

SHIVPRIYA TEXCHEM · KNOWLEDGE SERIES

Pali.

A processing cluster and its water reckoning.

Pali dyes and prints fabric for much of Rajasthan and beyond. It is also the Indian textile cluster where the environmental reckoning came earliest and hardest — a case study every processing town in the country should read.

Processing

the cluster's single function — dyeing, printing, finishing

Bandi river

the watercourse at the centre of decades of litigation

CETP

common effluent treatment as the licence to operate



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CHAPTER 01

What Pali does

Pali is a processing town rather than a weaving one. Grey fabric arrives from elsewhere, gets dyed, printed and finished here, and leaves as finished cloth.

FUNCTION	NOTES
Dyeing	Cotton and blended fabric dyeing across a wide range of qualities
Printing	Screen and rotary printing, including traditional Rajasthani designs
Finishing	Calendaring, sanforising and functional finishes
Handloom processing	Serving the wider Rajasthani handloom and craft sector
Made-ups	Some conversion into finished products alongside fabric processing
Suiting processing	Serving the Bhilwara and regional suiting trade

A single-function cluster. Pali is unusual in having **almost no weaving and almost no spinning**. It is a pure conversion cluster, which makes it entirely dependent on fabric flowing in from elsewhere — and entirely exposed to environmental regulation of that one process.

CHAPTER 02

The Bandi river and what followed

Pali's processing industry discharged into the Bandi river for decades. The consequences — agricultural, legal and industrial — have shaped every subsequent decision in the cluster.

01 The discharge

Untreated and partially treated dyeing effluent entered the Bandi and the groundwater around it.

02 Agricultural damage

Farmers downstream reported salinity and contamination affecting land and wells.

03 Sustained litigation

Decades of legal action by farmer groups and environmental petitioners.

04 Closure orders

Repeated orders closing non-compliant units, sometimes at very short notice.

05 CETP as the condition

Operation became conditional on connection to common effluent treatment.

06 A permanently higher cost base

Compliance is now a structural cost that the cluster cannot avoid.

Pali is the cluster that shows what happens when the **environmental bill arrives late**. It is always larger than the cost of having complied earlier.

CHAPTER 03

How the cluster is organised

Pali's industry is a large number of small and medium processing houses, organised around shared effluent infrastructure and industry associations.

PROCESSING HOUSES

Dyeing and finishing units.

01 CETP-connected units
The compliant operating base of the cluster

02 Independent dye houses
Small and medium processing proprietors

03 Suiting processors
Serving the Bhilwara and regional fabric trade

04 Handloom processors
Converting craft and handloom fabric

05 Job-work finishers
Calendaring, sanforising and finish services

PRINTING

Screen, rotary and craft printing.

01 Rotary printing units
Volume printed fabric production

02 Screen printing houses
Flatbed and rotary screen operations

03 Traditional print units
Rajasthani design and craft printing

04 Digital printing entrants
Emerging low-water digital capacity

05 Design studios
Print design serving the cluster

INFRASTRUCTURE & SERVICES

The enabling layer.

01 CETP operators
Common effluent treatment — the licence to operate

02 Industry associations
Collective negotiation on compliance and infrastructure

03 Chemical suppliers
Dyes and auxiliaries into the cluster

04 Water suppliers
Sourcing and tankering into a scarce region

05 Testing laboratories
Effluent and fabric quality verification

CHAPTER 04

What ZLD actually costs

Zero liquid discharge is expensive to build and expensive to run. Understanding the cost structure explains why compliance consolidates an industry.



Every stage adds capital and running cost; the last two are the expensive ones

Capital cost

ZLD plant is a major investment, disproportionate for a small processing unit.

Energy

Evaporation is highly energy intensive and is the dominant running cost.

Membrane replacement

RO membranes are consumables with a defined and significant replacement cost.

Salt disposal

Recovered salt must be handled or sold; disposal is itself a regulated problem.

Why compliance consolidates. ZLD economics favour scale heavily. A large processing house spreads the cost over far more metres than a small one can. **Environmental regulation is, in practice, a consolidation force** — in Pali as in Tirupur.

CHAPTER 05

Scarcity on both sides

Pali faces the water problem twice — as a scarce input and as a regulated output. Few clusters are squeezed from both directions this hard.



Pali, Rajasthan · Photograph: Mohmmad — CC BY-SA 4.0, via Wikimedia Commons

- **Input scarcity.** Rajasthan is arid; process water is expensive and sometimes tankered in.
- **Output regulation.** Discharge is tightly controlled and monitored following decades of litigation.
- **Recycling is mandatory economics.** Water reuse is not an environmental gesture; it is how the cluster survives.
- **Competing demand.** Agricultural and municipal water needs compete directly with industrial use.

CHAPTER 06

What limits the cluster

Pali's constraints are unusually concentrated — almost all of them come back to water and to its single-function dependence.

- **Water availability.** The binding constraint on any capacity growth.
- **Compliance cost.** A permanently higher cost base than less-regulated processing clusters.
- **Single function.** No weaving or spinning base, so the cluster depends entirely on inbound fabric.
- **Regulatory risk.** Closure orders have happened before and remain a live possibility.
- **Scale.** Units are small relative to the compliance investment required.
- **Reputational legacy.** Decades of litigation shape how buyers and regulators view the cluster.

CHAPTER 07

What is shifting

Pali's direction is toward lower-water processing technology and toward positioning compliance as a commercial credential rather than a burden.

SHIFT	WHAT IS HAPPENING
Digital printing	Dramatically lower water use than screen printing; growing capacity
Low-liquor dyeing	Machinery that dyes at lower liquor ratios, cutting water per metre
Water recycling	Continuous investment in recovery and reuse within units
Compliance as credential	Positioning ZLD status as an advantage with export-facing buyers
Consolidation	Smaller non-compliant units exiting; larger compliant ones growing
Craft positioning	Traditional Rajasthani print as a differentiated, higher-value segment

CHAPTER 08

Buying processing from Pali

If you are having fabric processed in Pali, compliance status is not a background detail — it is the first thing to establish.

01 Verify CETP connection

Confirm the unit is connected and compliant. Non-compliant units can be closed without notice.

03 Specify shade tolerance

Agree lot-to-lot shade limits in writing before production.

05 Understand the fabric flow

Grey comes from elsewhere. Know who supplies it and what condition it arrives in.

02 Ask about water source

Water availability affects both cost and continuity of processing.

04 Check fastness testing

Wash, rub and light fastness on the actual fabric, not on a standard sample.

06 Plan for regulatory risk

Have an alternative processing route identified. This cluster has been closed before.

How Shivpriya reads it. For any Rajasthan processing programme we treat **CETP status and water continuity as gating questions**, before quality and before price. A cheaper quotation from a non-compliant unit is not a saving; it is an unpriced risk of losing your fabric mid-process.

IN CLOSING

The environmental bill always arrives.

Pali is the Indian textile cluster that has already paid for its environmental legacy, and its compliant capacity is genuinely valuable because of it. If you are having fabric processed in Rajasthan, talk to us — start with CETP status, because everything else depends on it.

TALK TO US

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