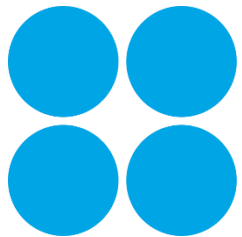


Using focus groups and participatory landscape assessment to identify and evaluate ecosystem services: a case study in North West India.



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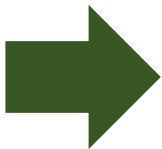
**DEBBIE BARTLETT
EULALIA GÓMEZ MARTÍN
SARAH MILIKEN
DAYESH PARMER**

To decide between different land-use options and optimal ecosystem management...

Environmental Capital Approach was piloted in the 1990s looking at:

- What people value?
- Why they valued it?
- Could this be substituted?
- At what scale it was important?

- Desk study
- Landscape character assessment
- Participatory exercise.



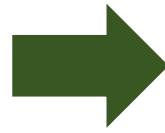
LANDSCAPE APPROACH: Based on:



Better understanding of the landscape, better environmental assessments, more informed decisions.

The results combine the **professional/expert** perspective with that of the **stakeholders**.

LANDSCAPE CHARACTER ASSESSMENT.



Landscape character: features and characteristics resulting from the interaction of physical and socio-economic factors that make each place different from each another.



Identifying

Important features



Enabling

Assessment of the scale of importance of ecosystem services and whether these could be replaced by others.

NATURAL CHARACTER AREA (NCA) PROFILES
Divides the area using natural boundaries rather than administrative lines.
Available on the internet as guidance **documents for decision makers**

