Surat Safe Habitat Plan, India


Surat safe habitat—spatial planning of a low-lying area with high flood risk, Surat, Gujarat

Background

The spatial planning exercise demonstrates an alternative to conventional micro-planning and local area planning by re-casting the approach to land valuation-based town planning scheme of Gujarat. By embedding the productive value of unbuildable lands into development rights and land valuation, ecosystem services provided by the landscapes is recognized. The competition named ‘Surat Safe Habitat’, organized in partnership between the Surat Municipal Corporation (SMC), Gujarat State Disaster Management Authority (GSDMA) and the Asian Cities Climate Change Resilience Network (ACCCRN).

ACCCRN is an initiative that aims at stimulating debate and research, encouraging design and planning innovations, addressing the challenges of urbanization for natural and industrial risk-prone areas, and creating awareness among governments and professionals on development planning in areas prone to flood. For the purpose of the competition, Ichhapore low-lying area of 145 Ha, which is at risk from natural and industrial hazards, has been identified in the vicinity of the Surat municipality.

Issues and Challenges

- As a low-lying area, the assessment of the regional flooding patterns and flood mitigation measures should be the primary driver of the land readjustment mechanism. The allocation of appropriate land use, compatible with safe development ensuring social and physical cohesion, while being economically productive, became the vision for the Ichhapore site.
- To respond to the increasing challenges of climate change, the approach undertaken was based primarily on two parallel yet interrelated strategies of ‘land value economics’ and ‘landscape infrastructure’ that seek to
inform a multi-disciplinary proposal to reinvent a strategy reconciling the inherent conflicts between urbanization and ecology.

- In relation to the natural and industrial risk parameters of the Ichhapore site and its regional location, the development strategy is grounded on the potentials and limitations of the existing micro-planning tool (the town planning scheme), and its necessary re-modelling to provide a more equitable and balanced form of development and social structure.

- Within such a strategy, the introduction of 'ecological infrastructure' as a design tool not only allowed reworking land dynamics and economics by equating non-built components in tandem with built fractions (as opposed to conventional notions) but also helped derive malleable urban relations by negotiating natural (flood mitigation) and social (urban spaces) for the low-lying flood prone site. A comprehensive evaluation matrix was also developed to comparatively analyze the 'sustainability index' of GI and conventional infrastructure interventions, which clearly demonstrated that GI based interventions are much more beneficial economically, socially, culturally and ecologically.

![Comprehensive Land Valuation Process](image-url)

Strategies and Interventions

GI forms the anchoring landscape structure for the master plan as it encompasses landscapes which otherwise would have fallen under risk areas. Given the location and nature of the site, the vulnerable landscapes form a critical determinant in landscape and land use planning. Recovering the productive potential of vulnerable landscapes helps add value to these lands through direct benefit of food production as well as indirect benefit of flood mitigation and other ecosystem services to the larger landscape of Ichhapore.

To balance the inequitable potential for development, individual land owners should associate through mutual consensus so as to successfully satisfy their economic, social and cultural needs and aspirations through jointly owned and democratically controlled urban development. A planned development project is operated by a group of owners for their mutual benefit. This benefit is then equitably shared between all the owners. The approach aims to balance the potential for development between all the owners in an equitable manner, reduce disparity between land value at the site level, ensure equitable development between all the owners, and promote cohesion. To meet this objective, all individual parcels are unified to form a single site treated as an alternative physical and financial entity (land pooling mechanism).

<table>
<thead>
<tr>
<th>Development right concept and its sharing permissible built up area</th>
<th>Built right</th>
<th>Unbuilt right</th>
<th>Total development right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 Global development right at site level</td>
<td>(Area under residential) * FSI</td>
<td>Area under landscape</td>
<td>Buildable land + productive landscape</td>
</tr>
<tr>
<td>Step 2 Individual sharing of development right</td>
<td>Proportional sharing of permissible built up as per initial land holding</td>
<td>Proportional sharing of productive land as per initial land holding</td>
<td>Sum of individual sharing</td>
</tr>
</tbody>
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Additional/ Further information: