





# Making Architecture and Making a Sustainable World: The Work of Mazanabu Hirayama

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Mazanabu Hirayama works in Kochi, a city that looks over the Pacific Ocean on the Southern Coast of Shikoku. Shikoku is one of the smallest of the main islands in Japan. Mazanabu Hirayama practises there as an architect unearthing the dreams for making architecture for the people in Kochi, from the context in which he works.

Kochi unlike Tokyo or Osaka is not a big city. Kochi has a very peculiar weather. The sun is like shooting arrows, the humidity is muggy and typhoons come regularly. The summer rain is even more harsh. No doubt that in such natural but harsh conditions, architects in Kochi need to be extra sensitive to the realities of the world they are occupying and building.

Kochi is also one of the poorest communities in Japan. Although Japan as a country has become one of the richest countries in the world through high economic growth, people of Kochi have not been part of this Japanese economy. People of Kochi spent that time without the glory, but also without the claps of the bubble economy. Hirayama thinks that the disadvantaged economic situation they had was a blessing in disguise. Indeed Hirayama derives the architectural philosophy he adopts in his practice, from this contextual base.

He says "I think we had learnt a lot of things. Business has fallen off, and we now have to think of the earth's environment and the resources that the planet has. We cannot go on

using fossil energy and we have also to come to a situation where now we have to think beyond the gains of financial wealth. We have also got to consider the limits of modernisation of civilisation and the fact that scrapping and consumption on a mass scale is bad for the environment. We have to change our ways so as to lighten the burdens imposed on the environment".

Hirayama sees the modern mass usage and the consumption of resources in Architecture a primary cause for the destruction of the planet. The construction Industry in Japan has consumed enough and more to build those mega cities, and the poor communities and their environments suffer. The trend has of course gone past the red lights, but still, Hirayama believes, architects have a tremendous responsibility to turn the clock back.

"We have to think now that the construction industry is not having mass consumption in the usage of all the materials. For that matter the mass usage of anything that we have in this planet must be avoided. We have to now think of ways and means of using these resources very effectively and productively".

With these convictions, Hirayama, unlike most contemporary architects has looked back at the history of the Island. Japan has had an excellent tradition of timber architecture, known throughout the world. Indeed in Japanese culture there are two words – *Vabi* and *Sabi* that deal with such ideas. Translated into English, *Vabi*

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means simple beauty and Sabi stands for respect for all the things. These ideas come from Zen Buddhism and Japan is blessed with a culture where being simple and having less is seen as being beautiful. Hirayama derives his approach to making architecture from this cultural base that provides an ample impetus for the engagement of community based ideas, Buddhist principles and simple aesthetics - a base no doubt has broader validity and relevance beyond Kochi, and beyond Japan.

"I will use an analogy to explain the situation for the people of Kochi" said Hirayama. "The people at the head of a line have kept up through the time at the front, then those who were walking at the end of line remain happy and feel comfortable with continuing traditions. When the person walking at the head of the line realises that he has made a mistake and gone the wrong way the whole line has to turn round. This often has the effect of the person walking at the end of the line finding himself at the head".

Hirayama is not alone in advancing these ideas and exploring the possibilities in making architecture and making a world that is sustainable, less consumed and less polluted. As he says, those who have been at the end the line have found themselves to be leading and luckily for him there are a number of them in the head together. In Kochi, not only Hirayama but also a group of architects with the same kind of ambitions and sensitivity have got together and are exploring to further these ideas in architectural designs. "We are working on what is called the *"Thosa Style House"* said Hirayama. Thosa is actually the previous name of Kochi City. Thosa became Kochi. These styles of houses have been born on the ideas similar to those Hirayama's.

Hirayama was born in Kochi. He knows the city well. Although the city itself is urban, a little way out of it, the natural environment is very beautiful. About 80% land available in Kochi has lots of trees and forests. Out of this 70% of the trees were replanted after the war. Therefore, there is an abundance of timber in the area. Hirayama says that the best way to build in a climate like that and in an environment like that is to build with timber, and that tradition provides ample support for the use of timber in very simple ways to create great buildings and with little damage to the environment. However he is mindful of the popular criticisms. "On the surface if you look at this, some people might think that the idea of cutting the trees is not environment friendly. However, if we use trees that are 60 - 70 years old there can be a cycle of 50 - 100 years when we cut the trees and replant others in their place. The timber itself can also get recycled for other useful purposes. Replanting of the forest can be done very efficiently".

