THE FUTURE ZOO

Developing a method for sustainable exotic wildlife exhibition within the urban environment

Adam and Eve in the Garden of Eden, by Peter Wenzel
THE ZOO

PLACE FOR ALL PEOPLE

CONNECT PEOPLE AND URBAN LIFE WITH EXOTIC NATURE AND WILDLIFE

PART OF CITIES SOCIO-ECONOMIC LIFE

SOURCE: J. GOLLINGS
NEED FOR CHANGE
ETHICAL CONCERN ABOUT CAPTIVITY

‘ZOO ANIMALS LIVE UNDER CONDITIONS OF STRESS, DEPRESSION, FRUSTRATION AND BOREDOM’

EXOTIC ANIMALS BELONG IN THE WILD NOT IN ZOOS.
THE MAGNITUDE OF OUR HUMAN INFLUENCE ON THE NATURAL WORLD IS ENORMOUS

HABITAT DISTRUCTION, BIODIVERSITY LOSS, CLIMATE CHANGE, DEFORESTATION
**INTRODUCTION**

**PROBLEM-STATEMENT**

- ETHICAL ISSUE
- ECOLOGICAL STRESS
- VISITOR DEMANDS
- FINANCIAL SUPPORT

**ANALYSIS**

- URBAN ENVIRONMENT
- SPATIAL ARRANGEMENT

**SYNTHESIS**

- EDUCATION
- RESEARCH
- CONSERVATION
- RECREATION

**APPLICATION**
Challenge for zoos today is to transform themselves into future wildlife institutions enjoyable for both animal and visitor meanwhile having a viable place within the urban environment.
WHAT IS A SUSTAINABLE METHOD FOR EXOTIC WILDLIFE EXHIBITION WITHIN THE URBAN ENVIRONMENT OF THE FUTURE?
WHAT ARE THE REASONS AND METHODS THE EXHIBITION OF EXOTIC WILDLIFE IN CITIES HAS DEVELOPED?

HOW CAN WE DESCRIBE TYPE OF ZOOS NOWADAYS BASED ON THE DIFFERENT BASIC ELEMENTS AND FUNCTIONS IN OUR URBAN ENVIRONMENT?

WHAT ARE THE POTENTIALS FOR THE ZOO IN OUR FUTURE URBAN ENVIRONMENT?
INTRODUCTION

RESEARCH APPROACH

ANALYSIS

SYNTHESIS

APPLICATION

Data Collection
- Zoo maps
- City maps
- Infrastructure maps
- Historical maps
- Historical images
- Numbers and figures
  - Founding date
  - Visitor numbers
  - Number animals
  - Number of species etc.

Additional data
- Comparison studies
- Mapping Analysis
  - Land use
  - Exhibits
  - Borders
  - Edges
  - Accessibility
  - Space syntax etc.
- Observations
  - Fieldtrips
  - Google street view
  - Youtube Zoo vlogs
- (Online) lectures
- Zoo Trends Analysis
- Urban Trends Analysis

Analysis

Literature
- Zoo History
- Exhibit Design
- Zoo Architecture
- Disneyfication
- Animal Welfare
- Conservation Policy
- Ethic of wildlife captivity

Synthesis

Zoo Analysis Model
Guidelines Future Zoo
Requirements Future Zoo
Opportunities Future Zoo

Application

Future Zoo Design Principles
Case Study Future Zoo
WHAT WILL THE FUTURE ZOO LOOK LIKE?
ANALYSIS
UNDERSTANDING THE ZOO

OBJECTIVES

URBAN FABRIC

SPATIAL ARRANGEMENT
OBJECTIVES
STATUS

SYMBOL OF POWER

DIPLOMATIC GIFTS

LUXURY
CONSERVATION
CONSERVATION AND EDUCATION MOST IMPORTANT OBJECTIVES FOR THE FUTURE ZOO
URBAN FABRIC
INTRODUCTION

URBAN POSITIONS

ANALYSIS

SYNTHESIS

APPLICATION

CENTRE
ARTIS
AMSTERAM

URBAN
DIERGAARDE BLIJDORP
ROTTERDAM

EDGE
BURGERS ZOO
ARNHEM

RURAL
BEEKSE BERGEN
TILBURG

FOUR URBAN LOCATIONS
MORE URBAN ZOOS RECEIVE MORE VISITORS
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URBAN FABRIC CONNECTIONS HAVE WEAKEND
ACCESSIBILITY

LOCAL INTEGRATION

CAR

PUBLIC TRANSPORT

POTENTIAL MARKET

ACCESSIBILITY IS KEY FOR THE ZOO
EDGE

TRANSPARENCY

URBAN CONNECTION

PARK STRUCTURE

ZOO IS GATED COMMUNITY WITHIN THE URBAN FABRIC
MIXED FUNCTIONS

CITY CENTRE CONNECTION

OPENING HOURS

SHARED URBAN FUNCTIONS

MIXED FUNCTION OCCURS LIMITEDLY, LOTS OF POTENTIAL
SPATIAL ARRANGEMENT
CAGE BARRIER
NATURALISTIC BARRIER
IMMERSION EXHIBIT
INTRODUCTION

