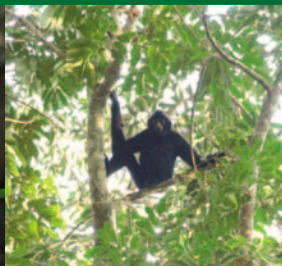


Kadoorie Farm and Botanic Garden

Annual Report April 2003 - March 2004



to increase the awareness of our relationship with the environment

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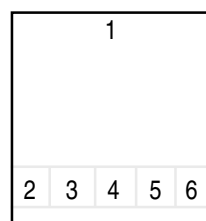
Kadoorie Farm and Botanic Garden Annual Report (April 2003 - March 2004)

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Captions for cover photographs



1. KFBG today
2. Kindergarten students at KFBG
3. *Phaius* (cf. *magniflorus*) sp., a very rare native Hong Kong orchid
4. Hainan Gibbon
5. Big-headed Turtle
6. Chickens roaming freely and happily



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 Magasasay award in 1975.

Hong Kong's unparalleled prosperity since the mid-1970s 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 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. The annual budget of KFBG is around US\$7 million, met through grants from the Kadoorie Foundation. KFBG spreads over 148 hectares on land leased from the government. KFBG runs many collaborative programmes with government agencies, universities and non-government organisations.

Directions to Kadoorie Farm and Botanic Garden

By train: Take the KCR to Tai Po Market or Tai Wo. Get on the 64K bus towards Yuen Long (West). Ride for 20-25 minutes. At the last, extremely steep hill, get off at the Kadoorie Farm stop.

By bus: Take 64K (Terminal stops located at Yuen Long and Tai Po Market).

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FOREWORD

In October 2003, the KFBG board adopted a new mission and vision statement that was developed with the input of all of the office staff. In addition, there have been several rounds of discussion regarding the accompanying core values, and it is expected that these will be formalised soon.

The next step, as we approach the tenth year of our official environmental mission, will be to review our overall strategy and to create goals for the years ahead. We will be looking for opportunities to meet challenges from new perspectives, and to bring a greater depth of learning for both staff and visitors. To assist us with this process, we welcome a new Executive Director, Andrew Brown, and we offer our gratitude and best wishes to our outgoing Executive Director, Manab Chakraborty.

Over the last year, the various departmental programmes have continued to unfold, bringing joy and hope to all who are concerned for the Earth's deteriorating natural environment. The KFBG site itself remains a place of magical beauty that inspires all who visit to re-evaluate their lives and understand their relationship with the environment in new ways.

May we continue to develop in a way that will support the transformation of both individuals and society that is necessary to bring happiness to the world and stability to the environment.

Andrew McAulay
Chairperson, Board of Directors



PREFACE

This year we achieved a lot. We succeeded against the odds. Many targets were reached, some were missed. Yet our passion to achieve more remains unsatisfied. Passion is, by far, the most crucial requirement for those who want to make a difference. It weaves together our shared values, giving each of us the motivation to do something meaningful.

Confucius said, “once you find a job you love, you will never work a day in your life”. How true! Without passion and love for the environment, the unending battles to ward off the ecological crisis that grips mankind would be pure drudgery. For me personally, every day has been a battle for a crisis-free world where all creatures – large and small – have the chance to survive and live to welcome a better tomorrow. I have enjoyed my innings with the Farm, and now it is time to move on.

After three years at the Farm, I am heading back to my roots in India. I believe that true leadership and greatness can be achieved through sacrifice. Sacrifice stands in direct contrast and opposition to human greed and the instinct to collect wealth for self-aggrandisement. In our daily behaviour, this must be reflected in non-conspicuous consumption and the building of mental strength to suffer harsh conditions.

The biggest enemy of best is good. If you are satisfied with good, then you will never have what is best. My days with the Farm have prepared me to continue the search for the best solution that brings peace, happiness and well-being to the millions of poor people world wide.

My heartfelt thanks for your help, good wishes and prayers.

*“Whenever you are in doubt . . . apply the first test:
recall the face of the poorest and the weakest man whom you may have seen,
and ask yourself if the step you contemplate is going to be any use to him.
Will he gain anything from it?
Will it restore him to control over his own life and destiny?
True development puts first those that society puts last.”*

Mahatma Gandhi

Manab Chakraborty
Executive Director



Mission and Vision

Kadoorie Farm and Botanic Garden's mission statement, newly formulated in 2003, is:

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

- a. We inspire a sense of joy, wonder and connection with nature.
- b. We highlight and address symptoms of the growing environmental crisis.
- c. We explore the root causes of the crisis, by looking in particular at the dominant socio-economic system.
- d. We develop and promote lasting values and more sustainable ways of living.

KFBG's long-term vision is to 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.

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.

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.

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.



BIODIVERSITY CONSERVATION

KFBG contributes to the conservation of rare and endangered flora and fauna both in the countryside of Hong Kong and the Chinese mainland, and through breeding programmes undertaken at the Farm. Conservation initiatives centre on the collection of species and habitat information through field surveys, which are vital in assessing the status of and threats to native species and formulating effective conservation policies. Our work also focuses on conservation breeding to create and maintain viable populations of threatened local fauna and flora that can be reintroduced into the wild when a stable and unthreatened habitat becomes available.



▲ Band-bellied Crake *Porzana paykulli*



▲ Brown Fish Owl *Ketupa zeylonensis*, with radio transmitter affixed
▼ Brown Fish Owl *Ketupa zeylonensis*



Fauna Conservation

Wild Animal Rescue Centre (WARC)

Fauna conservation at KFBG starts with the Wild Animal Rescue Centre, which treats sick or injured animals in its well-equipped wild animal hospital. Where possible, these animals are rehabilitated and released back into the wild. Several hundred animals are currently held at KFBG, and are awaiting re-homing to a suitable facility, resolution of a court case or will be retained for educational purposes. Since its establishment, the WARC has received over 11,000 animals, over 50% have been either rehomed or released.

This year's more interesting cases included the admission of a Band-bellied Crake *Porzana paykulli*, which was treated for minor wing damage. This was the first live specimen to have been found in Hong Kong, and only the third known record of this species in the territory. The bird was fitted with an identification ring and released on 19th November at the Mai Po Nature Reserve, an event that received good press coverage. In October, a new snake species record for the New Territories was made as a result of the police snake rescue programme. A hatchling Black browed Racer (*Elaphe taeniura*), which had previously only been recorded on Hong Kong island and was considered non-native to Hong Kong, was caught near Ma On Shan and returned to a wild area near the capture location.

