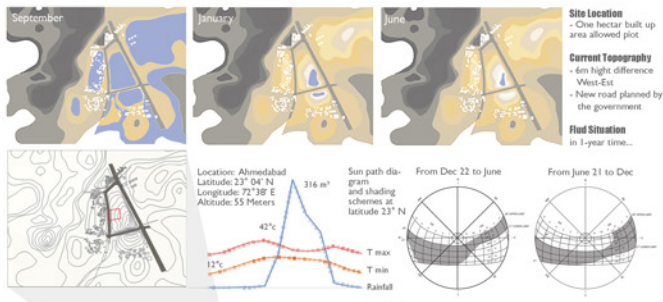


Bioclimatic system



RAIN - HUMIDITY - TEMPERATURE - WIND



Biophysical system



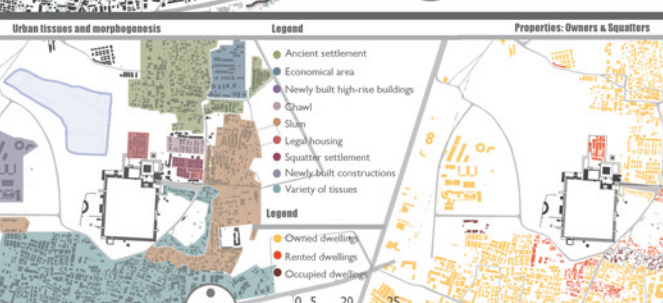
NATURAL NETWORKS - VEGETATION



Anthropic system



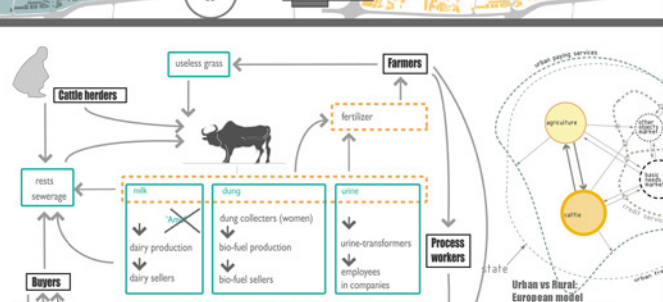
BUILT FORM - INFRASTRUCTURE



Eco-cycle



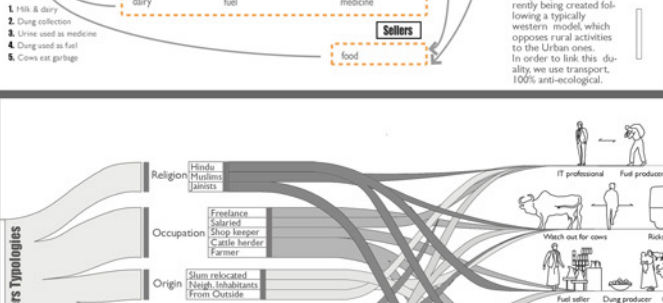
COW: CENTRE OF ECONOMICAL CYCLE



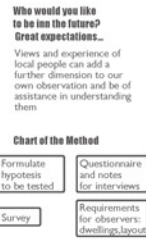
Cross Categorisation



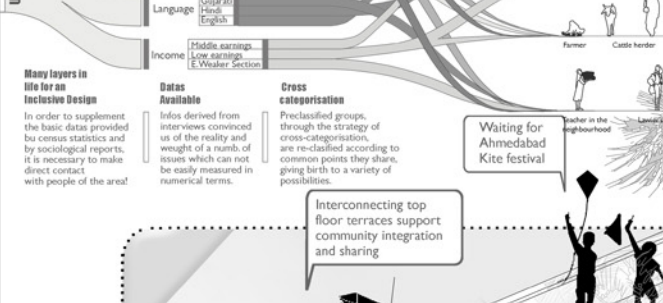
Users Typologies



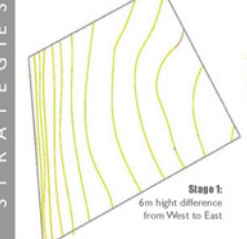
Land Use of Gaay Nagar



Program in Urban context



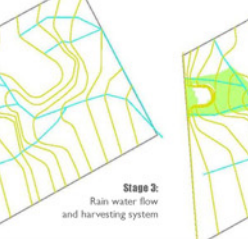
Cut and fill strategy



Minimum standard



Self Financing Project



Eco-cycle



