

Review on Pilot Conservation Management Agreement Projects

Purpose

This paper reports the progress of the pilot conservation management agreement (MA) projects and evaluates their effectiveness.

Background

2. Under the new Nature Conservation Policy announced in November 2004, the Government undertook to implement, among others, a pilot scheme for MA. The pilot scheme aims at enhancing the ecological value of the sites identified for enhanced conservation. Under the MA pilot scheme, non-governmental organizations (NGO) may apply for funding from the Environment and Conservation Fund (ECF) for entering into agreements with landowners. The NGOs will provide the landowners with financial incentives in exchange for management rights over their land or their cooperation in enhancing conservation of the sites concerned.

3. In October 2005, the ECF Committee approved a total allocation of \$4.62 million to three NGOs (i.e. Tai Po Environmental Association (TPEA), Hong Kong Bird Watching Society (HKBWS) and Conservancy Association (CA)) to implement three pilot MA projects at Fung Yuen and Long Valley. TPEA's project in Fung Yuen aims at enhancing the diversity of butterflies by conserving the habitat for butterflies. HKBWS forms partnership with farmers to increase the biodiversity in Long Valley. CA's project aims at formulating an agricultural and conservation management strategy in Long Valley.

4. The Environmental Protection Department (EPD) and the Agriculture, Fisheries and Conservation Department (AFCD) are closely monitoring the implementation of the projects. As a condition of the ECF grant, each NGO is required to submit a progress report with information on the progress and financial position of the project once every three months. AFCD also attends meetings of the advisory and management committees of the projects and conduct site visits to monitor the progress of the projects.

Progress

5. Since implementation of the projects in November/December 2005, three NGOs have signed MA with landowners to actively conserve more than one million square feet of land. The project profiles and the latest progress of the projects are set out at **Annex**.

Evaluation

Conserving and enhancing biodiversity

6. Though the three pilot projects have only been implemented for just over a year, the results clearly indicate that the pilot projects are effective in conserving and enhancing the biodiversity of the concerned sites. Rice, Water Chestnut (馬蹄) and Chinese Arrow Head (慈菇) fields, which have been absent from Hong Kong for decades, have now been reintroduced through HKBWS and CA's projects. Plantation with native tree species was established on a hill slope, which was previously covered by Mikania, and a butterfly reserve with different habitat types was maintained by the TPEA in Fung Yuen.

7. The mean number of birds recorded in Long Valley in winter 2006-07 was 25% higher than that in winter 2005-06. Besides the mean number recorded in winter, the diversity of birds in winter 2006-07 was also higher than the previous winter. New species have been recorded in Long Valley during the project period, including Rosy Pipit (*Anthus roseatus* 粉紅胸鵯) (a new record for Hong Kong), Great Bittern (*Botaurus stellaris* 大麻鵞), Pied Avocet (*Recurvirostra avosetta* 反嘴鷗), Japanese Thrush (*Turdus cardis* 烏灰鶇), Brown-headed Thrush (*Turdus chrysolaus* 紅腹鶇) and Pale Thrush (*Turdus pallidus* 白腹鶇). The total number of bird species recorded in Long Valley has increased from 187 to 211. In Fung Yuen, 123 butterfly species and 71 bird species were recorded in 2006. As no similar record in 2005 was available, the 2006 figures will be used as baseline data for comparison with future records. From the habitat maintenance and creation angle, the project in Fung Yuen helped increasing habitat diversity of the sites, which help attract different species.

8. The increase in the numbers and diversity of birds as well as the increase in diversity of butterfly habitats suggest that current management measures are effective in enhancing the conservation value of the sites.

Raising the public's awareness of conservation

9. In addition to the direct benefit to birds and butterflies, the MA projects also increased local villagers' awareness of conservation. Local villagers have participated actively in these projects, through entering into management agreements with the NGOs, joining guided tours or getting recruited and trained as tour guides. The local villagers have gained more understanding on the nature conservation work and some have changed their farming practices as a result. For example, farmers in Long Valley treasure the presence of rare birds in their fields, and accidental removal of larval food plants has been reduced in Fung Yuen. Frequent site visits by staff and volunteers of NGOs also minimized other potential threats such as hill fire, illegal dumping, trapping or collection of wildlife at the sites.

