

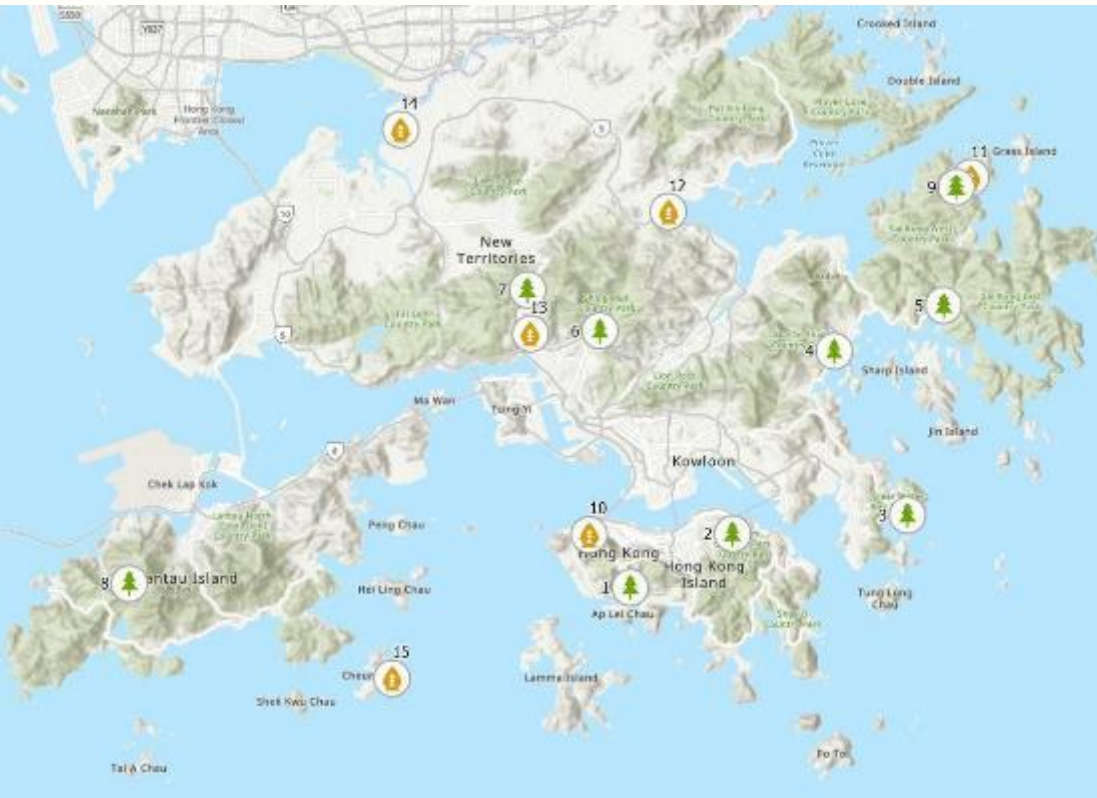


香港戶外生態教育協會
Outdoor Wildlife Learning Hong Kong

Tai Po Kau Nature Academy

Vision and Management Plan

Nature Centres in Hong Kong



Government

1. Aberdeen Tree Centre
2. Woodside Biodiversity Education Centre
3. Clear Water Bay Country Park Visitor Centre
4. Lions Nature Education Centre
5. Sai Kung Country Park Visitor Centre
6. Shing Mun Country Park Visitor Centre
7. Tai Mo Shan Country Park Visitor Centre
8. Ngong Ping Nature Centre
9. Hoi Ha Visitor Centre

Others

10. Lung Fu Shan Environmental Education Centre
11. The Jockey Club HSBC WWF Hong Kong Hoi Ha Marine Life Centre
12. Island House Conservation Studies Centre
13. Ho Koon Nature Education cum Astronomical Centre
14. Mai Po Nature Reserve temporary Visitor Centre and Education Centre
15. Caritas Chan Chun Ha Field Studies Centre

