

Malua Wildlife Habitat Conservation Bank - An Innovative Approach for Conservation in Sabah

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ABSTRACT

The conservation of Malua Forest Reserve as a critical wildlife habitat in Sabah may not be able to achieve its ultimate goal, if it does not have any proper plan of self financing in the future. The Sabah Forestry Department cannot financially afford to secure the habitat, merely by declaring and committing the entire forest as a protected area. A foreign partner, New Forests Pty Limited, has offered an innovative approach by the establishment of an ecoproducts bank, which is to create a commercially sustainable model for large scale conservation and rehabilitation in the Malua Forest Reserve. The project concept is to translate forest conservation into a tradeable product so that biodiversity conservation could compete with other land uses on a commercial basis through the selling of Biodiversity Conservation Certificates.

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1.0 INTRODUCTION

Malua Forest Reserve is a part of the Ulu Segama–Malua Sustainable Forest Management Project (US-M SFMP). This project was launched on 15th March 2006, as a milestone of political commitment by the State Government of Sabah towards protecting, conserving and rehabilitating a very vital ecosystem which holds the largest concentration of endangered wildlife species, notably orang utans in Sabah. The US-M SFMP covers 241,098 ha of permanent forest reserves and is managed jointly by the Sabah Forestry Department (SFD) and Yayasan Sabah (YS), as the concessionaire.

1.1 Legal Status

Malua Forest Reserve comprises of 33,969 ha of production forests and it has been gazetted as a permanent forest reserve since 1961 and regazetted in 1984. This area is a part of Yayasan Sabah's Concession Area and located in the Kinabatangan District. Under the sustainable forest management concept, the area is located in Forest Management Unit (FMU) No. 20.

