

Kadoorie Farm and Botanic Garden

ANNUAL REPORT 2008



To increase the awareness of our relationship with the environment and bring about positive change in the world through conservation and education.

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Kadoorie Farm and Botanic Garden Annual Report 2008

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About KFBG

Kadoorie Farm and Botanic Garden (KFBG) is situated below the northern slopes of Hong Kong's Tai Mo Shan mountain. Two steep spurs enclose its deep-set valley, which shelters streams, woodlands, orchards and vegetable terraces, together with conservation and education facilities. In the post-war years, Hong Kong was flooded with destitute immigrants. Many had traditional agricultural knowledge of crop production and livestock farming. They required support to rebuild their lives. In response to these pressing human needs, Lord Lawrence and Sir Horace Kadoorie established the Kadoorie Agricultural Aid Association (KAAA) in 1951. The Kadoorie brothers, part of a well-established business family, saw wealth as a sacred trust to benefit mankind. The KAAA provided agricultural input, interest-free loans and training. With such aid, countless families and communities built small wells, irrigation channels, terraces, pathways, pigsties and houses. The success of the KAAA sponsored a self-help movement that brought many laurels, including the Ramon Magsaysay Award in 1962.

Hong Kong's unparalleled prosperity since the mid-1970's has led to a decline in farming. In the midst of wider social change and rapid economic expansion, a new direction was needed. Growing ecological knowledge indicated that Hong Kong and South China's natural diversity was under much greater threat than previously thought. In January 1995, the Legislative Council of Hong Kong passed an Ordinance (Kadoorie Farm and Botanic Garden Corporation Ordinance Chapter 1156) incorporating Kadoorie Farm and Botanic Garden as a non-profit corporation. The new focus was to promote conservation education, environmental sustainability, and the protection of biodiversity in Hong Kong and beyond.

KFBG has a unique public-private partnership. Though KFBG is a public corporation, its funding and management is in private hands. A Board of Directors appointed by the Trustees of the Kadoorie Foundation independently manages KFBG. KFBG spreads over 148 hectares on land leased from the Government. KFBG runs many collaborative programmes with government agencies, universities and non-government organisations.

Mission and Vision

MISSION

We exist to increase the awareness of our relationship with the environment and bring about positive change in the world through conservation and education.

VISION

KFBG will help create a world without environmental crisis, in which conservation of the natural heritage and sustainable living enable people to live in contentment, with respect for each other and nature.

Core Values

Sustainable Living

We believe in simple and responsible lifestyles. We examine the impact of all our actions, and strive to take only what we need, having regard for future generations and the natural environment.

Fairness and Justice

We strive to be fair and accountable in the way we do things. We value socially equitable systems that protect natural and cultural diversity and the interests of all generations.

Love and Happiness

We value love for the environment and awareness of the interrelationship of all things. We recognise the intrinsic worth of people and nature and have compassion and respect for all life. We believe our own happiness lies in creating and sharing happiness with others.

Learning and Openness

We believe in learning, continuous improvement, respecting different viewpoints and participation. We translate environmental principles into practical, holistic solutions, balancing scientific objectivity and creative intuition.

Professionalism

We strive to be caring and committed, and to uphold professional standards and best practices. We value our independence as well as our partnerships with individuals, communities and organisations.

Foreword

2008 was a year of consolidation for KFBG, in which we laid some of the groundwork for a shift of emphasis in the years ahead. Our current work to mitigate the destruction caused by industrial development and establish new values and structures for sustainable living will continue. Added to this will be an increasing focus on the shift of awareness and understanding necessary to support and sustain communities that are truly sustainable.

Future programmes will include helping people to experience a deeper relationship with the environment. The KFBG site is a magical and beautiful place that is highly conducive to stilling the mind. Through a still mind, we can experience ourselves as being part of nature - the heart opens and we begin to have access to the contentment that allows us to live more simply, more co-operatively and more sustainably.

I would like to take this opportunity to thank all KFBG staff, volunteers, partners and friends for your support and for the wonderful work that you are doing - and to encourage you to experience more and more of the joy of spending time at the Farm and offering your service to people and nature!

Andrew McAulay
Chairperson

Preface

In 2008, we continued to explore how to connect people to nature and how to help people shift towards simpler lifestyles in preparation for the challenges presented by the climatic, economic and social conditions that inevitably lie ahead. Our conservation programmes continued their solid work of doing what we can to conserve what biodiversity we have left in Hong Kong and South China for the well-being of all flora and fauna, including the humans.

As the age of cheap oil seems likely to be coming to an end, causing economic instability, at the same time that climate change is accelerating beyond the worst predictions of leading scientists, it is easy to feel overwhelmed, helpless and fearful of the future. I believe that these challenges cannot be effectively faced alone, either emotionally or practically, and that group and community support and action are vital. It is probably inconceivable to many Hong Kong people that their relatively comfortable lifestyles will come under great threat in the coming years, and the adoption of a lifestyle that is less dependent on energy and other resources does not yet have a mass appeal. Of course, many people do not find great happiness in the consumerist, stressful, money-oriented lifestyle that is common in Hong Kong and the good news is that the alternative may turn out to be much more attractive – less work; less travel; less overseas products to spend money on; working nearer to home; growing some of our own food; engaging and working more with our neighbours in community activities; exploring our full potential; lower expectations of financial wealth; and more opportunity to build natural and spiritual wealth through spending more time with nature. This kind of future seems not so bad if we are able to adjust positively when we need to. KFBG is promoting more community participation in building positive and sustainable lifestyles for the general public. We are also helping to build personal resilience to the great changes that can be expected. We will be developing more of these programmes in future years.

It is fascinating that in the 1950's the Kadoorie name was synonymous with the struggle to help Hong Kong feed itself and that this seems to be becoming our role again. Nowadays, Hong Kong's largely unused and abused farmland is inadequate for the task of feeding its huge population, yet planners and developers seemed to be only concerned with covering more and more of it with concrete to enable financial growth. We are dependent on the mainland for our food, yet climatic stress on food production, over-population and the likely huge increases in the prices of oil and other resources may make it even harder for our mainland friends to support us in future, perhaps causing a food security crisis to Hong Kong in the coming decade or so. It is important that people start to re-skill now, and that residents join to form community groups throughout Hong Kong to develop local urban and rural food gardens to build more resilience into Hong Kong's communities and food systems. It is also important that land owners make land available to these groups. Teaching organic farming and other basic living skills to young and old; helping groups to organize and acquire land; helping people to develop more love for their fellow humans, animals and plants and helping people find joy and meaning through nature rather than money seem to be important tasks for us now, and ultimately for our future well-being.

Andy Brown
Executive Director

EDUCATION



Young people gain valuable experiences and insights about nature when participating in programmes organised by the Education Department.

Throughout 2008, the Education Department continued to reach out to our visitors and educate them about the natural world. During the year, we organised guided tours, Night Safaris, Nature Fun Days, educational workshops and training courses to inform both students and teachers. In 2008, the department joined forces with the Hong Kong Education Bureau and organised special training workshops for primary and secondary school teachers. The new KFBG website was launched on 11th March, 2008.



Participants observing a moth trap during a night safari event.

1. Events and Activities

A. Visitors to KFBG

One of our most distinguished visitors during the year was Dr. Jane Goodall. On 16th December, 2008, she gave a talk entitled "Reason for Hope" on the problems facing the world today to KFBG staff and guests. Other visitors to KFBG included Mr. Les Luck, Australian Consul-General.



A group photograph taken with Dr. Jane Goodall when she visited KFBG.

B. Guided Tours

The Education Department continued providing popular guided tours giving the public a better appreciation and understanding of KFBG and the natural world. During 2008, a total of 7,555 people joined our guided tours.

C. KFBG Night Safari

During the period from March to November 2008, the department conducted eight 'Night Safaris' for school teachers and organisations such as Ocean Park, the Hong Kong Customs and Excise Department, and Botanic Gardens Conservation International. A total of 90 people joined the programme, catching sight of creatures such as porcupines, barking deer, wild boar and the Masked Palm Civet.

D. Nature Fun Day

KFBG Nature Fun Days provide fun-filled activities for children in Hong Kong to experience nature. A combination of guided tours, organised activities and art programmes, these themed events are held on the first Sunday of each month during the October to March period. The department played an active role in the Nature Fun Days and also organised three game booths, two "kitchen garden" booths, and created two display features "Thinking Green, Living Green" and "Disposable Chopsticks Destroy Forests" especially for the December 2008 event.



Children having fun at a game booth on Nature Fun Day.

2. Educational Programmes

A. KFBG Community Tree Planting Programme (2008)

Once again, the annual Community Tree Planting programme exceeded its 10,000-seedling target. During the March to June 2008 tree-planting season, a total of 10,906 seedlings were planted on the upper slopes of Tai Mo Shan by 3,600 members of the community. The Community Tree Planting Fund also received HK\$229,784 in donations – of which HK\$100,000 was used to support the KFBG China Programme planting of fig trees in the Hainan Gibbon project.



Planting tree seedlings on the slopes of Tai Mo Shan.

B. Geographic Information Systems (GIS) Day

The 2008 GIS Day, held on 27th November, was co-organised with the Education Bureau, as part of a 'Life-wide Learning' (LWL) programme. In addition, a special GIS Day event for students was successfully held on 15th November,



Students doing an orientation exercise at the Farm on GIS Day.