SPACE ALLOCATION

ANALYSIS

Amsterdam Zoo

Rotterdam Zoo

Arnhem Zoo

SYNTHESIS

APPLICATION

people space

animal space

MOST SPACE ALLOCATED FOR PEOPLE
SPATIAL ARRANGEMENT

EXHIBIT ANIMAL PERSPECTIVE

LAYOUT

EXHIBIT HUMAN EXPERIENCE
SYNTHESIS
ZOO TOOL
EVALUATION ROTTERDAM ZOO USING THE ZOO TOOL
NEW TECHNOLOGY
VIRTUAL REALITY, DIGITALIZATION

EXHIBITS
ROTATION EXHIBITION
UNZOO

ANIMAL WELFARE
ENRICHMENT

QUALITY OF LIFE
ESCAPE FROM BUSY URBAN LIFE

INTEGRATION OF PEOPLE
INDIVIDUALIZATION, SEGREGATION
EVALUATION DUTCH ZOOS

INTRODUCTION

EVALUATION DUTCH ZOOS

ANALYSIS

SYNTHESIS

APPLICATION

EVALUATION DUTCH ZOO USING THE FUTURE ZOO TOOL
# GUIDELINES FUTURE ZOO

## EDUCATION

- A trip to the zoo is a biology class

## RECREATION

- The zoo is an adventures experience into the wild

## RESEARCH

- The zoo is a living laboratory

## CONSERVATION

- Breeding centres for endangered animals

## LAYOUT

- People encaged
- Different routes of exploring the zoo

## EXHIBITS

- Ecozones, Multi-Species ecosystems
- Rotation exhibition

## ANIMALS

- Iconic ambassador animal per biozone
- Adjust collection to in-situ conservation work

## ATTRACTIONS AND FACILITIES

- Mix between city and zoo attractions/facilities

## URBAN FABRIC

- Blur edge of the zoo and urban environment
- Cooperate city function within or on the edge of the zoo
- Zoo is a public park

## PEOPLE

- Attract different kind of visits
APPLICATION
RECREATING GARDEN OF EDEN IN THE CITY?
EDUCATIONAL AND CULTURAL URBAN PARK ZOO
MEASURE FOR FUTURE ZOO ROTTERDAM

+ facilities for interactive and personalised methods of education
+ separately accessible educational facilities
+ research station or laboratory
+ microtropia or insect house
+ introduce rotation exhibition
+ large indoor facilities (for animals that are form another climate)
+ introduces rides or other special manners to explore the biozones
+ Order animals by ecosystem
+ multiple iconic animal per biozone
+ unzoo exhibition method for biozones
+ integrate zoo in Rotterdam park structure
+ create new and connect biotopes with park structure
+ add multiple (cultural) urban function on edge zoo urban fabric, at least one per biozone
+ make areas separate accessible and usable of 24/7 use possibilities
+ zoo infrastructure should create new links with the urban environment and different urban environments with each other.
FUTURE ZOO
ROTTERDAM
PROJECT SITE
CONNECTING GREEN STRUCTURES
CONNECTING LOCAL INFRASTRUCTURE
CONNECTING RING
SEPARATE ZOO BIOZONES ON RING
URBAN FUNCTION AND HOUSING AROUND RING AND BIOZONES
AUSTRALIAN WETLANDS

CONGO BASIN

SOUTHERN OCEANS

AMAZON

SUMATRA & BORNEO

MADAGASCAR

RIFT VALLEY GRASSLANDS

FUTURE ZOO VISIT
INTRODUCTION

BIOZONE AFRICA

ANALYSIS

SYNTHESIS

APPLICATION

Biozone Africa

route 1

route 2

non-predators

preditors
SITE BIOZONE AFRICA SAVANNA
FREE ROAMING (LARGE) ANIMALS

LOCAL VEGETATION

LARGE ECOZONE
DANGEROUS ANIMALS

(PREDATOR) ENCLOSURES
INTRODUCTION

BIOZONE AFRICA

ANALYSIS

SYNTHESIS

APPLICATION

ROTATION CANALS

ENCLOSURE LINKS
INTRODUCTION
BIOZONE AFRICA

ANALYSIS

SYNTHESIS

APPLICATION

WALKING PATHS

VISITOR WALKING PATHS
SAFARI PODS

SPECIAL ROUTE
ZOO BUILDINGS
ARTIFICIAL LANDMARK

THE ROCK
325 APARTMENTS
COMMUNITY ROOF GARDEN
500 HOTEL ROOMS
CONCERT HALL
2 THEATRE ROOMS
3 LECTURE ROOMS
SKYBAR

LOCAL VEGETATION

URBAN FUNCTIONS
INTRODUCTION

ANALYSIS

SYNTHESIS

APPLICATION

THE ROCK

ECOZONE ETHIOPIAN HIGHLANDS

ENTRANCE SQUARE

ZOOM-IN OUTSIDE ROCK
ZOOM-IN ROTATION CANALS
CONCLUSION
A LOT IS POSSIBLE, BUT NOT EVERYTHING