

Transcript of Renato Pirootta's Slide Presentation:
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Renato Pirootta presenting:

1977 Chriesibuehl Concept

For me it is very difficult to talk after Jin and after your explanation because I'm dealing with cultural issues and there are some deep-rooted Japanese [cultural ways of building] which is totally different than the other countries. I came the first time to Japan in 1975 as an exchange student, open minded and returned to my country and built this unique dwelling concept for people without huge incomes. It was houses for truck drivers, primary school teachers [and others]. It was a concept with outside insulation, 100 mm, low temperature floor heating, and double [paned] windows; a long time ago.

1982 Inokashira Concept

In Europe, I'm from Switzerland, you have time when the project is finished to go traveling and I came and [did] about two or three months in Japan. It was absolutely no problem. These days I can only go for three days. In doing so; I got to know a professor at a university here in Tokyo. He was interested in outside insulation and air flows. He invited me to Japan in 1982. We built exactly the same house we had in Switzerland here in Tokyo. The poor people in Switzerland paid \$130,000 for the house. This house is in Inokashira, it's \$1.6 million but exactly the same: same size, same kind of concept and similar issues. What I want to show you here is very important: it's the air flow in the Japanese house. The Japanese basically build houses for summer time so air flow is very important, insulation is a sub product, windows are usually single sheeted – doubling is very seldom. Here you see inside we have windows; these windows are actually up here so the kids when they sleep upstairs could open the windows and have tremendous air-flow. The reason we have done this was technology from Switzerland (this is Fukushima, old farmhouses by retired samurais in a very very secret place up in the Fukushima mountains). We analyzed these houses [which] worked very well in terms of house dynamics: they are warm in the winter and cool in the summer. And they use this [passive] technology. The reason I had it in here was that ... basically the government 28 years ago research file told them, "preserve those houses". 20 years passed, many houses burned down, some fell down and this year, on the 28th of June the government said that this place in Fukushima is #92 National Heritage. They had to make a present somehow to Fukushima; it's my interpretation, I may be totally wrong.

1987 Japanese Reality Concept

I took over the same concept of a passive house and this is my own house in Tokyo. It's the house with the highest tree in the neighborhood; everyone is complaining about the leaves in wintertime when they fall down because I have no time and won't clean it up. I'm surrounded by old people with a lot of time. This year I used the air-conditioning system two times for one hour.

The first time was when I had to clean the filters...the second time I had a lecture at about 6 o'clock in the evening [on a] Saturday, it was a very hot day and I took a shower and turned it on to cool down but otherwise I didn't use it at all. In wintertime...it's south oriented.

2005 Putzmeister Factory Concept

I entered the company that I am working at now 25 years ago as a specialist for outside insulation. In 2005, I built my first house with outside insulation. And this house was built by a company called Putzmeister, it's a factory, Putzmeister is from Germany, very famous. They wanted to have insulation and double [glazed] windows. We had to do the roof two times – I couldn't accept it. Sometimes we had 10cm spaces between the insulation. This is the wall insulation...the second thing about Putzmeister I want to mention, it's also very important, probably all saw on the TV [that] the Fukushima Plant: this is the fastest and [hardest] working concrete pumps in the world. One is in Fukushima putting in 300 tons of water every day to [help cool it] down. That's the connection between these two; otherwise no connections.

Ichinoseki Fujinosono Children's Home Project

Coming back to Fujinosono which is in Ichinoseki, not really in the center of the tsunami but a project which is financed by Germans. And if the Germans finance something then it has to be perfect. And here is actually where my problems start.

Germany and Japan [celebrated this year] 150 years of friendship. In the old times, a lot of German thinking came to Japan: medicine, also construction. In 1923, after the big earthquake in Tokyo, the construction business [was influenced by German methods]. But now they come in with something new with words like: self-sustainable, zero energy building, shelter for emergency and we have to sell that to the Japanese. It means we don't actually sell it to the Japanese, there is a children's home with 75 children before the earthquake and tsunami. And now 60 children living in this place. And a group of Germans said, "ok, let's build a new house for those kids" based on this way of thinking. Doing that in Japan, they somehow came to me and I have some huge problems.

Location and Current condition

The problems are not about architecture, it's just about culture. In short, here is the Fukushima plant, here is our location – we are 170 km away and about 20 km from the shore. The house looks like that, not what we saw before. You probably would say, coming from a foreign country, it could be repaired. The first thing I did was check [when this was] built: it was 35 years ago. The lifespan of a Japanese house, normally, is between 25-30 years. My immediate reaction was that it would be a waste of money to repair this, let's build it anew. And I sent the files to Germany and said, "It has to be built new"...Then they wanted proof for that, so I had to go to the site and [take] pictures, so I took [pictures of the worst conditions] I could find. The problem of the house itself is that the kids live in a situation where they don't have power, no electricity...the whole house went down about 20cm...basically it's not for use, but they are living there since the earthquake.

Schedule

We are now going to build a temporary residence; construction started already last week and on Christmas day we will relocate.

Construction stages

I have to show how it looks like. First of all, it is a convent. There are sisters living in here; I believe that also these houses are damaged but you couldn't [enter] you couldn't go check. And these other buildings are relatively new. And this is the old building that is 35 years old where the kids live. So they will move on Christmas to this temporary residence then we will tear down the old building and build here a new building based on what I said to you before.

Floor Composition

It basically looks like: Residence level, multipurpose level; emergency for a future earthquake, the administration and here you have the temporary residence.

Plan 1 Floor

The administration we don't have to discuss, this is a very normal issue.