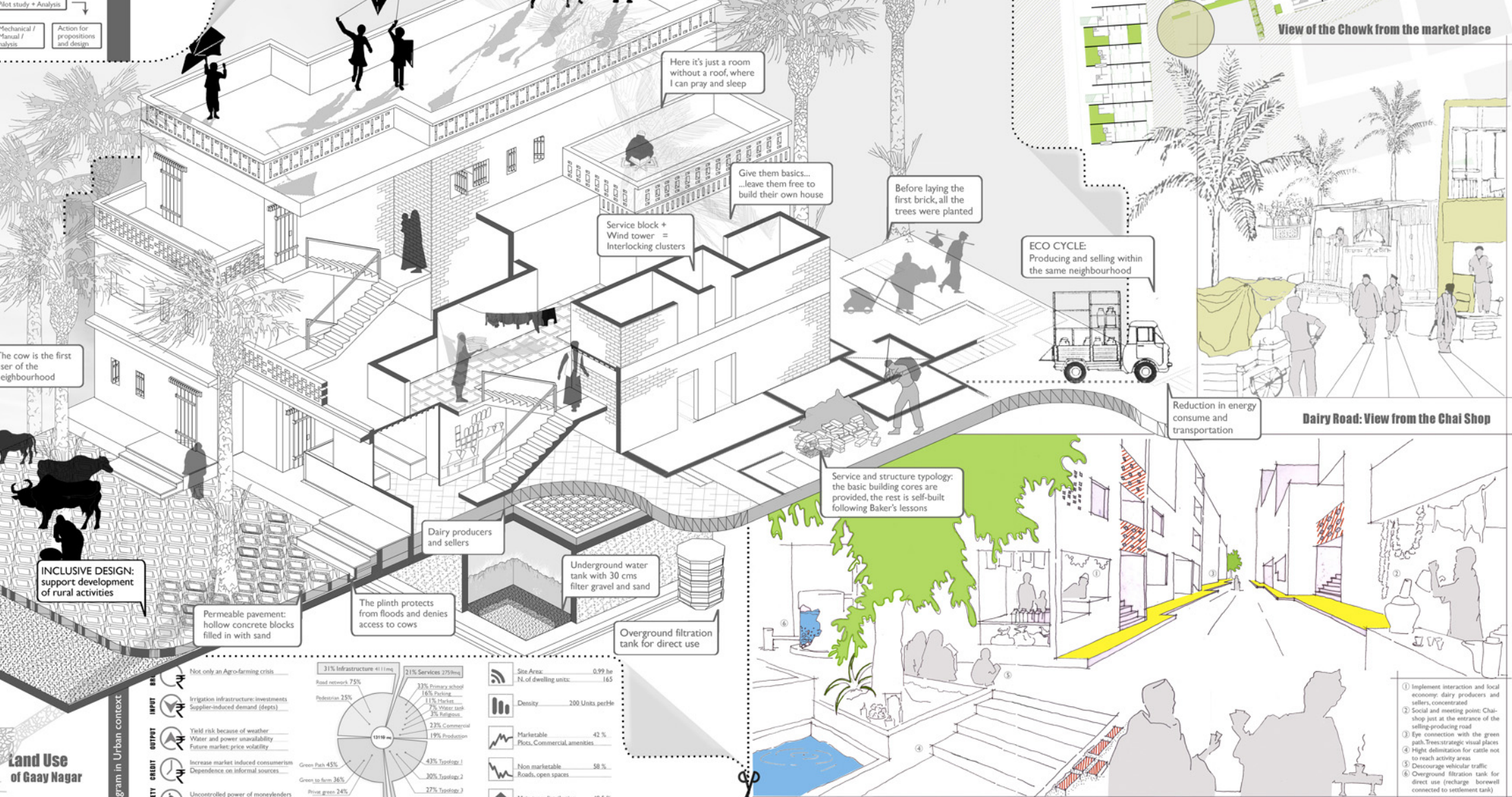
Masterplan for an Inclusive Design Settlement



Theme:
The conception of a low-cost affordable housing community of around 200 dwelling units, in the periphery of Ahmedabad, including residents of the informal settlement surrounding the site.
Objective:
The real challenge for the slum relocation scheme was the possibility of being replicable in other areas with similar conditions, emphasizing the need for a holistic approach to habitat design.
Sustainability criteria:
My 'inclusive model' of intervention proposes an alternative paradigm to the standard economic system, in which - through community participation and social development - every concerned party would be mutually benefited.