The Raptor Rehabilitation Programme's main triumph this year was the return to the wild of a rare Brown Fish Owl *Ketupa zeylonensis*, which was one of the first arrivals at the Jim Ades Raptor Sanctuary over nine years ago. Previously thought to be unreleasable because of its injuries, a change in rehabilitation and exercise regime enabled the owl to be released into the wild in Sai Kung Country Park in November 2003. The owl was tracked by radio transmitter for five months and appeared to be settling in well to life in the wild. It is hoped that more knowledge about the habits of owls in Hong Kong can be built up from the radio tracking data.

	Received (1/4/03 - 31/3/04)	Released/Relocated (1/4/03 - 31/3/04)	Held as at 31/3/04 (cumulative total)
Mammals	15	5	99
Birds of Prey	43	27	39
Non Birds of Prey	105	39	60
Reptiles	80	14	125
Snakes (HK Police)	316	269	0
Amphibians	0	0	0

Wild Animal Rescue Centre (WARC) intake, release and rehabilitation

Conservation Breeding

Captive Breeding

Two endangered local species, the Golden Coin Turtle (*Cuora trifasciata*) and the Hong Kong Paradise Fish (*Macropodus hongkongensis*), are bred in captivity at KFBG in an effort to prevent their extinction.

In 2003/04 the *Cuora trifasciata* breeding programme proceeded according to the set targets, although much-needed adult female breeding stock is still being sought through co-operation with the Agriculture, Fisheries and Conservation Department (AFCD) of the Hong Kong SAR government. Breeding this year was largely successful, with 11 hatchlings - surviving a 100% survival rate. All 18 hatchlings that have been bred at the Farm to date were from stock of unknown origin that was acquired through government confiscations. Although four eggs were laid by our known Hong Kong turtle stock of 17 animals, sadly they all failed to hatch.

The headcount of our population of Hong Kong Paradise Fish has continued to climb to around 500 fish, and negotiations are now taking place with a European zoo to use KFBG stock to establish an assurance colony in Europe.

1. Close-up of a Big-headed Turtle
2. Big-headed Turtle with radio transmitter affixed
3. Romer's Tree Frog
4. Hong Kong Paradise Fish
5. *Ugia purpurea*
6. Golden Coin Turtle

On-site Survey

Habitat enhancement and monitoring of the Romer's Tree Frog (*Philatelus romeri*) on the KFBG hillside continued in 2003/04. As breeding is still observed and the population has remained stable, we can conclude that the relocation of this species from the site of the Hong Kong International Airport in 1996 has been successful, and the KFBG population represents one of the few original relocated populations that is still in existence in Hong Kong.

Surveys of local fauna this year have been carried out both inside and outside the Farm. A pilot study of the Big-headed Turtle (*Platysternon megacephalum*) was undertaken on our hillside by KFBG staff and visiting scientists from the Savannah River Ecology laboratories in South Georgia, USA. Twenty-nine individual turtles were caught and marked, and some have been radio-tracked with a view to building up a long-term picture of their behaviour, breeding patterns and habitat use.

Between April 2003 and March 2004, at least 773 different species of moth were recorded in monthly surveys at KFBG, 106 of which had not been recorded previously at KFBG. At least 15 species new to Hong Kong were discovered, of which seven were previously undescribed by science.

Wider fauna surveys of the Frontier Closed Area in the northern New Territories were carried out this year, a summary of which can be found under the Ecological Advisory Programme section on page 9.





▲ A 4-year-old healthy plant of *Phaius* (cf. *magniflorus*) sp., a very rare native Hong Kong orchid that was obtained from mass propagation by aseptic seed culture at KFBG.

Flora Conservation

Ex situ

Ex situ flora conservation work is mainly centred on the propagation of rare and threatened plants that are native to Hong Kong and the Chinese mainland, in particular orchids. Many very rare plant species, including *Paphiopedilum purpuratum*, *Anoectochilus yungianus*, *Camellia crapnelliana*, *Michelia figo* and *Viburnum hanceanum*, underwent successful propagation in 2003/04, and twelve more species are currently undergoing germination testing. This year, valuable additions to the Seed Bank, created for the long-term storage of the seeds of rare and endangered plants, included seeds collected from wild *Michelia figo*, *Croton hancei*, *Daphne papyracea* and *Polygala fallax* plants.

Field Research

Flora surveys this year also focused on the Frontier Closed Area, details of which can be found on page 10.

At the Farm

Better management of the wild habitats of the Farm, including the secondary woodland, grassland and stream in the upper part of the Farm, has been a priority this year. This provides good habitats for wild fauna and flora such as fire flies, which are abundant at the Farm and are good indicators of an unpolluted forest stream habitat, as well as being the highlight of our new night safaris. This year, the in-house tree management team, with the help of tree experts from Australia, pruned 88 potentially hazardous trees. Regular monitoring of the Farm's trees has now been established as part of our long-term tree management programme.

Native Tree Conservation

The drive to conserve and plant more trees that are native to Hong Kong continued to gain strength in 2003/04, with thousands of seedlings being propagated.

KFBG's native tree experts also provided advisory services on the planting of native trees to bodies such as the Hong Kong Housing Authority, the Chinese University of Hong Kong, World Wide Fund For Nature Hong Kong and the Highways Department. As these bodies control large tracts of land in Hong Kong, it is a positive step that they are prepared to consider the employment of native trees in their greening programmes.

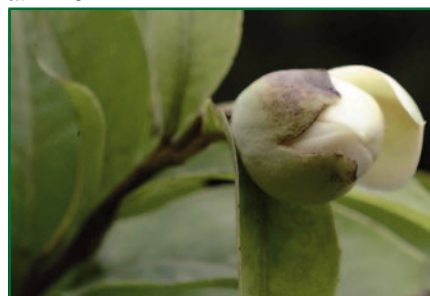
Species	258 (trees, shrubs and climbers)
In stock	82,226
Propagated in 2003/04	8,800
Planted by KFBG	2,300
Donated	5,341

Native Tree Conservation 2003/04

▼ Blooming of *Daphne papyracea*, a native and restricted Hong Kong plant, at KFBG.



▼ Flowering of *Magnolia paenetauma*, a native, rare and protected Hong Kong plant, at KFBG.



▼ Fruiting of *Croton hancei*, a native and rare shrub in Hong Kong, at KFBG. Seeds were collected for germination tests.



▼ Flowering of *Lithocarpus quercifolius*, a native and rare Hong Kong plant, at KFBG.



▲ Aseptic seedlings of *Paphiopedilum malipoense*, a globally endangered orchid that is native to China, undergoing hardening at KFBG.