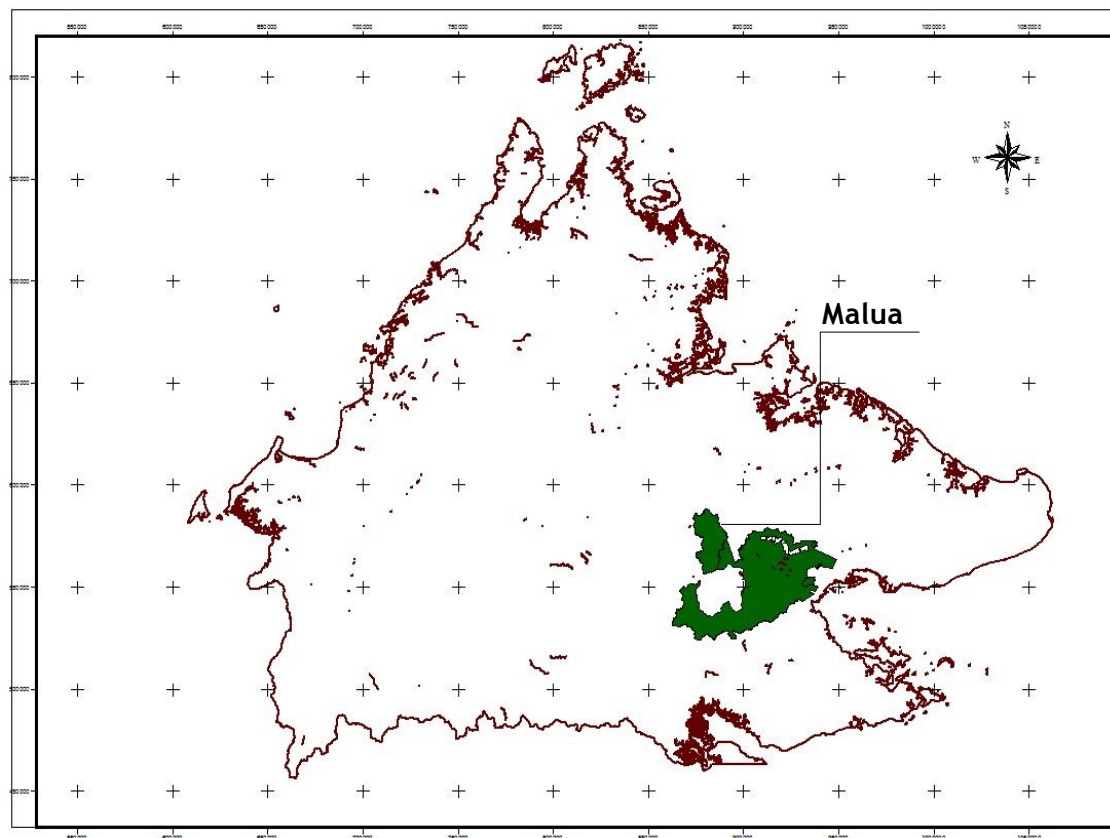
1.2 Management Status

Malua Forest Reserve is managed in accordance with the US-M SFMP Forest Management Plan (FMP) which covers a ten (10) year planning period (1st Jan. 2008 to 31st Dec. 2017). About 80 percent of Malua Forest Reserve is covered with lowland mixed dipterocarp forests and holding very fertile soils especially in flat terrain. Since the 1970s', Malua Forest Reserve has been harvested at least three (3) times in different locations, and the most recent extraction was in 2007. Harvesting was done conventionally in the 1970s' to the 1990s', while in 2007 timber extraction was strictly implementing the Reduced Impact Logging (RIL) technique. The estimated total timber production extracted from Malua is about 3.0 million m³. Based on the land use assessment as prescribed in the US-M SFMP management plan, about 16,150 ha of Malua Forest Reserve are categorized under the conservation zone (48%) and 52% is production zones. However, since the area is obviously vital as an endangered wildlife species habitat, the FMP is purposely prepared for conservation and exclusively exempted from any harvesting component for at least 10 year of the planning period. This means the project area will not be able to generate any revenue and the State Government of Sabah explicitly needs to subsidize conservation and administration activity in the best interest of present and future generations.

Table 1: Forest reserves within USM SFMP area.

No	Name of Forest Reserve	Class of Forest Reserve	Function	Area (Ha)
1	Ulu Segama (*)	II	Production	202,856
2	Malua	II	Production	33,969
3	Kawag Gibong	VI	Virgin Jungle Reserve	707
4	Merisuli	VI	Virgin Jungle Reserve	552
5	Sepagaya	VI	Virgin Jungle Reserve	2,316
6	Sapagaya	I	Protection	698
Total				241,098

Figure 1: Location of Ulu Segama- Malua Sustainable Forest Management Project area.



2.0 THE NEEDS TO CONSERVE MALUA FOREST RESERVE

Located adjacent to one of the region's pristine lowland dipterocarp forests (Danum Valley Conservation Area), the Malua Forest Reserve provides a crucial buffer between virgin rainforests and oil palm plantations. The area is home to endangered wildlife species and contains different forest types, such as lowland mixed and upland dipterocarp forests, freshwater swamp forests, limestone forests and ultramafic forests.

Several wildlife census and expeditions that have been conducted by various organizations revealed that Malua provides a habitat for breeding populations of 16 IUCN red listed mammals and birds species. These include orang utans, Bornean pygmy elephants, Sumatran rhinoceros, bantengs or tembadaus, otter civets, clouded leopards, bay cats, sun bears, pangolins and storm's storks.

Areas in Malua below 200 metres above sea level (approximately 17,000 hectares or about 50%) has been identified as lowland mixed dipterocarp forests which are considered to be a globally endangered ecosystem. Whereas areas above 700 metres above sea level are mostly dominated by ultramafic forests, which contain endemic vegetation species.

An assessment of the High Conservation Value (HCVs) in Malua Forest Reserve revealed that the area has several major conservation attributes, as follows:-

- (i) Provides biodiversity support functions to protection or conservation areas;
- (ii) Existence of critical endangered species;
- (iii) Contains habitats for viable populations of endangered , restricted range or protected species;
- (iv) Large natural landscapes with the capacity to maintain natural ecological processes and dynamics;
- (v) Contains two or more contiguous ecosystems;
- (vi) Contains representative populations of most naturally occurring species.

Therefore, the recognized HCVs in the Malua Forest Reserve are :-

- (a) Lowland mixed dipterocarp forests;
- (b) Breeding populations of Sabah's rare, threatened and endangered large mammal species (orang utan, Bornean pygmy elephant, Banteng and Sumatran Rhinoceros);
- (c) Forming part of the critical Upper Kinabatangan water catchment.