As he argues, the ideal condition would be to use trees 70 - 100 years old for building. However most of the trees available are much younger and thus they have to use 60 - 70 year old trees, which can still fall within the equation, and therefore can be equally eco-friendly. One of the important aspects of using timber of course is the need for craftsmanship, and that again is not an unsustainable way of building. Use of human resources, and giving value to human skills is one of the fundamental principles of sustainable building. Using skilled craftsmen, wood can be converted to be used for various purposes of construction including building houses and doing other constructions. However, a special attention to the style of designing and construction has brought about the art of building with wood. When Hirayama builds with them, he uses no metal nails or other metal elements. All is done with wood. This is where wood becomes art; making architecture becomes an art.

Kochi also has a large resource of lime. Using this, a special plaster is made, known as the 'Thosa' Plaster, which is a special mix of Salt and Coke where the lime is added and then burnt to make Calcium Oxide. When water is added, it becomes Calcium Hydroxide and into this mixture Paddy Straw is added and kept for about 3 months – this is what is called the Thosa Plaster.

'Thosa' plastering has three stages, in both inside plastering and outside plastering. Three layers are put on the wall which is a very difficult task. However, once plastered it lasts hundreds of years, and even after a 100 years this type of wall looks very beautiful and pleasant to the eyes.

Resources in Kochi are not limited to timber and lime. In fact Kochi has a very highly advanced technology for hand-made paper. Here the bark of a tree called Mitsumata found in Kochi prefecture, is put in cold water and in a complicated process where a lot of other things are added in, hand paper are made. This paper can be used for sliding-doors, windows and partitions. Thus the 'thosa' houses use local technologies and local craftsmanship. Hirayama's approach to architecture taken from Thosa houses are local and the products are simple but beautiful. His attitudes are without doubt universal and contribute to the making of a sustainable world. As Hirayama believes, this is the task of the architects today and this is the task of making architecture in real sense. These practices of architecture are well demonstrated in most projects Hirayama has done. A notable one is called the 'Community Village Iris' built in *Thosayama* in the centre of the Town.

One of the problems that had come up in this project at an early stage was the very little space available to build. There were two options to build a community centre – one was to build just covering a shrine that was on the site or the side of a river had

to be cut so that the centre could be built with the shrine visible from one side. Here it was also necessary to think of the interaction of the community with culture and history. One of the most important factors was indeed the interaction with Nature which was very dear to Hirayama. A number of meetings with the local community of this village were held. Of a population of about 150 people, 30 to 40 people representing the village were consulted on how to develop the concept of the building.

There was very limited space to put up this building, and in order to enable an interaction of the community with Nature, part of the building was extended towards the river. Parts of the building near the shrine were made to be multi-use. A wooden structure associated with the shrine was to be used as a stage and was for the community's cultural needs. Interestingly, multi-usability as a principle was evolved and the way the design emerged, the stage could be used inside if the situation demanded or could be used on the outside.



*Community village Iris built in Thosayama*

The construction employed wood from the forests around Kochi. The window panels were Kochi hand-made panels. The Wooden pillars were reinforced with another bark and with this design a harmony with Nature was established.

The other project that will illustrate this approach is in the centre of the city where a historic core existed with a large number of old buildings. The Project was to have the roof of the Arcade made with wood. A team of experts went to inspect how the structure could be made of wood, but faced a very serious problem with the construction law, which states that all materials used must be inflammable. So in essence wood was not likely to be an option.

As the law says that it has to be done with non-inflammable material, there



was a time when it was thought that the project had to be given up. However, a compromise was made for the use of sprinklers and the project could go ahead only after several tests were carried out by the Fire Brigade. For the first time in the history of Japan, the fire brigade was said to be satisfied with the positions of the Sprinklers, which cannot be seen but hidden.

What this demonstrates is that in fact, if there is a will, there is bound to be a way and that making architecture with a vision in mind is not an easy task. Indeed originally all the people thought that it was an

impossible task to build with timber in the presence of contemporary laws and in the urban areas where vulnerability is an issue. It is the sheer persuasion of Hirayama that has enabled the achievement of these dreams.

The emphasis of Hirayama's work is on how in design or construction one has to think of the way it will suit the people. In a way, the use of whatever resources that are available in the locality is a way of relating to people. Architects have to design for the future generation to make a better world for them, hand down the traditions and good practices of the past, and

indeed offer inspiration for them to be able to make a better world for others.

Hirayama's final words sum it up all. "During the past few years we have heard a lot about globalization changes taking place. There is a very strong view in Japan that with this system of Globalization, we are losing important things in our life, in our country and in our culture. However, for Globalization to be truly effective what is available in the locality must be preserved for future generations. The preservation of the local has a direct connection to the sustainability of the dream of Globalization'.