Ecological Monitoring Programme

The Ecological Monitoring Programme (EMP) continues to look into areas of land use and pest conflicts that affect all of the departments at KFBG. A better understanding of the managed and non-managed areas of our nature reserve is being developed, and ideas for the future of those areas are being discussed. The pest control officer has received an increasing number of incident reports on pest issues, and has provided much advice to the departments that

reported the issues. Conflicts this year have occurred with insects, rats, porcupines, wild boar and snakes. Every year, staff at KFBG are afforded an opportunity to learn more about the animals that can cause conflicts during a presentation entitled "Working with Wildlife". The objective of this talk is to increase the understanding of why these conflicts occur around a nature reserve that is also the site of botanical and agriculture activities.

Ecological Advisory Programme

Planning, Environmental Impact

Assessments and Land Use

The Ecological Advisory Programme (EAP) continued its involvement in monitoring local environmental policy and activities this year, commenting on several Environmental Impact Assessments, and reporting on several activities that involved the unauthorised destruction of the local ecology.

The dumping of construction waste is a major environmental problem in Hong Kong that came to the fore this year. Reports of dumping at Shuen Wan, and at a bird hotspot in Kam Tin reached the EAP in May and October respectively. Letters to the relevant government departments revealed a flaw in the trip ticket system for waste disposal lorries, which was also highlighted by dumping on farmlands in the Lam Tsuen valley. Fortunately, pressure from environmental NGOs and KFBG meant that in the cases of Kam Tin and Shuen Wan the dumping was stopped.

Conservation Advice

KFBG submitted detailed comments on the government's nature conservation policy document "Nature Outlook - Consultation Document Review of Nature Conservation Policy" in October. KFBG's submission highlighted the need for partnership with developers and landowners, and to this end the EAP held exploratory meetings with developers to explore the notion of establishing a conservation trust to protect land with high ecological value from over-development.

Conservation Action

The EAP was heavily involved in the survey work in the Frontier Closed Area. Please see page 10 for more details.

Date	Workshop/Seminar	Co-organisers	Number of Participants
24 June 2003	Ecological Impact of Development Projects: Assessment, Mitigation and Monitoring	Business Environment Council, World Wide Fund For Nature Hong Kong	57 (engineers, government officials and town planners)
20 March 2004	Workshop on NGO Funding: Making Money Go Further When There's Less to Go Round	—	40 (representatives of non-governmental organisations and charities, managers of charitable funds)

Workshops and Training Organised by the Ecological Advisory Programme



Special Project - Frontier Closed Area Survey

In 2002, the government of the Hong Kong SAR began to consider whether the Frontier Closed Area (FCA) in the extreme northern New Territories, the buffer zone between Hong Kong and the Chinese mainland, could be opened up for development. Access to this area has been restricted for more than 50 years, and it is purported to be a haven for rare local native species. In 2003, KFBG initiated a series of surveys to assess the species status and ecological importance of the area to provide information that would allow the government and other agencies to make informed decisions about the possible future development of this area.

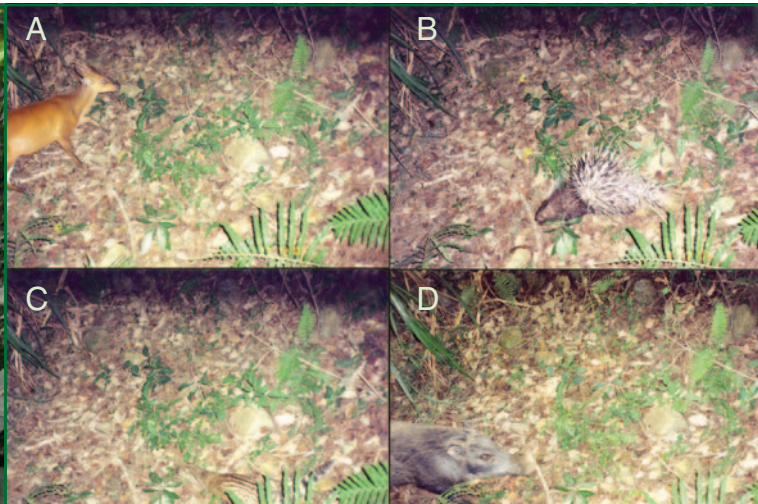
A rapid biodiversity survey was conducted between June and December 2003 at Lin Ma Hang and San Kwai Tin in the FCA, and at Kuk Po, So Lo Pun and Yung Shue Au in the North East New Territories. Species of conservation concern

◀ Lin Ma Hang Feng Shui wood with Wutongshan Forest Park, Shenzhen in the background. A corridor between Wutongshan and Robin's Nest would be expected to enhance the movement of wildlife between these areas.

that were recorded in this survey were the Orange-headed Thrush and a new fern species for Hong Kong, the *Gymnosphaera*, at Lin Ma Hang; the Anderson's Stream Snake, Mountain Wolf Snake and Diamond-backed Water Snake at San Kwai Tin; and the Yellow-bellied Weasel and Crab-eating Mongoose at So Lo Pun. As a result of this survey, KFBG is now recommending the designation of Country Park and Site of Special Scientific Interest status to these lowland habitats of high ecological value. The creation of green corridors linking Wutongshan National Forest Park in Shenzhen and Robin's Nest in Hong Kong to enhance the movement and dispersal of wildlife between these areas is also suggested.

	No. of species recorded	Species of conservation concern in HK
Plants	441	15
Mammals	15	8
Birds	76	12
Reptiles	6	3
Amphibians	5	1
Invertebrates	67	4

Wildlife Data from the FCA Survey



▲ Mammals at Yung Shue Au — A: Indian Muntjac (*Muntiacus muntjak*), B: Malayan Porcupine (*Hystrix brachyura*), C: Small Indian Civet (*Viverricula indica*), and D: Wild Boar (*Sus scrofa*). All were taken by the same infrared camera in December 2003.

◀ Waterfall at Kuk Po.



► An Orange-headed Thrush (*Zoothera citrinus*; inside the red circle) at Lin Ma Hang. The photo was taken by an infrared camera in July 2003. The Orange-headed Thrush is primarily a winter visitor to Hong Kong, but this photo record indicates that the bird is probably a summer visitor or resident of the Lin Ma Hang secondary forest.



The 2004 Hong Kong Flower Show in Victoria Park. Our booth on the theme "From Field to Table" won the award for Outstanding Display.

Outreach

KFBG is as much about the dissemination of information as the propagation of plants or the breeding of animal species. Our collaborative work with other conservation programmes and NGOs, and the services we provide to local schools, community groups and the government help to engender concern for the natural environment and provide information and resources to those interested in conservation.