3.0 CONSERVATION PARTNERSHIP

In early 2007, an environmental investment management firm based in Sydney Australia, name New Forest Pty Limited, approached the State Government of Sabah by introducing the idea of exploring the ecosystem market, as an option to financially support the management of conservation areas. Realizing the importance of balancing the economic development and rainforest conservation, the State Government of Sabah, through the Sabah Forestry Department has facilitated the discussions for collaboration opportunity with the private sector. The Malua Forest Reserve, as the most vital endangered wildlife habitat in Sabah has been the focus based on the availability of the HCVs.

The structure of the ecosystem service payments is based on biodiversity banks or conservation banks implemented in the United States and Australia. The basic concept is for compensatory credits, such habitat impacts that cannot be avoided must be offset by an equal amount of restoration and protection in an area of similar ecological value.

On the 26th November 2007, a Memorandum of Agreement (MoU) was signed between the Rakyat Berjaya Sdn. Bhd. (a wholly owned company of Yayasan Sabah, the concessionaire of Malua Forest Reserve) and New Forest Asset Management Pty Limited for establishing a collaboration for the development of a business model to provide commercial solutions of ecoproducts in relation to the Malua Forest Reserve. Consequently, on the 14th August 2008, an agreement was sealed between the State Government of Sabah through Sabah Forestry Department, New Forest Pty Limited, Rakyat Berjaya Sdn. Bhd. and HSBC (Malaysia) Trustee Berhad for the establishment of an ecoproducts bank, the “Malua Wildlife Habitat Conservation Bank” (MWCHB). Rakyat Berjaya Sdn. Bhd. is a fully owned subsidizing of Yayasan Sabah and holds the timber rights.

In general, through this agreement, Malua Forest Reserve will be protected and rehabilitated, initially for 6 years and subject to be continued for at least a further 44 years. The State Government of Sabah has licensed conservation rights of any ecoproducts such as biodiversity conservation certificates and carbon credits to the MWCHB for a period of 50 years. However, the land use rights are still held by the Yayasan Sabah, as the concessionaire of the area. The private investor of MWCHB has committed up to US\$ 10 million for the rehabilitation of the Malua Forest Reserve for 6 years.

4.0 MWHCB CONCEPT

The MWHCB is the first of its kind model of investing in tropical rainforest conservation on a commercial basis. Therefore, the marketing approach taken is based on the area biodiversity sales. The basic concept of MWHCB is to sell Biodiversity Conservation Credits (BCCs), with each certificate representing 100 square meters of rainforest restoration and protection. BCCs are trade-able securities and registered by the TZ1 Limited, the first global registry for biodiversity in the world.

Revenues generated from BCCs sales will be distributed in the following order and manner:-

- (i) To the Malua Trust 20% of gross revenue. This is to endow a perpetual charitable trust whereby the Malua Trust Fund was set up to manage the long term conservation management of the Malua Forest Reserve over the remaining 44 year period of the agreement.
- (ii) To the Rakyat Berjaya Sdn. Bhd. and MWHCB, an amount equal to the costs incurred for protection and conservation over an initial 6 years period.
- (iii) 50% of the remaining net revenue to MWHCB and 50% of the remaining net revenue to Rakyat Berjaya Sdn. Bhd.

4.1 Conservation Investors

Investment of the project is initiated by the Eco Products Funds, LP (EPF). EPF is a private equity investment vehicle that is managed jointly by the New Forests Inc. and Equator Environmental, LLC. Given growing interest in environmental markets for the initial 6 years period, EPF has invested US\$ 10 million in the conservation of Malua Forest Reserve to take an early position in markets for biodiversity. Financial models suggest that the MWCHB could sell BCC for a price that would add roughly 1% to the market price of a metric tonne of crude palm oil while funding rehabilitation works, endowing the Malua Trust and still earning competitive returns for the investors.

4.2 Cost of BCCs

In the current business model, the cost of each BCC is US\$ 10.00 per 100 square meters or US\$ 1000.00 per hectare. Considering the gross area of MWHCB is about 34,000 hectare, the projected BCCs sale will be able to generate approximately US\$ 34,000,000.00 of conservation funds in the period of 2008 to 2014.

