HERITAGE BASED ADAPTIVE REUSE OF HOTEL SWARHA

A SUSTAINABLE ALTERNATIVE FOR SHOPPING, USING PASSIVE CLIMATE TECHNIQUES, IN THE CITY CENTER OF BANDUNG

TU DELFT, AE GRADUATION STUDIO 21, 2018-2019

MARY LOU V/D BERG
MLVANDENBERG@STUDENT.TUDelft.NL
4214420

TUTORS
ARCHITECTURE: MO SMIT
RESEARCH: ERIC VAN DEN HAM
BUILDING TECHNOLOGY: PADDY TOMESSEN

P5 PRESENTATION
DATE: 12.07.19
STORY LINE

1. INTRODUCTION
   - CONTEXT & CHARACTER
   - CHALLENGES OF THE AREA
   - CHOSEN BUILDING
   - RESEARCH & DESIGN QUESTION

2. STRATEGIES
   - PROGRAM
   - RESEARCH
   - URBAN DESIGN
   - ARCHITECTURAL DESIGN

3. IMPLEMENTATION
   - URBAN DESIGN
   - ARCHITECTURAL DESIGN
   - BUILDING TECHNOLOGY
   - PROGRAM

4. IMPACT
   - ON URBAN SCALE
   - ON ARCHITECTURAL SCALE
   - ON BUILDING TECHNOLOGY
   - ON SOCIAL SCALE
INTRODUCTION
CONTEXT BANDUNG
CONTEXT HISTORICAL CITY PROFILE

RICH HISTORY IN TRADING
PARIS OF JAVA
HISTORICAL CITY PROFILE

COMMERCE HISTORY

TEXTILE FACTORIES

BIG MALLS

GROWTH OF TEXTILE INDUSTRY

LARGE FACTORIES APPEAR IN THE OUTSKIRTS OF THE CITY

FAST FASHION

BIG MALLS POP UP IN THE CITY CENTRE
60% OF BANDUNG CITIES POPULATION IS UNDER 40

ECONOMY DRIVES I.A. ON TEXTILE INDUSTRY & COMMERCE

(City of Bandung, 2015a)
URBAN STRATEGY DEVELOPMENT ALUN ALUN

1950
URBAN STRATEGY DEVELOPMENT ALUN ALUN

1990
CONTEXT URBAN PROGRAM

MAIN ACTIVITIES

FOOD
RELIGION
RETAIL
COMMERCE

River
Public Buildings
Food
Commerce & Malls
Retail
Housing
Public square
CONTEXT URBAN PROGRAM

MAIN ACTIVITIES

FOOD
RELIGION
RETAIL
COMMERCE

PASAR BARU MARKET
CHINA TOWN & TEXTILES
QUALITY TAILORS
FOOD MARKET
MOSQUE & ALUN ALUN
NEW MALLS

River
Public Buildings
Food
Commerce & Malls
Retail
Housing
Public square

N
1.2500
CHALLENGES
OF THE AREA
CHALLENGE 1 QUANTITY OVER QUALITY
OPPORTUNITY RECONNECT DISCIPLINES

DESIGN ➔ FABRICATION ➔ RETAIL ➔ TRASH
OPPORTUNITY RECONNECT DISCIPLINES
CHALLENGE 2 VACANT HISTORICAL BUILDINGS
OPPORTUNITY RE-USE HERITAGE
CHALLENGE 3 UNSUSTAINABLE BUILDINGS
OPPORTUNITY RE-VALUATE PASSIVE CLIMATE SYSTEMS
OPPORTUNITY HOTEL SWARHA
PERFECT EXAMPLE OF ABANDONED HERITAGE
HOW TO REUSE HERITAGE IN A SUSTAINABLE WAY?
CHALLENGE OVERVIEW

CENTER OF BANDUNG

HOSTILE SHOPPING AREA

DISCONNECTED, UNSUSTAINABLE BUILDINGS

QUANTITY OVER QUALITY
CHALLENGE OVERVIEW

CENTER OF BANDUNG

CONTEXT

TECHNIQUE

PROGRAM
HOW TO REVITALIZE THE URBAN CONTEXT OF THE CITY CENTER?

HOW TO REUSE EXISTING HERITAGE & CLIMATE SYSTEMS?