In 2003/04, the Fauna department ran workshops on animal husbandry and rehabilitation techniques with their counterparts at the Shaoguan Rescue Centre in Guangdong and the Beijing Raptor Rescue Centre, in which staff shared the expertise gained in the last ten years at the WARC. Closer to home in Hong Kong, KFBG Fauna staff gave talks on aspects of wild animal rescue and biodiversity conservation to the Agriculture, Fisheries and Conservation Department (AFCD), World Wide Fund For Nature Hong Kong and the Business Environment Council, and ran a short course on animal handling for the inspectorate of the Society for the Prevention of Cruelty to Animals.

The Flora department and the AFCD organised a symposium on orchid conservation in December 2003, which brought together orchid experts and traders from both Hong Kong and the Chinese mainland to discuss the impact of the orchid trade, both legal and illegal, on orchid populations and diversity. The symposium was jointly organised by KFBG and the AFCD, and featured speeches from leading conservation experts in the region, including representatives from the CITES Management Authority of China, the State Forestry Administration, the AFCD, local orchid societies and KFBG. Our orchid experts provided first-hand information on the present status and trade of threatened orchids and effective measures for their conservation to Chinese government departments. We also provided advisory services on orchid conservation planning for provincial forestry bureaux and mainland botanical gardens. In February and March 2004, KFBG played host to a group

of botanists from the Chinese mainland, who studied the Farm's flora conservation practices as part of the Botanic Gardens Conservation International/KFBG Travel Scholarship Programme.

In conjunction with the Hong Kong Environmental Education Group (HKEEG), the KFBG Education department ran a series of seminars on current environmental issues aimed at local educators, and gave a well-received seminar on Hong Kong's Native Woodland and Environmental Education Resources to primary and secondary school teachers.

An outreach programme of long standing is the donation of poinsettias to hospitals, charities and community centres at Christmas, and this year saw the continuation of this tradition. Ornamental plants were also lent to charities and government departments for various functions, which is a sustainable way of floral decoration.

Our plants were also on display at both the North District Flower Show and the Hong Kong Flower Show. Our booth at the latter on the theme "From Field To Table", which highlighted the importance of locally grown organic food, won the award for Outstanding Exhibit of the Displays Section (Local).

KFBG has become a stalwart of the promotion and support of community and urban gardening in Hong Kong, and has provided information and technical advice to community groups, schools and fellow farmers through an extensive series of workshops and conferences. More information can be found in the Sustainable Agriculture section.

Donated	Sold	Total
4,605 pots	3,005 pots	7,610 pots

Pot Plants Donated and Sold in 2003/04

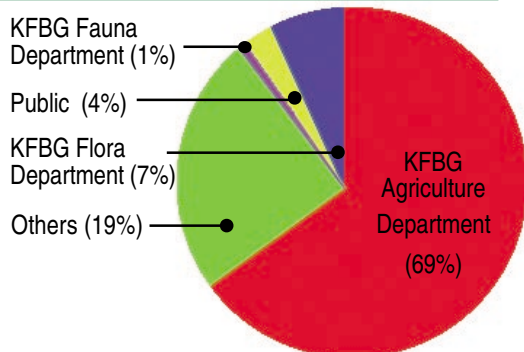


▲ The pest control trial for vegetables showed satisfactory results.

▼ Office staff experiencing the hard work and the joys of organic farming at the staff gardening plot.



▼ Basket composting. Composting directly into the soil is one of the new innovations that have been introduced this year.



Allocation of compost

SUSTAINABLE AGRICULTURE



Research into and the promotion of sustainable agriculture is a key part of KFBG's conservation activities. New techniques and methods to improve the efficiency and sustainability of organic farming are developed on the Farm's agricultural land, and this expertise is then shared with the wider community both in Hong Kong and abroad through an extensive outreach network.

At the Farm

The evolution of new techniques and practices led to increased yields of vegetables, honey and eggs in 2003/04. Fruit production declined, partly due to cyclical fluctuations and partly because of the rejuvenation of old orchards to improve productivity in the future. However, the number of fruit varieties increased from 14 in 2002/03 to 25 in 2003/04. The new fruits that are now being grown are canistel (*Lucuma nervosa*), fig (*Ficus carica*), plum (*Prunus salinica*), "mei" (*Prunus mume*), avocado (*Persea americana*), pitaya (*Hylocereus undatus*), myrobalan (*Terminalia arjuna*), peach (*Prunus persica*), loquat (*Eriobotrya japonica*), chestnut (*Castanea mollissima*), jujube (*Zizyphus jujuba*), mulberry (*Morus nigra*) and "yeung mei" (*Myrica rubra*).

	2003/04	2002/03	% Change
Vegetables	22,244 kg	20,064 kg	+ 9.8
Fruit	2,658 kg	9,596 kg	- 72.3
Eggs	118,143 pieces	105,147 pieces	+ 11
Honey	159.9 litres	46 litres	+ 71.5
Seeds	11,050 grams	N/A	N/A

Comparison of agricultural production of 2002/03 with 2003/04

The Farm's internal farming practices were further improved in 2003/04 through innovations in ecological and low-resource techniques.

Innovative no-dig gardening and basket composting techniques for a sub-tropical climate have been under trial this year, and are now on public display in the newly created Eco-garden, one of four new demonstration sites created this year. The experimentation with leguminous cover crops in sub-tropical orchards as weed retardants and moisture retainers has produced some interesting results, which can now be seen along the Orchard Cover Crop Trail. An Agroforestry Multi-storey Cropping Site was created as an experiment in the mixed farming of trees and crops, and should be fully functional as a demonstration and educational site in 2004/05. A Nectar Source Garden was created for the honey bees to improve the quality of the Farm honey.

The total compost production is 66,060 kg in 2003/04, which is increased by 39% over the last year. 77% of this year's production was used internally at the Farm.

The use of indigenous micro-organisms (IMOs) in the compost was introduced on a trial basis this year. Cultured in the Farm's forested areas, the IMOs are added in water to the bedding and litter of the chicken houses. This has resulted in a marked decrease in the levels of ammonia in the chicken house, and IMOs are now being used in all of the Farm compost to aid the digestive process and improve quality.

Some unused terraces were turned over to staff members to grow vegetables. Thirty-three staff joined the Staff Gardening Scheme, which is an exercise in capacity building and aims to promote local food production and more understanding of the environmental issues that are related to food mileage.

