COOPERATIVE URBAN AGRICULTURAL AUCTION ALAMAR

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SUMMARY

- Manifesto: Transforming Alamar into a Resilient Community

- Urban Agriculture as main potential and catalyst for the further development of a local community-driven sustainable economy in Alamar, and for Alamar as a vital component in a larger regional network of Havana

- Development of Urban Agriculture in danger, mainly as a result of the single-sided support approach by the state and a failing centralized distribution system that offers little food security, material incentives and marketing opportunities

- Facilitating the decentralization and re-urbanization of the Cuban food economy by introducing a new economic platform for distribution and marketing of urban agricultural products

- Project: Cooperative Urban Agricultural Auction Alamar

- Ambition: Creating a resilient, sustainable, community-based local food economy
PRESENTATION STRUCTURE

- Introduction
- Alamar & Havana Potentials
- Site
- Program
- Urban Design
- Building Design
- Conclusion
INTRODUCTION
USA ownership and control dominant in Cuba’s politics and economic sectors.

American-style suburban paradise ‘Plan El Olimpo’
Nationalization and socialization of society and economic sectors. USA embargo results in new economic dependence on ideological partner USSR.

Fidel’s revolutionary army overthrows Batista.
CUBA

Fidel’s revolutionary army overthrows Batista

1898 - 1959

ALAMAR

Alamar isolated from the rest of Havana. Out of necessity the vacant areas of the unfinished urban fabric are cultivated to ensure the local food security

1989 -

Loss of economic support and import-export market results in collapse national economy, creating a severe scarcity in gasoline, food and materials

1959 - 1989
A HISTORY OF EXTREMES

CUBA

- Start of decentralization and privatization of politics and economy and the reinforcement of international relations
- Fidel’s revolutionary army overthrows Batista

1898 - 1959

TRIUMPH OF THE REVOLUTION

- Collapse of Soviet Block
- Economic reforms

1959 - 1989

SPECIAL PERIOD

- Alamar frontrunner in sustainable urban agriculture, but also referred to as ‘City of Dreams’

1989 - 2011

?
PROBLEM STATEMENT MANIFESTO

Cuba is on the brink of yet another *drastic political and economic change*

**RISKS**

**CUBA**

Transition of *political and economic power* from centralized state system to *foreign capital* instead of the Cuban people

**ALAMAR**

Neglection and degradation of neighbourhoods unattractive for foreign investment
Cuba is on the brink of yet another drastic political and economic change

**RISKS**
- Transition of political and economic power from centralized state system to foreign capital instead of the Cuban people
- Neglection and degradation of neighbourhoods unattractive for foreign investment

**STRATEGY**
- Offering platforms for public economic and political initiative and participation to fill the gap left by the state
- Exploit the local potentials to create a resilient community, while strengthening its value for the Havana urban region
ALAMAR POTENTIALS
ALAMAR STRATEGY

- Professional level of Urban Agricultural practice
- Position Alamar within the Havana region
ALAMAR POTENTIAL

Alamar is a frontrunner in *Sustainable Urban Agriculture*

- Ensuring the **local food security**
- Providing **employment** and social benefits
- Important centers of **social community life**
- **Vivero**: center of UA research and innovation
- Promotion and support of farming and **healthy**
- **Catalyst** for local entrepreneurship
ALAMAR POTENTIAL

Local processing and retail of agricultural produce

- THE ORGANOPÓNICO STAND
- THE SUGARCANE WORKSHOP
- THE SELF-BUILT SHOP
- THE MOBILE SHOP
- THE STATE-RUN SHOP
- THE FARMERS’ MARKET

- Ensure the accessibility to a varied selection of high quality fresh products
- Provide employment and extra income
- The most vibrant centers of social community life
- Directly linked to local production activities
ALAMAR POTENTIAL

Local *processing* and *retail* of agricultural produce

- **THE ORGANOPÓNICO STAND**
- **THE SUGARCANE WORKSHOP**
- **THE STATE-RUN SHOP**
- **THE SELF-BUILT SHOP**
- **THE FARMERS’ MARKET**

