COMMUNITY BASED TRANSFORMATION
TOWARDS A RESILIENT FUTURE

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SHARED HERITAGE LAB

- How heritage sites and buildings can contribute to the future of former colonial cities?
- How to give new meaning and use to this environment, taking history, present and future into account?
- How to evolve important heritage structures and areas of Bandung (Railroad, Cikapundung River, historic neighborhoods and infrastructure), in order to realise inclusive, thriving and healthy environments for working, living and leisure?
Unprecedented growth of population

Growth of urban population in Bandung, between 1900 - 2030
Source: Shared Heritage Lab, Introduction Presentation

Bandung, Indonesia
Urban Challenges
Urban Challenges

Unstructured densification - unhealthy living environment
Increased motorized traffic - uncomfortable public spaces
Lack of waste management - degraded environment
Urban Challenges

Segregation between rich and poor - non inclusive city
Abandoned heritage buildings - "Dead" city center
Current policies

**SMART CITY**

Implementation of technology for efficiency in resource use & improved level of services

Data collection from citizens, devices, and assets that is processed and analyzed to monitor and manage traffic and transportation systems, power plants, water supply networks, waste management, law enforcement, information systems, schools, libraries, hospitals, and other community services.

Bandung Policies towards a Smart City

- **Smart Branding**
- **Smart Government**
- **Smart Environment**
- **Smart Life**
- **Smart Economy**
- **Intelligent Society**

Source: https://smartcity.bandung.go.id/smartcity/slide_kota_bandung
“In low-income countries, **smart cities** are irrelevant to the majority of the urban population, which lives in poverty with **limited access to basic services**. A focus on smart cities may worsen **inequality and marginalization**.”

Vanessa Watson
Ambition
Focus on a more human aspect of smartness, in which the goal is to educate people and to equip them with skills and motivation towards a more sustainable future, while adapting the colonial legacy to serve these societal needs.
Ambition

### Social Sustainability
By locals, for locals
- social & health equity
- quality of life
- education
- community development
- community resilience
- social support

### Environmental Sustainability
Resource & Energy saving
- local building materials
- use of renewable energy
- use of recycled materials
- reuse of existing infrastructure
- rainwater recovery

### Economic Sustainability
Generate income for maintenance & expansion.
- create business opportunities
- include facilities that generate income
- smart growth

### Cultural Sustainability
Encourage respect for cultural heritage and the preservation of native customs.
- identity
- engagement
- creativity and recreation
- enquiry and learning

Sustainability on 4 pillars
Ambition

Urban Scale

Create bottom-up programs that focus on people & their development

Tackle existing inequalities & create an inclusive city

Create a healthier environment for living

Improve the mobility of the city

Raise awareness regarding the colonial legacy & its benefits for the city

Create a new destination for the city
Ambition

Architectural Scale

- Involve people in the process of making
- Upgrade existing heritage buildings
- Encourage respect for vernacular principles
- Be climate responsive
- Use locally found materials
- Design for disassembly
Ambition

**Impact of the project**

- **a showcase for the city**
  of how the colonial legacy can be transformed to serve societal needs

- **an influence for locals**
  to get closer to nature again, and to their cultural identity

- **an inspiration**
  by providing an experience of vernacular craftsmanship and locally found materials
Research Question

How can adaptive reuse of the colonial legacy in Bandung, be used as an asset to create the necessary environment for cultural resilience and development of the existing communities in a smart, inclusive and healthy way?
Strategy
DEVELOPMENT OF BANDUNG & RELATION WITH THE RAILWAY

1810

1882

1921

1952

Dutch East Indies become a colony of the Netherlands
Groote Postweg
Foundation Bandung

Railway Jakarta - Bandung
Railway East - West Java
Framework Plan in Garden City concept
Government plans to make Bandung Capital

Population 45,000

1st Asian-African Conference

Declaration of Independence
New Urban Masterplan

Population 1 Mio.

Population 2 Mio.

1800 1850 1900 1950 2000
Strategy

Urban Scale
Strategy

Urban Scale
Strategy

Urban Scale

The railway becomes a tram line

new circulation system & community mobility
integrated cycle path & pedestrian zone
- Transform the existing Railway line from a *barrier* dividing Bandung into two, to a *connector* between the different parts of the city, and a vibrant part of it.

