

Chi Fu Valley

The creation of a HERS-Park

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Background

Back in 1866, in order to establish a hygienic supply of milk, The Dairy Farm Co., Ltd. was founded by Sir Patrick Manson with Pok Fu Lam selected as the site for its reliable water supply for livestock husbandry and the fine geographical location, which is close to the city. It initially was stocked with 80 imported cattle from the UK, taking the place as the largest dairy farm in the city in the day.

However, owing to the outbreak of diseases, a great majority of the herd has been wiped out, seriously affecting the yield of fresh milk. In addition, the war paralyzed the Dairy Farm, and housing estate developments have further demolished the Farm located at Pok Fu Lam. Thus Dairy Farm's headquarters were abandoned, until several revitalisation projects took place when a non-profit World Monuments Fund has listed Pokfulam Village on the cultural heritage sites throughout the world.

Recognizing the value for experiential learning, the local community attempted to conduct revitalisation project, the Old Dairy Farm Senior Staff Quarters for instance.

The revitalization project will conserve the material, style, landscape and structural setting of the old architecture as well as its history, intangible influences, and memories towards the local community and society. It is also capable of strengthening the development of the Pokfulam Village sustainably.

Preservation aspects

There are several different aspects why the Chi Fu Valley should be preserved. The site has among other things great social, ecological and historical value.

Ecotourism

Donohoe and Needham (2006) defines ecotourism upon some fundamental rules, namely based on nature, conserving and preserving, education or sustainability, as well as responsibility/ethics/awareness and a distribution of benefits to the community or others...etc.

In addition, to conceptualize tourism as a tool to support the long-term development for a certain area, the value of ecotourism within an urban setting can be extended to its potential benefits to the environment or destination of the overall community. Sustainable practices involve committing to the economy, environment, as well as social practices that is capable of enhancing a community's quality of life. Thus the objective to an eco-park would be to promote the use of sustainable practices and enhance the natural environment.

Ecological value

Chi Fu Valley has both valuable plants and animals that should be preserved. 34 trees were found to have 1 meter of trunk diameter, which are eligible to put inside the Register of Old and Valuable Trees established by Hong Kong Government. In average, 10 trees can be found in one hectare. The high density of these old trees is rarely seen in Hong Kong. A cluster of trees is more significant than trees along the roadside in sense of creating an ecosystem with

habitats for different species. Old and large trees provide habitats for small species such as microbes, birds and insect. Organisms in lower trophic level rely on nutrient in decomposed leaves and branches. Thus trees are crucial and fundamental component to support the biodiversity of an ecosystem. Since only plants can utilize energy directly from natural environment, by photosynthesis, trees or plants initiate an ecosystem by supporting other species energy they can use. If trees are being felled, the entire ecosystem in the Valley will be destroyed and the ripple effects cause the loss of most of the species inside. Carbon, nitrogen, oxygen and nutrient cycling done by trees are important in maintaining the sustainable living environment on Earth, particularly in era of climate change.

Incense trees are closely related to the naming of Hong Kong. Incense trees products were exported from Hong Kong during Sung Dynasty. The exporting harbor was then named “Heung Harbor”, which was the former name of Hong Kong. Although incense trees are inside Category II of Wild Plant under State Protection in China, it was quite abundant in Hong Kong. Unfortunately, there were 300 cases of illegal felling of incense tree in the past three years. It is necessary to preserve these trees in such an ecosystem and prevent it from theft. Old trees are more valuable than the newly planted trees in the way that it contain genes and traits that allow it to survive over a period of time. It benefits the ecosystem by inheriting the genes that can withstand changes in condition of living, which then contribute to evolution. Mankind cannot restore the evolutionary information once it is being chopped off. With the importance of being initiator mentioned before, old trees should be protected for well being of all kinds of organism, including human, on Earth.

With two streams, it makes the site excellent for amphibian’s habitat. Short-legged toad and little spiny frog are being regarded as endangered and vulnerable in the Red List of International Union for Conservation of Nature (IUCN) respectively. These are only two of the amphibian reported now. More species are believed to be discovered in the region near the stream. Short-legged toad was named as new species by Inger and Romer in 1961 in Lantau Island of Hong Kong. It was native and first found in Hong Kong. It should be protected in order to conserve biodiversity, on species and ecological level. Hong Kong one of the Key Biodiversity Areas in Indo-Burma Hotspot (Tordoff et al, 2012), such that the biological value in Hong Kong is significant globally. As a stopping site of migratory bird, Hong Kong should preserve its natural habitat well. Besides, Chi Fu Valley should be preserved well as an eco-park upon the extension of The Convention of Biological Diversity (CBD) to Hong Kong in 2011, in order to meet this legally binding treaty.

Social Value

Setting a value on the social benefits of preserving the Chi Fu-site is a difficult task. Firstly one must define what social value really means. Generally social value linked to nature areas, as the Chi Fu Valley, can be described as the value the area contribute to people’s wellbeing, for example recreational value, the value of natural experiences, aesthetics value, the value of public health and tourism (Simpson, 2008). The closer a nature site is to a residential area the higher its social value is for that area. For elderly, children and disabled people, who has a difficult time to travel longer distances, a convenient location might be the only way to

experience the social values that the nature has to offer. Chi Fu Valley can be regarded as most valuable to the people living in the nearby area but due to the convenient location it can still be regarded as a truly valuable site for all the people living in Hong Kong.