General and technical report:
The community aspect and the rural-urban divide that characterizes the peripheral areas of the city are the main focus of the project. Urban dwellers have lost their connection to nature and rural people their livelihood and land. How can those two types of living co-exist?
Minimum standards: The originally sloping site requires a Cut & Fill Strategy to respond to monsoon seasons: raised platforms for built areas and catchments are created just by moving clay on site. Calculating the total rain-water potential of the site in a ratio to the average daily water consumption per person, rain water harvesting could guarantee up to 72 days of autonomy! For climatic considerations, the built-form has an E-W orientation, while roads N-S oriented to maximize shades follow natural slopes.
Product vs. Process: In a context of constant change, the proposed scheme tries to forecast transformations that housing society would undergo over time: potentials for extensions and modifications were set-up to absorb changes of built environment.
Who gets the land? Considering the importance of Agrarian aspect land is given to cattle owners: they are provided with a basic unit on a plot of land (site & service) to be transformed over time. Urban dwellers, that don't depend on land for their economic sustenance, are located in shared buildings: fully built unit (finished product) which provide all facilities, not be modified in the future.
A self-sustaining project: Economically urban population alone to buy finished products, would subsidize the costs of accommodating rural groups, who are also allowed to pay reduced rates thanks to site & service. With 40% buyers and 20% relocated slum dwellers, different housing typologies for user groups were evolved (75% collective: 90/120sqm; 25%unfamiliar: 45sqm). Ecologically rural population could provide essential services and products: the idea is to consider the cow as the vital central component of the ecological cycle. It has the potential to live off organic waste and turn it into products of value (dairy products, medicines, fuel-dung or biogas). It works the land and provides natural fertilizers. Green areas play therefore a pivotal role in the design: the Green Path becomes the womb of the settlement, the generating space of an Economical Model, created through a process of mutual sharing at local scale.

Relazione generale e tecnico-descrittiva:
Sull'aspetto socio-comunitario e sul dualismo urbano-rurale che caratterizzano la periferia, si concentra la ricerca progettuale: ha perso ogni necessario contatto con l'ambiente esterno, tanto che abita la città quanto che della natura fa il proprio mezzo di sostentamento. Come possono allora coesistere questi due stili di vita? Standard minimo: Per rispondere alle esigenze durante la stagione dei monsoni, sul sito originariamente in pendenza, uso una strategia di "Cut & Fill" con il solo spostamento di terra in loco, sono stati creati bacini di raccolta e piattaforme rialzate per le aree edificate. Dal calcolo del potenziale totale di raccolta d'acqua piovana sul sito, in rapporto al consumo medio d'acqua per persona al giorno, risulta che l'acqua raccolta in un anno sia in grado di garantire fino a 72 giorni di autonomia! Considerazioni climatiche hanno definito inoltre un orientamento E-O per il costruito, e N-S per la rete viaria, in modo da massimizzare le ombre e seguire i pendii naturali.
Prodotto vs. processo: In un contesto di continuo cambiamento, lo schema proposto cerca di prevedere le trasformazioni architettoniche e - non, che potrebbero verificarsi nel tempo l'ambiente costruito è perciò in grado di assorbire estensioni e modifiche.
A chi spetta la terra? Considerando l'importanza del punto di vista agricolo, la terra viene destinata ai proprietari di bestiame, che ricevono un lotto libero su cui è costruito un solo blocco di servizi che può poi essere trasformato nel tempo (Site & Service). Gli abitanti della città, che non dipendono dalla terra per il loro sostentamento economico, condividono edifici a più piani che forniscono tutte le comodità e che non subiscono modifiche future (Finished Product).
Un progetto autosufficiente: Economicamente, la popolazione urbana è in grado di acquistare prodotti finiti e di sovvenzionare i costi per gli alloggi della popolazione rurale, che è a sua volta facilitata dalla possibilità del Site & Service. Con il 40% di acquirenti e il 20% di abitanti dello slum, ho sviluppato diverse tipologie edilizie per gruppi di utenti (75% collettiva: 90/120mq; 25% unifamiliare: 45mq). Ecologicamente, invece, la popolazione rurale è in grado di fornire servizi e prodotti essenziali: l'idea è quella di considerare la mucca come componente vitale centrale del ciclo ecologico: il bestiame ha infatti le potenzialità di vivere con i soli rifiuti organici e di trasformarli in prodotti di valore (prodotti caseari, medicinali, carburante - sterco o biogas), oltre a lavorare la terra e fornire fertilizzanti naturali. Le verdi svolgono quindi un ruolo fondamentale nella progettazione: la Green Path diventa l'ombelico della comunità, lo spazio generatore di un modello economico, creato attraverso un processo di condivisione a scala locale.