4.3 Target Buyers

As global concern of the importance of conserving critical ecosystems is growing, the companies relying on the agribusiness, in particular oil palm plantation, are increasingly scrutinized for perceived impacts on rainforests. By purchasing BCCs, buyers can transparently support an effective long term investment in forest conservation. The other potential buyers are expected from energy, food, cosmetics and transportation based companies who want to demonstrate to consumers that they are contributing to ecosystem conservation.

5.0 PROJECT IMPLEMENTATION

Rakyat Berjaya Sdn. Bhd. and Sabah Forestry Department are fully responsible to implement the priority actions as stipulated in the Conservation Management Plan for the Malua Forest Reserve. The New Forests Asia Sdn. Bhd., a locally incorporated company of New Forests Pty Ltd; has been appointed by the MWHCB to manage its affairs including ensuring the implementation of the Conservation Management Plan.

For the first (6) years, a Steering Committee consisting of appointees of the Forestry Department, Rakyat Berjaya Sdn. Bhd. and MWHCB approves project budgets and updates on the Conservation Management Plan. After the first (6) years, the Malua Trust will take on these roles.

An Advisory Committee consisting of experts in the relevant fields will provide advice to the Steering Committee on the updating and implementations of the Conservation Management Plan.

5.1 *Conservation Management Plan (CMP).*

This is a sub-plan of the “mother” FMP. The CMP is prepared in practical terms on how the forest conservation objectives of the MWHCB and the Malua Trust will be achieved given the current state of the Malua Forest Reserve and relevant knowledge. It is therefore a guiding document for the preparation of the annual management budget for the project area.

In general, there are (4) management goals set out in the CMP:-

- (i) Protect and restore populations of endangered and protected species.
- (ii) Protect and restore forest ecosystems, increase carbon storage and improve resilience to extreme ecological events.
- (iii) Create greater awareness of the importance of biodiversity and conservation of Malua Forest Reserve.

- (iv) Achieve compliance with acceptable best practices for forest conservation projects.

5.2 *Steering Committee*

The role of the Steering Committee is to:-

- (a) Manage the conservation activities over the first (6) years and the distribution of the US\$ 10 million budget.
- (b) Reviewing and approving annual development and operational budget.
- (c) Ensure the funds raised from the sales of ecoproducts is distributed according to the MWHCB agreement.

In the current status, Steering Committee members are consisting of (6) people from the Sabah Forestry Department, New Forest Inc., Eco Products Fund and Rakyat Berjaya Sdn. Bhd. The meeting frequency is six monthly in June and November, with additional meetings if required.

5.3 *Advisory Committee*

The purpose of the Advisory Committee is to provide technical guidance on the conservation and social development objectives to the Steering Committee during the implementation phase. In the current status, the Advisory Committee is consisting of (11) experts from different fields, such as wildlife conservation, forest ecology and forest hydrology.

5.4 *Malua Trust*

The role of the Malua Trust is to:-

- (a) Receive the allocated percentage of the proceeds of the ecoproducts sales to establish the Malua Trust Fund.
- (b) Manage the Malua Trust Fund to provide funds in perpetuity from year (7) of the project for the achievement of the Malua Trust objectives.
- (c) Update the Conservation Management Plan (after 6 years) as necessary to ensure it continues to reflect the Trust's objectives.
- (d) Assess compliance stage of Conservation Management Plan implementation (after 6 years).

6.0 PROGRESS AND ACHIEVEMENTS

6.1 *Biodiversity Conservation Certificates (BCCs) sales.*

After about one year of MWHCB implementation, the project achievements are still in the initial stage and progressing. The global economic downturn has obviously influenced the sales of BCCs with some of the local potential buyers deciding to keep in view for purchasing the certificates.

Since the inception phase, about 21,500 BCCs have been sold and generated revenue of US\$ 215,000.00 whereby the first four buyers were local Sabah based timber companies, an oil palm planter and an individual, as listed in Table 2. Notwithstanding, the MWHCB is still doing continuous consultations with several potential buyers such as the Malaysian Palm Oil Council, Neste Oil (biodiesel refinery), I.O.I Plantation, RSPO members and Borneo Rainforest Resort.

Table 2: List of Biodiversity Conservation Certificates Buyers For Malua Wildlife Habitat Conservation Bank (2008-2009).