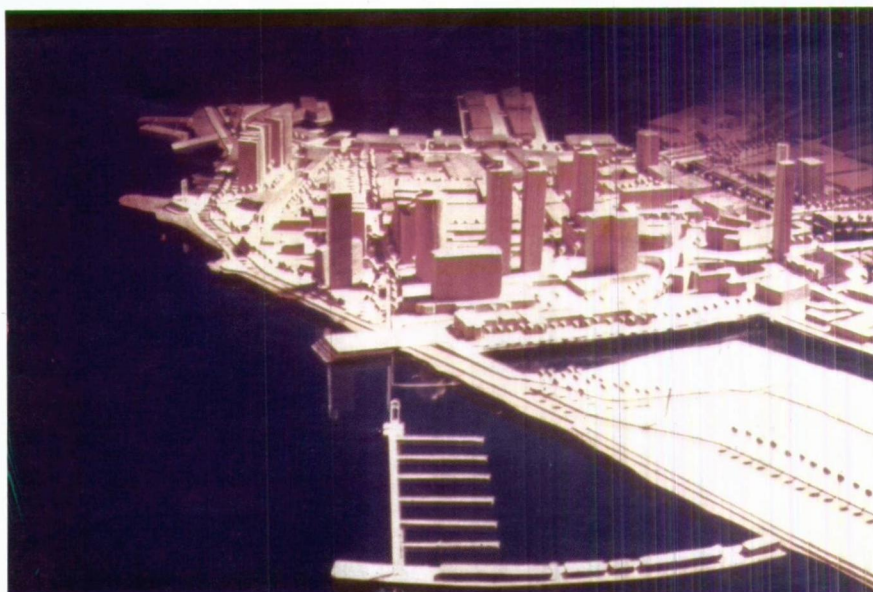
The title 'Context and Content' is, I believe, a reasonable reflection of the ideological span of the architecture I make. 'Context' is the place, setting, situation, or environment of the location of a building. It includes both the physical context as well as the patterns of activity and ways of life. 'Content' includes the function, activity, purpose and intent of the building itself.

To me, these two issues are worthy of equal regard. I believe that when one makes the decision to build a particular building on a particular site, when one puts the particular intention of the building programme upon the particular circumstances of the site, there is a 'touching', a contact, an interaction between two entities.

The history of human creativity is about creative energy released through the meeting, the contact of different forces; the phenomenon of contact between two elements producing a third. The result is of both, but different to both. It is not necessarily consensus, (which implies compromise/dilution), nor contradiction (which implies stress), but a point of contact and communication.

Context and content are likewise. Two independent forces, which meet to release creative energy.

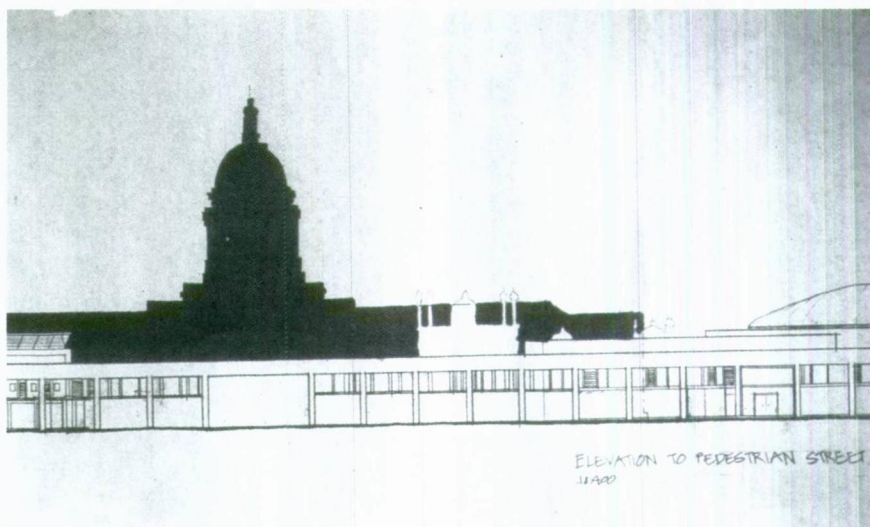
This paper deals with a series of projects of varying scale, presented in order of receding urbanity of its context, and attempts a retrospective self-analysis of the ideas and viewpoints which defined them.