Plan 2 Floor

I have to admit, the company I am working for, we are actually one of the largest architectural offices in the world and it's a house [which] should be zero energy. I think you are all architects, probably from foreign countries, look at the north arrow...that is what the German complaint is at the moment, but here is Japan, we are building in Japan [and there are] different rules. But still, some rules are not understandable, even for me who has lived here since a long, long time.

Question from the Audience: So you're talking about the fact that the main angle of the body isn't oriented toward the south?

Yes. If you build a passive house I think you should orient it to the south or mostly to the south – it's not possible to have everything in the south.

Question from the Audience: In Japan everything, [that is], all the living areas are to the south, [no?]

It's not a rule. That's the problem. And recently, because of spatial orientation, whatever you want to call it, a lot of things are built north – you can see outside of Tokyo.

That's the residential quarter: the south would be here; we have the most rooms on the north side. It's not bad; it's well insulated if we can go to that point. It's a nice way of thinking: you have here a fire stove with a real flame [which] is actually a boiler. The boiler gives us enough water that we can heat the [floor]; winter is still the biggest problem. At the same time it gives the kids

a kind of refreshing atmosphere. [There's] a small kitchen. This is a small residence for 8 people. Here are the young people up to primary school; there are four in one room – a very small room. But that's exactly according to the law. These are independent rooms at about 7.7 sq. meters, that's the German interpretation of what we need. The Japanese law says 4.5 [sq. meters]. It would be the smallest that is theoretically possible. They have small unit baths...you have the staff entrance from this side. And the void should bring light into the room; that's the basic concept we are dealing with here.

Completion Image

The elevation, this is the south side, we have solar panels for electricity; we have solar panels that will produce hot water. It can be self-sufficient and zero energy if everything goes very well. I was in a meeting yesterday between our team and the German team and we have totally different opinions on how to run the system. I am in between these two cultures and I try to modify on both sides. My team came up, to my surprise, and said that 10 cm of insulation in combination with the floor heating: "that's absolutely enough". The Germans said, "that's not a passive house, the passive house doesn't work with floor heating." The floor heating should be a support for winter time. Both sides are probably correct. And we have to sort it out in a, probably, a non-Japanese way. I have to mention this because you have to understand how difficult it is to come into Japan and bring in something new, a new idea. You probably remember Kobe. Kobe had the same earthquake like in the North but no tsunami. And they rebuilt Kobe basically like it was before. This time we have an energy problem in Japan so it is necessary that somebody starts to think differently. This project was a pilot project [which] started actually very, very well. We had quite a lot of press and media release. It's 100 percent supported, it's already here but there are conceptual issues which cannot be solved so easily. We are fighting at the moment, basically against our own people, to bring in this new way of thinking.

What I want to say at this stage, oh no, this is about the system. Let's forget the system.

These are the donors. We have all kinds of building materials; very famous donors. They cannot come in here because of the law. The law didn't change after the earthquake. The material proofing also didn't change after the earthquake. And the State, at the moment, has no intention of going to change [it]. We are facing a very, very difficult issue. Like, I had a window supplier from Germany for a triple window, perfect insulation, but they [have] no chance to bring it into Japan. This is not the only project I have [which] goes in a similar direction: Totally funded by foreign countries; they want to bring in new technologies and here, in this really highly educated country we have real difficulties to move ahead because of the law – I would say the law is the biggest problem. That's my short comment. Jin, I don't want to offend you; it's just reality. We're dealing with reality.

Question from the audience: Is that because they don't have trade agreements with those other countries, or they want local materials?

No. Correct me if I am wrong, but the Japanese society, [which] produces a lot of electrical equipments like cameras and whatever you call it, is convinced that atomic power energy is still one of the best ones and if you come up with such kind of things that doesn't need energy then you just run into problems. We will sort them out because the willingness from the people is here; the government also says, "we will support you" but the support ends when somebody comes along who says such things. Normally the support stops.

Question from the audience: Is it more the Iwate law or more the National law?

It is more the national law. Because the people up here would be happy to get whatever they get as long as they get it very fast because they are in [trouble]. But the people down here they have a beautiful summer, today is also a beautiful day; they don't feel what the North feels...

Jin Sasaki: This kind of problem often comes from safety regulations; structural safety and fire safety – these kinds of things are always defined by law. Maybe [the] official way to go through might be to get material approved somehow. You could have some approved material stamped but it might take a year or something.

But the kids have to move.

Martin van der Linden: Tom Kessling, a Swiss guy I know, he's been trying to import an insulation material that uses bamboo and some other materials and it took him ten years to get approval, to get earthquake approvals and...

Jin Sasaki: Insulation material tends to have a conflict between insulation performance and combustible performance and [takes longer to approve].

Question from the audience: I also heard that after the earthquake many countries wanted to help out Japan by sending in prefabricated or temporary houses but they weren't allowed because of the building code?

Yes. I [heard of] a case, also from Germany: Lufthansa brought in six tons of blankets because it was cold, you could see it on TV. And it was stopped in Narita, and they couldn't unload it because of the regulations in Japan, but the people up there needed it. It was for free, it was new, absolutely new but it was sent back to Germany. Such kinds of things are also happening. Of course, a lot of good things happened too. Not just bad things, but the construction industry is facing really huge problems at the moment. I think it is a chance for Japan, finally, after 30 [years] to change the way they use the energy. At the moment it doesn't look like they will have a lot of success. But I will give you to the next presenter who probably has similar problems...Thank you.

Notes:

Transcription done by Jeremy Altman

Some corrections were made or information added for the sake of clarity and are shown in brackets [].