No nature centre with the theme of forest ecology

Tai Po Kau Nature Reserve

- The most mature secondary forest in Hong Kong
- Having high biodiversity
 - Trees: > 176 species
 - Birds: > 90 species
 - Amphibians and reptiles: 41 species
 - Freshwater Fishes: 17 species
 - Dragonflies: 36 species
 - Butterfly: 122 species



Insufficient facilities **INSIDE** the Tai Po Kau Nature Reserve

1. The prime purpose of the area is to conserve Hong Kong's native fauna and flora, hence, there are just a few facilities **inside** the Tai Po Kau Nature Reserve
2. Existing facilities includes:
 - Four “colour-coded walks”
 - One Tai Po Kau Nature Trail
 - Picnic areas – with tables, chairs and pavilion
 - One public toilet
 - Tai Po Kau Outdoor Study Centre - it resembles a park rather than a “study centre” , as there are having no staff on duties and also lacking educational facilities and programmes
3. The above facilities are **insufficient** to maximise the effort of environmental conservation and education with the natural resources in the Tai Po Kau Nature Reserve

Problems encountered by the visitors in Tai Po Kau Nature Reserve



Ecology/Environmental science Researchers

- Lack of supporting facilities (e.g. Laboratory and nursery)
- Lack of a sharing platform for collaboration opportunities



Various organizations organizing activities (e.g. Schools, NGOs)

- Lack of venues for education purpose (especially indoor)



General visitors (Public, Tourists)

- Lack of resources to facilitate exploration of biodiversity
- Lack of initiatives to encourage them for learning biodiversity

Significance of the Tai Po Kau Nature Academy

The first nature education centre with the theme of forest ecology and forest ecosystem services in Hong Kong

With the location right **OUTSIDE** of the Tai Po Kau Nature Reserve, and the services and facilities provided, to complement the functions of Tai Po Kau Nature Reserve for environmental conservation, education and sustainability

Tai Po Kau Nature Academy

Niche and Vision - GDP

1. **G**ateway to the exploration of forest ecology and connecting with nature
 - The Nature Academy is situated next to the path that leading to the forest in Tai Po Kau Nature Reserve, providing resources for the visitors to explore the forest biodiversity. Together with various educational activities, we open the senses of visitors to connect with nature
 - Complement and support to the functions of Tai Po Kau Nature Reserve
2. **D**emonstration for carbon neutrality
 - Green design is adopted to achieve Zero Carbon and Zero Waste Water. Together with the nursery, it demonstrates the ecosystem services of forest for climate regulation and carbon neutrality
3. **P**latform of nature community
 - A platform for all the stakeholders to use and to achieve 4 Cos: Co-use, Co-learn, Co-educate & Co-conserve

Tai Po Kau Nature Academy Planning and Management

With **GDP** as the core niche and vision, the Nature Academy will be planned with the concept of **4C**:

- **C**ore Zone 核心區域
- **C**onservation and Research Zone 保育及研究區域
- **C**ommunity Zone 社區協作區域
- **C**onnectedness Zone 連結自然區域



Figure 4.1
Landscape Master Plan (1:600 @ A3)



Figure 4.1
Landscape Master Plan (1:600 @ A3)

Core Zone (核心區域)

Visitor Centre, Forest Eco-pond and Orchard Path

- First window to contact with visitors
 - Opening: Daily 9am to 6pm
 - Pre-registration required for schools, institutions and organization
 - Provide drinking water for refill, space for resting and washroom
 - Provide rental services of binoculars, biodiversity field guides, observation magnifying glass, trekking poles, etc.
 - Observation deck with telescope set up for observing birds, dragonflies around the forest eco-pond
- Self-motivated affective learning activities provided by the Nature Academy
 - Forest learning log-book activity (森林觀寫手記)
 - Outdoor riddle game (實境解謎遊戲)
 - Forest species bioblitz (森林物種大搜查)



Conservation and Research Zone
 保育研究區域

Figure 4.1
 Landscape Master Plan (1:600 @ A3)

Conservation and Research Zone (保育研究區域)