Name of Organisation	Location	Established
HK School for the Deaf	Diamond Hill	2001
Queen's Old Boy Association School	Kwai Tsing	2000
Kwai Yin Court	Kwai Tsing	2002
Yu Tung Court	Tung Chung	2002
Alice Ho Mui Ling Nethersole Nursing Home	Kowloon Bay	2001
HK Police Training School	Aberdeen	new
The Scout Association of Hong Kong	Fanling	new
S.K.H. Lady MacLehose Centre	Tsuen Wan	new
Tai Po Old Market Public School	Tai Po	new
Salvation Army Tai Po Multi-service Centre for the Elderly	Tai Po	new

List of community gardens assisted by KFBG

- ▼ Chickens roaming freely and happily in the playground outside the chicken house.



In the Community

Although the Farm is a valuable resource and test site, the Agriculture department has one foot firmly in the community, and in 2003/04 the programme to promote and develop urban community gardening was greatly expanded. Five new institutions became partners in the community gardening project, which is technically assisted by KFBG.

Community Supported Agriculture (CSA) is a system in which consumers enter into a group agreement with a local farmer to supply them with produce. This system, formulated in Japan and now practised across the world, brings consumers closer to the means of production and gives them a say in how their food is grown. It also cuts down on food miles and pollution, while allowing small local farmers to survive and compete, as they obtain a guaranteed market and the consumers assume some of the risk. A group of KFBG staff have established a CSA voluntarily to explore its viability in Hong Kong.

Four well-attended workshops and seminars on CSA, seed saving and urban gardening were organised to promote organic gardening. The Farm also assisted the Hongkong Organic Farming Association (HOFA) and others to organise a Hong Kong Organic Farming Introductory Course for existing and potential farmers interested in moving over to the organic system.

Staff took part as speakers and participants in conferences and talks in Hong Kong and abroad on organic farming issues, such as vermi-culture, organic poultry production, urban gardening and community supported agriculture, and a worldwide network of contacts is being built up.



PUBLIC EDUCATION

Visitors

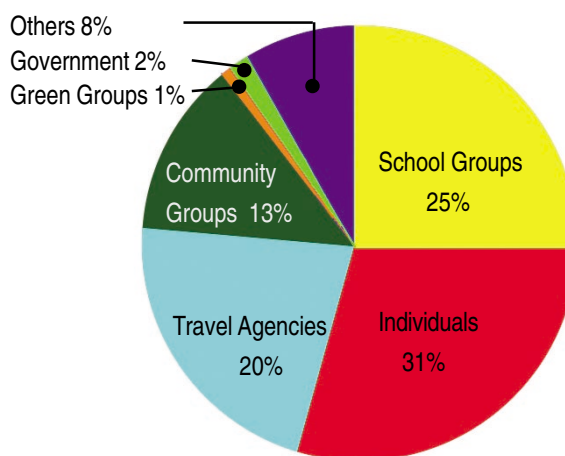
KFBG remains a popular destination for visitors, especially for schools and community groups. Visitor numbers have been increasing year on year, but 2003/04 was severely affected by the SARS and Avian Flu outbreaks, with many guided visit and group visit applications being cancelled for the period of April to August 2003 and January to March 2004. Our guided visit programme has been greatly enhanced by the training of volunteers to act as guides. Eleven new volunteers were trained this year in this ongoing programme, and 76 guided visits were organised for 3,364 people.

Special visitors included 57 delegates from the CITES Authority of China, members of the Democratic Party, Friends of the Earth, the Conservancy Association, Participatory Research in Asia and the Royal Geographical Society of Hong Kong.

The educational facilities at the Farm were enriched by the creation of new educational areas – an Eco-garden, Live Insect Display, and Wild Boar enclosure – and the creation of new displays for existing educational areas. Self-guided visitors can now find out about those aspects of the Farm that are not featured in the displays from the new Visitor Guidebook, which will be published in Chinese and English.

Year	Total number of visitors	% change
1/4/2000-31/3/2001	125,087	-
1/4/2001-31/3/2002	132,182	+ 6%
1/4/2002-31/3/2003	141,371	+ 7%
1/4/2003-31/3/2004	105,480	- 25%

Number of visitors to KFBG from 2000 to 2004



Visitors to KFBG by category



◀ A group of kindergarten students studying the freshwater plants during a guided visit programme.
▼ Resident artist Mr Lin Hong-wen building the art piece 'Frog Dreams'.



◀ 'On Water Lily', an artwork, explores the relationship between lilies, water, time and people.
▼ (right) Mr Fu Kan Nam, one of the interviewees of the Oral History Archive project.
▼ (left) Teachers learning about renewable energy in a training workshop.



Awareness and Education Projects

In terms of public education initiatives, the emphasis is still very much on schools and educators, but our scope has extended to encompass NGOs, community groups and also internal education, as it is recognised that building the capacity and awareness of KFBG staff is important if they are to teach and disseminate information about environmental issues to the public. 2003/04 saw a move towards education initiatives on sustainable living, an important and universal facet of conservation that is especially applicable to urban dwellers, and which we hope will be a major part of our programmes across the Farm in the coming few years.

Long running programmes such as the Treasure Hunt, Native Tree Planting Programme and Organic Planting Competition for Schools that are designed to provide a learning experience in nature and arouse support for conservation were continued this year. A new Night Safari Programme was launched in 2003, in which selected groups were invited to tour the Farm at night under the guidance of Education and Fauna staff to heighten awareness of native nocturnal wildlife. The programme has been very well received, and will be continued in 2004/05.

Teacher training was served by seminars on native woodland and environmental teaching. Over 150 teachers participated in sessions in October 2003 on organic gardening in schools, which were held as part of the Organic Farm in the City initiative run by KFBG in conjunction with the Environmental Protection Department of the Hong Kong Government and other organisations. KFBG contributed to an educational CD-ROM generated as part of the initiative. Kindergarten teachers bringing school parties to KFBG

now have the guidance of a Kindergarten Education Pack, which features information on how to heighten environmental awareness and introduce nature to pre-school children.

KFBG's education projects often use art and creativity as a medium for getting the message across, and in 2003 a new programme, the Art and Environment Project, was inaugurated. This was an 8-month multi-stage project, organised with the Hong Kong Arts Centre, that involved local artists, art educators and art students in a series of workshops and creative sessions that explored the role of nature in art and the concept of environmental art. KFBG was fortunate to have as a facilitator Mr Lin Hong-wen, a renowned environmental artist from Taiwan, and the exhibition of the work of Mr Lin, local artists and art educators both at the Farm and at the Hong Kong Arts Centre generated a great deal of interest, raising the profile of KFBG. In 2004, the participants in the first stage of the project took their expertise out to the schools to provide a creative channel through which to stimulate awareness and love for the environment.

