya Pradesh going forward from here.

7. REFERENCES

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