Nursery, laboratory and activity room

- For promoting research as well as demonstration for carbon neutrality
 - The nursery will provide native seedlings for local projects (environmental mitigation planting, reforestation, plantation enrichment programme, urban landscaping, etc.)
 - Provide guided tour for the public to understand the concept of forest ecosystem services and carbon neutrality and the operation of nursery
 - Laboratory and activity room can be booked by university researchers and NGOs for the use of research and education activities
 - Registration is needed for entering the areas
- Education and conservation opportunities organized by the Nature Academy
 - Student nursery ambassador programme (學生護苗大使計劃)
 - Forest ecosystem services workshop (生態系統服務工作坊)
 - Seedling adoption scheme (幼苗助養計劃)
 - Nursery and forest ecology guided tour (苗圃參觀導賞)



Figure 4.1
Landscape Master Plan (1:600 @ A3)

Community Zone (社區協作區域)

Multi purposed activity room, event lawn and tented areas

- Areas for Co-use, Co-learn, Co-educate & Co-conserve
 - Open for booking by NGOs, outdoor education practitioners, etc, for co-organizing activities
 - Collaborate with schools for teacher' s professional development activities
 - Collaborate with artists to held workshop and showcase of ecology related art work
 - Promote game education, such as board game education through the first Hong Kong Ecology Board game <Law of the Forest>
- Collaborative activities organized by the Nature Academy
 - Outdoor learning activities (戶外營區學習活動)
 - <Law of the Forest> game education tour (<森林的法則>遊戲學習之旅)
 - Insect hotel workshop (昆蟲酒店工作坊)
 - Forest ecology and art workshop (森林生態藝術工作坊)



Figure 4.1
 Landscape Master Plan (1:600 @ A3)

Connectedness Zone (連結自然區域)

Native species woodland

- Create dense native species woodland with tranquil environment
- Affective-based education and activities for reconnect with nature
- Promote nature connectedness and well-being with collaboration to co-organize experiential activities, such as:
 - Forest bathing
 - Meditation
- Provide a base for conducting research for local outdoor environmental education, such as:
 - The relationship between nature connectedness and forest experience

Tai Po Kau Nature Academy

Management Team Leader from OWLHK

Dr. Xoni Ma

Founder and Education Director,
Outdoor Wildlife Learning Hong Kong

Dr. Ma is one of the few local environmental education and ecology researchers, with his research focuses on the utilization of outdoor education for school environmental education, and also terrestrial forest ecology. He has been involved in the field of environmental education for many years, with various roles including being the part-time Lecturer of the Department of Curriculum and Instruction, Faculty of Education, The Chinese University of Hong Kong and the Member of the [Advisory Board for Science Unit, Lingnan University](#).



Dr. Ma also coordinated, designed and led different kinds of environmental education programmes throughout the years, with targets such as kids, students, corporate, elders, teachers, environmental education practitioners and the public. With his vast knowledge and experience, together with his significant effort for pushing the development of environmental education in Hong Kong, Dr. Ma has received awards and recognition for his achievements, including the “[HKU 2015 Faculty Knowledge Exchange Award](#)”, “Roadshow Ecostar Award 2016” and “[North American Association for Environmental Education \(NAAEE\) EE 30 Under 30](#)”.

He is now serving as a member of the [Board of Directors of Ocean Park Corporation](#), member of the [Marine Ecology Enhancement Fund Management Committee of Airport Authority Hong Kong](#), and also several government's advisory committees, including the [Endangered Species Advisory Committee](#) and the [Product Eco-responsibility Appeal Board Panel](#).

Tai Po Kau Nature Academy

Management Team Leader from OWLHK

Dr. Xoni Ma

Founder and Education Director,
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*Thorough understanding and love of the forest
at the Tai Po Kau Nature Reserve*

- In June 2011, The University of Hong Kong launched the “[Global Forest Observatory: Public Involvement and Training in Scientific Research in Hong Kong](#)” that set up a 20-hectare observatory forest plot in Tai Po Kau Nature Reserve as the FIRST research attempt in Hong Kong to investigate the impacts of climate change on forests dynamics.
- **Dr. Ma was one of the key field researchers in the project** that he frequently worked inside the forest for a period of two years to record every single tree. **This close relationship with the forest in Tai Po Kau Nature Reserve is the main reason for Dr. Ma’s wish of setting up the Tai Po Kau Nature Academy**, for promoting the invaluable and beautiful forest ecology to all the visitors, and to protect and conserve it together.