Media and Community

KFBG's media profile this year centred on events both at the Farm and in the community. Fourteen press releases were sent out in 2003/04, and each had a good response rate.

Over 200 other articles mentioning KFBG, or including interviews or quotes from staff, appeared in the local newspapers, and KFBG featured in nine television programmes made for local television, one documentary filmed by the Spanish television network TVE, and six local radio programmes.

KFBG also ran a regular column in the bi-monthly Hong Kong Discovery magazine featuring articles on fauna, flora and events at the Farm.

The KFBG website, which is due for a major overhaul in 2004/05, reaped the benefits of a project with design students from the Hong Kong Polytechnic University, who created an interactive children's website that introduces the Farm and some of our main conservation education themes.

Finally, the history of KFBG and rural life in the New Territories was captured from the perspective of those who actually experienced it through an Oral History Archive project that was carried out in conjunction with the Centre of Asian Studies at the University of Hong Kong. Seventeen current and former employees of KFBG were interviewed for the project, and the archive will be deposited in the HKU's Oral History of Hong Kong resource library for public access.

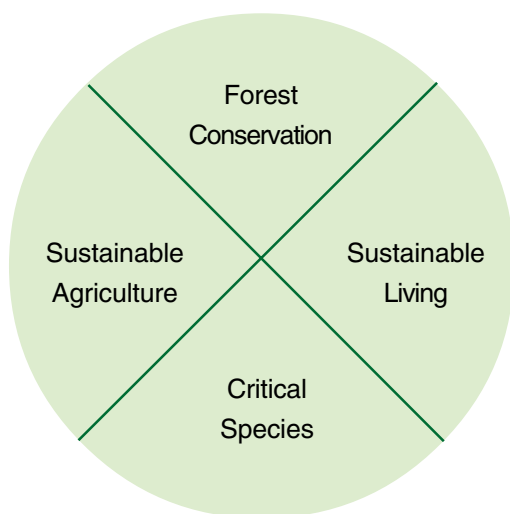
Press Releases	Date
New Record on Moth Night	April 16, 2003
School Organic Planting Project (with the EPD, ECC and HK Tree Conservation Association)	May 20, 2003
Discovery of Black-faced Spoonbill (A26) and its 2 Chicks in S. Korea (with the HKBWS and WWF HK)	June 9, 2003
Save the Peregrine Falcon	August 2, 2003
Organic Farm in the City	August 28, 2003
1st Live Band-bellied Crake Recorded in HK	November 20, 2003
Brown Fish Owl Release	November 28, 2003
Art and Environment Exhibition at KFBG	December 3, 2003
Learning Together to Explore Sustainability Environmental Education Programmes for Teachers (with HKEEG)	December 15, 2003
Orchid Conservation – Threats and Opportunity of Wild Orchids	December 17, 2003
Brown Fish Owl Survey	December 28, 2003
Green Fun Committee Feature (with Green Fun)	December 30, 2003
Art and Environment Exhibition at HKAC	January 4, 2004
KFBG Urges for Immediate Action to Save Birds from Killing by Fishhooks	February 4, 2004

KFBG Press Releases in 2003/04



THE CHINA PROGRAMME

The South China Biodiversity Conservation Programme was launched in 1998 with the aim of minimising the loss of forest biodiversity in South China by collaborating with the relevant government departments and research institutions. In July 2003, a strategic planning exercise was completed and it was decided to adopt a new approach that is holistic, collaborative, educational, and respectful of nature and local culture. The Programme has been re-structured and re-named 'China Programme' to intensify efforts to develop projects on the Chinese mainland. In addition to forest conservation and species protection, the programme will also promote sustainable agriculture and sustainable living.



The Four Focal Areas of the China Programme

Biodiversity Surveys

Like the biodiversity surveys that are carried out in Hong Kong, the survey programme that is undertaken on the Chinese mainland aims to gather the latest information on the status of biodiversity in forest nature reserves, and to suggest appropriate conservation measures based on this information. In 2003, 14 rapid biodiversity assessments reports were published.

Since April 2003, over 30 infrared auto-triggered cameras have been installed in nature reserves in Guangdong, Guangxi, Hainan and Jiangxi provinces to record native wildlife. Large mammal species that have been captured by the cameras include the nationally protected Sambar Deer and Small Indian Civet, and some species that are rarely directly observed such as the nationally protected Hainan Hill Partridge (IUCN Endangered). The preliminary results illustrated the usefulness of camera-trapping for the survey of nocturnal and elusive forest animals.

In late December 2003, the first simultaneous island-wide waterbird survey in Hainan was conducted by the China Programme, members of the Hong Kong Bird Watching Society, the Hainan Wildlife Conservation Centre of the Hainan Provincial Forestry Department and the Hainan Normal University. The survey covered major coastal and freshwater wetlands across Hainan Island, and a total of 125 species of birds were recorded.

Location	Notable species found	Number of individuals recorded
Bawangling NNR, Changjiang County, Hainan	Hainan Gibbon	13
	<i>Nomascus nasutus hainanus</i>	
	Common Palm Civet	3
	<i>Paradoxurus hermaphroditus</i>	
	Sambar <i>Cervus unicolor</i>	5
Mayuling, Baisha County, Hainan	Asiatic Brush-tailed Porcupine	many
	<i>Atherurus macrourus</i>	
	<i>Alseodaphne hainanensis</i> Merr.	100+
	<i>Aquilaria sinensis</i> (Lour.) Spreng.	24
	<i>Bretschneidera sinensis</i> Hemsl.	4
	<i>Cephalotaxus mannii</i> Hook.f.	~30
	<i>Hopea hainanensis</i> Merr. & Chun	1
	<i>Hydnocarpus hainanensis</i> (Merr.) Sleumer	2
	<i>Vatica mangachapoi</i> Blanco	85
	Black Giant Squirrel	3
	<i>Ratufa bicolor</i>	
	Particoloured Flying Squirrel	1
	<i>Hylopetes alboniger</i>	
	Tree Frog	2
	<i>Rhacophorus</i> sp.	
Diaoluoshan NR, Lingshui County, Hainan	Big-headed Turtle	1
	<i>Platysternon megacephalum</i>	
Dongzhaigang NNR, Dingan County, Hainan	Rhesus Macaque <i>Macaca mulatta</i>	1
	Asiatic Brush-tailed Porcupine	many
	<i>Atherurus macrourus</i>	
Lingao City, Hainan	Black-faced Spoonbill	10
	<i>Platalea minor</i>	
Dongfang City, Hainan	Black-faced Spoonbill <i>Platalea minor</i>	49
	European Spoonbill <i>Platalea leucorodia</i>	1
Guyue resort, Qiongzong County, Hainan	Lesser Tree Duck	1,200
	<i>Dendrocygna javanica</i>	
	Mandarin Duck	1
Songtao reservoir, Danzhou City, Hainan	<i>Aix galericulata</i>	
Songtao reservoir, Danzhou City, Hainan	Lesser Fish Eagle	1
	<i>Ichthyophaga humilis</i>	

Notable Findings from the 2003/04 China Biodiversity Surveys

▼ Lesser Tree Duck *Dendrocygna javanica*



Projects

The China Programme initiated and supported the following projects in 2003/04 in collaboration with local partners in South China.