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- The most vibrant centers of social community life
Havana Region Potential

Alamar as endpoint of Havana’s Agricultural Belt and centre of Havana del Este
HAVANA REGION POTENTIAL

Havana has a **total area of ±72.826 ha**, with a **cultivated area of ±35.900 ha**

- 5 agricultural enterprises, which manage about 700 crop farms, 170 cattle farms, 27 tree production units, 2 pig and livestock production companies and 29 agricultural cooperatives
- 97 high-yielding organopónicos and 318 intensive gardens, which can achieve yields of up to 20 kg/m²
- 89,000 household gardens and 5,100 popular gardens cultivated by local inhabitants
HAVANA REGION POTENTIAL

Production provides in 70% of all fresh vegetables consumed in Havana

- WHO and FAO recommend a minimum of 400gr of vegetables and fruits per day
- Havana has a population of 2.2 million people, requiring 321,200 tonnes of fresh produce a year
- Currently, Havana’s UA production in Havana can provide in 25% of the cities recommended consumption
HAVANA REGION POTENTIAL

Urban Agricultural production widespread, state-supported and institutionalized

MAIN STRUCTURE

SUPPORT STRUCTURE

- 26 production sub-programs
- 16 Institutions
- 6 Ministries

Ministry of Agriculture

National Group of Urban and Suburban Agriculture

Provincial Group of Urban and Suburban Agriculture

Municipal Group of Urban and Suburban Agriculture

Urban Farms
- Popular Gardens
- Basic Co-operative Production Units (UBPCs)
- Farms of the State Co-operative Supply Units (CSUs)
- Individual Farms
- State Farms
- Organopónicos
- Intensive Gardens

Veterinary Clinics

Biological Pest-control Centres

Plant Protection Research Institute

Seedling nurseries

Agricultural Consultancy Store

University of Agriculture

Workshop & Seminars

International Conferences

Research centers

Consejo Popular
HAVANA REGION POTENTIAL

Urban Agricultural production widespread, state-supported and institutionalized
PROBLEM STATEMENT

Development of Urban Agriculture in danger

FRAGILE SYSTEM

Scarcity of resources such as tools, materials, machinery, irrigation water and seedlings.

Support by Cuban government has been limited to the urbanization and decentralization of 'production', neglecting the transformation of the food economy as a whole.

Highly centralized food distribution system (Acopio) is inefficient and offers little material incentives and marketing opportunities.
FOOD DISTRIBUTION IN CUBA

PRODUCERS
- State Cooperative Supply Units
- Municipal state-run farms
- Co-operative production units
- Individual farms

MARKETING
- ACOPIO State-run distribution
  - State-run rationing Bodega | Placita
  - State-run non-rationing Tiendas (CUC) | Tiendas (CUP)

CONSUMERS
- Industry
- Export Market
- Public Institutions
- Citizens
- Black Market
FOOD DISTRIBUTION IN CUBA

PRODUCERS

- State Cooperative Supply Units
- Municipal state-run farms
- Co-operative production units
- Individual farms
- Organopónicos & Intensive Gardens
- Popular Gardens

MARKETING

- ACOPEO (State-run distribution)
  - State-run rationing
    - Bodega | Placita
  - State-run non-rationing
    - Tiendas (CUC) | Tiendas (CUP)

CONSUMERS

- Industry
- Export Market
- Public Institutions
- Tourist Industry
- Citizens
- Paladares
- Black Market
- Agricultural Market
- Selling stands
FOOD DISTRIBUTION IN CUBA

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CONSUMERS
- Industry
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- Paladares

ACOPIO State-run distribution
“This is providing a solution to the problem that farmers have been complaining about, that when their harvest surpassed the amount contracted by the government they didn’t have anywhere to market the excess, to sell wholesale.”

- Claudio Sabron, cooperative member of El Trigal
PROBLEM STATEMENT

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**Highly centralized food distribution system** (Acopio) offers little material incentives and public marketing opportunities.