2008 for 50 students. The students were shown how to use GIS software to simulate how our environment has been shaped by geological processes.

C. School-based Curriculum Development

i. 'Connecting with Animals and Plants' Teacher Workshop

This workshop, co-organised by KFBG and the Education Bureau's School-based Curriculum Development (Primary) Section, was designed for teachers of General Studies (GS) in primary schools. The workshop, held on 13th June, 2008, outlined the relationship between the GS curriculum in primary schools, and, KFBG facilities and conservation projects. Teachers were introduced to the animals and plants at KFBG, and to related conservation projects. The teachers learnt how to use KFBG resources as teaching tools, and how to effectively organise visits to KFBG in a way that would relate to the GS curriculum. They were also given a demonstration of how to make good use of KFBG worksheets and to design a 'visit diary'.



KFBG encourages teachers to include more conservation elements into their everyday teaching at school.

ii. Life-wide Learning (LWL) Teacher Workshop

In April 2008, KFBG and the Education Bureau co-organised two LWL Teacher Workshops for primary and secondary school teachers. Teachers, deputy heads and other educators responsible for LWL and extra-curricular activities learnt how to make use of KFBG natural resources to implement teaching across subjects. Participants, through discussion and practical experience, proposed and designed strategies for quality LWL activities.

D. Workshops & Training Courses

i. Woodland Ecology Field Study Programme

From January to April 2008, a total of 128 students from eight secondary schools joined the programme. They learnt about common woodland plants and animals, and, about the relationship between flora, fauna and environmental gradients (light and temperature) in a woodland ecosystem.

ii. A 'Tree for Shelter' Bat Workshop for Teachers

In January 2008, by popular demand, we held another 'bat workshop' for teachers. The second in the series, it was designed to enhance teachers' knowledge and awareness of native wildlife, and to address conservation issues relating to bats in Hong Kong. A total of 60 primary and secondary school teachers attended the workshop. They left with valuable insights and educational resources to use in the classroom. The workshop, co-hosted by the Education Department and the Fauna Conservation Department, was supported by the Agriculture, Fisheries and Conservation Department (AFCD).



Teachers studying a bat tower designed by KFBG.

iii. Bat Eco-walk and Night Safari

In October 2008, a total of 60 secondary school students attended this nocturnal event, giving them a unique opportunity to observe the fascinating behaviour of bats in their natural habitat and to discover what KFBG and AFCD are doing to help conserve these mammals. Students gained valuable field experience and learnt about the ecology of bats and their environment.

3. Volunteer Services

During the year, our volunteers helped in providing guided tours, education programmes and various Farm events. These included Nature Fun Day, Community Tree Planting Programme, Memorial Race, GIS Day, Night Safari and Woodland Ecology Field Study Programme. Their participation contributed to the success of these activities.

Volunteer services co-ordinated by the Education Department during the period from January to December 2008 is shown in the following table:



A group photo of our helpful and resourceful KFBG volunteers.

	No. of Volunteer-Days	No. of Volunteer-Hours
Art & Environment Workshop & Exhibition	139	752
Education Programmes Preparatory Work	124	597
Fieldwork	242	1613
Guided Visits	339	1,000
Nature Fun Day	102	687
Reception Duty	3	21
Tree Planting	182	764
Total	1,131	5,434

4. Community Outreach

During 2008, members of the Education Department participated in conferences and study visits to Taiwan and USA. In April, Dr. Chiu Sein Tuck, Head of

the Education Department, and Judy Kiu attended a five-day conference in Taiwan, entitled "International Conference on the Development of Nature Centres – Let's Learn from Each Other". The organiser was the Graduate Institute of Environmental Education, National Taiwan Normal University. Dr. Chiu presented a talk on "Environmental Education, Development and Practice of Education for Sustainable Development in Kadoorie Farm and Botanic Garden, Hong Kong". In November, Judy Kiu attended a conference in Washington, USA, organised by the Environmental Education Association of Washington and visited IslandWood Nature Centre.



Dr. Chiu Sein Tuck presenting a talk at the "International Conference on the Development of Nature Centres" in Taipei.



Visiting the "Rooftop Garden" at the Graduate Institute of Environmental Education, National Taiwan Normal University.



A pre-conference trip to Chihnan National Forest Recreation Area, a nature education centre in the eastern part of Taiwan.

Judy Kiu participated in a tree planting day at Camp Long Park, Seattle, on 8th November, 2008.



"Garden Classroom" is a facility at IslandWood Nature Centre for students to "get dirt" while learning about green gardening.

5. Media Exposure

Between 1st January and 31st December, 2008, there were 189 newspaper and magazine reports about KFBG, and, 16 television and radio interviews of our staff. Some highlights are: in February 2008, a Black-faced Spoonbill "A39" was successfully released at the Mai Po Nature Reserve. Many reporters from television channels, newspapers and magazines were on-site to cover the story. In May, a birthday party was held for "Jai Jai", the oldest Da Hua Bai pig at the Farm. Local media helped spread the birthday wish of "Jai Jai" – "Eat Less Meat". Throughout the year, the One Tonne Challenge Carnival, held at the Star Ferry Central Pier, was frequently reported by the press. During the same period, seven press releases were issued by KFBG.



In September 2008, Dr. Michael Lau, Head of the China Programme, was interviewed on Po Toi Island about Romer's Tree Frog.

6. Art and Culture Programmes & In-House Design Projects

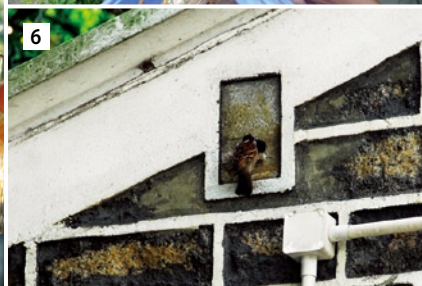
During 2008, the Education Department organised art and culture programmes, and designed numerous displays, signage, and various other items for use around the Farm. Examples include:

Art and Culture Programmes

1. "Portrait of Nature" Environmental Art Camp and Post-Camp Workshop Exhibition
2. "Summer Colour" Environmental Art Workshop 2008
3. "Piece & Whole" Art Project
4. SAORI Hand-weaving Project
5. "Love • Nature" Environmental Art Camp & Post-camp Sculpture Workshop 2008

In-House Design Projects

- | | |
|-----------------------------------|--|
| 6. Bird Boxes | 9. Memorial Race 2008 Tee Shirt Design |
| 7. Eco-Installation Display Boxes | 10. Monkey Haven Display Panels |
| 8. Educational Games Kit | 11. Mural Painting |



FAUNA Conservation



Black-faced Spoonbill Release at Mai Po in February 2008.

The Fauna Conservation Department continued to conserve and rescue wildlife in Hong Kong and the region, and respond to public enquiries regarding threatened and endangered wildlife species. Our rehabilitation and release of injured birds was especially rewarding, and we organised numerous educational events during the year.

1. Wildlife Rescue

A. Sanctuary

In early 2008, KFBG was granted permission to keep a Water Monitor (*Varanus salvator*) for educational purposes. It was rescued from a temple in Aberdeen in December 2007.

We continue to care for several turtle species (Common Snapping, Florida Softshell and Razorback Musk Turtles) transferred to KFBG by the Customs and Excise Department in 2007. We began looking for suitable homes for the turtles when judicial proceedings for the case ended in June 2008. These turtles were bred legally in American farms but were being shipped to Shenzhen illegally.

In October, we received more turtles: two Yellow-headed Temple turtles (*Hieremys annandalii*), and 87 turtles of mixed species confiscated from the Cheung Sha Wan market. We examined, micro-chipped and rehydrated them all, and are holding them for the duration of the legal proceedings.

During 2008, four pygmy lorises found a home at Singapore Zoo, while six

pygmy and five slow lorises went to the Rare Breed Conservation Centre in the United Kingdom.

B. Rehabilitation & Release

During 2008, the Wild Animal Rescue Centre (WARC) received more than a hundred birds for rehabilitation. Two cases were particularly interesting:

- An Eagle Owl, found on the Chi Ma Wan Peninsula, Lantau, was suffering from severe respiratory problems but made a full recovery after treatment and rest. On 24th January, 2008, with help from the Agriculture, Fisheries and Conservation Department (AFCD), we returned with the owl to the Chi Ma Wan Peninsula and released it.
- In July, another Eagle Owl was found at Repulse Bay with abrasions on both wings. After a month's care, it

was taken back to Repulse Bay and released.

After hand rearing and providing wilderness preparation, one Pallas's Squirrel was released in April, and one Brown Noctule bat was released in May.

C. Veterinary Work

In January 2008, the department received a Black-faced Spoonbill (designated 'A39') with a fish hook embedded in its stomach wall. After surgery, 'A39' recovered well and was released in February at the Mai Po Marshes Nature Reserve. Later in November, it was spotted again near Lok Ma Chau. Clearly, 'A39' made a full recovery and is doing well.



KFBG staff and reporters at the Mai Po spoonbill release site.



Eagle Owl about to be released at Lantau in January 2008.



Eagle Owl released at Repulse Bay in August 2008.