No	Company Name	BCCs Volume	Total (US\$)
1	Maxland Sdn. Bhd	10,000	100,000.00
2	Hormat Jadi Sdn. Bhd.	5,000	50,000.00
3	Bakalayan Sdn. Bhd.	1,500	15,000.00
4	Mr. Liew Pin Chong	5,000	50,000.00
		21,500	215,000.00

6.2 *Employment of Conservation Staffs*

To ensure the administration and management of MWHCB comply with the Conservation Management Plan, (13) people from semi professional rank to the field staff rank are employed using the budget provided by the conservation bank. Ultimately, this opportunity has increased the capacity building by the creation of employment for the local community.

6.3 *Procurement of vehicles*

(2) units of four wheel drive vehicles have been purchased for the use of patrolling the perimeter boundary and resource protection from any poaching and illegal entry activities. The vehicles are also used for wildlife monitoring programmes in Malua Forest Reserve.

6.4 ***Preparation of Social Impact Assessment of Local Community***

A Social Impact Assessment was conducted by the appointed consultant at (2) nearby villages of Kg. Balat and Kg. Tangkong. The assessment revealed that the community no longer depended on the forest. This is due to the increasing activity of oil palm planting within titled lands in the village and this becomes their main source of income.

6.5 ***Preparation of Wildlife Monitoring Plan***

A Wildlife Monitoring Plan has been prepared by an appointed consultant for the purpose of documenting response of key wildlife species to the removal of hunting pressure and logging, documenting response of key wildlife species on the impact of forest restoration and evaluating populations of key selected wildlife species. The plan also provides an early warning system of ecosystem decline or improvement through the selection and monitoring of proper environmental indicators.

6.6 ***Enhancing the quality of wildlife habitat***

Enhancement of wildlife habitat quality is implemented in Malua Forest Reserve by installing hornbill nesting boxes at degraded zones, construction of orang utan's bridge crossing over Sg. Malua for habitat connectivity of fragmented populations and the creation of artificial salt licks for big mammals.

6.7 ***Natural salt licks monitoring***

Monitoring the usage of natural salt licks using camera trapping method revealed that some of the salt licks areas are in the critical use level and mitigation actions need to be imposed to prevent poaching pressure. Continuous observation and monitoring will develop the understanding of wildlife behaviour of mineral needs and planning proper actions for managing this high conservation value area.

6.8 ***Improvement of infrastructures***

Basic infrastructure in Malua Forest Reserve has been improvised using the annual budget allocated for development cost. (3) units of Forest Checking Stations to safe-guard the main entry points have been constructed and controlled on a full time basis. Malua Base Camp is upgraded to ensure it could be operating as the central administration for field activities in Malua Forest Reserve. The main forest road is repaired and maintained regularly for safe mobility and all weather use. The collapsed timber bridges and culverts are being

replaced by permanent structures made from concrete materials to improve the drainage system and for safety reasons.

6.9 Resource Protection

Due to the availability of the allocation, monitoring using aerial surveillance over perimeter boundary of Malua Forest Reserve is being executed at monthly basis. This has resulted in a significant impact on protecting the forest resource and prevention from any threats such as poaching, illegal cultivation and encroachment as well.

7.0 CONCLUSION

Conservation of critical ecosystems for maintaining and protecting the biodiversity may not be sustainable in the future, if it is not supported financially. The biggest threat is dealing with the land use competitiveness whereby conservation is contributing a very low rate of return if compared with other related agribusiness activities. Therefore, conservation must be translated into ecosystem payment mechanisms through a commercial approach. Due to the lack of knowledge and experience for exploring this opportunity, the conservation custodians need to engage with the agency or private sector who could add value to our conservation efforts. Malua Wildlife Habitat Conservation Bank is one of the innovative solutions to market conservation products through the sales of Biodiversity Conservation Certificates. This commercial model might create funds for restoring and protecting Malua's critical ecosystem, will endow a perpetual conservation trust to manage the area in the future and potentially generate a return on investments to the project proponents. Investors or buyers have responded at various acceptance levels, for this biodiversity bank is a first-of-its-kind business model for rainforest conservation. Notwithstanding this, due to its commercial nature initiative, this mechanism has a great potential to be a replicable model for the other large scale conservation areas in Malaysia.

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