

# The Vernacular and our current Built-Environment: Part-III

by

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## B. The Vernacular In Contemporary Interpretation

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2. Japan-1: A detached house
3. Japan-2: A social housing complex
4. Japan-3: A city hall

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### 1. Vernacular and the Architects

Architecture designed by professional architects is usually not considered to be vernacular.

**Paul Oliver**, in his book **Dwellings**, states:

"...it is contended that 'popular architecture' designed by professional architects or commercial builders for popular use, does not come within the compass of the vernacular." He also offers the following simple definition of vernacular architecture: "the architecture of the people, and by the people, but not for the people."

**Frank Lloyd Wright** described vernacular architecture as:

"Folk building growing in response to actual needs, fitted into environment by people who knew no better than to fit them with native feeling", suggesting that it is a primitive form of design, lacking intelligent thought, but he also stated that it was "for us better worth study than all the highly self-conscious academic attempts at the beautiful throughout Europe".

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(Source: Wikipedia, the free encyclopedia)

Since at least [the Arts and Crafts Movement](#), many modern architects have studied vernacular buildings and claimed to draw inspiration from them, including aspects of the vernacular in their designs.

In 1946, the Egyptian architect [Hassan Fathy](#) was appointed to design the town of New Gourni near Luxor. Having studied traditional Nubian settlements and technologies, he incorporated the traditional mud brick vaults of the Nubian settlements in his designs.

The experiment failed, due to a variety of social and economic reasons, but is the first recorded attempt by an architect to address the social and environmental requirements of building users by adopting the methods and forms of the vernacular.

(Source: Wikipedia, the free encyclopedia)

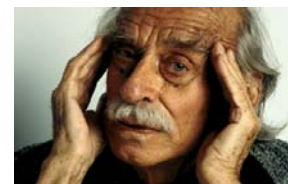
In 1964 the exhibition [Architecture Without Architects](#) was put on at the Museum of Modern Art, New York by [Bernard Rudofsky](#).

Accompanied by a book of the same title, including black-and-white photography of vernacular buildings around the world, the exhibition was extremely popular.

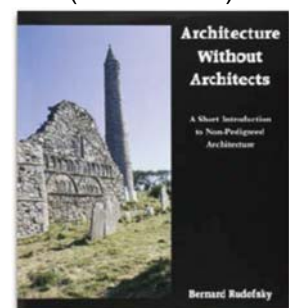
It was [Rudofsky](#) who first made use of the term vernacular in an architectural context, and brought the concept into the eye of the public and of mainstream architecture:

"For want of a generic label we shall call it vernacular, anonymous, spontaneous, indigenous, rural, as the case may be."

Since the emergence of the term in the 1970s, vernacular considerations have played an increasing part in architectural designs, although individual architects had widely varying opinions of the merits of the vernacular.



(1905~1988)



(Source: Wikipedia, the free encyclopedia)