Project Title	Project Partner
A field survey of wild mammals in South China	Various forestry departments of Hainan, Guangxi and Guangdong provinces
A resource book for nature reserve management in South China	—
A review of afforestation in South China	National Wildlife Research Centre of the State Forestry Administration Forestry Designing Center of Guangxi, South China Agricultural University
Bird trapping by indigenous peoples in Guangxi	Guangxi Natural Museum
Conservation and reintroduction of the endangered orchid <i>Doritis pulcherrima</i> in Hainan	State Forestry Administration, Wuhan Institute of Botany, Kunming Institute of Botany and, Wildlife Conservation Centre of the Hainan Forestry Department
Distribution, composition, status and conservation of Hainan limestone forests	South China Botanic Garden
Specialist reports on distribution and status of forest biota of South China	—

Projects supported by KFBG in 2003/04

- ▼(left) Eucalyptus plantation in Shaoguan, Guangdong.
▼(right) Bamboo being harvested from a plantation in Jiulinshan, Jiangxi.



- ▲ Mandarin Rat Snake *Elaphe mandarina*.
▼ *Bretschneidera sinensis* Hemsl.



Studentships

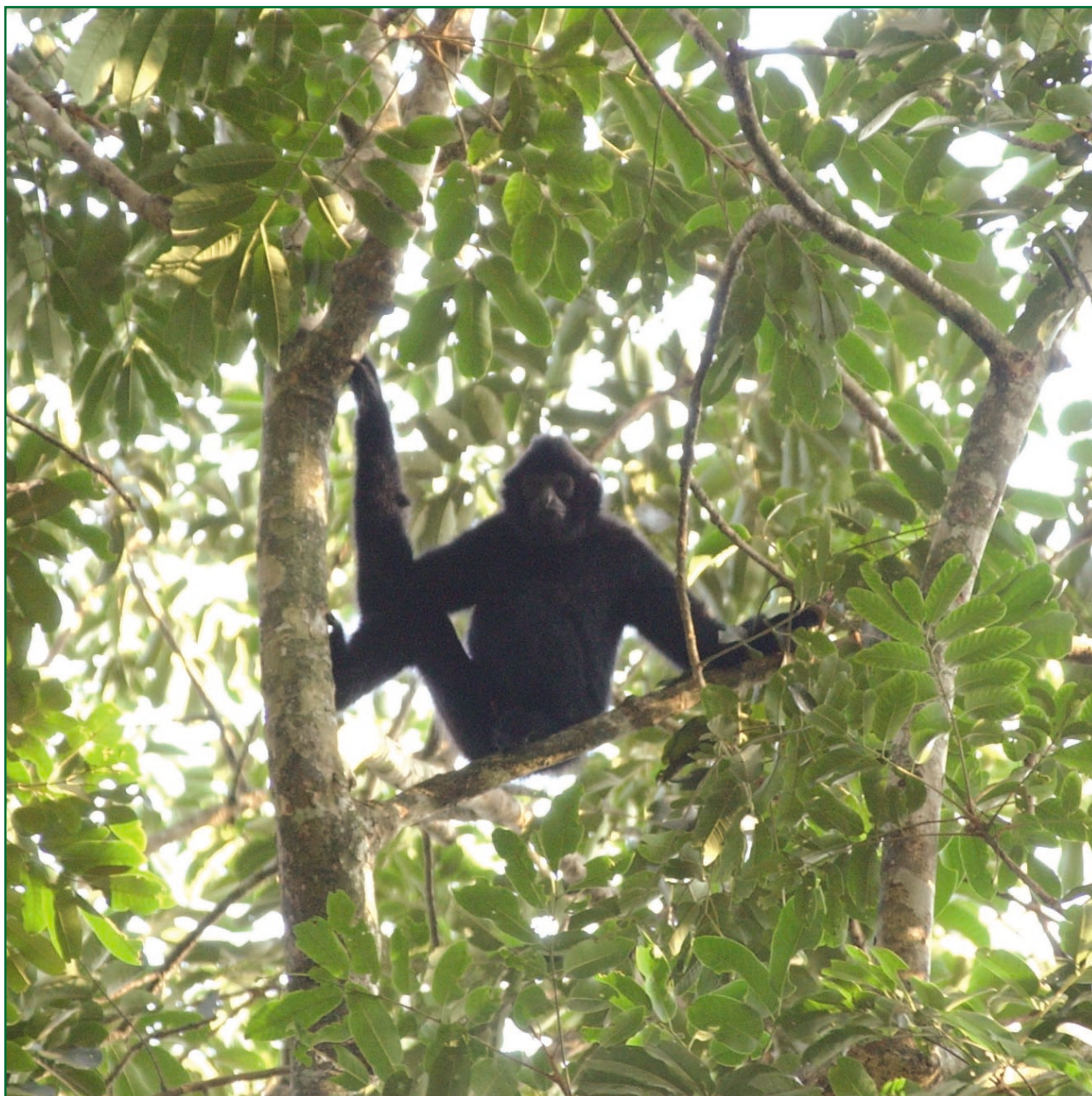
Five Chinese mainland students were awarded studentships in 2003/04.

Name	Institution	Field of Study
Gong Shiping (PhD)	Beijing Normal University	Conservation of freshwater hard-shelled turtles in Hainan
Song Yanjing (PhD)	Institute of Zoology, Chinese Academy of Sciences	Diversity of cave invertebrates in Hainan
Zhang Lu (PhD)	College of Forestry, South China Agriculture University	Altitudinal patterns of species diversity in forests of Shikengkong, Guangdong
Wu Jie (PhD)	Institute of Zoology, Chinese Academy of Sciences	Saproxylous insects and their biodiversity in tropical forests in South China
Tian Huaizhen (MPhil)	South China Institute of Botany, Chinese Academy of Sciences	Conservation of orchids in Nanling, Guangdong

Studentship of 2003/04



- ▲ Large wooden boards that are made from illegally felled trees are sold in local markets.
◀ Vatica being illegally logged by villagers at a limestone forest in Wangxia, Hainan.