Black-faced Spoonbill (A39) at the rescue centre in February 2008.



Wigeon after one week under treatment.

In March 2008, about 40 Eurasian Wigeon were brought in from Lok Ma Chau suffering from Avian Botulism. We fed, watered and treated them. Sadly, nine died but the others eventually recovered and were released at Mai Po.

On a lighter note, during the year we trained our two wild boars and four macaques to accept basic commands during veterinary health checks. They now respond to almost 20 different commands, which aid husbandry and veterinary care.

During 2008, the KFBG Biosecurity 'Yellow' Alert was raised intermittently following reports of the H5 Avian Influenza Virus in Hong Kong. All birds entering the WARC were tested and all were confirmed negative.

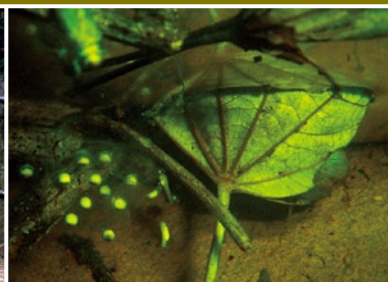
D. Fauna Statistics

a) Total number of animals received at the WARC between 1994 and December 2008:

Mammals	418
Birds	1,386
Reptiles	17,603
Stray snakes	2,896
Grand Total	22,303



Wild boar undergoing training by a keeper.



Romer's Tree Frog eggs at breeding area in KFBG in July.

2. Conservation

During March and April 2008, surveys were undertaken in the Tai Mo Shan tree-planting area to see if the Large Grass Warbler (LGW), possibly Hong Kong's rarest breeding bird, was nesting there. One LGW was confirmed nearby, but not where it would be disturbed by people accessing the tree-planting area. There was no evidence of breeding in the area. The LGW has a restricted world distribution and its conservation is important. KFBG assisted the taxonomic study of this species by providing funds for museum studies and DNA work.

A group of biologists, headed by Paul Leader (a consultant for KFBG), completed their Hong Kong study of the LGW in November 2008.

In May, staff from the Fauna Conservation Department and the China Programme participated in the 'Amphibian Ark' workshop at Ocean Park, which brought together experts to prioritize amphibian species in the region for conservation actions.

In May, also, the only known female Yangtse soft-shelled turtle in the world was transferred from the Changsha Zoo, in Hunan, to the Suzhou Zoo, near Shanghai, in the hope that she would breed with a male at that zoo. A team that included the KFBG vet, Dr. Alessandro Grioni organised and carried out the logistics of the move. The female

is approximately 80 years old and the male is 100 years old.

In July, the department completed a photographic ID record for the Golden Coin turtles (*Cuora trifasciata*) in our breeding programme. The breeding season ended on a high note with eight turtles hatched and thriving – double the success of 2007.

A 12-day survey of illegal turtle-trapping undertaken between September to December 2008 found more than 120 traps. Clearly, the Golden Coin turtle is not yet safe in the wild in Hong Kong.

We increased the number of breeding sites for the endangered Romer's Tree Frog (*Philautus romeri*) by adding 20 large breeding pots. During pot maintenance in July, we observed both eggs and tadpoles.

Dr. Gary Ades, the Head of the Fauna Conservation Department, attended a workshop in July at Singapore Zoo on how to improve conservation actions for Asia's remaining Pangolin populations. This group of animals are in a dire situation due to unsustainable harvesting for food and Traditional Chinese Medicine.

Over four nights in September and October, the department recorded more than 300 species of moths during the monthly trapping survey in KFBG. Our 'Checklist for Moths' recorded at KFBG is about 1,400 species.

b) Total Collection Figures from the Animal Record Keeping System for the period January to December 2008:

	Total in collection at 1/1/2008	Received/captive bred	Released/relocated	Died/euthanised	Total in collection at 31/12/2008
Birds	102	148	93	66	91
Mammals	80	34	19	16	80
Reptiles*	6,726	153	33	6,026**	835
Amphibians	9	20	9	8	13
Fish	170	0	0	17	234
Total	7,087	355	154	6,133	1,253

* Excluding stray snakes received from the HKSAR Police.

** Hatching turtles from US turtle farms, humanely destroyed on behalf of HKSAR Authorities.

3. Education

In January, Dr. Gary Ades and Dr. Roger Kendrick assisted the Education Department with the 'Tree for Shelter' bat workshop, attended by 60 school teachers. Supported by the AFCD, the workshop promoted bat conservation through educational projects.

The popular 'Nature Fun Day' continued in 2008. Highlights for February's 'Exploring Magic Moths' included a talk, a slide show and an insect craft workshop.

During the period March to November, eight 'Night Safaris' were put together for school teachers and other organisations.

As from April 2008, the macaque keepers have started giving talks to the guided tour groups. Visitors have responded well and enjoyed the talks.

As 2008 was 'The Year of the Frog', an amphibian conservation workshop and seminar for teachers was conducted at the Hong Kong Wetland Park on 24th April, 2008. The event, a joint effort between KFBG, AFCD and the Ocean Park Conservation Foundation, was attended by 89 teachers. The

department also launched the 'Year of the Frog' campaign on 4th May, 2008 highlighting the global amphibian crisis.

A 'Turtle Crisis' display installation was placed at the Reptile Lookout during the winter to warn of the huge biodiversity loss caused by unsustainable consumption of Asian turtles.

On 11th October, 2008, about 60 secondary school students attended a 'Bat Eco-walk and Night Safari', giving them an unique opportunity to observe the fascinating behaviour of bats in their natural habitat.

In November 2008, KFBG held a 'Wildlife Rescue' workshop attended by participants from seven Chinese provinces. The workshop was an important step in creating a China-wide support network and setting minimum operational standards for rescue centres.



Moths talk - highlight for Nature Fun Day.



Night Safari participants observing an Anderson's Stream Snake at Magnolia Reservoir.



Macaque Keeper Talk by Mui (Fauna Conservation staff).



Guided visit at Lotus Pond to study the life cycle of frogs during the Year of the Frog campaign.



Frogs were spotted during a night visit in KFBG for a teacher training workshop.

4. Display Development

A Golden Coin Turtle display was completed in the Amphibian and Reptile House in early 2008.

In July 2008, two Malayan Water Monitors (*Varanus salvator*) joined the Radiated Tortoises in the Reptile Garden display.

5. Media & Publications

Over 150 copies of the Proceedings of the 1st South East Asian Lepidoptera Conservation Symposium (ALCS) which was held at KFBG in September 2006, were distributed to participating delegates and other interested parties in 2008.

Hao Shulian, Dr. Roger Kendrick and Li Houhun published 'Microlepidoptera of Hong Kong: Checklist of Pterophoridae, with a description of one new species of moth (Insecta, Lepidoptera)' on 11th July, 2008.

6. Advisory, Outreach & Research

In January 2008, five staff members from the Beijing Raptor Rescue Centre worked with the Raptor and Bird Rehabilitation Section of this department for an exchange of knowledge and techniques.

On 25th July, following an invitation from the Centre for Health Protection, Dr. Gary Ades gave a presentation on the local ecology of bats and bat-borne diseases.

Between July and September, the department collaborated with the Tuen Mun Hospital, the Chinese University of Hong Kong, and the Hong Kong Poison Information Centre on a project to improve the treatment of snake bite victims in Hong Kong. The KFBG snake-handling team provided the project with 32 venom samples from 20 different bamboo pit vipers.

The study entitled 'Oral bacterial flora of the Chinese Cobra (*Naja atra*) and Bamboo Pit Viper (*Trimeresurus albolabris*) in Hong Kong, SAR, China' will be published in the Hong Kong Medical Journal in May 2009. The study provides recommendations for improved

treatment of snake bite victims in Hong Kong, and was a joint effort between the Tuen Mun Hospital and Fauna Conservation staff.

The 2nd ALCS took place in Penang, Malaysia, from 24th to 28th November, 2008. Dr. Roger Kendrick attended and gave a presentation entitled 'Lepidoptera of Hong Kong: Raising Awareness of Lepidoptera Conservation Issues'.

During 2008, Dr. Gary Ades, Dr. Roger Kendrick and Dr. Michael Lau (China Programme) carried out fauna surveys at the Dragon Garden, in Sham Tseng, Tsuen Wan. The surveys were part of an effort to protect the garden's natural

and cultural heritage. Afterwards, the team submitted a report with recommendations for conservation management of the gardens.

7. Mule Project

The mules continue to show their enormous value. During 2008, they delivered 37 tonnes of compost, seedlings and other cargo around KFBG.



- [1] Mules delivering compost at KFBG.
- [2] Wildlife Rescue Workshop participants - group photo.
- [3] Commemorative "wall" at Penang Butterfly Farm for the 2nd Asian Lepidoptera Conservation Symposium, Penang.
- [4] Golden Coin Turtle exhibit.
- [5] Fauna surveys were conducted at the Dragon Garden.
- [6] Turtle crisis display at the Reptile Lookout.

8. Ecological Advisory Programme (EAP)

A. Planning, Environmental Impact Assessments & Land Use

In 2008, we issued 32 letters of concern or objections against planning applications. Most of these applications were developments in sensitive zones. Examples are an application for re-zoning a Conservation Area to Residential Area at Clearwater Bay, and, the development of small houses at a woodland at Pin Tun, Sai Kung.