HOW TO REDEFINE THE CONNECTION BETWEEN DESIGN, PRODUCTION AND CONSUMPTION OF THE TEXTILE INDUSTRY?
CHALLENGE DESIGN QUESTION

REVITALIZE
URBAN CONTEXT

REUSE
PASSIVE TECHNIQUES

REDEFINE
PROGRAM
VISION

REVITALIZE THE URBAN AREA

A SUSTAINABLE ALTERNATIVE FOR SHOPPING,

(RE)USING PASSIVE CLIMATE TECHNIQUES,

SUPPORTING THE LOCAL FASHION INDUSTRY
2 STRATEGIES
STRATEGIES

PROGRAM

RESEARCH

URBAN DESIGN

ARCHITECTURAL DESIGN
STRATEGY
OF THE PROGRAM
PROGRAM STRATEGY DRIVERS

FASHION COMMUNITY

- Tutors
- Craftsman
- Students
- Business owners
PROGRAM STRATEGY FASHION COMMUNITY

EDUCATION

- Incubates small businesses
- Formal and informal transfer of knowledge
- Focus on sustainability

PRODUCTION

- Promotes creativity in both tradition and innovation
- Use of local and reused materials

CONSUMPTION

- Gives stage to produced materials
- Makes ideas (plans) into profit
PROGRAM STRATEGY
FASHION COMMUNITY

EXPERTS

Tutors

Managers

Craftsmen

Students

Business owners
PROGRAM STRATEGY FASHION COMMUNITY

Tutors

EXPERTS

Managers

Craftsmen

Students

Business owners
PROGRAM STRATEGY FASHION COMMUNITY

- Tutors
- Students
- Business owners
- Managers
- Experts
- Craftsmen
STRATEGY
THEMATIC RESEARCH
Which passive climate techniques found in shared heritage architecture have been forgotten?
RESEARCH STRATEGY

RESEARCH QUESTION

Which passive climate techniques found in shared heritage architecture have been forgotten?

How can these passive design strategies be technologically reused or climatologically adapted to meet contemporary norms for thermal comfort?
RESEARCH STRATEGY MICRO CLIMATES

a. Urban climate on regional scale

b. Urban climate on local, neighborhood scale

c. Urban climate on micro scale

d. Climate on building scale

(modified from Oke, 1997)
RESEARCH STRATEGY TROPICAL MODERNISM

THE NEW INDIES

Meclaine pont
ITB Bandung University
1920

TROPICAL ART DECO

Wolff Schoemaker
Hotel Preanger
1927

INTERNATIONAL STYLE
NIEUWE BOUWEN

A.F. Aalbers
Savoy Homann Hotel
1939

(INSPRITED ON)
NIEUWE BOUWEN

Unknown
Hotel Swarha
± 1950
RESEARCH STRATEGY TROPICAL MODERNISM

THE NEW INDIES
Meclaine pont
ITB Bandung University
1920

TROPICAL ART DECO
Wolff Schoemaker
Hotel Preanger
1927

INTERNATIONAL STYLE
NIEUWE BOUWEN
A.F. Aalbers
Savoy Homann Hotel
1939

(INSPRIED ON)
NIEUWE BOUWEN
Unknown
Hotel Swarha
± 1950
RESEARCH STRATEGY TROPICAL MODERNISM
RESEARCH STRATEGY RULE OF THUMB

(Wolfgang Lauber, 2005)
CONCLUSION OF CASE STUDIES
ON PASSIVE CLIMATE DESIGN

PARALLEL FLOOR PLAN

WET FUNCTIONS SEPARATE

HIGH CEILINGS

BIG OPEN-ABLE WINDOWS

COOLING INCOMING AIR:
SHADED BALCONY & VEGETATION
URBAN STRATEGY CHARACTERISTICS

MAIN ACTIVITIES

RELIGION
RETAIL
COMMERCE
URBAN STRATEGY CHARACTERISTICS

HOTEL SWARHA

ALUN ALUN & GREAT MOSQUE

HIGH QUALITY TAILORS
URBAN STRATEGY AMBITION

EXPAND URBAN SPACE
CONNECT FAST FASHION & QUALITY TAILORS
URBAN STRATEGY CURRENT SITUATION
URBAN STRATEGY REMOVE BLOCKADES
URBAN STRATEGY

VISIBILITY
URBAN STRATEGY NEW STRUCTURE & BRIDGE
URBAN STRATEGY ACCESSIBILITY
URBAN STRATEGY VITAL SHOPPING AREA
URBAN STRATEGY AMBITION
RE-INTRODUCE PASSIVE CLIMATE SYSTEM
BUILDING STRATEGY
INTERVENTIONS