Empowering NGOs

10. Participating NGOs also benefited from the projects. They have built up mutual understanding with local villagers and established channels for dialogue on nature conservation matters. Additional information has been obtained on effective management practises for bird and butterfly conservation. For example, preliminary results of the food web study of CA's project and bird monitoring programme of HKBWS's project suggest that shallow water habitats attract birds most, especially the Greater Painted-snipe (*Rostratula benghalensis* 彩鷸). Staff of the NGOs have also gained first-hand experience in habitat conservation and management.

Financial resources

11. Currently, the ECF's grant is the main source of funding for all the MA projects. The grant has been used as seed money to initiate management agreements and conservation measures. NGOs have been encouraged to identify other sources of funding, such as income from eco-tour, contributions from their members, product sales, etc. For example, HKBWS has obtained about \$10,000 income by organising 11 eco-tours. NGOs should continue their efforts to identify alternative sources of income to reduce their reliance on the ECF grant.

Conclusion

12. Despite the initial difficulties encountered in entering agreements with local landowners or farmers, the three pilot projects have been running smoothly with all the proposed conservation measures being implemented. The projects have been implemented for more than a year. Results of all three

projects are promising, suggesting enhanced conservation value of the sites.

13. Recognizing the merits of the projects mentioned above, we consider the pilot MA scheme is effective in conserving and enhancing the biodiversity of the ecologically important sites and it worthwhile to continue the scheme.

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Pilot Nature Conservation Management Agreement Projects

A. A Pilot Scheme of Management Agreement on the Private Land with High Conservation Value at Fung Yuen Valley Site of Special Scientific Interest in Tai Po, Hong Kong

Project description:

Land in Fung Yuen receives proactive management for butterfly conservation. Tai Po Environmental Association (TPEA) cooperates with landowners or land operators to apply “Good Practices for Butterfly Conservation” in private lots in Fung Yuen Valley.

Duration: 24 months

Budget: \$1,743,630

Major progress (as at end February 2007):

- TPEA successfully rented 173,900 sq. ft of private land in Fung Yuen for establishing a butterfly reserve, meeting the target size.
- TPEA implemented active conservation measures in Fung Yuen, including site patrols, removal of Mikania, planting of larval food plants and nectar plants as well as raising of larvae for release.
- Seedlings were also planted and managed on a hill slope in Fung Yuen.
- Monthly butterfly surveys are being conducted by the Hong Kong Lepidopterists’ Society and the Chinese University of Hong Kong (CUHK) while bird surveys are carried out by the HKBWS on a quarterly basis.
- In September 2006, a two-month plant survey covering both larval food plants and rare plants was conducted by the CUHK to collect plants information and make recommendations on vegetation management in

relation to butterfly conservation.

- Since commencement of the project, the TEPA has been organising various workshops and voluntary programmes for different sectors of the community. So far, a total of 67 workshops with over 2,600 participants and a number of media visits were organized to promote the Management Agreement (MA) project.
- A website of the project with an ecological database has been launched for public viewing.

Achievements in meeting conservation objectives:

Key conservation objectives	Achievements
To reduce environmentally incompatible behaviour on the private land in Fung Yuen Valley	Daily site patrol and inspection by TPEA staff over the past year reported only one illegal war-game playing incident. The presence of staff and volunteer helped safeguard the site.
To enhance the habitat and butterfly species diversity	Removal of invasive weeds, and planting of native tree species, larval food plants and nectar plants have greatly enhanced the habitat diversity. A total of 123 butterfly species were recorded in 2006.
To promote the public's awareness of conservation	Through various workshops and media coverage, the public's awareness of Fung Yuen and butterfly conservation has been raised over the past year.