- In December 2007, after field surveys revealed that three abandoned fishponds in Tin Shui Wai were being used by wetland-dependent birds such as moorhens, egrets and kingfishers, KFBG and World Wide Fund for Nature (Hong Kong) objected to a proposed amendment to the Outline Zoning Plan (OZP). The plan suggested filling-in the fishponds and using the reclaimed land for recreational use. After considering our representation on 14th March, 2008, the Town Planning Board (TPB) agreed that, although they would re-zone the area as Open Space, they should retain the wetland character of the area. As a result, they added a clause to the OZP forbidding the filling-in of the fishponds.
- The EAP sent a letter of concern to the Water Services Department



EAP and staff from other KFBG departments helped in an exotic weed and mangrove clearance activity at Ha Pak Nai in December 2008.



(Left) In January 2008, an unauthorized bridge was built across the Lo Lau Uk stream in Tai Po.



(Right) District Lands Office demolished the bridge and restored the stream following advice from KFBG and other NGOs.

- (WSD) in January 2008 regarding maintenance work they were doing near Shek Kong. We explained that the noise from their drill compressor posed a potential disturbance to a nearby bat roost, and the WSD immediately moved the machine to another part of the work site.
- In January, we also sent a letter of concern to the District Lands Office (DLO) regarding an unauthorized bridge at Lo Lau Uk, Tai Po. The DLO arranged for the bridge to be immediately demolished and restoration work was completed in March 2008. Legal proceedings were instituted against the suspect for illegal excavation on Government Land. The case was well reported in the media.
- The Planning Department conducted a planning study of land use in the eastern Frontier Closed Area (FCA). A part of our recommendations provided in KFBG's FCA biodiversity survey report (published in 2004) were adopted, e.g., designating Robin's Nest as a Country Park and creating a wildlife corridor between Robin's Nest and Wutongshan in Shenzhen. Areas proposed for low-density development included the Lok Ma Chau Loop and Kong Nga Po. EAP members attended three public forums during June and July 2008 to support the proposed conservation plans. Many villagers displayed frustration with the plan's limited development potential but views from the public were generally more positive.
- The EAP also raised concerns regarding the proposed new cycling track at Nam Sang Wai, Yuen Long. In February 2008, we pointed out the alignment of the cycling track would

cross intertidal mudflats and have a significant impact on the birds using the Nam Sang Wai wetlands. We suggested that the alignment over intertidal mudflats and the fishpond area should be cancelled.

- On 7th December, 2008 the EAP jointly organised an exotic weed and mangrove clearance event with the Hong Kong Wetland Park. Invasive plants cause major problems to coastal wetlands.

B. Public Consultations

On 16th April, a team from KFBG led members of the Advisory Council on the Environment (ACE), including its chairman and vice-chairman on a tour of five sites near Tai Mong Tsai, Sai Kung. Unauthorized development and illegal activities such as land filling, vehicular access roads, retaining structures, tree felling, occupation of Government Land and site formation were found. The scale of the illegal land degradation so surprised the ACE members that on 30th June, they expressed their concerns at a meeting of the LegCo Panel on Environmental Affairs which also covered illegal fly-tipping.



Dumping of construction and demolition waste onto farmland at Tam Wat, Sai Kung. Such indiscriminate dumping causes direct habitat loss and visual impacts.

In 2008, the TPB received about 30 applications that were of concern to us, we objected to each of these and only four were eventually approved without any conditions (for details, see table below).

Selected comments on Planning Applications made to the Town Planning Board (TPB) in 2008

Date / Site location	Nature of application	Comments	TPB decision
1. January / Wong Yi Au, Tai Po	Small houses in GB	Tree cutting; Not in line with planning intention	Rejected
2. January / Clearwater Bay	Camping ground in CA	Legitimising previous environmental trashing work	Withdrawn by the applicant
3. January / Lo Lau Uk, Tai Po	Rezoning GB to V-zone	Lo Lau Uk is not a recognized village; Degradation of the function of GB; Environmental trashing around the site	Rejected
4. February / Che Keng Tuk, Sai Kung	Rezoning CA to V-zone	Environmental trashing in the site; Not in line with the planning intention	Pending consideration on 18 th April, 2008
5. February / Cheung Uk Tei, Tai Po	Small houses in GB	Close proximity to the feng shui wood; Not in line with planning intention	Rejected
6. March / Tai Po Kau Headland	SSSI proposal	Support the amendment on upgrading the headland to SSSI	Not agreed
7. June / Clearwater Bay	From CA to residential	Degradation of terrestrial habitats	Not agreed
8. June / Man Uk Pin	Small house near an ecologically sensitive stream	Leakage of septic tank and pollute the stream	Approved with conditions
9. July / Kau Sai San Tsuen, Sai Kung	Six small houses in GB	Disturbance to a secondary forest	Rejected
10. July / Ho Chung, Sai Kung	Redevelopment of houses at CA	Tree felling for site and track formation	Rejected
11. August / Fung Yuen	Housing development near a SSSI	Habitat loss and human disturbance	Pending consideration
12. September / Pak Nai, Yuen Long	Resort development	Habitat loss; Not in line with planning intention	Withdrawn
13. October / Cheung Uk Tei, Tai Po	Small house development at GB	Too close to a stream	Approved
14. October / Pak Shui Wun, near HKUST	Landfill and excavation for agriculture at CA and CPA zones	Site formation for greenhouses should apply for permission in advance; Undesirable precedent for similar cases in future	Approved with conditions for a period of 3 years
15. October / Ho Chung	Small house development at CA	Undesirable precedent for similar cases in future; Not in line with planning intention	Approved with conditions
16. December / Pin Tun, Sai Kung	Small house development at GB	Affect a woodland; Not in line with planning intention	Rejected

Abbreviations used: CA - Conservation Area; CPA - Coastal Protection Area; GB - Green Belt; SSSI - Site of Special Scientific Interest.

9. Ecological Management Programme (EMP)

A. Lam Tsuen Community Bat Project (a conflict resolution case study)

Through our efforts, the Lam Tsuen villagers now share their village peaceably with the bats.

During 2008, we made five site visits: three for guano removal, and two for facility improvement work including the construction of a simple bamboo door preventing access to the bat colony. The bat population of around 115 individuals has been accepted on the understanding that the project team regularly removes guano from the roost every quarter. The guano collected goes through a composting process and is used as a fertiliser and is also sold at our farm shop.



A simple bamboo door constructed by our Facilities Department to prevent access to the bat colony in a Lam Tsuen village house.



A Leaf-nosed Bat found in a Lam Tsuen village house.



Bat guano compost sold at our farm shop.

B. Pest Management

Various conflicts with wild animals have occurred at KFBG during 2008. There is a clear procedure now once a pest incident report form is completed. All reports are followed up by the Pest Management Officer and assessed for further actions.

Regular conflicts include damage to crops by macaques, wild boar and porcupines, and, wasp nests which cause a potential danger to public or staff have to be removed.

All pest issues have unique solutions and the challenge is to keep the situation in perspective and deal with the wildlife in an appropriate manner, with environmentally friendly solutions.

FLORA Conservation



A training exercise for our Tree Management Team.

In 2008, the Flora Conservation Department continued to spread the word about conserving our natural environment in the local community through maintaining the gardens, workshops, tree-planting events, teacher training, lectures and school visits. Through our continuing collaboration with Botanic Gardens Conservation International, we hope the message will be heard beyond Hong Kong's borders, creating links with other botanic gardens in mainland China.

1. Tree Conservation & Management

During 2008, our team of professional arborists and tree surgeons carried out almost 100 'operations' to maintain the trees in the best possible condition. In addition, 63 trees judged potentially

hazardous were removed. A further 119 trees were pruned: some for safety reasons and others to keep them healthy.

Native Tree Nursery Production

- On 9th July, the Native Tree Nursery and the Flora Habitat Management

Teams planted 40 China Fir (*Cunninghamia lanceolata*) and 40 Teak (*Tectona grandis*) seedlings near Signpost Corner as a trial planting for the new KFBG Timber Production Project.

- Around 11,000 tree seedlings were planted on Tai Mo Shan through the Community Tree Planting Programme during 2008.
- During 2008, about 95,000 seeds were collected from 136 native tree and shrub species, of which over 60,000 seeds of 60 species were collected from Fung Shui Woods and Country Parks for conservation purposes.
- At the end of the year, there was about 30,000 seedlings of 320 native tree, shrub and climber species held in stock at the Native Tree Nursery, of which around 20 species are either protected or rare in this region. In addition, another 20 montane and 30 Fung Shui Wood tree species were also propagated to support the habitat enrichment projects in KFBG and around Hong Kong.



Tree Management Team training programme by an expert from Hawaii, Mr. Leon Marcus.

2. Seed Bank

The Seed Bank currently holds around 220 species including both native and exotic plants. Of these, 17 are rare species and two are protected species in Hong Kong. Our target is to collect seeds of another 200 species of native plants in the coming five years, of which at least 20 will be rare species in Hong Kong.

During 2008, a total of 57 species of seeds underwent germination tests before storage.

We have improved our seed monitoring techniques following suggestions after a visit by Professor Hugh Pritchard, Head of Research, Seed Conservation Department, Millennium Seed Bank, Royal Botanic Gardens, Kew.