## 2. Urban Design, Colombo Fort

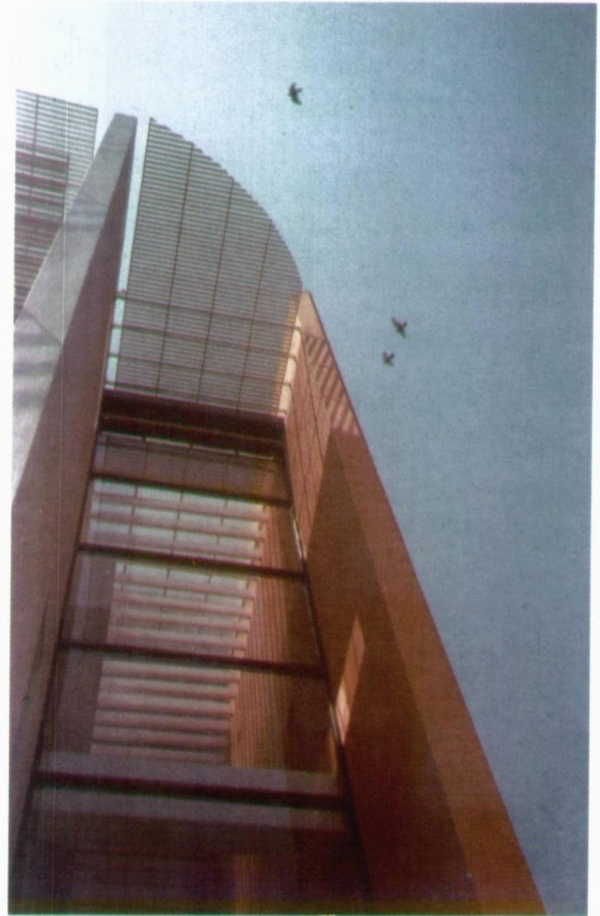
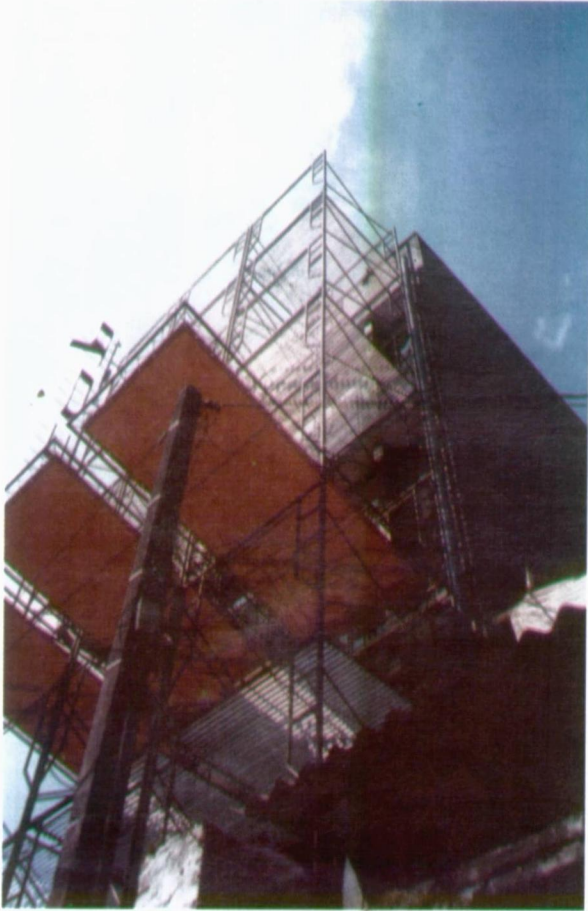
Based on a place-analysis, which saw the city centre of Colombo composed of characteristic yet blurred and disconnected urban places, this competition entry proposed a series of measures to re-establish these lost urban places, including specific interventions.

*Co-authored by my partner Hiranti Welandawe, Hams & Kjisk Architects, Helsinki & William Lim Associates, Singapore. The Search for a Robust Architecture', Madhura Prematilake, SLIA Annual Sessions, 2000.*



## 3. Town Hall Extension, Colombo (Competition Entry)

An attempt to create axial relationships to both the immediate and the larger urban contexts. The extension to the Town Hall was seen forming a pair with the grand old building, and assuming a subordinate role within the pair.



#### **4. Bakery, Colombo**

An interpretation of the frenetic urban chaos of Galle Road, Wellawatte, in combination with an open-fronted facade-less building type based on the traditional 'kade'. The idea of 'Robust Architecture' given vigorous expression.