B. Birds and Humans in Harmony – A Sustainable Management Scheme in Long Valley

Project description:

The Hong Kong Bird Watching Society (HKBWS) forms partnership with farmers to maintain and increase the biodiversity of Long Valley, especially for avifauna. Shallow water habitat, wet agricultural land, fallow dry agricultural land as well as farmland margin vegetation are created or maintained.

Duration: 24 months

Budget: \$1,362,560

Major progress (as at end February 2007):

- HKBWS has signed 21 agreements with 13 farmers involving 386,200 sq. ft of farmland, close to their target size.
- Various measures have been implemented to create a better environment for birds in Long Valley. Fallow wet agricultural land was converted to shallow water habitats and wet agricultural lands are being managed for wetland associated species such as snipes, sandpipers and plovers.
- HKBWS also planted Flowering Chinese Cabbage (菜心) in fallow dry agricultural land and tomatoes on farmland margins to attract pipits, buntings and munias.
- HKBWS has also re-introduced the planting of Rice, Water Chestnut and Chinese Arrow Head (which have been absent in Hong Kong for decades) to enhance the biodiversity of the habitats in Long Valley.
- A systematic monitoring programme is being carried out to study the relationship between different habitats, management measures and birds.
- Eco-tours were organised for VIP, the press and the general public. Volunteers were recruited to participate in the pilot project, either as

eco-tour guides or directly involved in the conservation measures. Many of the volunteers are local villagers.

Achievements in meeting conservation objectives:

Key conservation objectives	Achievement
To coordinate appropriate farming and conservation activities to maintain and enhance the biodiversity of the habitat	HKBWS has entered into agreements with farmers or landowners. Environmentally friendly farming practices and conservation measures are being implemented on private land.
To improve sustainability of the agricultural activities	Traditional agricultural activities are maintained or reintroduced, and organic farming is being promoted.

C. Sustainable Habitat Management in Long Valley

Project description:

The Conservancy Association (CA) cooperates with local farmers to manage their farmlands through Habitat Deterioration Prevention Agreement or Habitat Diversity Enhancement Agreement. Active conservation works are carried out to enhance the heterogeneity within the habitat of abandoned agricultural lands. Food web study is conducted to provide important ecological information of Long Valley.

Duration: 29 months (with five-months extension)

Budget: \$1,514,160

Major progress (as at end February 2007):

- CA has entered into 24 management agreements with 15 farmers for habitat management of 493,000 sq. ft of farmland, doubled the size proposed in the application.
- Formerly abandoned farmlands are now being maintained by local farmers as wet agricultural land or marshes to prevent deterioration of habitat.
- Environment friendly management practices (including organic farming) have been introduced to farmers in wet agriculture.
- Apart from the target farmlands, the CA was able to enter into an agreement with a water flea farm owner in October 2006, successfully conserving one of last few pieces of water flea farmland in Hong Kong.
- CA is collaborating with the Department of Biodiversity and Ecology, University of Hong Kong (HKU) to conduct a food web study to enhance our understanding of the food web systems for birds.
- A post-graduate student supervised by a HKU professor is studying the relationship between habitat types, management measures, food availability and bird utilization.

- Small scale studies on the potential threats of apple snails and Mikania are also being undertaken by CA to facilitate formulation of a control plan.
- CA has been organizing activities to publicize the MA project through workshops, media and VIP tours. Local villagers are trained to lead the guided tours.
- CA is also assisting the farmers to promote their organic produces in local markets.

Achievements in meeting conservation objectives:

Key conservation objectives	Achievements
To find out viable options for farmers to maintain active agricultural areas, particularly the wet farmlands, in order to enhance the local biodiversity	Active agricultural areas are being maintained under management agreements with farmers or land owners. Efforts are also made to explore ways to sustain active agricultural activities e.g. through eco-tourism and promotion of organic produce.
To formulate effective agricultural and conservation management strategy for Long Valley	In progress. Ecological and financial data are being collected for assessing the effectiveness of various management practices with a view to formulate a long-term strategy.