RISKS

**Monopolization** of food economy by foreign capital, due to the inability of the local UA to compete.

**Loss achievements of UA** in terms of food security, local self-sufficiency, employment, social character, community participation, bottom up entrepreneurship and sustainable practice.
How can the introduction of a new economic platform for the distribution and marketing of urban agricultural products protect and facilitate the decentralization, democratization and re-urbanization of Alamar’s local food system?
INTERVENTION PROPOSAL

Cooperative Urban Agricultural Auction Alamar

AMBITION:
Creating a resilient, sustainable, community-based local food economy
INTERRUPTION LOCATION

Why in Alamar?

- **Convenient position** between the regional UA productional areas of Habana del Este and the Havana Agricultural belt on one side, and the densely populated consuming city of Havana on the other side.

- **Accessible for all scales** of both urban and peri-urban agricultural practice

- **Home to internationally most celebrated example of sustainable urban farming and related research:** Organoponico Vivero
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- **Anticipating the future:**
  - Subcentre Havana del Este
  - Connection to the railway network
  - Extension of wholesale network
INTERVENTION LOCATION

- Connection to **local and regional** distribution network
- Connection to **urban and peri-urban** production
- Accessible for both **local individuals** and **regional professionals**
PROGRAM
WHY AUCTION?

Objectives

AMBITION OF PLATFORM

- Facilitating the seemingly inevitable transition to a free market economy
- Transfering economic power from centralized state system to the Cuban public
- Protecting the achievements of the urban agricultural practice

Advocates of locally driven food systems:

“The auction is a promising platform for the aggregation of products and brokering relations between consumer, producer and buyer in a sustainable locally based resilient food economy”
WHY AUCTION?

Characteristics

MAIN CHARACTERISTICS AUCTION

➤ Cooperative organization, by and for the producers, stronger position in market

➤ Small producers can sell in bulk

➤ Not an economic stakeholder, but intermediary between buyers and producers

➤ Social responsibility for long term sustainability of price-forming and a stable balance in the supply and demand

ACTIVITIES AUCTION

➤ Transparent marketing an pricemaking process

➤ Objectivity by quality control of size, weight and quality

➤ Collaboration with institutions specializing in production, selective breeding, processing, research and innovation concerning agriculture

➤ Logistic facilities: collecting, treatment, packaging, distribution

➤ Catalyst for economic opportunities in related sectors

➤ Promotion of agricultural products
PRECEDEINTS

Should Havana follow international modern precedents?

URBAN SCALE

Fresh Food Wholesale Market Chile
Fresh Food Wholesale Market Brazil
Fresh Food Wholesale Market Rome
Fresh Food Wholesale Market Berlin

BUILDING SCALE

Mercabarna Flor Market, Spain
Punjab Fruit & Vegetable Market, India
International Flower Auction Store, India
Taipei Flower Wholesale Market, Taiwan
- **Role market**: logistic sub-urb
- **Food cycle disconnected** from city life
- **Private goals**: major food monopolies control supply and prices
- **Negative impacts**: environmental problems, neglect of animal rights, social inequity, energy consumption, food monopolies, health issues, waste, and fragile food security.
MODERN FOOD ECONOMY

Reflection on the Existing Practice

- Role market: social, political and economic center of urban life.
- Public goals: equal access to food supply at a fair price
- Closed food cycle of production, distribution, marketing, consumption and waste.