Seeds of *Machilus wangchiana* (average size is about 2-2.5 cm in diameter).



KFBG's team of professional arborists and tree surgeons work hard to protect the trees and keep them healthy.



3. Community Services & Education

In January 2008, the Department actively participated in the Nature Fun Day with the theme of "In Touch With Trees", featuring demonstrations on tree management, protection and conservation.

During the summer, we organised two special tree-planting events: the first in May, for staff of a Tung Wah Home for the Elderly; the second in July, for a group of international students participating in the 2008 Asian Youth Climate Summit (AYCS08) held at The University of Hong Kong.

In May and July, the department also organised workshops on native tree conservation for local Scout groups. Two workshops were conducted in the Native Tree Nursery (24th May and 19th July), and another in the Hok Tau Country Park (19th July) by Terry Fung and Grace Lau.

Dr. Lawrence Chau, Head of the Flora Conservation Department and Terry Fung organised a teacher training event on the subject of native wild plants at the Japanese School in Happy Valley on 4th June, 2008.



Scout Forest Care Workshop at KFBG Native Tree Nursery.



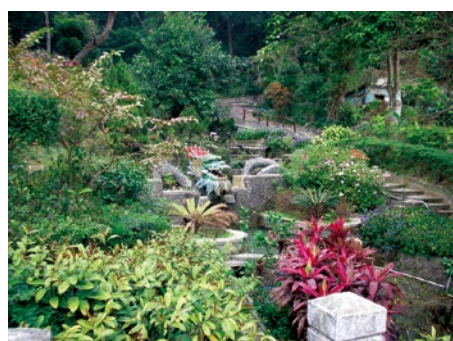
Tree Planting for the 2008 Asian Youth Climate Summit (July 2008).



Exhibition booth at the January 2008 Nature Fun Day.



Tree Planting for staff of Tung Wah Home for the Elderly (May 2008).



A plant survey and tree assessment was carried out at Dragon Garden in March 2008.



4. Advisory Services, Networking & Collaboration

Dr. Lawrence Chau and Terry Fung visited Dragon Garden and carried out a plant survey and tree assessment on 13th March, 2008.

KFBG continued to work with Botanic Gardens Conservation International (BGCI) by co-organising the 2008 Travel Scholarship Programme. Seven travel

scholarships were awarded to staff from botanic gardens in mainland China to support closer working relations and to create links between the botanic gardens on the mainland and Hong Kong. This programme has entered its sixth year. Seven successful candidates were chosen from nearly 70 applicants. From 27th October to 13th November, the seven candidates participated in lectures and visits to various public, private and community-based gardens and parks in Hong Kong. The cost of the scholarships was shared equally between BGCI and KFBG.

In November, Dr. Lawrence Chau and Terry Fung provided recommendations on vegetation enhancement planting to the Independent Schools Foundation Academy, in Telegraph Bay, Hong Kong Island.



BGCI training on seed germination techniques.



BGCI participants visiting the Hong Kong Herbarium (Agriculture, Fisheries and Conservation Department – AFCD).



BGCI training - visit to native tree trial planting site at Tung Chung (AFCD).



A mature plant of *Dendrobium densiflorum* in full bloom at Orchid Haven.

5. Orchid Conservation

In April 2008, Dr. Philip Cribb (formerly of the Royal Botanic Gardens, Kew) visited KFBG at our invitation to evaluate the work of the Orchid Conservation Section (OCS) and to produce a report.

Following Dr. Cribb's report, Dr. Gunter Fischer, from the University of Salzburg Botanic Garden, Austria, was engaged as a consultant for six weeks during August-September 2008 to rationalize OCS programmes.

Assisted by OCS, Dr. Fischer initiated a survey of wild orchids growing within KFBG, and the set-up of a new orchid database and inventory system. Under Dr. Fischer's supervision, OCS and fieldwork volunteers made improvements to the orchid garden on Terraces 1 and 2 in Orchid Haven. Orchid species native to Hong Kong and South China, propagated and cultivated by OCS, were planted throughout; on wood slabs, in planters, on trees, on stone pillars and stone walls. The extensive landscaping and planting continued through September and October 2008. Dr. Fischer also introduced new facilities for the culture of orchids.

6. Media

Dr. Lawrence Chau wrote an article on Hill Fire Prevention for Green Fun, a non-profit making voluntary organisation that promotes "greening" in Hong Kong. The article was published on 3rd April in the *Sing Tao Daily*, *Wen Wei Po* and *Hong Kong Commercial Daily*.

Vanda cristata, a native orchid of Nepal, in flower in Orchid Haven.



Planting of the new beds with terrestrial orchids in Terrace 1, Orchid Haven.



Renovation of Terrace 1 in Orchid Haven, showing the establishment of new landscape features.



New mobile racks, designed specifically for the culture of epiphytic orchids were introduced by Dr. Gunter Fischer.

Sustainable LIVING & AGRICULTURE



One-year anniversary celebration of the One-Tonne Challenge (OTC) was attended by LegCo members, senior government officials and academic advisors of the campaign.

During 2008, the Sustainable Living and Agriculture Department, in collaboration with schools, universities, government organisations and voluntary groups, entered its third year of spreading the message of sustainable living in Hong Kong. The community outreach programmes of the department continue to connect with local people, young and old, promoting sustainable living; encouraging and supporting those who recognise the value of a way of life that is closer to nature.

1. Demonstration of Sustainable Agriculture Production Practices

A. Organic Resource Management

In 2008, the farm produced 66 tonnes of compost, used mainly in KFBG farm-based operations. The remainder were given to outreach activities or sold from the Farm Shop.



Organic vegetables are gaining popularity as a 'gift for health'.

After receiving government permission to use redworms (*Eisenia fetida*) for a community composting programme, the department began farm-based vermiculture trials in July 2008. In addition, after successful composting trials in 2007, we began selling bat guano fertiliser from the Farm Shop to raise funds for bat conservation.

B. Farmland Management

A variety of fruit trees, nectar-rich native trees, hedge row, green manure and ground cover crops have been gradually



KFBG tea plant.

introduced to selected monocropped orchard areas for rejuvenation of orchard productivity and habitat enhancement. A new agroforestry display is under development at the lower farm to illustrate this sustainable agriculture model of high resilience.

After establishment of a new Fruit Tree Nursery at the Kadoorie Institute Shek Kong Centre in late 2007, in-house production of fruit tree seedlings for our orchards has enabled us to enhance our self-sufficiency in supply and quality. The range of seedlings now includes: papaya, sugar apple, starfruit, coffee, and citrus fruits such as pomelo, orange, mandarin and tangerine.

In 2008, with the help of a consultant and the new bee-keeper, honey production has improved and the number of bee colonies have increased to 21 hives.



Honey production was restored in 2008.



Vegetable seedlings and a wide variety of edible herbs are welcomed by growers of organic plants.

C. New Items for Sale

In comparison to 2003/2004, the production of vegetables, eggs, fruits and compost have increased by 22%, 38%, 40% and 16%, respectively. Production and processing of tea leaves and chrysanthemum flowers have also improved and they are now available for sale at the Farm Shop.

As from 2008, to promote the growing of vegetables and herbs, we now sell a wide range of vegetable seedlings and edible herbs in the Farm Shop.



Harvesting chrysanthemum flowers at KFBG.

2. Farm-based Programmes

A. Nature Fun Day at KFBG

During 2008, thousands of visitors enjoyed the monthly guided tours and activities. Highlights included: 'In Touch with Trees' (January), 'Exploring Magic Moths' (February), 'Living with Nature' (March), 'Hakka Cake Festival' (October), 'Forest Discovery' (November), and 'Nature Education - Fun & Games' (December).



Natural dye activity on Nature Fun Day.

A part of the KFBG Eco-Garden was modified to support field training in our organic farming course.



Participants learnt 'No-Dig' gardening skills through practical work at our organic farming course.

B. Training Courses

In the first half of 2008, the department ran nine school workshops entitled 'Eating Lightly on Earth'. The workshops were hosted by St. Paul's Co-educational College as part of their year-long environmental sustainability campaign.

Between March and May, we ran a bee-keeping training course on how to integrate honey production with organic farming. So successful was the course that all participants said afterwards they had started or planned to start their own apiary.

From 16th June to 22nd August, 2008, two student interns from the City University of Hong Kong carried out a research project at KFBG. The students studied the effect on soil fertility of different organic fertilisers such as peanut meal, comfrey and decomposed vegetables.

In October and November, we ran two 2-day 'Basic Farming' training courses on how to grow food in harmony with nature. The courses comprised talks, discussion groups, field practice and demonstrations.



Students learning how to 'eat lightly on earth' at KFBG.



Climate-friendly greening workshop in schools.



Participants discussing bee-box design during the Bee-Keeping Training Course.

3. Community Outreach Programmes

A. Organic Farmers' Market in Central

Launched in 2007, the Organic Farmers' Market (OFM) supports and promotes the work of local organic farmers. This weekly market continues to expand with more than 20 organic farmers, producers and retailers now attending each market day held at the new Star Ferry Pier.

Funded by the Environment and Conservation Fund (ECF), a 31-week 'Zero Waste' action research project conducted from March to September established the OFM in Central as Hong Kong's first, self-sustaining 'no-plastic-bag' operation.