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### Zones

**Northern Zone (1, 2, 3, 4)**  
HDD: D<sub>18-18</sub> > 3,000

**Intermediate Zone (5, 6)**  
HDD: D<sub>18-18</sub> = 1,500 ~ 3,000

**Southern Zone (7, 8)**  
HDD: D<sub>18-18</sub> < 1,500

### Cities

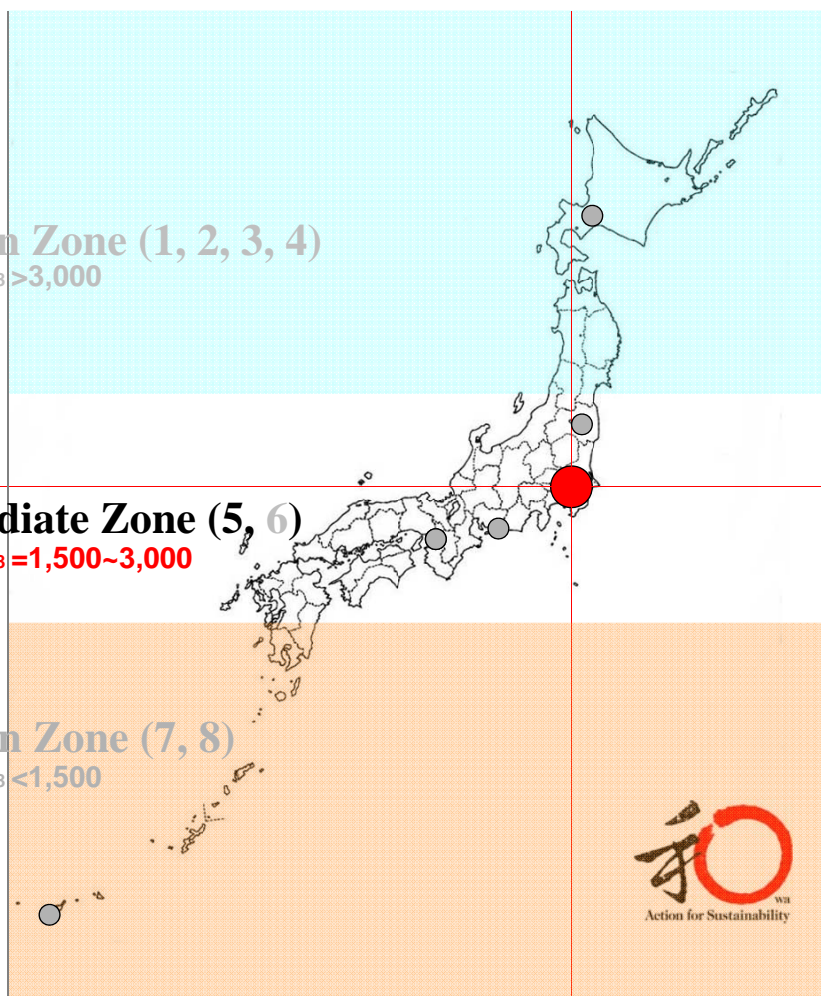
Sapporo

Sukagawa

**Saitama**  
Tokyo

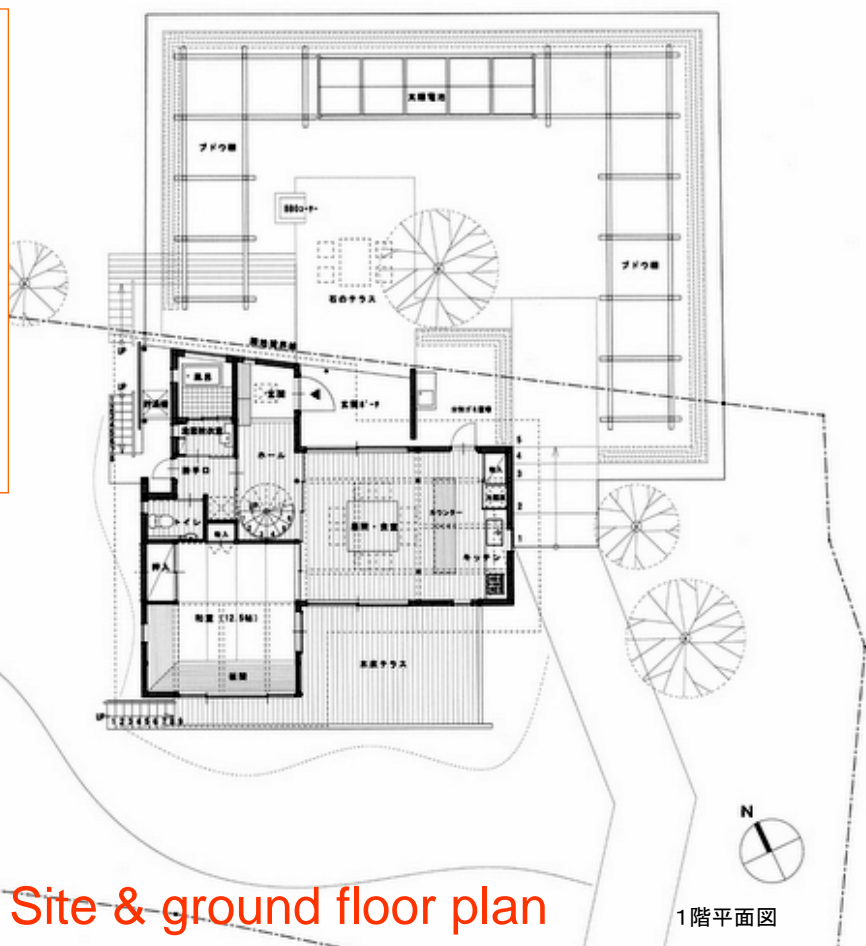
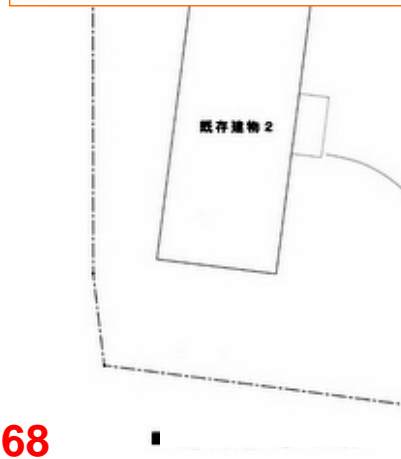
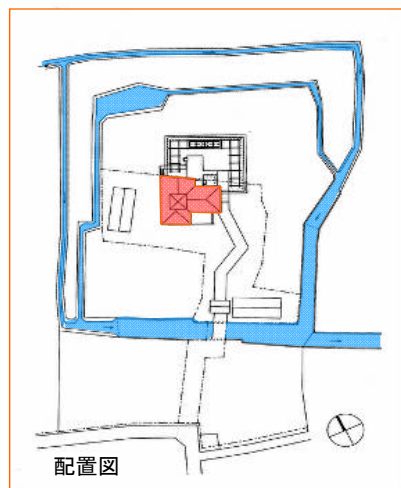
Yokosuka  
Atsugi  
Hamamatsu  
Osaka