PRE-RAILWAY CITY
CONCLUSIONS TYPOLOGY RESEARCH

Main characteristics current practice
CONCLUSIONS TYPOLOGY RESEARCH

Main characteristics current practice

Strategy re-urbanization

DENSIFICATION
A DAY AT THE AUCTION

Research at the Cooperative Horticultural Auction Zaltbommel
PROGRAM AUCTION ALAMAR
Combining Public & Auction Program

AUCTION HALL
MANAGEMENT
FARMERS’ MARKET
WORKERS’ CAFETARIA
DISTRIBUTION

Social Responsibility

Cultural Expression & Education

Densification and Vertical Layering of Program

Center of Public Life & Economic opportunity

Meeting & Community Support

Office
Restrooms
Changing Rooms
Loading Hall
Distribution Hall
Packaging
Cooling Cells
Distribution Hall
Packaging
Loading Hall
Recharge Station

Auto-consumers
Municipal support office
Event & Education
Reception
Conference rooms
Offices
Public Archive
Restrooms
Kitchen
(Cold)store
Office
Restrooms
Changing Rooms
Loading Hall
Distribution Hall
Packaging
Cooling Cells
Distribution Hall
Packaging
Loading Hall
Recharge Station

Eating area
Bar
Restrooms
Information
Storage
Office
Restrooms
Changing Rooms
Loading Hall
Distribution Hall
Packaging
Cooling Cells
Distribution Hall
Packaging
Loading Hall
Recharge Station
DESIGN
URBAN SCALE
SITE
URBAN POSITION

Mapping of site
URBAN POSITION

Local facilities
Building as a transition zone, connecting and creating borders between the “local” and “regional”.
Building orientation perpendicular to prevailing wind direction, to ensure natural ventilation.
Building incorporates and facilitates the characteristics of the surrounding public areas.
Main building elements follow building guidelines for unobstructed lines of sight and circulation.
The Central Public Market physically and symbolically connects the surrounding public areas.

Ankers the building in its urban context.
▶ Main city axis becomes boulevard
▶ Redirection local roads
▶ Local v.s. Regional orientation is translated into central circulation axis of the building
DESIGN
BUILDING SCALE
DESIGN ELEMENTS

Program Distribution

Local
Social Auction

Central
Civic Roof

Regional
Logistic Auction
DESIGN ELEMENTS

CHARACTERISTICS

LANDSCAPE

- Experiencing height differences
- Continuation of surrounding public space

USE

- Exploiting existing height differences in circulation plan

TECHNICAL

- Collection urban runoff storm water
- Concrete slabs, stairs, trees colourful terracotta tiles
DESIGN ELEMENTS

CHARACTERISTICS

LANDSCAPE

- Experiencing height differences
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MARKET

- Hart of building and program
- Public, light, accessible
  "Friendly Monumentalism"
- Visual connection public context
- Multifunctional, temporal
- Physical connection program and surrounding public areas
- Access to basis market facilities
- Providing shelter sun / rain
- Expendable structure
- Lightweight steel structure with prefab glulam rooflights

TECHNICAL

USP

OPERATIONAL CENTER

LANDSCAPE

OPERATIONAL CENTER

MARKET
DESIGN ELEMENTS

CHARACTERISTICS

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BRIDGE

- Vertical extension public landscape
- Connecting local-regional / social-logistic / market-auction
- Rigid, permanent
- Facilitating circulation and flows
- Accomodating supporting facilities public program
- Spatial requirements circulation
- Large panel concrete structure
Experiencing height differences
Continuation of surrounding public space

Exploiting existing height differences in circulation plan

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Vertical extension public landscape
Connecting local-regional / social-logistic / market-auction
Rigid, permanent

Facilitating circulation and flows
Accommodating supporting facilities public program

Spatial requirements circulation
Large panel concrete structure

Privat
Connecting local-regional / social-logistic / market-auction
Rigid, permanent

Logistic-management program
Facilitating flows of fresh produce

Spatial requirements circulation
Conditioned climate
Flexibility
Prefab lightweight concrete panels with terracotta bris soleil
MARKET

Layout Principles Temporary Market

THEATRE SQUARE, ANTWERP

COLBERTA FOTOVOLTICA, FIGUERES

CAAC, CÓRDOBA
MAGNET
Use

- Flexibility
- Practicality

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<tr>
<th>PLUG-IN POINTS</th>
<th>WATER &amp; ELECTRICITY</th>
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<th>VEHICLE</th>
<th>STAND</th>
<th>CIRCULATION</th>
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<th>VEHICLE</th>
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RENT PER STROKE (mL)
MARKET
Program
5850 m²
MARKET
Civic Roof