What does the program mean in terms of space ?

Possible configurations maximizing the possibilities

Typology 1: Finished product 120 sqm

- 120 sqm Built → 0sqm Unbuilt
- Shared Land (no private green)
- No Foot contact with Land
- Just Eye contact + pedestrian access to the Green Path
- Diagonal views allow contact

Typology 2: Structure & Service 90 sqm

- 90 sqm Built → 10sqm Unbuilt
- Shared Land (partial private green)
- Foot contact with Land
- Eye contact + pedestrian access to the Green Path
- Diagonal views allow contact

Typology 3: Site & Service 45 sqm

- 45 sqm Built → 10sqm Unbuilt
- Owned Land (private green)
- Foot contact with Land
- Eye contact + pedestrian access to the Green Path
- Diagonal views allow contact

	6x20m		8x15m		10x12m	No Permission available for those measures	No Permission available for those measures		10x12m
	6x15m		9x10m		L-shaped	No Permission available for those measures	No Permission available for those measures		10x12m
	3x15m		4x11m		5x9m		6x7.5m		L-shaped
									10x5m

T1

Finished product

IN DEPTH ... Morphological and Typological Elaboration

Forecast future possible patterns and modifications in time

Scheme of typical floor Spaces classified per destination of use

Legend

- Open air spaces
- Service blocks
- Dwellings living spaces
- Shops at the front

Ground floor
2 Shops
4 Dwellings of 60 sqm

First floor
4 Dwellings
1 x 100 sqm
1 x 120 sqm

Second floor
4 Dwellings
1 x 100 sqm
1 x 120 sqm

Finished Product Typology Upper floor Plan 1:100

Open space for possible future expansion

Typical module of Dwelling living space

Service block shared by 2 dwellings

Common plinth for business activities at ground floor

T2

Structure & Service

IN DEPTH ... Morphological and Typological Elaboration

Forecast future possible patterns and modifications in time

Section Scheme of change in time

Stage One: Add inner separation walls between service blocks

Stage Two: Add external volumes

Stage Three: Add upper floors, balconies and veranda

Interlocking Clusters

- Every service block serves 2 units
- Everyone shares the front plinth
- Every four units, a pedestrian road leads to the Green Path

Service and Structure Typology Ground floor Plan 1:100

Characters of built environment:

- Service block (Toilet + Wind Tower + Stairs)
- Shop at the Front
- Cattle access at the back
- Freedom and flexibility in internal partitions: customized space use...

Section through settlement

- Structure and service typology
- Pedestrian Courtyard
- Finished product typology

Elevation from dairy road side

12.5 m

7.5 m

5 m

2.5 m

T3

Site & Service

IN DEPTH ... Morphological and Typological Elaboration

Forecast future possible patterns and modifications in time

3D view of typical unit

Maximal height reachable

Evolution of typical unit

Plan and schematic 3D

Stage One: Base

- Service cores 2x14 sqm
- Concrete plinth 5x14 sqm
- Green area 5x14 sqm

Stage Two: Growth

- Built volumes 7x14 sqm
- Concrete plinth 4x14 sqm
- Green area 3x14 sqm

Stage Three: Growth

- Built volumes 7x14 sqm
- Concrete plinth 3x14 sqm
- Green area 2x14 sqm

Legend

- Concrete plinth
- Service blocks
- Dwellings living spaces
- Cattle storage-grazing

PROCESS DESIGN:

Elevation: Site and service typology

First stage: before modifications

Second stage: modifications in time...

T1

Structure & Service

T2

Structure & Service

T3

Site & Service

WHAT WE GIVE THEM...

PRODUCT - PROGRAM DESIGN

- Finished Product Typology (ready made)
- Structure & Service Site & Service
- Establish priorities according to mode
- Give them what they share
- Circulation
- Structure
- Service

...WHAT THEY SELF BUILD

PROCESS DESIGN

- Development control simulation
- Forecast natural growth and social change component
- Population projections
- Immigration and improved standards component

SELF-HELP MANAGEMENT PROPOSAL

- EXCAVATION: Space below plinth for water storage
- PLINTH: Hollow slab to avoid floor
- SERVICE BLOCK: Toilet + Stairs
- SLAB: First floor filter slab technique
- ROOF TRUSSES: Atroc space for storage and climatic buffer

Can we think of what will happen in 20 years?

Place an icon on the wall: no waste will be thrown!

Making the skin and the internal partitions

Extensions and transformations over time...

IN DEPTH ... Morphological and Typological Elaboration

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