Tai Po Kau Nature Academy

Setting up an exemplar for high quality environmental education centre and activities

- Recently in Hong Kong there are many operators providing commercial “green tours” in various locations. However, it should be noted that most of those are only for recreational purposes, with little or even without any education elements.
- Experience in nature is an important factor for nurturing nature connectedness and environmental attitude, however, it should be stressed that effective learning for environmental objectives does not occur only when people are being in the field (Lai, 1996).
- Therefore, it is imperative to set up exemplar to show how these activities could be effectively implemented with positive impact to nature conservation in Hong Kong. Hence, the **Tai Po Kau Nature Academy can be such an exemplar to showcase how a good environmental education centre can complement the functions of Nature Reserve and Country Parks.**
- All activities organized by the Nature Academy will be carefully designed with the adoption of Dr. Ma’s *Model of Effective Field-based Environmental Education* (Ma, 2016).

References:

Lai, K. C. (1996). Revisiting Fieldwork: Difference between Intention and Practice. *Geographical Education*, 9, 44-48.

Ma, K. K. (2016). *Field-based teaching and learning in environmental education: a case study on official curriculum in Hong Kong*. (PhD Thesis). University of Hong Kong, Pokfulam, Hong Kong SAR.

Tai Po Kau Nature Academy Code of conduct

- Code of conduct will be formulated with references to local and overseas examples, such as the Leave No Trace Principles, Camping Code from AFCD, the Wild Camping Code from Ireland.
- The code of conduct for the visitors in the Tai Po Kau Nature Academy **will be strict in order to be in-line with the conservation purpose of the Tai Po Kau Nature Reserve:**
 - No fire is allowed
 - No soap and detergent are allowed
 - Visitors must remove all food waste and litter, whether or not it is biodegradable, and keep the environment clean
 - Visitors are required to conduct themselves in a quiet manner, and use of the minimum level of light at night, in an effort to avoid disturbing the wildlife or other visitors
 - Keep water sources clean, and in no circumstances should any waste-water to be poured into the environment
 - Protect wildlife and plants
 - Tents must be removed after each overnight education activity to allow vegetation to recover
 - Respect the countryside and conserve the natural environment
- Sufficient on-site education staff will be deployed for patrolling and taking care of the environment and the behaviour of the visitors

Tai Po Kau Nature Academy

Biodiversity monitoring

- Ecological survey and biodiversity monitoring will be conducted during the construction **AND** operation of the Tai Po Kau Nature Academy
- This can ensure the Tai Po Kau Nature Academy is in line with the conservation purpose of the nearby Tai Po Kau Nature Reserve



Sustainability of the Tai Po Kau Nature Academy

Financial sustainability

- Regular education activities
- Professional training
- Collaborative activities
- Venue rental
- Equipment rental
- Production and selling of native seedling
- Funding opportunities



Social sustainability

- Establish public's ownership towards the Tai Po Kau Nature Academy and Nature Reserve – Volunteer training and service programme



Volunteer training and service programme

Recruit different stakeholders as volunteer, and to empower them to be the active member to promote conservation of Tai Po Kau Nature Reserve, and to increase their place attachment towards the areas, including:

- Hikers,
- Nature lovers,
- Students,
- Nearby residents, etc.



Received training from the Nature Academy, and to provide voluntary services:

- Tutor for tours and workshops
- Helper for nursery
- Trail clean-up
- Ecological monitoring



Excellent volunteers will be awarded annually



Tai Po Kau Nature Academy

is ready and dedicated to complement and enhance the conservation and education of Tai Po Kau Nature Reserve with all the stakeholders

Thank you!