Itoman



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Overall View



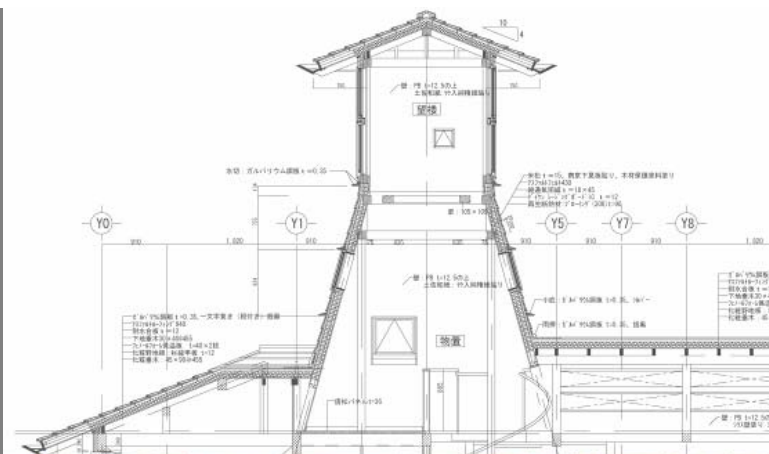
Site Layout



Interior View



Sectional Detail of the Outlook Tower



Upward view of the Outlook Tower



Inter-related Internal Spaces



Lower Opening for Day-lighting & Natural Ventilation





Outlook Tower

Recycled  
PET Insulation

Floor Heating Panel  
to be recycled

Safe  
Finishing Materials

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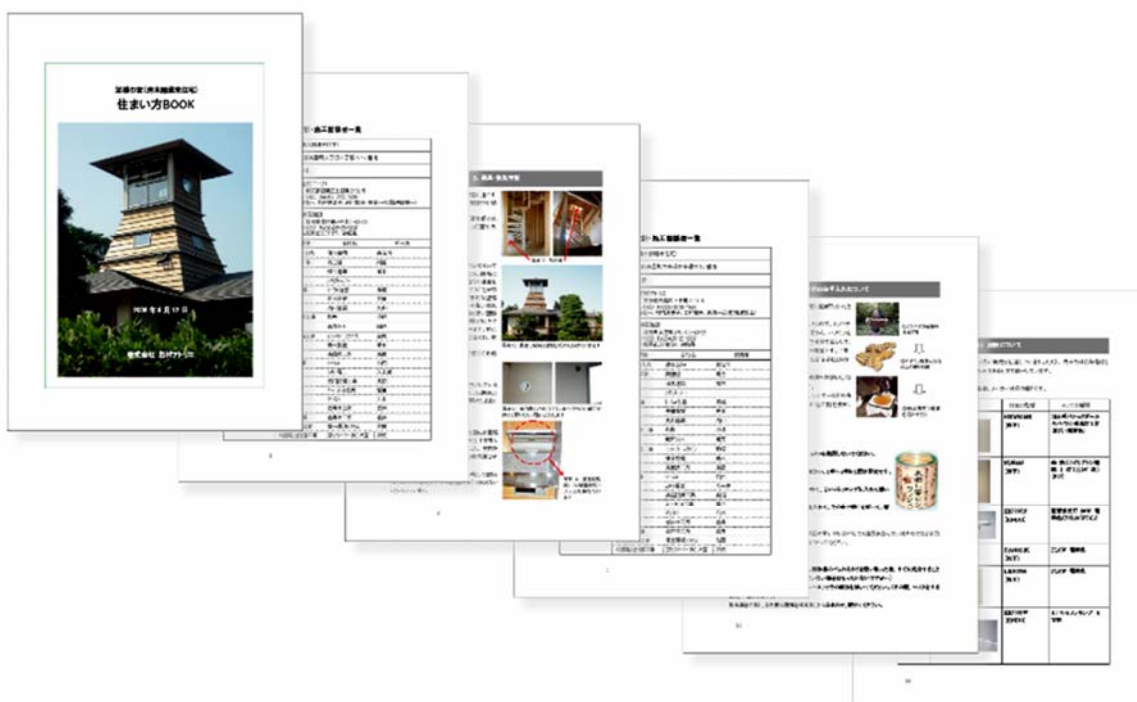
General View

Northern Platform  
Garden

Texture of  
External Wall

Pavement of  
Garden

## HOUSE BOOK



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■“House Book” showing how the house was built and is to be lived in .

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### Yakushima Symbiotic Housing Complex 2000-2006