- Establish a new *tram line* instead of the existing *Railway line*, with multiple stops within the city, and include a *pedestrian zone* and a *cycle path* in this new “green belt”.

- Create *community based programmes* along the new green zone, that focus on developing the communities and *balancing inequalities*.

- Create new *business opportunities*.

- Make use of the *existing building stock* in the inner city.
Focus on one of the possible transformation areas along the Railway
Strategy

Complex Scale

The 'KNIL' Magazijnen
Military Area
Location of intervention

“KNIL” Magazijnen & Border Line
Strategy

Complex Scale

Land Uses & Communal Facilities
Strategy

Complex Scale
Transform the former military storage complex into a creative Community Center that focuses on the elimination of segregation and on communities development, through leisure, educational & creative activities that engage all different groups of people.
## Program

### A place for the community
- Administration space
- Counselling services
- Day - care center
- Meeting rooms

### A place to learn & to develop skills
- Library
- Production space
- Arts & crafts studios
- Meeting rooms

### A safe place for after school activities
- Sports facilities
- Dance/music/theater classes
- Multipurpose space
- Outdoor facilities

### A place to generate income
- Existing creative community
- Start-up space
- Urban farming
- Cafe & food
Location of Intervention
Location of intervention

Transport Goods → Inspection → Storage → Distribution to military community
Location of intervention

DNA of the space / Chrono-mapping

1910
INITIAL STATE
Location of intervention

DNA of the space / Chrono-mapping

1921
NEED FOR EXPANSION - ADDITIONAL BUILDINGS
Location of intervention

DNA of the space / Chrono-mapping

1921-1942
NEED FOR EXPANSION - EXTENSIONS TO ALREADY EXISTING BUILDINGS
NEED FOR EXPANSION - ADDITIONAL BUILDINGS NOT ACCORDING TO THE INITIAL PLAN

DNA of the space / Chrono-mapping

Location of intervention
39

REPAIRS AND ALTERATIONS TO
ROOF STRUCTURES
ADDITIONAL VOLUMES OF LOW QUALITY

DNA of the space / Chrono-mapping

Location of intervention
Location of intervention

Current use of the complex
Design Question

How can the former military complex be transformed from a place for the provisioning of goods to the military, into a place for provisioning intangible “goods” to the surrounding communities?
Cultural Valuation

Central Axis - Historical Value
Trolley Track - Rarity Value/Spirit of the Place

Spatial/New Social Uses - Spirit of the Place

Timber Roof Structure - Rarity Value

Flexibility & Repetition - Use Value

Enclosure by Wall - Historical & Age Value

Imperial Character - Historical Value
How to re-establish connectivity between buildings through the trolley path? Do you keep the system visible and/or working or the tracks are enough to tell the story of the place?
How to open-up the space to the public, while maintaining its enclosure character that reflects the former use?
Dilemmas

How do you maintain openness and flexibility while densifying the complex so as to address the needs of the growing population in Bandung? What is the inbetween space?
Dilemmas

How do you meet the requirements for the new uses, while maintaining the original roof structures?

What is the approach for roof structures that already have interventions?
Design Strategy
Strategy

Existing site
Existing plastic collection activities moved to another transformation point that focuses on waste management
New green belt in front of the complex
The area is directly connected to the new tram line
Need to create side routes, in order to be able to transfer goods to all the buildings
Structures that need to be removed/ altered
interventions in units where value is lost in-between existing walls - inside
interventions in units where value is lost in-between existing walls - inside
interventions in the in-between zones - outside
DNA of the space
formation of 4 primary units
main functions

Design Strategy

Recreational
Unit

Day-Care

Educational
Unit

Existing
Creative
Community
redefined circulation
central axis
central entrance points
enhance the climatic condition of the complex through the central axis

rainwater harvesting
Interventions
Ambition

**Architectural Scale**

- Involve people in the process of making
- Upgrade existing heritage buildings
- Encourage respect for vernacular principles
- Be climate responsive
- Use locally found materials
- Design for disassembly
Types of programmes