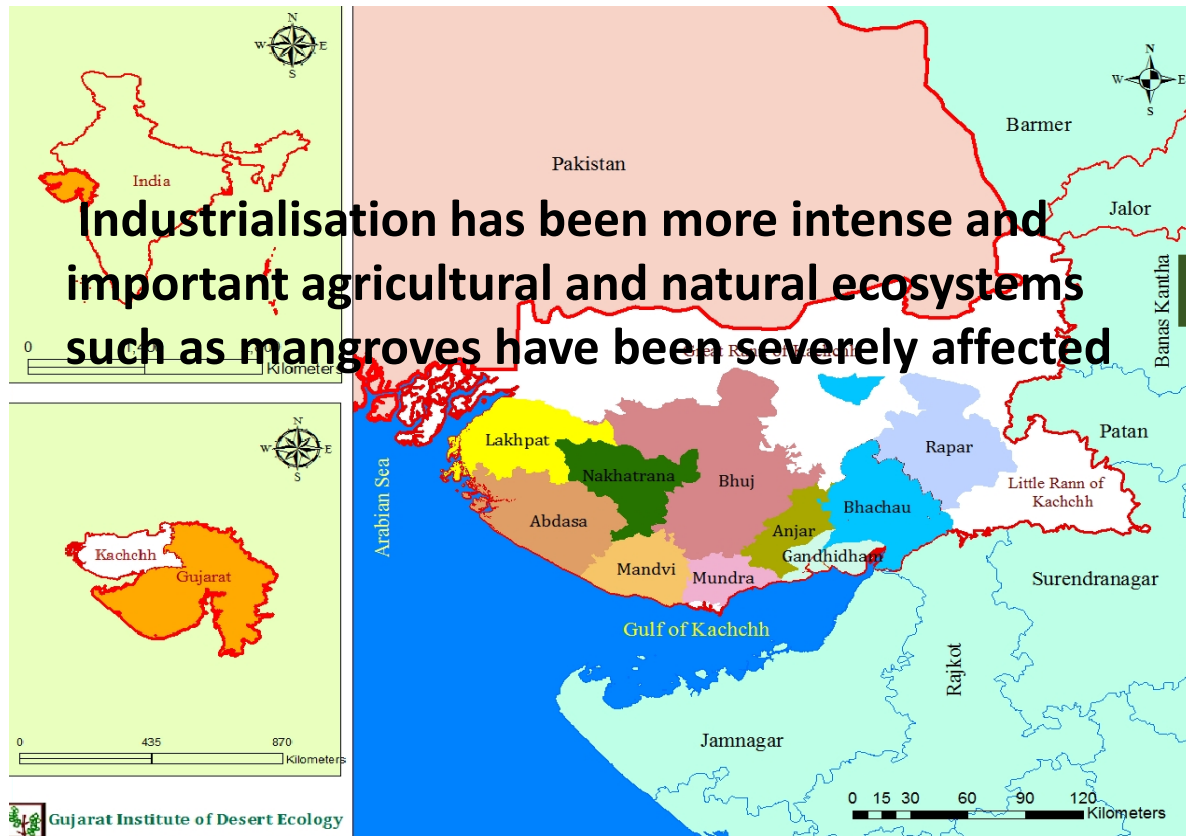


Describes how the landscape has changed over time and identifies the drivers behind these changes, enabling an analysis of the ecosystem services

Applying LCA in the coastal plain of Kachchh district , Gujarat, India

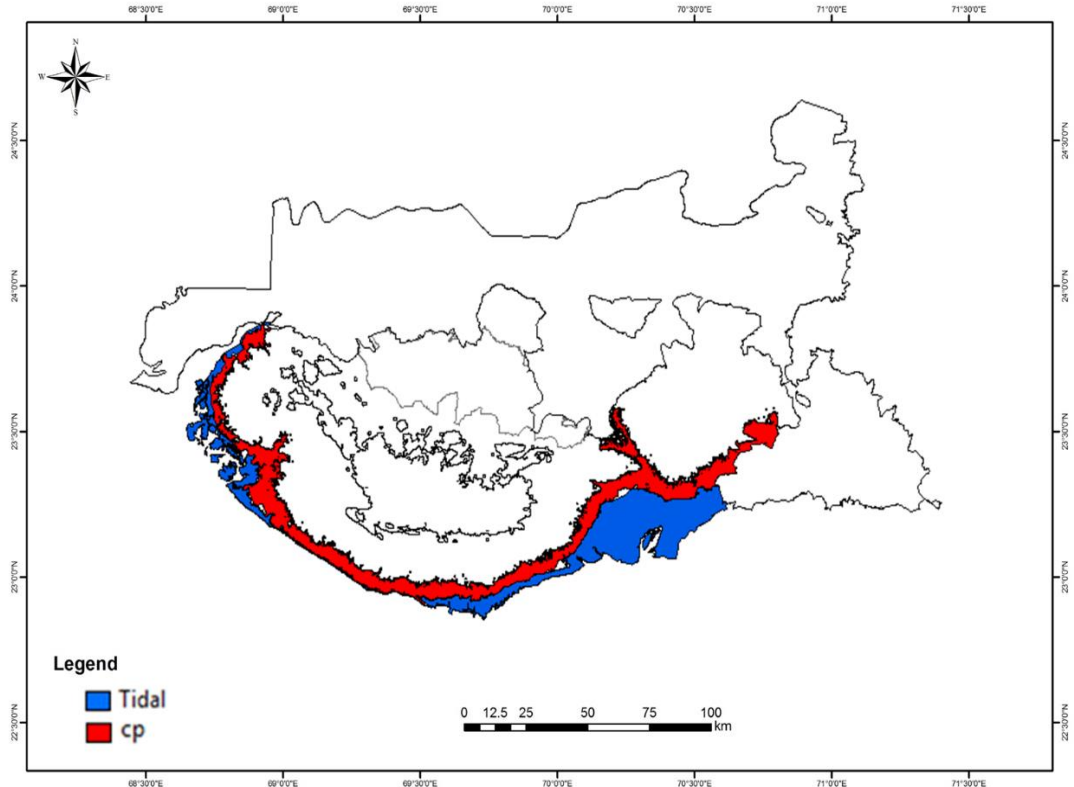
Kachchh district, located in the north-western part of Gujarat, North-west India

Industrialisation has been more intense and important agricultural and natural ecosystems such as mangroves have been severely affected



This study focus on the coastal plain of Kachchh

Gujarat is the second most industrialised state in India.