Also funded through ECF, our 'Climate-friendly Greening Project' reached more than 11,000 people during April to September 2008 via various public and community workshops promoting environmentally-friendly gardening practices.

B. Low Footprint Healthy Diet Project

During the 2007/2008 academic year, 31 primary schools joined this project, promoting a healthy 'low footprint' diet. We put together over 50 sessions of school visits, talks and training workshops advising teachers, students and parents on matters such as school gardens, organic farming, healthy diets, and nutritional principles. Our most successful events were:

- School Vegetarian Lunch Day: 8,507 participants from 14 schools joined this event;
- Low Footprint Healthy Diet Party Recipe Competition: we collected 117 recipes from seven schools and held an award ceremony in December for the creators of the 20 best recipes.

C. LOHAS School Project

For the 2008/2009 academic year, we introduced the **LOHAS** (Lifestyles of Health and Sustainability) project to broaden the focus from diet to sustainable lifestyle subjects such as energy consumption, waste reduction and resource recovery in daily life. More than 70 primary schools joined the project, and we organised and delivered over 50 sessions of school talks, teacher training and student workshops during the last quarter of 2008.



Children learning how to make a 'green lantern' for the Mid-Autumn Festival.



Ms Anissa Wong received a moon-cake made by children with their green message inside.



Consumers welcomed greener packaging at the Zero-Waste Market.



Children re-use waste paper to knit baskets at the Zero-Waste Market.



The 'electricity generating bicycle' set up at the OTC counter received good feedback on the Kowloon City Olympic Day.

D. One Tonne Challenge

July 2008 saw the first anniversary of the One Tonne Challenge (OTC). To mark the event, KFBG presented the Hong Kong Olympics Committee with a 'Green Gift to the Olympics' – a pledge from Hong Kong citizens to save 14,000 tonnes of carbon dioxide. By July 2008, this campaign had reached 120,000 people.

In March 2008, KFBG co-organised a two-day 'Green Zone' at Tuen Mun Hospital with seven NGOs and the Hospital Authority. A travelling exhibition and road show featuring OTC and energy-saving habits was also held at Pok Oi, Tuen Mun and Castle Peak hospitals from January to March 2008.

In May, we collaborated with the Hong Kong Polytechnic University and launched an online educational game; a documentary about OTC; three educational animation films for the Low Footprint Healthy Diet project and six 30-second animation clips for the OTC website.



Hong Kong Polytechnic University produced an animation film about 'eating food in season'.

Spreading the climate change message remained a priority during 2008 and, apart from teacher seminars and educational booths, the department organised the following activities:

- We ran a total of 12 monthly carnivals with themes such as 'Hakka Culture' and 'Green Christmas', all with underlying messages about energy-saving, renewable energy and sustainable living.
- We formed a new partnership with the Hong Kong Federation of Women and delivered a talk to over 400 members at their annual assembly in April.

- In May, we ran an OTC training course for 150 Civil Aid Service training officers.
- On 20th August, the 'Lights-off, Moon-on' campaign was re-launched to stimulate public action in cutting down unnecessary lighting. Anissa Wong, Director of the Environmental Protection Department, officiated at the ceremony.

Last but not least, the OTC campaign website (www.climatechange.hk) was very successful. During 2008, the cumulative hit count reached 164,707 and the number of registered users or institutions increased to 3,840.

E. Public Talks & Workshops

In February 2008, following a 4-session 'Cultivate a Green Eating Habit' education programme, the Hong Lok Yuen International School built their own organic vegetable garden.

4. Media & Publications

- 2,000 copies of the book 'Grow Organic' were sold-out by January 2008 and another 2,000 copies of the book were reprinted for sale in March.



The book, *Grow Organic*, first published in March 2007, is our best seller.

- Two travelling exhibits promoting the Organic Farmers' Market and Zero-Waste were produced in March.
- In May, 3 one-hour 'Green Living' courses were delivered via Commercial Radio Hong Kong on the 'Capacity Building Mileage Programme', run by the Hong Kong Open University.
- Sponsored by KFBG, the Hong Kong Organic Farming Association produced 500 copies of the 'Hong Kong Common Vegetable Seeds Handbook' in June for local organic farmers; the Agriculture, Fisheries and Conservation Department and other farming associations. It lists more than 50 vegetables grown in Hong Kong, and gives advice on seed saving and nursery operations.

5. Volunteers

During 2008, volunteers contributed more than a thousand person-days to the work of the department. In May, we organised a 'volunteer retreat' to familiarise them with the work of KFBG.



A capacity building planting workshop was organised for volunteers.



We need over 30 volunteers at each OTC carnival – here are some of those who helped in July 2008.

CHINA Programme



In May 2008, primary school students in Hainan learnt about the ecology of different aquatic insects and how they link with each other.

During 2008, the China Programme continued working with our partners in mainland China to promote sustainable living and agriculture, forest conservation, and the protection of threatened species. Our successful efforts at building trust in the community in the Yinggeling Nature Reserve has led to villagers adopting sustainable agricultural practices. In the Bawangling National Nature Reserve, the population of the Hainan Gibbon has increased to 20 individuals.

1. Fauna & Flora Field Surveys, Conferences & Meetings

A waterbird survey was conducted in wetlands on Hainan from 10th to 13th January, 2008. We visited 12 wetland sites and recorded 51 different species. Highlights included a record 93 Black-faced Spoonbills found at two sites – almost 5% of the world population of this endangered species – and 11 Greylag Geese (*Anser anser*), the first record of this species in the annual waterbird survey.

In Hainan, we also conducted a fauna survey in the Wuzhishan Nature Reserve from 14th to 21st April, and made the following discoveries: one dragonfly species new to Hainan (found by Graham Reels, a dragonfly expert); two butterfly species new to China; and another two new to Hainan.

2. Yinggeling Nature Reserve (YNR), Hainan

Our collaboration with YNR Management continues to strengthen; Dr. Bosco Chan's secondment to the reserve as Special Deputy Director has been extended for another year. In June, a study tour was

organised for the management staff of Yinggeling to Maolan National Nature Reserve in Guizhou where there has been concerted effort for over 20 years to address conservation problems. The participants were impressed by the systematic structure and openness of the reserve management in Maolan. This and other training programmes have enabled the young staff in YNR to gain confidence and competence in managing the reserve.

During 2008, we carried out participatory rural appraisals in several villages within YNR to better understand how villagers use natural resources and to try to resolve conflicts with the nature reserve regulations and management plans. We later helped establish the Gaofeng Community Committee for Conservation so that the five villages in the area can discuss and agree on the rules and boundaries within their harvest areas.

Following a suggestion from YNR and KFBG staff, the villagers at Daoyin established a 'no-fishing zone' in the nearby river in March 2008. We also discussed setting-up agro-forestry systems with the villagers. These projects

were video-documented for community education purposes.

In May 2008, we invited some 50 local primary school students to join our fish sanctuary conservation activity at Daoyin. Talks, field work and a film show on stream ecology were organised to arouse their conservation awareness.

In May 2008, we also invited Daoyin farmers to visit farms at Xinglong so that they could learn more about the multi-layered (forest garden) farming system in use there in order to help them optimize their agricultural production.

The Daoyin villagers are happy with the integrated rice-duck cultivation system introduced in August 2008. Besides



Daoyin farmers decided to try the rice-duck system, to control weeds and insect pests, and, to fertilise their fields, after the study tour.



Students identifying the small insects collected during a conservation awareness-raising activity at Daoyin.

increasing the rice yield by about 15%, the system also reduced labour, weeds and insect control and eliminated the need for pesticides. It also gave them ducks and duck eggs.

In the village of Daoyin, pilot sustainability-oriented projects such as a compost toilet and deep-litter bedding system for pigs were so successful that the villagers asked for the systems to be extended to the whole village. In August 2008, KFBG and YNR supported installation of an additional nine compost toilets and six deep-litter pig pens.

In October 2008, officials from Baisha County invited KFBG and the YNR to design a sustainable agriculture project that could be used as demonstration for other places in the county. Hilario Padilla, Dr. John Fellowes and Wylie Chu discussed the project with YNR staff and, in December, Hilario proposed the "Yuanmen Sustainable Community Livelihood Project" to Yuanmen village, Baisha county and YNR officials, who all welcomed the proposal.

A "2009 Yinggeling Nature Reserve Calendar" was produced in December 2008 and distributed to the villagers living in and around the YNR to enhance their awareness of the conservation importance of the reserve.

3. Conserving the Hainan Gibbon: the world's rarest ape

There are now about 20 gibbons within the Bawangling National Nature Reserve (BNNR). When our project started here in 2003, there were only 13 individuals. Counting gibbons is difficult as they are shy, are often on the move and groups sometimes intermingle but we have confirmation of at least three breeding females. Limited information from the Baisha side of BNNR led us to support survey work in that area with a view to introducing an improved gibbon monitoring system in 2009.

During 2008, with additional funding received from the KFBG Tree Planting Fund, we carried out maintenance on 120 hectares of trees planted in the previous three years, and planted native food trees for gibbons on an additional 27 hectares of BNNR.



Participants proudly showing their farmer-friendly educational materials.