“in-between” existing walls

- enclosed space
- covered space
- open space
Type of programme

enclosed space
Recreational unit
Recreational unit

A safe place for after school activities

C-Mine, Belgium
(1000.0 m²)

Het Wilde Westen, The Netherlands

Arquipélago – Contemporary Arts Centre, Portugal
(600 m²)

multipurpose space

events  music performances  dance performances  theater  screening
Recreational unit

A safe place for after school activities

Streetmekka Viborg Build, Denmark (3170.0 m²)

Musholm, Denmark (3200.0 m²)
Recreational unit
Recreational unit
Recreational unit

enclosed space
Recreational unit

**enclosed space**

“box” structures

- structural engineered bamboo in natural color
- bamboo acoustic panels
- colored acoustic panels
- sound absorbing polycarbonate panels from reused material
Recreational unit

enclosed space

“box” structures
Recreational unit

*enclosed space*

“box” structures
Recreational unit

enclosed space

“box” structures
Recreational unit
Recreational unit
Recreational unit
Recreational unit

“a place to gather”
Recreational unit

“a place to gather”
Recreational unit

“a place to gather”
Type of programme

covered space
Urban farm
Urban farm

A place to generate income

Regen Villages, The Netherlands
Malmö Saluhall, Sweden
Urban farm
Urban farm
Urban farm
Urban farm

“a place to gather”
Type of programme

open space
Day-Care & Educational Unit
Day-Care & Educational Unit

open space
Day-Care & Educational Unit

open space

INTEGRATED SOLAR PANELS

BAMBOO ROOFING

BAMBOO CONSTRUCTION WITH TRADITIONAL BAMBOO CONNECTIONS WITH DOWELS & ROPE

GALVANIZED STEEL BRACKETS ATTACHED TO THE CONCRETE BASE

BAMBOO FLOORING

REUSED TIRES FOR FLOODING PROTECTION

CONCRETE BASE
Day-Care & Educational Unit

open space

- solar pv panels
- bamboo poles 50mm
- metal mesh for rain chain
- epdm layer
- bamboo poles 80mm for roofing
- bamboo structure
Day-Care & Educational Unit

open space

- bamboo pole 150mm for rain protection
- integrated solar pv panels
- bamboo poles 50mm
- epdm layer
- bamboo poles 80mm for roofing
- bamboo structure
Day-Care

A place for the community

Galaxen Day-Care Center, Denmark
(1300.0 m²)

0-3 years old
3-6 years old
6-12 years old

play area
reading corner
common room

KM Kindergarten and Nursery, Japan
(1.244m²)

0-3 years old
3-6 years old
6-12 years old

play area
reading corner
commom room
kitchenette
sleeping area
staff meeting room
storage space
toilets

Act for Kids, Australia

0-3 years old
3-6 years old
6-12 years old

play area
reading corner
common room
kitchenette
sleeping area
staff meeting room
storage space
toilets
Day-Care
Day-Care
Day-Care
Day-Care

“a home for the community”
Day-Care

“a home for the community”
Day-Care

“a home for the community”
Educational unit

A place to learn & to develop skills

Curra Community Hall, Australia
(1300.0 m²)

Hubba-to, Thailand
(989 m²)

Sopoong-gil Community, South Korea
(300 m²)

- Library stacks
- Reading corners
- Workshop area
- Individual studios
- Storage space
- Meeting rooms
- Coffee shop
- Toilets
Educational unit
Educational unit
Educational unit
Educational unit
Educational unit
Educational unit

“a place to meet & learn”
"a place to meet & learn"
Educational unit

“a place to meet & learn”
Educational unit

“a place to meet & learn”
Educational unit

“a place to meet & learn”
Impact of the project

a showcase for the city
of how the colonial legacy can be transformed to serve societal needs

an influence for locals
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an inspiration
by providing an experience of vernacular craftsmanship and locally found materials
Ambition

PROGRAM
Bottom-up project that focuses on people & their development

DESIGN

HERITAGE
Re-use & create something new

TECHNOLOGY
Performance & Innovation
THANK YOU!