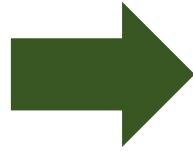


The Coastal Plain borders the Kachchh mainland to the north, the Gulf of Kachchh to the south and the Arabian Sea to the west.

Coastal plain

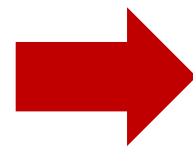
Main habitats

Coral reefs
Mangroves
Mudflats
Creeks
Estuaries.



Rural livelihoods are dependent on these ecosystems.

Agriculture
Horticulture
Animal husbandry
Salt making
Fishing



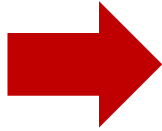
Industrial developments

Change in the landscape, deterioration of the local ecosystems and loss of the traditional livelihoods



Main industries:

Cement
Chemicals
Fertilisers
Mining
Salt pans



It was **not possible to find the basis on which land use planning decisions are made**, but the location of the industry seems to be *ad hoc*, with little consideration for environmental and social issues.



Opportunity to use LCA and Focus groups

Identify the stakeholders and their interests (i.e. what matter to whom) and the ecosystem services that are changing with industrial development.

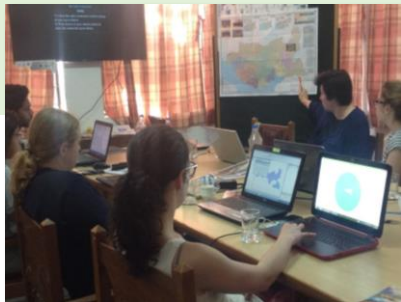
METHODOLOGY

Phase 2 Formulation of the Natural Area Profile

This brought together the results of the landscape and ecosystem service assessment in the context of existing plans, policies and strategies for the region, with the objective of balancing the priorities of ensuring the livelihoods stakeholders while at the same time maintaining important habitats and native wildlife. Strategic objectives were identified and an action plan outlined as the basis for developing an implementation strategy.

➤ **Socio-economic evaluation of natural resource use (Focus groups):**

To identify the environmental, social and economic issues of the coastal plain
Focus groups were carried out using a pre-prepared structured interview schedule.



Desk study



LCA



Focus groups

LANDSCAPE CHARACTER ASSESSMENT

Key characteristics/distinctive features and why these are important:	
Do you think this landscape is valuable? if so why?	
Positives:	Negatives:

Visual Assessment Criteria

Pattern	Dominant	Strong	Broken	Weak
Scale	Intimate	Small	Medium	Large
Enclosure	Confined	Enclosed	Open	Exposed
Complexity	Uniform	Simple	Diverse	Complex
Texture	Smooth	Textured	Rough	Very Rough
Form	Vertical	Sloping	Rolling	Horizontal
Line	Straight	Angular	Curved	Sinuuous
Colour	Monochrome	Muted	Colourful	Garish
Movement	Still	Calm	Active	Frenetic
Unity	Unified	Interrupted	Fragmented	Chaotic
Balance	Balanced	Unbalanced		
Structure	Random	Regular	Formal	
Visual Dynamic	Sweeping	Channelled		

Perception

Security	Comfortable	Safe	Unsettling	Threatening	
Stimulus	Monotonous	Bland	Interesting	Inspiring	Invigorating
Tranquillity	Inaccessible	Remote	Vacant	Peaceful	
Pleasure	Offensive	Unpleasant	Pleasant	Attractive	Beautiful

DESK STUDY: To form the basis for the field work

information about the climate, geology, soils, hydrology, culture, economy, history, flora and fauna

FIELD SURVEY SHEETS: To record information that was not revealed by the desk study

TWO PARTS

- To record topography, land cover or land use
- To record the perceptions of the surveyor

		Condition →	
Quality ↓	Good		
		Poor	

What is the most appropriate management strategy for this landscape?
Maintain Restore Enhance
How?