The city area of Hong Kong has increased substantially during the 1900s. The city's boundaries has moved further out from the city centre out towards the green areas of Hong Kong at the same time as the city centre has gotten more densely populated. As a result of the increasing population density, green areas has been developed as housing estates and business areas, which have lead the nature sites to become less and harder to access. The importance of preserving nature sites like Chi Fu Valley can therefore not be underestimated. Forest areas also provide fresh air, which are a factor that cannot be denied. Polluted air in Hong Kong causes public health problems such as 3000 premature deaths each year, according to the Hedley Environmental Index.

The Chi Fu Valley is not only a beautiful nature area; it also contains the remains of important Hong Kong heritage, old valuable trees as well as endangered species of toads and even wild boars. This combination of unique features makes the Chi Fu-site truly important to preserve, not only from a social value point of view, but also from an educational and scientific aspect.

Preserving the site enables the possibility to study these endangered species in their natural habitat, which could lead to further knowledge about why these animals thrive in the Chi Fu Valley environment. This would lead to increased knowledge of how to improve Hong Kong's bio diversity, which is a difficult and important task in today's mega cities.

The educational value of Chi Fu Valley is significant. The HERS-park would have the ability to educate both residents of Hong Kong and visitors of a unique location, which combines old heritage, valuable nature and history with the help of stories told by workers at the dairy farm. By learning more about the nature, history and heritage of Hong Kong, people can get a deeper understanding of the importance of preserving areas like the Chi Fu Valley.

Suggested design

The focus of the design is aimed to help the preservation of the Chi Fu Valley. The most valuable and threatened part of the valley is currently zoned as residential (group B), which makes it possible to develop the space as a residential area. The design is therefore suggesting a rezoning of this area, and at the same time creating a sustainable HERS-park in the heart of Chi Fu Valley.



Figure 1 The suggested boundary of the HERS-Park.

The boundary of the suggested Eco Park is limited to cover most of the valuable sites in the valley, including old heritage, old valuable trees, endangered species and watercourses. The total area of the HERS-park is 21.4 hectares and has a natural border close to roads in the south, east and west, and a restricted area and grass field in the north. A buffer zone is created around the stream to protect it from external impact.