Different kinds of fruit tree and timber tree seedlings to be planted in Daoyin.

4. Sustainable Living & Agriculture

A. Eco-school at Gansu, China

The Maosi Ecological Demonstration Primary School, funded by KFBG and designed by the Chinese University of Hong Kong (CUHK) received eight local, national and international awards including:

- China Architecture Media Awards (2008)
- Learning Category commendation in World Architecture Festival (2008) in Barcelona, Spain

The headmaster of this eco-school conveyed his gratitude and said: "Last winter was one of the worst but in this new school, not a single piece of coal was burnt to keep warm. All our money can now be spent on books".

B. Other Projects

In March 2008, Hilario Padilla visited the isolated Xichang 'leprosy villages' in Sichuan, to learn about leprosy-relief and to identify possible livelihood projects. This leprosy-relief project is run jointly by the Rotary Club of Hong Kong and Handa, a Guangzhou-based leprosy NGO. During meetings with villagers and Handa staff, projects such as pig-rearing and planting fruit trees on the hillsides were identified as attractive income-generating initiatives.

In November 2008, Hilario Padilla and five Partnerships for Community Development (PCD) interns visited Pi County in Sichuan to interview organic rice farmers in preparation for a January 2009 'writeshop' in Guangxi. The innovative rice-production technique used in Pi County has doubled the farmers' rice yields, such that, after just two years, the whole community is now using it. This will be one of the



The Maosi Ecological Demonstration Primary School in Gansu Province.

organic rice cultivation case studies to be covered in a user-friendly manual for farmers and trainers, a joint project by KFBG and PCD.

The KFBG collaboration with Heifer International China (Heifer), the community-based, rural development organisation, on alternative livestock rearing is working well. During 2008, a pilot project on a deep-litter bedding system for pigs in Yunnan was so successful that we received requests for information and training from Anhui, Tibet and Sichuan.

5. Publications

We published 'Living Forests' (Issue 14) in July 2008. With the theme of 'Countdown 2010 – Save Biodiversity', this issue provokes reflection on whether South China can meet the global target of significantly reduced biodiversity loss by 2010.

In October 2008, we uploaded a test version of our resource book for nature reserve management, entitled "Sustaining the Pulse – Managing for Biodiversity Conservation in South China's Forest Nature Reserves", on the KFBG website for readers to use and to give comments. It will be revised accordingly and hard copies will be printed for distribution to partners and reserve managers in 2009.

CHINA Programme

The following reports, papers and articles on the distribution and status of South China forest biota authored by our staff or supported by KFBG grants were published in 2008:

Title	Authors	Journal
1. Species diversity and distribution of freshwater fishes at Mt. Yinggeling, Hainan Island, China	Bosco Chan and Xianglin Chen	<i>Biodiversity Science</i> 2008 16(1): 44-52
2. Hainan Gibbon <i>Nomascus hainanus</i> (Thomas, 1892)	Alan Mootnick, Wang Xiaoming, Pierre Moisson, Bosco Chan, John Fellowes and Tilo Nadler	<i>25 Most Endangered Primates – Conservation International</i>
3. Threatened fishes of the world: <i>Protomyzon pachychilus</i> Chen, 1980 (Balitoridae)	Bosco Chan and Kong Deping	<i>Environmental Biology of Fishes</i> 81
4. Current status of the Hainan Gibbon (<i>Nomascus hainanus</i>): progress of population monitoring and other priority actions	John Fellowes, Bosco Chan, Zhou Jiang, Chen Shenghua, Yang Shibin and Ng Sai Chit	<i>Asian Primates Journal</i> 2008 1(1): 2-9
5. Rediscovery of the Critically Endangered Eastern Black Crested Gibbon <i>Nomascus nasutus</i> (Hylobatidae) in China, with preliminary notes on population size, ecology and conservation status	Bosco Chan, Tan Xuefeng and Tan Jingwu	<i>Asian Primates Journal</i> 2008 1(1): 17-25
6. Elevational diversity patterns of orchids in Nanling National Nature Reserve, northern Guangdong Province	Tian Huaizhen and Xing Fuwu	<i>Biodiversity Science</i> 2008 16(1)
7. <i>Chamaegastrodia nanlingensis</i> (Orchidaceae), a new species from Guangdong, China	Tian Huaizhen and Xing Fuwu	<i>Novon</i> 2008 18(2)
8. The saproxylic beetle assemblage associated with different host trees in Southwest China	Wu Jie, Yu Xiaodong and Zhou Hongzhang	<i>Insect Science</i> 2008 15(3): 251-261
9. A new species of babbler (Timalidae: <i>Stachyris</i>) from the Sino-Vietnamese border region of China	Zhou Fang and Jiang Aiwu	<i>The Auk</i> 2008 125(2): 420-424
10. Frugivory and seed dispersal by a small carnivore, the Chinese Ferret-badger, <i>Melogale moschata</i> , in a fragmented tropical forest of central China	Zhou Youbing, Zhang L, Kaneko Y, Chris Newman and Wang Xiaoming	<i>Forest Ecology and Management</i> 2008 255: 1595-1603
11. Frugivory and seed dispersal by the Yellow-throated Marten, <i>Martes flavigula</i> , in a subtropical forest of China	Zhou Youbing, Eleanor Slade, Chris Newman, Wang Xiaoming and Zhang Shuyi	<i>Journal of Tropical Ecology</i> 2008 24: 219-223
12. Dietary shifts in relation to fruit availability among Masked Palm Civets (<i>Paguma larvata</i>) in central China	Zhou Youbing, Zhang Jinshuo, Eleanor Slade, Zhang Libiao, Francisco Palomares, Chen Jin, Wang Xiaoming and Zhang Shuyi	<i>Journal of Mammalogy</i> 2008 89(2): 435-447
13. Revised checklist of Hainan Odonata, China	Keith Wilson, Graham Reels and Xu Zaifu	<i>Echo</i> 2008 5: 7-14
14. Medical ethnobotany of the Run Dialect People of Li Minority in Hainan	Zheng Xi-Long, Chen Hong-Feng, Li Rong-Tao and Xing Fu-Wu	<i>Acta Botanica Yunnanica</i> 2008 30(2)
15. Study and conservation status of otters	Lei Wei and Li Yuchun	<i>Journal of Biology</i> 2008 25(1)
16. The influence of Minitype Hydropower station construction to the river ecosystem and otters in Hainan Island	Lei Wei and Li Yuchun	<i>Tropical Forestry</i> 2008 36(1)
17. <i>Begonia aurantiflora</i> (sect. <i>Coelocentrum</i> , Begoniaceae), a new species from limestone areas in Guangxi, China	Peng Ching-I, Liu Yan and Ku Shin-Ming	<i>Botanical Studies</i> 2008 49(1)
18. Tetrablemmidae (Arachnida, Araneae), a spider family newly recorded from China	Tong YF and Li SQ	<i>The Raffles Bulletin of Zoology</i> 2007 55(1): 63-76
19. Translocation of Romer's Tree Frog in Hong Kong SAR, China	Michael Lau and Chris Banks	In <i>Global Re-introduction Perspectives – Re-introduction case-studies from around the globe</i> , pp. 47-49, edited by Pritpal Soorae, 2008
20. <i>Begonia pengii</i> (sect. <i>Coelocentrum</i> , Begoniaceae), a new species from limestone areas in Guangxi, China	Shin-Ming KU, Yoshiko KONO and Yan LIU	<i>Botanical Studies</i> 49(2): 167-175. 2008

6. KFBG Studentships and Capacity Building Small Projects

To motivate and encourage initiatives among frontline staff in nature reserves in Hainan, in 2008, KFBG and the Hainan Forestry Department supported the following five projects:

- "Conservation of a rare fish species (*Tanichthys albonubes*) in Hainan" by Jiaxin Nature Reserve.
- "Impact of tourism development on the habitat of Rhesus Macaque" by Nanwan Nature Reserve.
- "Promoting advanced management for nature reserves in Hainan" by Hainan Wildlife Conservation Centre.
- "Biodiversity Survey in Liulianling Nature Reserve" by Liulianling Nature Reserve.
- "Biodiversity Survey in Shangxi Nature Reserve" by Shangxi Nature Reserve.

During 2008, KFBG also awarded grants to the following students:

Name	Institution	Research topic
Liu Na Na (M Phil)	Nanjing Normal University	Genetic diversity and the endangering mechanism of the butterfly <i>Teinopalpus aureus</i>
Long Wen Xin (Ph D)	Institute of Forest Ecology, Environment and Protection, Chinese Academy of Forestry	Survey and assessment of plant diversity of montane mossy dwarf forests in Hainan Island
Cai Feng Jin (M Phil)	Guangxi Normal University	The impact of the exotic crayfish, <i>Procambarus clarkii</i> , on the aquatic biodiversity in Guilin
Zhang Hao Miao (M Phil)	South China Agricultural University	Taxonomic study of dragonfly larvae in Guangdong Province



The 11th KFBG Studentships Programme (29th - 30th August, 2008):

- [1] The opening ceremony of the presentation.
- [2] University students listening to the presentations.
- [3] Prof. Xing Fuwu explaining the benefits of using native species in urban landscaping.
- [4] Souvenir presented by Dr. Michael Lau to Prof. Michelle Zhuang, Deputy Dean of the College of Forestry, South China Agricultural University.