▲ Hainan Gibbon (Photo by Mr Lu Gang)

Special Project: Conservation of the Hainan Gibbon

The Hainan Gibbon *Nomascus nasutus hainanus* is a very rare primate that is found only on the island of Hainan. For decades, its existence has been threatened by habitat destruction and poaching, to the point where the population was thought to number only about 20 individuals, making it the most critically endangered ape in the world.

In October 2003, a survey to ascertain the current status of this rare primate was carried out at the species' last stronghold at Bawangling National Nature Reserve (BNNR) in Hainan Province, China. The China Programme, the Hainan Wildlife Conservation Centre of the Hainan Provincial Forestry Department, the South China Institute of Endangered Animals, the FFI China Programme and frontline staff of Hainan's nature reserves gathered together

and, with training and survey methodology provided by gibbon specialist Dr. Thomas Geissmann, conducted a comprehensive Hainan Gibbon status survey at BNNR.

The survey was able to confirm only 13 individuals (two family groups and two solitary adult males), which indicates that the Hainan Gibbon is under imminent threat of extinction. A workshop on Hainan Gibbon conservation with international and local participants followed the survey, and it was concluded that increased enforcement, participatory community development, long-term monitoring and habitat restoration were urgently needed. Follow-up work to obtain aerial imagery, initiate habitat restoration and improve the monitoring of the reserve areas is progressing well.



KFBG ADMINISTRATION

Facilities Management

The following new projects and upgrading work were carried out in 2003/04.

New Work	Location
Improvement to the water supply system	Farm wide
Shaded work shed and tool storage area	Fern Walk
Drip irrigation system for pot plants	Greenhouses
Farm Corner enclosures	Lower Farm
Safety features for large animal enclosures	Wild Animal Rescue Centre

New work undertaken at KFBG in 2003/04

In the ongoing effort to modernise the sewage systems at the Farm, a survey of the drainage and water carrying services was undertaken. A team of geo-technical consultants conducted engineering inspections of the Farm slopes in 2003/04, and major preventative maintenance work was performed, including

the upgrade of the pineapple terraces behind the Administrative Offices.

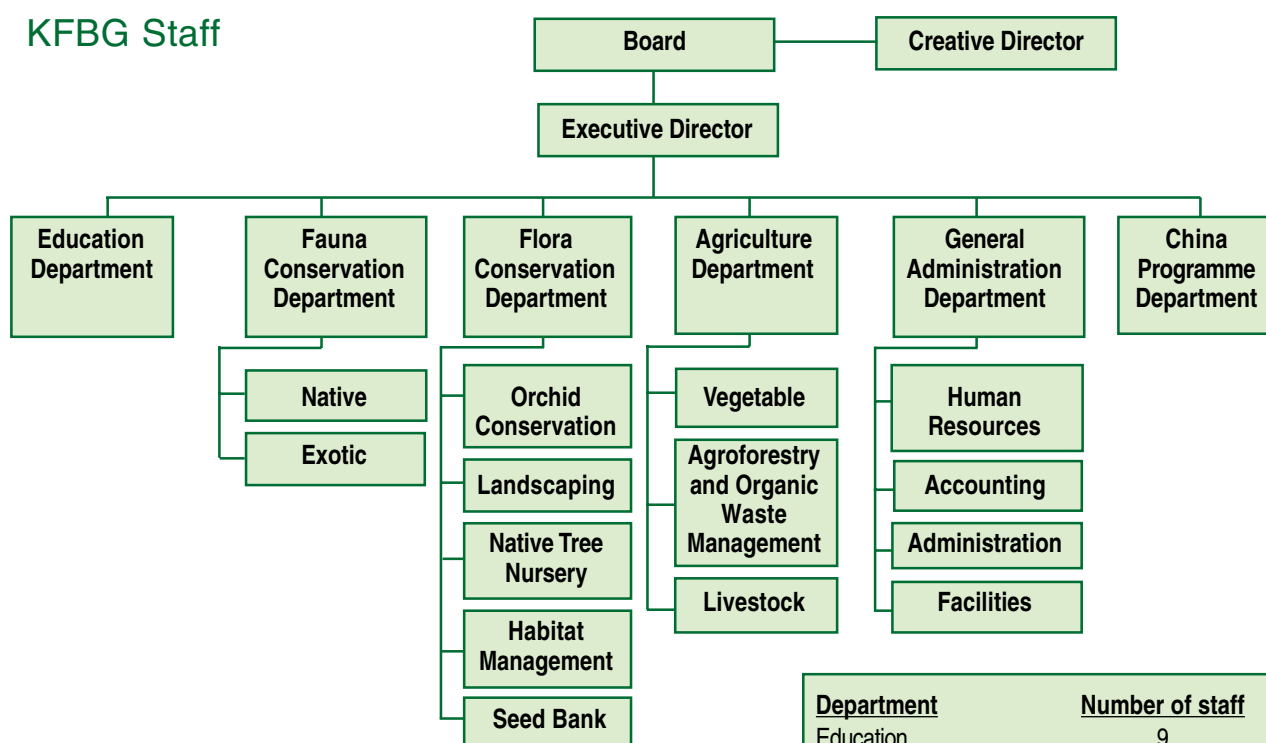
Major improvement and upgrading work of existing facilities was carried out in 2003/04 on the Cock's Summer Camp, Reptile quarantine rooms, Tropical Plant Greenhouse, Orchid Greenhouse, restrooms, toilets and eight small buildings at the Farm.

Financial Report

	Year Ending 31 March 2002	Year Ending 31 March 2003
Capital Expenditure (HK\$)	1 2,555,107	6,109,630
Operating Expenditure (HK\$)	44,786,551	47,884,772
Total Expenditure (HK\$)	57,341,658	53,994,402

Financial data from 2001/02 and 2002/03

KFBG Staff



Department	Number of staff
Education	9
Fauna Conservation	28
Flora Conservation	72
Agriculture	46
General Administration	52
China Programme	9
Total number of KFBG staff	218



Members of the Board of the Kadoorie Farm and Botanic Garden Corporation

Mr. Andrew McAulay (Chairperson)

Mr. Ruy Barretto S.C.

Mr. Ian D. Boyce

Prof. Lawrence Lee

Ms. Deborah McWhittle

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