How does it make you feel ?	😊	😐	😞
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Ability to accommodate change

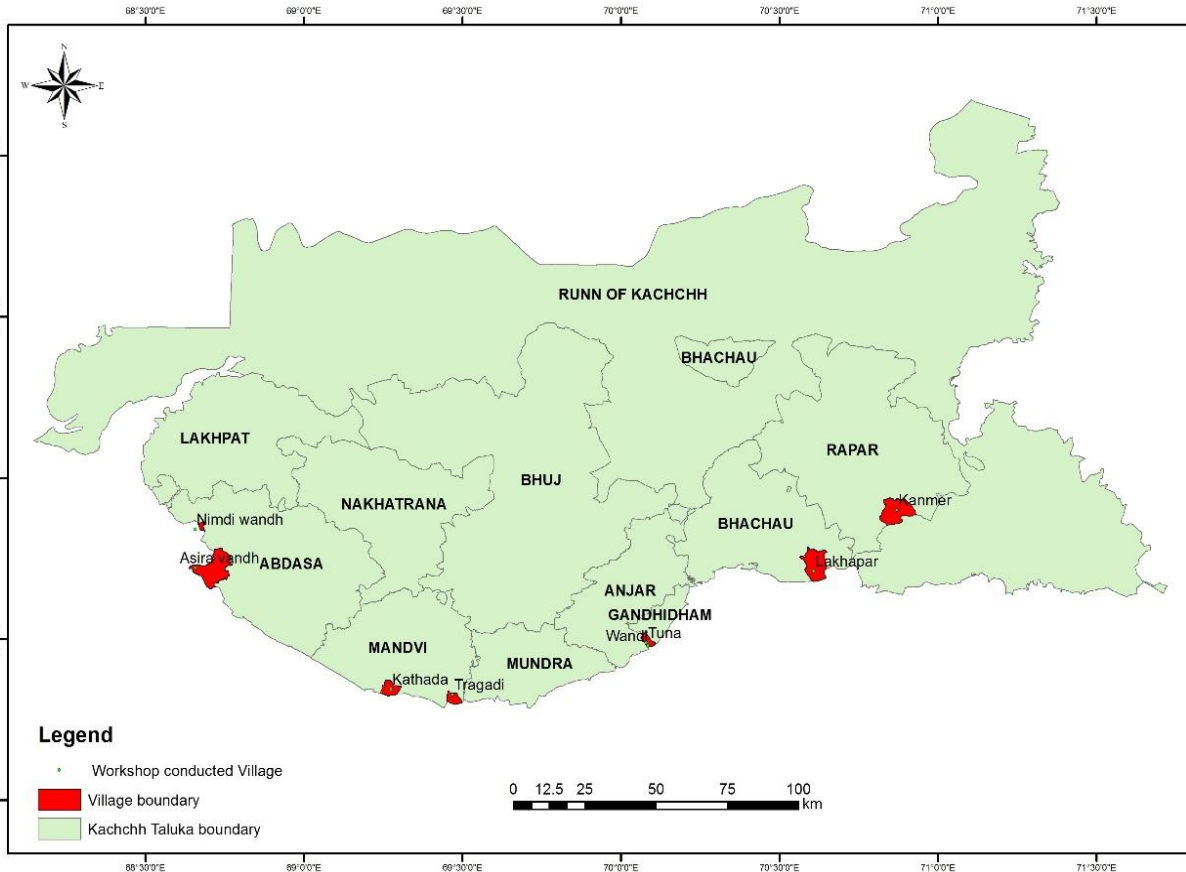
Resilient Vulnerable

Other comments

Each site was characterised using consensus descriptors derived from the completed field sheets.