Paddy field in Pi County, Sichuan Province.



PCD interns gathering information on organic rice production techniques in Guizhou. The whole of Liufang village is using organic rice cultivation systems.

General ADMINISTRATION & FACILITIES



2008 Earth Day - Guests, Members of the Board and KFBG staff participated in a tree planting event.

When compared with 2007, the total number of visitors to KFBG in 2008 increased by almost 11% and total shop sales increased by about 5%. 2008 was a busy year for maintenance and building work; we issued 27 tenders for Capital Works with a total value of HK\$16 million. The new KFBG wetlands system is also up and running. During the year, we also undertook slope maintenance, changes to the sewage collection system and replacement of the solar-powered street lighting system.

4. Security, Occupational Health & Safety

In 2008, no visitor injury was reported but there were a total of 18 injuries at work. In 12 of these incidents, the staff member took three or more days of sick leave. No serious vehicle accident occurred inside the Farm but there were 10 minor vehicle accidents on-site when manoeuvring Farm vehicles.

1. Accounting & Finance

Financial data from 2007 and 2008:

(HK\$)	2007 (audited)	2008 (unaudited)
Operating	56,381,731	57,947,000
Capital	20,919,276	21,947,000
Total	77,301,007	79,894,000

2. Administration

Number of visitors to KFBG:

1/1/2007 – 31/12/2007	1/1/2008 – 31/12/2008	+/-
117,274	130,643	+ 11.4%

3. Shop Sales

1/1/2007 – 31/12/2007	1/1/2008 – 31/12/2008	+/-
HK\$1,412,368.30	HK\$1,477,899.10	+ 4.64%



More environmental-friendly products are available at the Farm Shop.



Aquatic vegetation growing in the new Constructed Wetland Wastewater Treatment System.

5. Facilities

A. Water Quality & Waste Disposal Improvements

The new, upgraded KFBG wetlands system started operating in November 2008. Our in-house technicians monitor the system's electrical and mechanical installations daily while the KFBG Sustainability Officer manages the regular analysis of the influent and effluent to evaluate the system's effectiveness.

Water recycled through the new wetlands system is being used for irrigation within KFBG. In future, we plan to use the recycled water in the public toilets' flushing system.

During the dry season in 2008, we had to raise the farm-wide Water Shortage Amber Signal from January to June and again in December to reduce water consumption.

B. Geotechnical Assessment & Upgrading of Slopes

During 2008, KFBG continued with routine inspections and maintenance work to slopes and retaining walls. In particular, we completed slope stabilization work near Monkey Haven and Misha's Bungalow.

C. Building Development & Renovation

During 2008, we issued a total of 27 tenders for Capital Works with a total value of HK\$16 million.

2008 was a busy year for maintenance and building work with 1,790 separate requisitions. A new fire services sprinkler system was installed in the Conservation Building, and the former apartments on the second floor were renovated into offices. The renovations to the Tropical Greenhouse and the development of a cafe are of special note.



Construction of the cafe in the Sun Garden, near the Farm entrance.



One of the solar-powered motion-sensing street light posts in KFBG.

D. Resources Management and Sustainability

- In 2008, we introduced an updated Air Conditioner Usage Policy.
- We developed our own Sustainability Statement in April 2008. The statement was posted prominently around KFBG notice boards.
- In June 2008, a display board was installed to explain to visitors the benefit of the Grid-connected Integrated Photovoltaic System at the Reception Building.
- In October 2008, we replaced the old stand-alone solar street lighting system lamps with motion-sensing security floodlight systems.
- A detailed design for a wind monitoring system powered by a 4.8kW Grid-connected Photovoltaic System on the Conservation Building rooftop was completed in December 2008. This wind monitoring system will be installed in 2009.



The Grid-connected Integrated Photovoltaic System display board for the Reception Building shows information such as: Power Consumption, Solar Energy received and Total Power Generation from the solar panels.



14th Kadoorie Brothers Memorial Race, 21st December, 2008:

- [1] KFBG staff displaying the special trophies for the race;
- [2] collecting donations;
- [3] some of the 230 participants.



Staff Orientation in November 2008.



KFBG Annual Dinner – Mr. Ian Boyce, a Member of the KFBG Board, congratulating prize-winner Law Muk Wo.

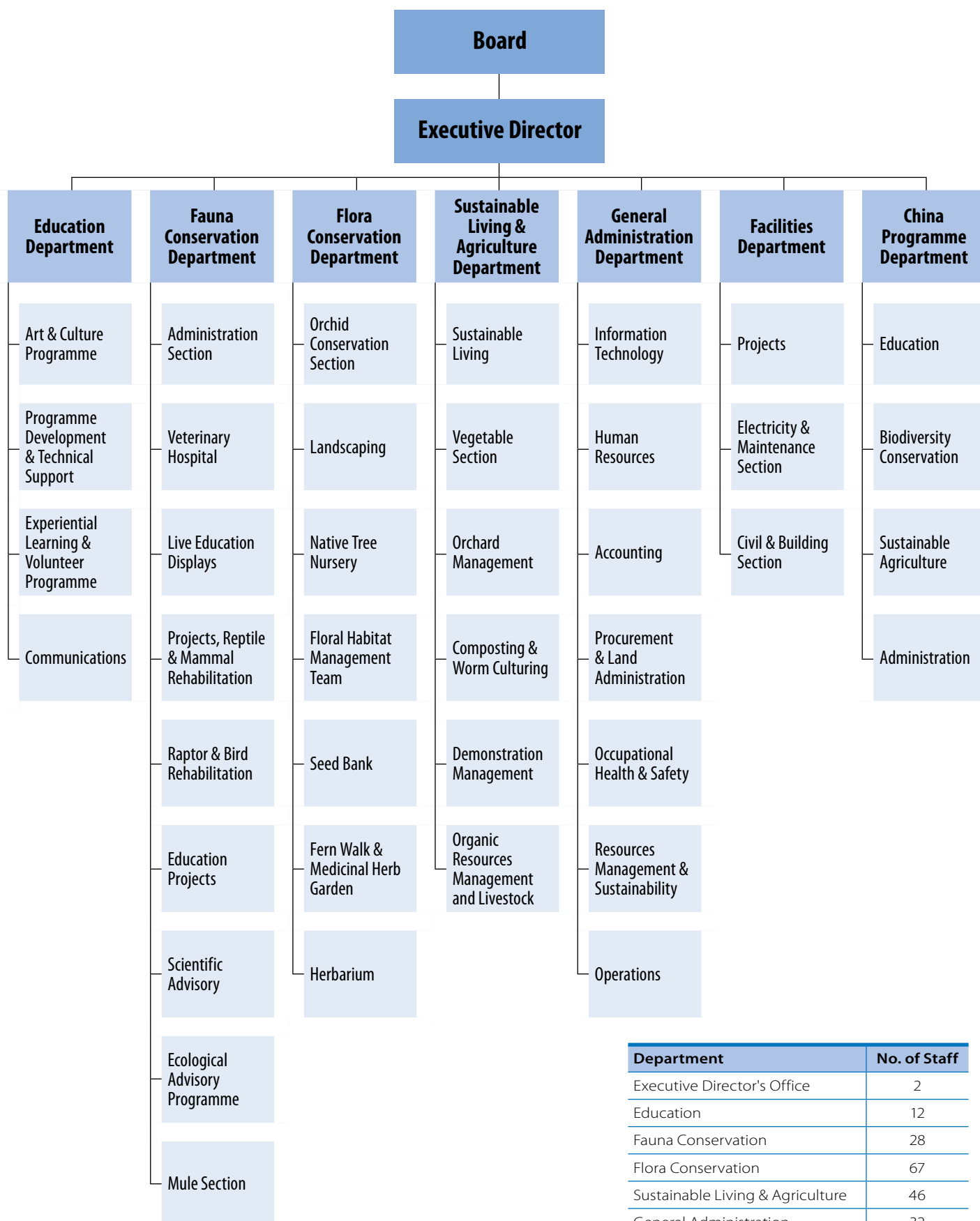


New fire services sprinkler system installed in the Conservation Building.



Office renovation on the second floor of the Conservation Building, formerly apartments.

KFBG ORGANISATION*



Department	No. of Staff
Executive Director's Office	2
Education	12
Fauna Conservation	28
Flora Conservation	67
Sustainable Living & Agriculture	46
General Administration	32
Facilities	20
China Programme	7
Total No. of Staff	214

* As at 1st January, 2009

Members of the Board

of the Kadoorie Farm and Botanic Garden Corporation

Andrew McAulay (Chairperson)

Ian D. Boyce

Dr. Lawrence Lee

Ruy Barretto, S.C.

Ho Wai Chi

Deborah Whittle

Daniel R. Bradshaw

Senior Management

of the Kadoorie Farm and Botanic Garden Corporation

Executive Director

Andy Brown

Heads of Department

China Programme

Dr. Michael Lau

Education Department

Dr. Chiu Sein Tuck

Facilities Department

Denis Ng

Fauna Conservation Department

Dr. Gary Ades

Flora Conservation Department

Dr. Lawrence Chau

General Administration Department

Florence Au

Sustainable Living & Agriculture Department

Idy Wong



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