RENOVATE EXISTING
BUILDING STRATEGY INTERVENTIONS

NEW STRUCTURE

RENOVATE EXISTING
BUILDING STRATEGY INTERVENTIONS

ADD COURTYARD

NEW STRUCTURE

RENOVATE EXISTING
BUILDING STRATEGY INTERVENTIONS

- Add Courtyard
- New Structure
- New Bridge
- Renovate Existing
BUILDING STRATEGY INTERVENTIONS

- NEW ROOF
- ADD COURTYARD
- NEW STRUCTURE
- NEW BRIDGE
- RENOVATE EXISTING

BUILDING STRATEGY
INTERVENTIONS
BUILDING STRATEGY

AMBITION

REUSE
TECHNIQUE

+  

REDEFINE
PROGRAM

=  

REVITALIZE
CONTEXT

SHOWCASE
3 IMPLEMENTATION
IMPLEMENTATION

URBAN DESIGN

ARCHITECTURAL DESIGN

BUILDING TECHNOLOGY

PROGRAM
URBAN CHANGE
IMPLEMENTATION URBAN DESIGN
IMPLEMENTATION URBAN DESIGN
URBAN DESIGN STREET VIEW
URBAN DESIGN PLINTH
BUILDING EXISTING FOUNDATION
BUILDING EXISTING LEVELS
BUILDING EXISTING ROOF
BUILDING INTERVENTIONS
BUILDING INTERVENTIONS

OPEN UP STAIRS

DOUBLE HEIGHT FLOOR
BUILDING INTERVENTIONS

- Add Courtyard
- Open Up Stairs
- Double Height Floor
BUILDING INTERVENTIONS

- Replace roof
- Add floor
BUILDING NEW FOUNDATION
BUILDING NEW PAVEMENT
BUILDING WOODEN FLOORS
BUILDING STRUCTURAL STAIRS
BUILDING ROOF STRUCTURE
BUILDING WINDOWS & COURTYARD
IMPLEMENTATION ARCHITECTURAL DESIGN
IMPLEMENTATION ARCHITECTURAL DESIGN
IMPLEMENTATION ARCHITECTURAL DESIGN
ARCHITECTURAL DESIGN COURTYARD
ARCHITECTURAL DESIGN ROOF
IMPLEMENTATION

RESEARCH
&
BUILDING TECHNOLOGY
IMPLEMENTATION BUILDING TECHNOLOGY

1. SOLAR PANELS
2. NEW, OPEN STRUCTURE
3. WATER BUFFER & COLLECTOR
IMPLEMENTATION BUILDING TECHNOLOGY
IMPLEMENTATION BUILDING TECHNOLOGY
IMPLEMENTATION

PROGRAM
IMPLEMENTATION PROGRAM
FASHION COMMUNITY

Tutors

Craftsmen
4
IMPACT
IMPACT
ON URBAN LEVEL
IMPACT URBAN LEVEL

1. VISIBILITY & ACCESSIBILITY
2. EXTEND PUBLIC SPACE
3. MICRO CLIMATE
IMPACT

ON ARCHITECTURAL LEVEL
IMPACT ARCHITECTURAL LEVEL

1. PLINTH

2. ROOF

3. OPEN STRUCTURE
IMPACT ON SOCIAL LEVEL
IMPACT SOCIAL LEVEL

GROUND FLOOR
1. GENERATING WORK

SECOND FLOOR
2. SHARING KNOWLEDGE

FOURTH FLOOR
3. STIMULATING INNOVATION IN FASHION INDUSTRY
IMPACT SUPPORT FASHION COMMUNITY

- Tutors
- Students
- Business owners
- Managers
- Craftsmen
IN CONCLUSION
VISION

REVITALISE THE URBAN AREA

A SUSTAINABLE ALTERNATIVE FOR SHOPPING,

(RE)USING PASSIVE CLIMATE TECHNIQUES,

SUPPORTING THE LOCAL FASHION INDUSTRY
BUILDING STRATEGY AMBITION

REUSE
TECHNIQUE

REDEFINE
PROGRAM

REVITALIZE
CONTEXT

SHOWCASE
IN CONCLUSION
TERIMA KASIH

THANK YOU FOR LISTENING