FOCUS GROUPS

The landscape assessment phase led to **eight villages in different parts of the coastal plain** being selected for participatory investigation



2nd Visit arranged in December 2015: **Information Verification**
1st Visits were arranged in May and June 2015

Pre-prepared semi-structured interview
 Information displayed on a bilingual English/Gujarati poster



The intention was to understand the **Communication with stakeholders** these topics, and to identify any changes in



RESULTS

	Ash	Nim	Wan	Tun	Tra	Kat	Kan	Lak
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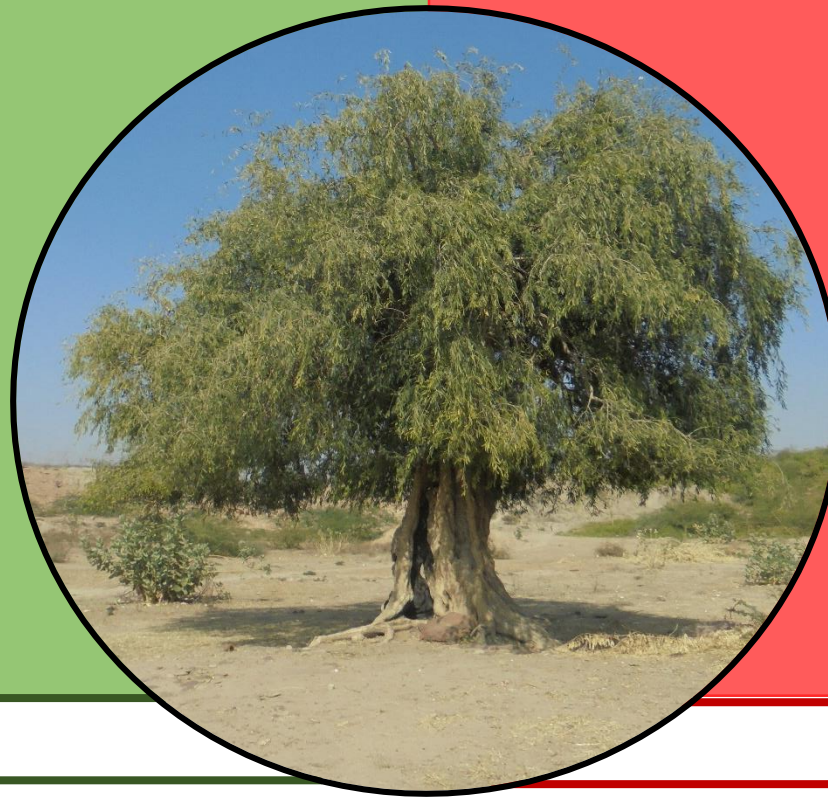
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INITIALLY THE PROJECT WAS FOCUSED ON THE
NEGATIVE IMPACTS OF AN INVASIVE SPECIES:
PROSOPIS JULIFLORA

- Pods
- Gum
- Honey
- Cotton like substance
- Alcoholic drinks
- Wood
- Charcoal



calorific value (4800 k cal/kg)



Spread through:

- agricultural and grazing land
- protected areas

Displace native species:

- *Prosopis cineraria*
- Gugal (*Commiphora wightii*)

Thorns affecting cattle

Pods indigestible for buffaloes and cattle

SERVICES

DIS-SERVICES



The perception of the people upon this species depends on their economic needs and the benefits they can obtain from it



FINAL OUTPUT



The completed Natural Character Area profile resulted in a single 71 page document which included the strategic opportunities identified by the research.



PRESENTED TO STAKEHOLDERS

<http://gala.gre.ac.uk/16221/>

CONCLUSIONS

- **Industrialisation has brought some benefits to locals, but the impact has been overall negative.**
- **There is a need of an appropriate land use planning to allow an economic growth at both large and local scale.**
- **There is a need to integrate social, environmental and economic factors into management plans decisions.**
- **The Landscape Character Assessment would give a context for management decisions.**
- **Focus groups are a cost-effective tool to asses the state of ecosystem services.**

THANK YOU!

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