Social & Public Housing  
comprising  
50 DU and Public Facilities

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## Zones

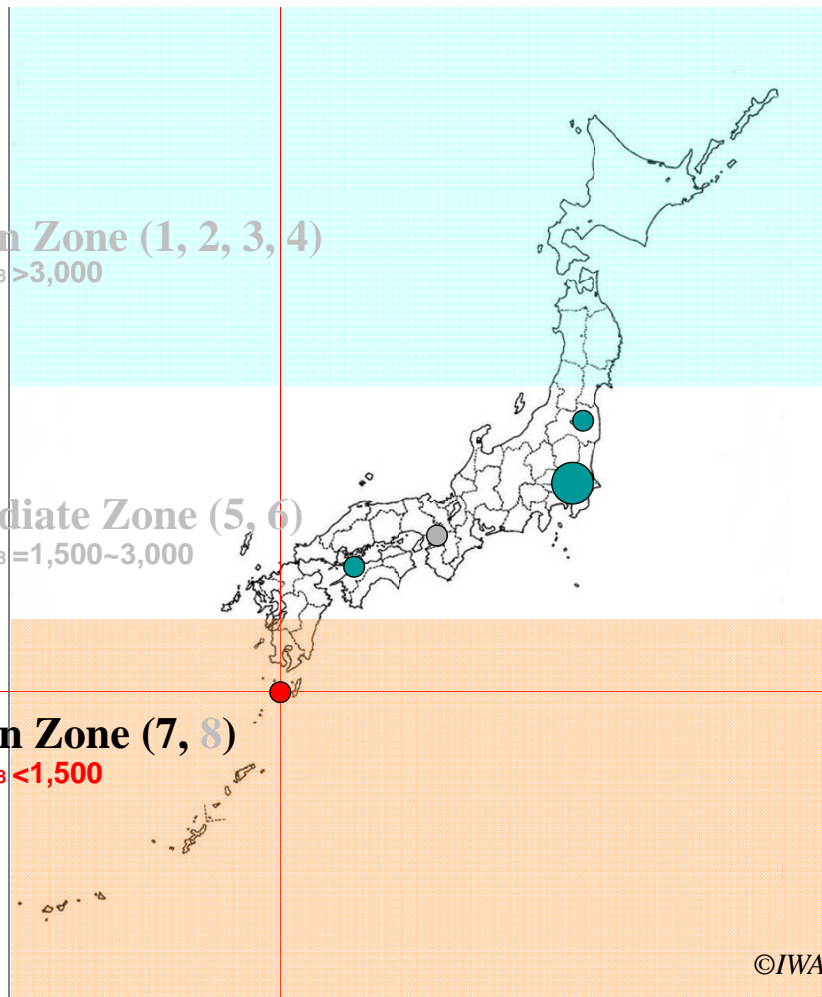
**Northern Zone (1, 2, 3, 4)**  
HDD:  $D_{18-18} > 3,000$

**Intermediate Zone (5, 6)**  
HDD:  $D_{18-18} = 1,500 \sim 3,000$

**Southern Zone (7, 8)**  
HDD:  $D_{18-18} < 1,500$

## Cities

Sukagawa  
Tokyo  
Kawasaki  
Osaka  
Matsuyama  
**Yakushima**



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## Location



### Yakushima Island Municipality

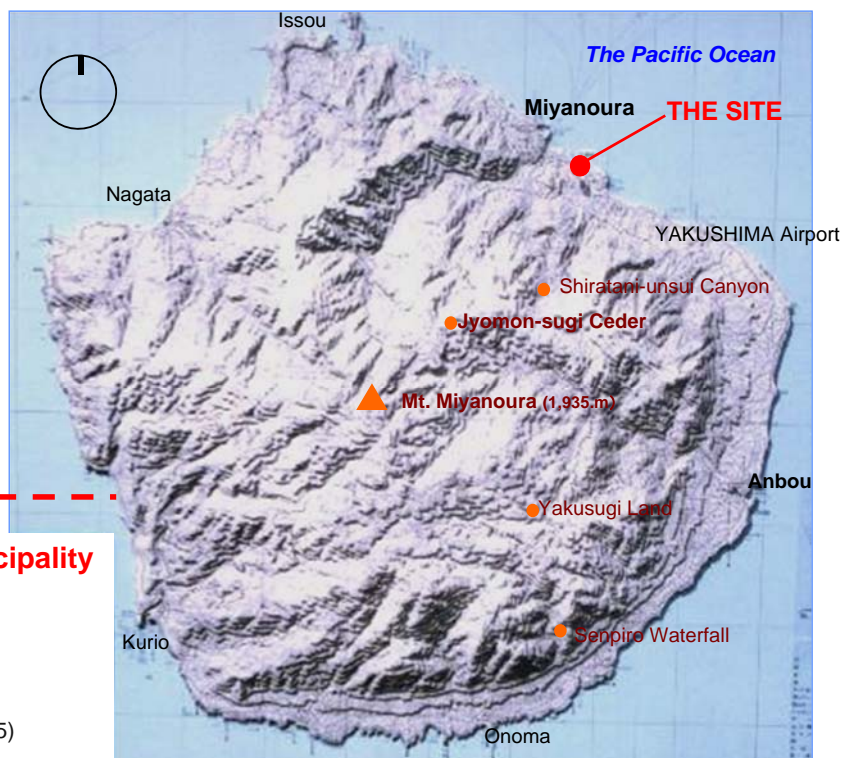
#### Location:

Long.  $130^{\circ} 34'E$   
Lat.  $30^{\circ} 25'N$

#### Area:

ca. 503km<sup>2</sup>

Population: 13,761 (as of 2005)



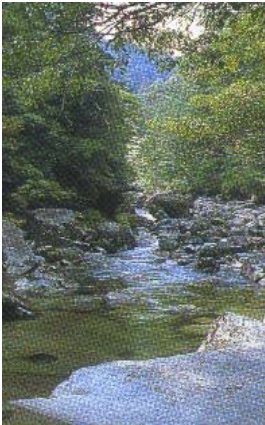
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# Nature of Yakushima: *World Natural Heritage*