#### **5. Sunstreet, Office Building, Kotte.**

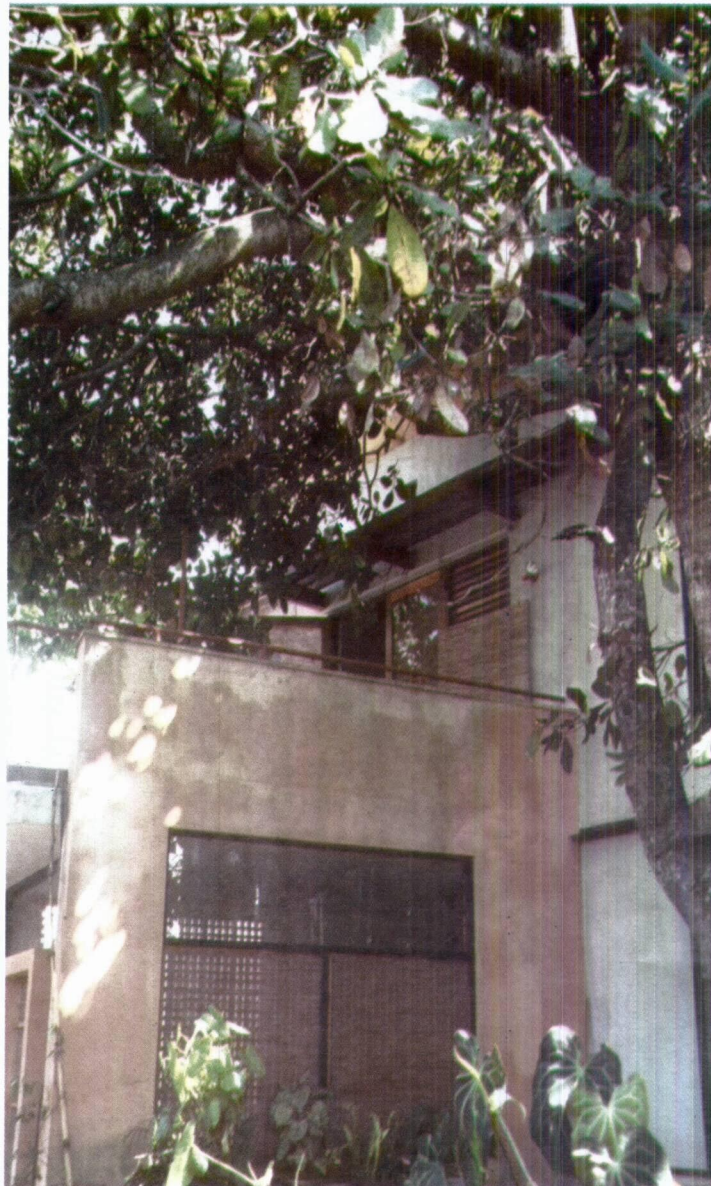
An effort to introduce an urban rhythm into a barren suburban context. The orientation so defined became a challenging opportunity to work with the rise and set of the sun: hence the name 'Sunstreet'

#### **6. The Chirpy House, Kohuwela.**

A response to the 'House-in-garden' suburbanity. A footprint defined by context and the search for 'chirpiness', abetted by a particular attitude to light and colour.

## 7. The 'Kaju Gaha' House, Malabe.

Set in a suburban, quasi-rural context, the contextual presence crystallized in the entrapment of the Kaju tree as the focus of the house, making it a metaphor for both the environment and the life-style of the family. The strongest expression in my work of the idea of Robust Architecture in a residential context.



These attempts at contextual response are made within an urban environment that is best described as chaotic. As architects and urban designers we strive hard to detect the underlying order, the urban structure remaining from history, and the patterns of definitive neighbourhoods. But there is no denying the general sense of confusion that surrounds this city we live in: it is probably symptomatic of the confusion of our lives as a whole.

Buildings of infinite variety are scattered in what could be benevolently described as a very

individualistic manner. Public Spaces are ignored, appropriated for private purposes or converted into dumps.

We live in a culturally plural society, where variations of taste and preference are multiplied. It is absurd to set standards of contextual unity one would expect of a European society or in our neighbour India where long traditions of urban living have influenced particular attitudes to urban continuity.

The responses we make within our particular urban environments are

therefore far removed from the classic responses to urban contextuality. They need to reach into the social connections between place and function for essential meaning. They need to express such meanings in a pluralistic manner that allows subtle, and often indirect interpretation.

Given the contradictions that manifest in our society, connection between Context and Content is far from obvious. The designer needs to dig deep. For me, the digging has been difficult, but satisfying.