

WILD-TECH

At a special session of the 2002 World Sustainable Building Conference, held on September 25th 2002 in Oslo, Norway, on behalf of the Archilife Research Foundation, I delivered a speech entitled “A New Sustainable Approach Challenge of Subtropical Region” in order to present an important formula for sustainable building. That is $GB + Symbiosis = SB$. In addition, I proposed three conclusions:

1. Localization: Buildings should have the ability to respond to its local environment and climate, while also providing for the comfort and health of its inhabitants.

2. Team Work: Sustainability is a complex issue. It needs to be discussed on many different levels and aspects in order to come up with a comprehensive solution. Moreover, real dialogue with our environment will require continued experimentation, refinement, implementation and feedback.

3. Symbiosis: “Symbiosis” is a micro-scale symbiotic approach with mimicry of nature. It requires that people establish an intimate symbiotic relationship with the biological world, and particularly with the vegetables and fruits. It is in order to minimize their impact on nature and ensure environmental sustainability.

At the SB05 Tokyo International Conference, it is the honor of Archilife Research Foundation to deliver lectures in the Student Session. In order to continue the effort in SB2002, we would like to offer young scholars some new concepts and practical tools. Because we believe that Symbiosis is to learn from the Nature and to search for our own symbiotic cycle. Through those practical tools, we can create the foundation for Symbiosis. In the student session, Mr. Lin De-en reported on the meteorology; Mr. Luo Yang-ching reported on the

microorganisms; Mr. Tsai Kun-hsien reported on insects; Mr. Chung Cheng-hsin reported on wild edible plants.

Among these four tools, they have one element in common. All the reports are to explore the natural phenomena. It requires four elements, including wide, interactive, long-term, and deep-going, to make the project perfect. Taking the initials of these four words, it spells “wild,” which means such technology originates and learns from nature. To be different from the high-tech created by people, we call it “WILD-TECH”.

The term “wide” means the concept of full-angle thinking. For example, in 1990, our Foundation began to recruit outstanding scholars from different fields and departments of universities to compile the knowledge. We call them Knowledge keepers, and their function is more like a mobile library. So far, there are seventy-one knowledge keepers in total, such as philosophy, mathematics, music, geography, and so on. Besides, we keep buying books and classifying them according to their contents to form a knowledge bank. With that, we can make our thoughts more complete, without neglecting any major issues.

Meanwhile, to be “interactive” is to exchange concepts completely. With the above-mentioned base, such as knowledge bank and knowledge keepers, whenever we hold a conference, we would invite all the knowledge keepers to make cross-discussion. By doing so, we’ll reach a more comprehensive solution.

Concerning “long-term,” it needs a long-range consideration for solving problems under the continuing change of outside circumstances. When we were developing the new tools of Symbiosis, everything seemed to be unclear. The only thing that we can do is create in advance, then improve by applying the new technology. Therefore, we should consider everything in a long-term way.

With the tool of “deep-going,” we will not neglect those that seem to be small

but mean very important. For example, about the choice of wild edible plants, we cannot make some breakthrough in building the first symbiotic system before we understand the mechanism of nature. Because we don't care about the nature, all the cultivated vegetables planted in the vertical planting system failed. Then, we realized we should catch the biological sense to plant wild edible plants. At first, wild edible plants seemed to be useless and nothing was related to constructing symbiotic system. After several trials, we finally found out that wild edible plants were the foundation of symbiotic system.

The above-mentioned tools are not advanced at all. For their simple and natural characteristics, that's why we call it "WILD-TECH".

Therefore, I would like to share our experience that we have accumulated over the past 3 years. I hope it can provide you with a new way of thinking. Likewise, it is possible for you to develop your own "WILD-TECH", with reference to natural environments and current conditions. In addition, you can make the best combination to build sustainable buildings and communities suitable for you, to imagine the changing future!

In order to help you understand the formula "GB + Symbiosis =SB" more easily, let's take a look at our experience in Taiwan during the past 3 years. In other words, it is an approach to imitate the nature and to live with the nature in peace. The key point of thought about the Symbiosis just matches the oldest oriental philosophy of Taoism. If we want to make an analogy to Taoism, symbiotic building will be the physical part and symbiotic life will be the virtual part. Both share the idea of perfect match of physical and virtual in response to environmental conditions. In terms of GB, it should adopt the most efficient structure and build the vertical planting system against the structure to form a green wall. By applying the symbiotic theory to the daylight working model, we can promote the recycling of daily necessities in order to create a self-sufficient lifestyle. In other words, the use of the Solar Energy creates a self-sufficient

lifestyle. We call it Symbiotic life, and use the digital instrument to create spiritual product and promote to the whole world to achieve the spiritual life. Finally, we feel happy and healthy.

We had built an architectural structure to experiment in Taiwan. We call it the Symbiosphere 1 Center, as an example, the life in it is operated by four components, including the vertical planting systems, the nucleic acid meal, the cleaning and the compost. The vertical planting systems can be built against the construction's wall to catch the sunshine more easily and their baskets can be also run to absorb the water in the bottom. The wild edible plants and other vegetables can be grown together to reduce infection and pest. It will also form a green wall after these vegetables grow prosperously. In addition to cooling down the environment by sheltering the building from direct exposure to sunlight, this can also help to reduce the workload of air-conditioning and provide a reliable vegetable source. Together with some protein from fish, this will become a perfect nucleic acid meal for healthy diets. Waste and wastewater produced from everyday life will be cleaned before entering the recycling system, including the dry toilet, wastewater treatment system and so on. After safely composted, they will return to the vertical planting system. Meanwhile, the wastewater will also be fed back to the central water system.

We believe if we have these four components, it can make the symbiosis come true. Following the accumulation of civilization, these four components can accommodate more micro-scaled or multiple recycling systems to complete the most needed recycling structure under the concept of sustainable development. By doing so, it will be easier for us to spread the idea of symbiosis from a single building to the entire society and even a country and build recycling society in order to reduce the workload of environment and to make the developments of human-beings not the burden of the environment. While human is the center of this recycling system, human and green plants together form the foundation for symbiotic recycle, because by using solar energy, air and water, green plants form

the environment for human survival and provide us food. Green plants have long been existed in our environment. While they have already formed the mimicry in nature with soil, microorganisms and insects, they are resistant with one another during the course of evolution. Therefore, we need to understand the position of food chain in nature and we can use the mechanism of symbiosis. If we understand the mechanism of symbiosis, we can use artificial treatment to expand its survival quality and quantity to support further development. In doing so, we need to protect the nature and the environment as the foundation for sustainable use on the one hand, and to promote further development by selecting the required species to achieve sustainability on the other hand.

In order to make you understand the contents of these practical tools, we are going to invite two of them to make reports. Through their reports, you can have a clear picture of the characteristics of “WILD-TECH”. The first one is Mr. Chung Cheng-hsin, he will report on wild edible plants. The second one is Mr. Tsai Kun-hsien, he will report on insects.

Through the samples of “WILD-TECH”, the investigating tools of wild edible plants and insects, although they are originally the basic tools of botany and entomology, they need to be turned from close to open from the viewpoint of SB. According to our experiences, the cultivated vegetables have failed. Only wild edible plants can grow well by referring to the mechanism of nature. Therefore, they can exchange with other fields. Only being open to other fields can they be interactive for a long time, and move into a deeper level to invent a brand-new concept. Symbiosis is based on such tools, and formed by accumulations little by little. We hope there is going to be a revolutionary action to make sustainable buildings built more quickly to change the world in the future.