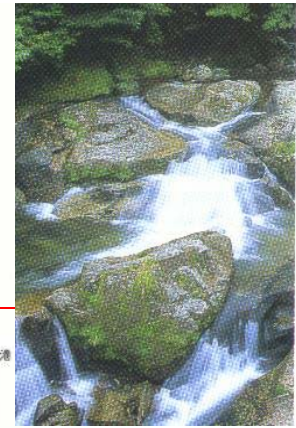
■ 小花之江河の眺め



■ ヤクスギランド内の清流



■ Jomon Cedar Tree: 7,000 years old



■ 白谷雲水峡



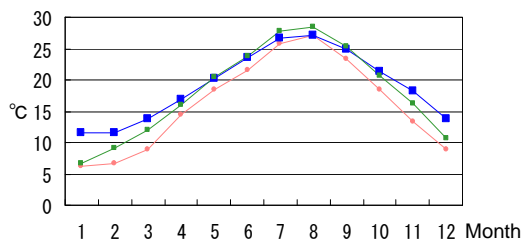
■ 千尋の滝の遠望

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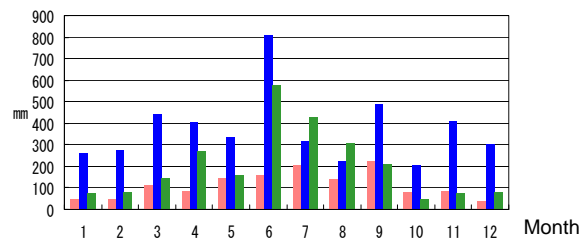
## Local climate

### TEMPERATURE



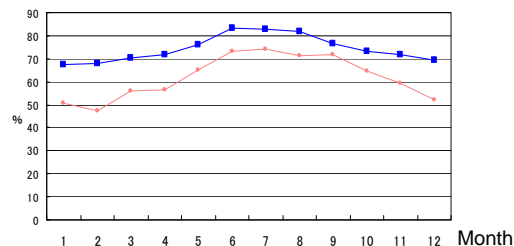
Annual Mean Temperature:  
**19.14°C**

### PRECIPITATION



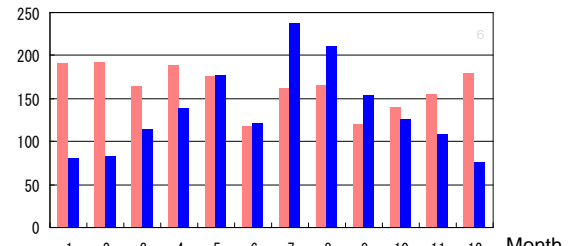
Annual Mean Precipitation:  
**4,488 mm**

### HUMIDITY



Annual Mean Humidity:  
**74.35%**

### HOURS OF SUNSHINE



Annual Mean Hours of Sunshine:  
**1,627 hr**

Source : AMEDAS Data by the Japan Meteorological Agency (1991~97)  
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## Existing Vernacular Settlement in Nagata on the Western Shore



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## Integrated analytic image of the region



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# Conceptual Design Guidelines

## 1. 太陽と暮らす Live with the sun

- ・太陽エネルギーを利用する
- ・適切な断熱と日射遮蔽を行う
- ・適切な断熱を行う
- ・内外に影をつくる
- ・土面を確保し、しつらえを工夫する
- ・北側空間を有効利用する

## 2. 水と暮らす Live with water

- ・排水する
- ・雨を避ける
- ・雨水を利用する
- ・保水力を高める
- ・節水・水質浄化に寄与する

## 3. 風と暮らす Live with wind

- ・空気の流れをつくる
- ・風力エネルギーを利用する
- ・強風・塩風害に対応する

## 4. 資源と暮らす Live with resources

- ・省エネルギー設備機器を採用する
- ・船対構造を長持ちさせる
- ・ライフスタイルの変化に対応する
- ・リサイクル資材・建材を用いる
- ・廃棄物を削減する
- ・地場産材を積極的に採用する

## 5. 生き物と暮らす Live with creatures

- ・表土の流出を防止する
- ・薬剤を過剰に利用しない
- ・水と緑の軸をつくる
- ・多様性を確保する
- ・貴重種・希少種の保護に配慮する
- ・多孔質な空間を確保する

## 6. 地域社会と暮らす Live with local community

- ・界隈を引き継ぐ
- ・伝統的住いに学ぶ
- ・伝統的暮らしに学ぶ
- ・人と人の交流を進める
- ・家づくりに参加する
- ・まちづくりに参加する
- ・リサイクルマーケットを設置する