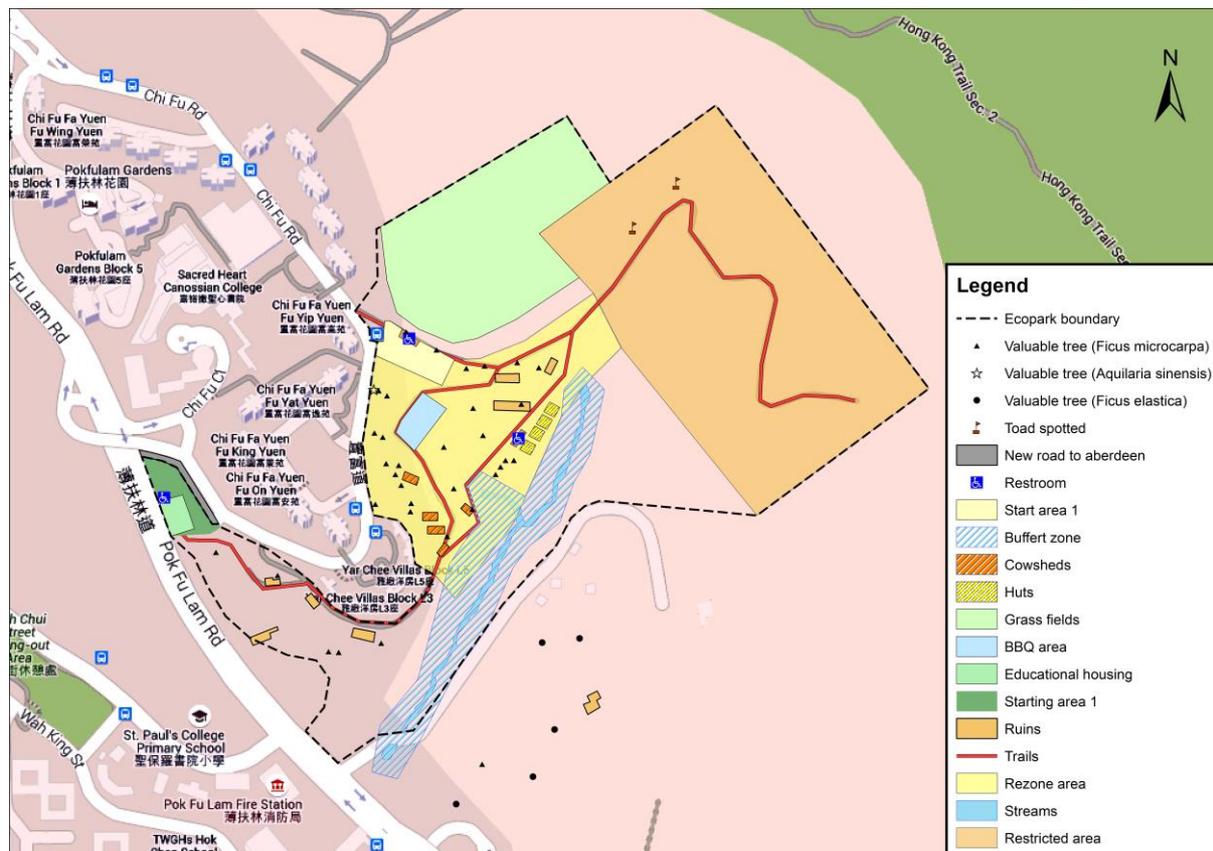


Figure 2 Layout of the HERS-Park

Starting Area 1 (see figure 2), located near Pok Fu Lam Road in the west of the valley, is one of the suggested starting points to enter the eco park. To create the starting area, a short road

path, leading to Aberdeen, has to be straightened to give room for parking areas and bus stops. The starting area is placed near Pok Fu Lam Road, which makes it easily accessible by bus, minibus or taxi. Starting Area 1 also include an educational house where workshops, lectures and information will be available to visitors and students. A small shop is integrated in the educational house where visitors can buy local dairy products produced in the HERS-park together with a small exhibition displaying the history of the old dairy farm.

From Starting Area 1, an already existing trail leads the visitors into the eco park, passing by old heritage from the dairy farm and old valuable trees. Information boards along the trail tell the history of the valley. Cowsheds (see figure 2) are rebuilt into its old shape. The cowsheds are home to several cows that live in the area just like they did on the old dairy farm.

A BBQ area (see figure 2), with the aim to enable visitors to take a break while eating a meal in the natural scenery, is created in the heart of the valley. The placement of the BBQ area is roughly half way into the park, which makes it for a suitable place to stay and rest. Another reason for to build a BBQ area is to attract visitors from both near and far to enter the eco park, and by doing so spreading knowledge about both the history and nature of Chi Fu Valley.

Four sleepover huts will be constructed to the east of the BBQ area (see figure 2). The sustainable sleepover huts will be self-sufficient by having solar panels on the roofs, which makes it possible to charge phones or camera batteries. The huts are placed in an available area where there are few trees and rocks, which make construction and land development process minor. Placing huts in the HERS-park will enable sleepovers for both education and leisure purposes. Educational guided tours to the restricted area (see figure 2) will be possible from the huts.

The Restricted Area covers a big area of the suggested eco park. This area is designed to protect the endangered species living in the surrounding space. In the future the restricted area could be rezoned from the current zoning, green belt, to Site of Special Scientific Interest (SSSI).

A grass field area (see figure 1) is designed to make it possible for the cows in the HERS-park to have a natural pasture. The grass field could function either as pasture, or as a field where grass is grown and harvested and then fed to the cows at the cowsheds.

Starting Area 2 (see figure 2) could work as both a starting area or an exiting area. The location is close to Chi Fu road, which has great communications. The area is a natural entrance to the HERS-park for people living nearby, as well as an exiting area for visitors that entered the park from starting area 1.

The design of the HERS-park is made with the idea to make as little impact on the environment of the Chi Fu valley as possible. Existing trails are being used to a large extent

and the houses being constructed within the park is thought to be designed in an appropriate manner, which makes them blend into the old style of the dairy farm.



Figure 3 The layout of the suggested HERS-park.

Management and budgeting

After the completion of the HERS-park, it is suggested to be handled by a total of 7 people, which of one is working part time. Two people should be running the educational housing including the shop and exhibition hall, another two people for the management of the cows including farming, milking and dairy production. Two people are required for the maintenance of the eco park including, cleaning, smaller reparations etc. and one person is working part time with the teaching and educational parts of the eco park.

Some of the stone wall trees that grows in the area has to be stabilized in order to be safe for the visitors of the HERS-Park. The stability of the trees depends on their trunks, branches, crown as well as the strength of the root anchorage. To improve the stability and safety of the trees you have to maintain a balanced crown architecture and branch structure. This could be done by providing external structures such as wires or pillars that support the crown and branches, see Figure 4. A way to improve the root anchorage could be to drill holes in the concrete flooring which the roots are laying on top of. By doing so the roots could find their way through the floor down to the soil, where they anchor, with improved stability as a result.



Figure 4. Tree with external pillars.

The following hardware should be constructed to convert the site into an assessable HERS-Park.

- Cowsheds
- BBQ
- Sleepover
- Exhibition hall
- Trails
- Power supply system (include solar panels)
- Drainage system

The estimated cost of another revitalization scheme suggested by Caritas is HKD\$48.85 million. The scheme plans to revitalize the Old Dairy Farm Senior Staff Quarters into The Pokfulam Farm, which will restore and strengthen the existing construction and construct a new building for café and bakery. The cost was estimated upon the price level in Dec 2013. This can be a reference for budgeting of Chi Fu Valley.

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