CHARACTER
▶ Public and accessible
▶ Light and non-oppressive
▶ “Friendly Monumentalism”

CLIMATE
▶ Providing shelter from sun and rain
▶ Daylight
▶ Natural ventilation
▶ Collecting rainwater

STRUCTURE
▶ Autonomous structure
▶ Expandable building system
▶ One repetative prefab element
▶ Light-weight
▶ Easy to transport
CIVIC ROOF

Study Impression
CIVIC ROOF
Critical Element

ARCHITECTURE - STRUCTURE - LIGHT
WATER DRAINAGE - NATURAL VENTILATION
FINAL ROOFLIGHT ELEMENT
ASSEMBLED STRUCTURAL ELEMENT
CIVIC ROOF

Passive climate principle

- Passive cooling strategy
- Urban runoff water
- Water access point market
- Build in light fixtures
- Rainwater storage
- Natural ventilation from dominating wind direction

- Purification
- Irrigation
- Cleaning
- Grey water system
- Passive cooling strategy
CIVIC ROOF

Atonomy
CIVIC ROOF

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CIVIC ROOF

Details Rooflights

- Prefab rainwater gutter
- Glulam box panel 75mm
- Glulam box 30mm
- Maintenance grid
- CFU 140x65x8
- IPE 500
- Installation zone
- Glulam panel 25mm

Prefab rain gutter
Glulam connection panel 50mm
AUCTION
Program

SOCIAL AUCTION
MANAGEMENT - MARKETING - PROMOTION - EDUCATION - CULTURAL EXPRESSION

LOGISTIC AUCTION
LOADING - DISTRIBUTION - QUALITY CONTROL - PACKAGING - STORAGE
AUCTION
Program

SOCIAL AUCTION
MANAGEMENT - MARKETING - PROMOTION - EDUCATION - CULTURAL EXPRESSION

BUYERS' WALK

LOGISTIC AUCTION
LOADING - DISTRIBUTION - QUALITY CONTROL - PACKAGING - STORAGE
AUCTION

Program

SOCIAL AUCTION
MANAGEMENT - MARKETING - PROMOTION - EDUCATION - CULTURAL EXPRESSION

LOGISTIC AUCTION
LOADING - DISTRIBUTION - QUALITY CONTROL - PACKAGING - STORAGE
AUCTION
Climate Design

- Conditioned indoor climate, closed cycle
- Passively cooled as far as possible
- Windtower
Cooling through cooled ventilation air and ceiling cooling
- Mass activation of prefab lightweight concrete facade
- Solar green roof generates energy and provides additional insulation (930 pv panels)
- Terracotta bris soleil protects concrete facade and interior from direct sunlight
AUCTION

Climate Design

- Precooled ventilation air by mass earth
- Mass activation of prefab lightweight concrete facade
- Rooftop farm
- Terra cotta use: bris soleil and acoustic wall
Auction

Terracotta Bris Soleil

- Reference to local building tradition of breeze-blocks
- Protecting concrete facade elements and interior spaces from direct sunlight
- Local, cheap, durable material, representing the soil in which the produce is cultivated
- Privacy screen
- Breaking up blind walls
AUCTION

TERRACOTTA BRIS SOLEIL

COLLECTION FROM STUDIES

Meeting elements

Open v.s. closed

Connection civic roof

Interior

Open v.s. closed

Differentation seams
Auction
Facade Design

“Rib”
“Seam”
“Spine”
STRUCTURAL DESIGN

First floor
STRUCTURAL DESIGN

Second floor
STRUCTURAL DESIGN
Third floor
STRUCTURAL DESIGN

Third floor
STRUCTURAL DESIGN

Fourth floor
STRUCTURAL DESIGN

Fifth floor
STRUCTURAL DESIGN

Fifth floor
CONCLUSION
Summary

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