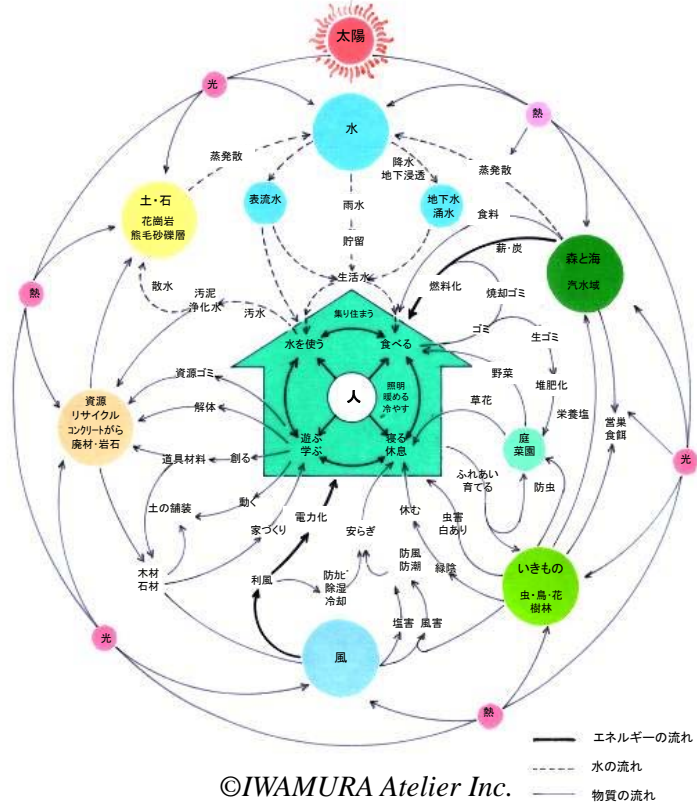
## 7. 自然と暮らす Live with the nature

- ・生き物とふれあう
- ・音・香り・触れを楽しむ
- ・緑化によって、熱環境の質を向上する
- ・原風景を引き継ぐ

## 8. 安心して暮らす Live safe

- ・利用者の特性に配慮する
- ・白ありの被害に対応する
- ・安全な材料を用いる
- ・カビ・結露を防ぐ
- ・非常時に備える

■屋久島環境共生住宅の流れと循環モデル図

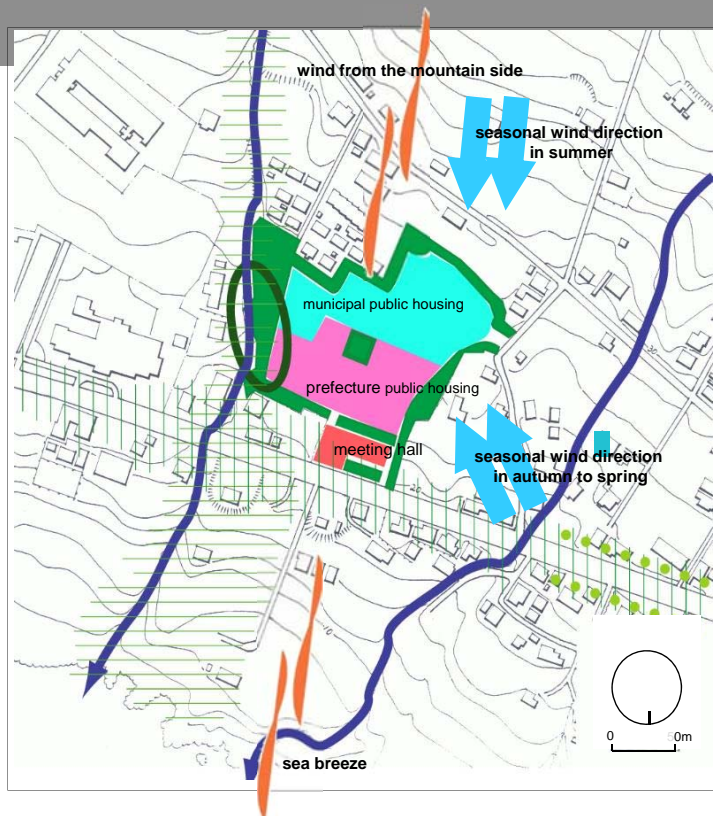


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# Environmental planning according to the given conditions

## LEGEND

- existing roadside trees
- roadside zone
- riverside greenery zone
- biotope
- municipal public housing zone
- prefecture public housing zone
- meeting hall
- preserved and buffer greenery
- rivers
- seasonal prevailing wind direction
- breeze directions from the mountains and the sea

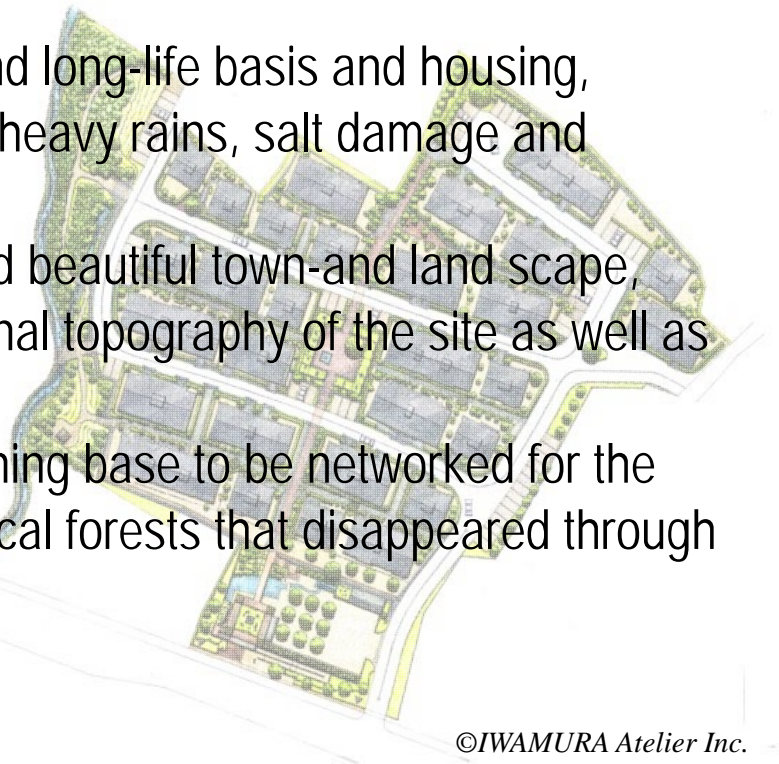


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## Major strategies of Yakushima Symbiotic Housing-1

- 1) Provision of safe and long-life basis and housing, resisting typhoons, heavy rains, salt damage and termites
- 2) Creation of safe and beautiful town-and land scape, respecting the original topography of the site as well as the local life-style
- 3) Provision of a greening base to be networked for the restoration of the local forests that disappeared through exploitation to date

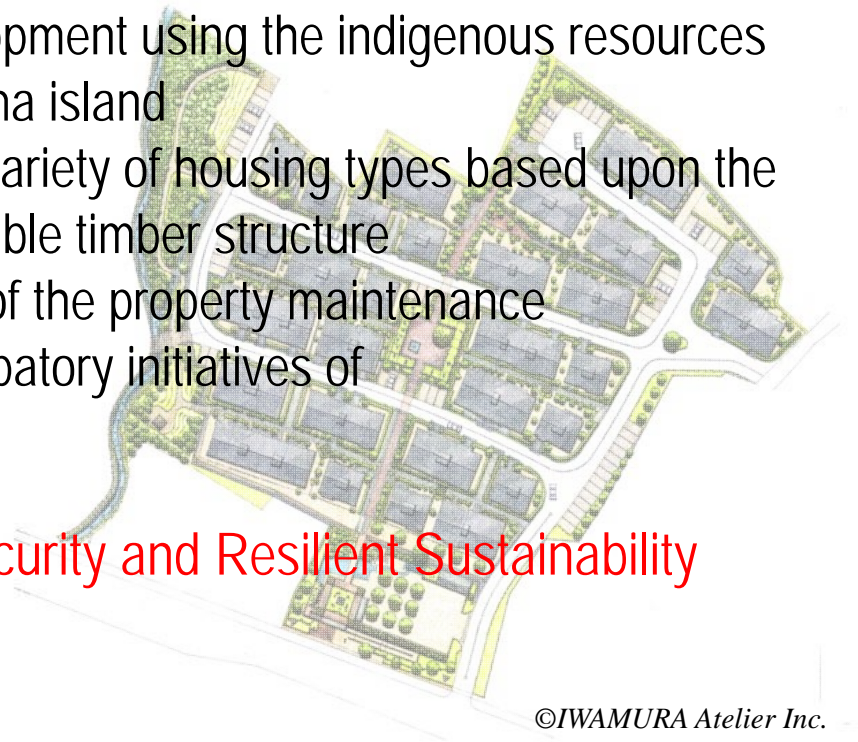


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## Major strategies of Yakushima Symbiotic Housing-2

- 4) Housing development using the indigenous resources of the Yakushima island
- 5) Provision of a variety of housing types based upon the simple and flexible timber structure
- 6) Consideration of the property maintenance through participatory initiatives of the residents



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for Human Security and Resilient Sustainability

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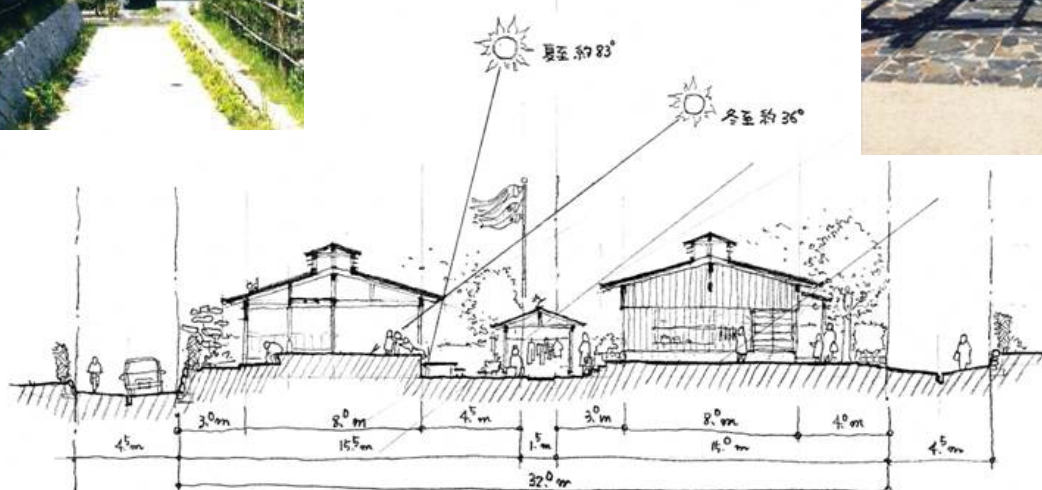
## A Typical Housing Block



Bio-climatic timber houses and village layout,  
learned from the rich vernacular heritages

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Nagata Village



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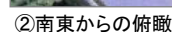
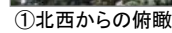
## Indoor and Outdoor Relationship



**Traditional closed layout of houses to protect each other against typhoons and open interior providing flexibility and natural ventilation**



## Affordable timber construction





## Interior View

As of October 2000



■ Upward View toward the Upper Roof



■ Tatami, Cedar Flooring and Recycled Charcoal for Humidity Control

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## Common Paths for the Residents

as of August 2004



For the neighborhood exchange as well as  
evacuation route at disasters



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## Central Square

as of August 2004



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## Occupants' Intervention

as of August 2004



■ Resident's initiative to control harsh day-light in summer



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■ An indoor scene of post-occupancy in summer

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## Neighborhood's Meeting Hall



Exterior Elevation of the Meeting Hall

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## New Neighborhood Ensemble, learned from The Vernacular



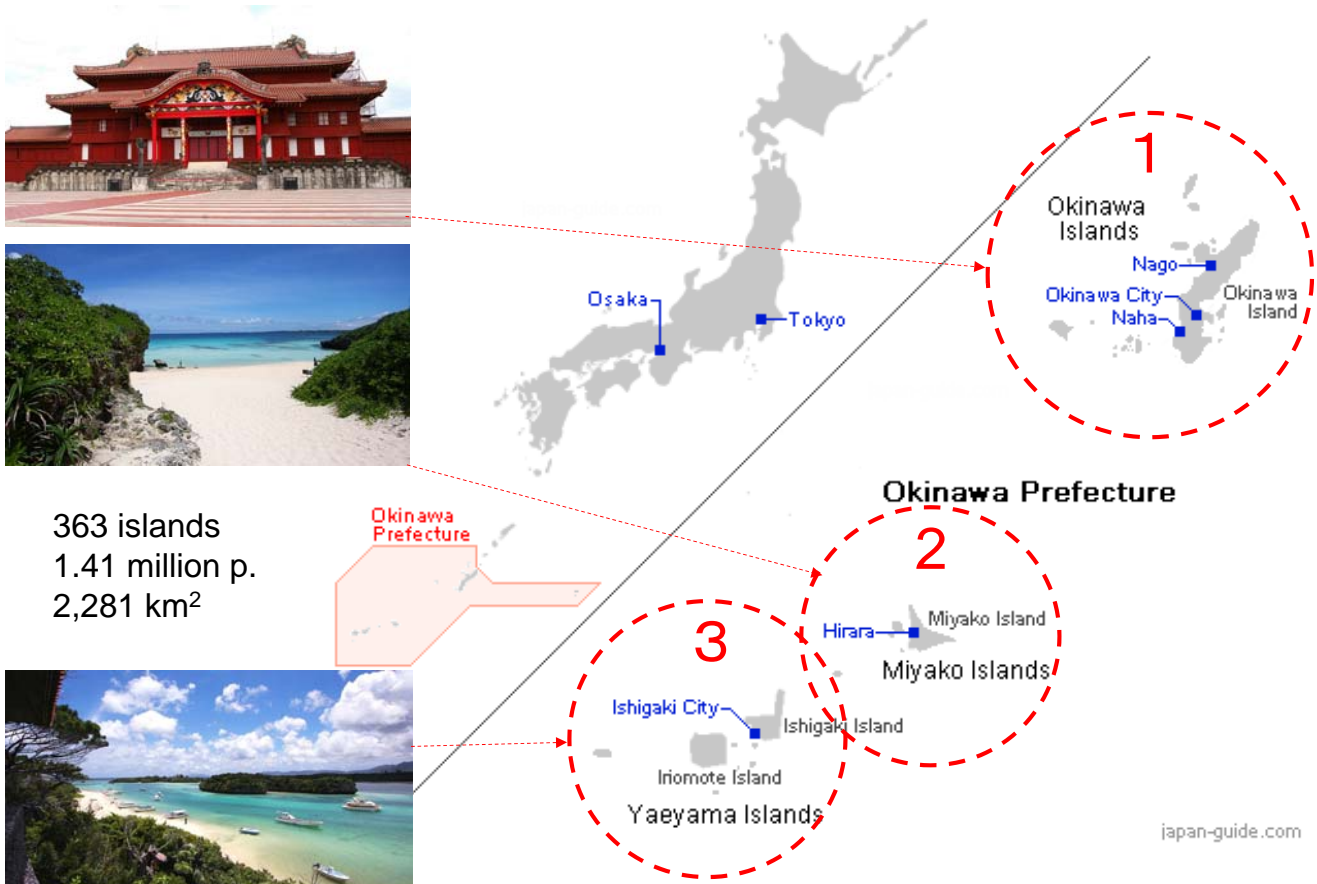
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**Okinawa Prefecture** consists of three major island groups





## 5-5. Region specific architecture in Nago, Okinawa



Nago City Hall:  
Completion: 1981  
Floor area: 6,149m<sup>2</sup>  
Designed by Atelier ZO + Atelier Mobile



The first passively designed city hall, providing a plenty of buffer spaces that create pleasant environment without AC (originally)



This challenging initiative brought deep architectural influences nation-wide far before the banner of “sustainability” became the world-wide topic.





## Conclusion

As the conclusion, I would like to share with you my favorite Chinese poem that is very much meaningful and relevant to the theme.

內 氣 萌 生

*Internal energy brings life.*

外 氣 成 形

*External energy creates form.*

內 外 相 乘

*Both internal and external energy complement each other.*

風 水 自 生

*Feng Shui will then be born naturally.*

Thank you for your attention!!



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