



ROUNDTABLE MEETING ON SUSTAINABLE PALM OIL



A Shared Responsibility:

Converting Commitments into Action





Human-wildlife conflict: Understanding the conflict and exploring the opportunity to co-exist



A Shared Responsibility:

Converting Commitments into Action



Contents

Introduction

 Human-wildlife conflict in oil palm plantation - species involved and types of conflict in oil palm plantations

Case study of Human-Elephant Conflict (HEC) research in Sime Darby Plantation Berhad (SDPB)

• Understanding the conflicts of HEC in SDPB

Moving forward

- 5 intervention strategic phases
- Paradigm shift importance of data to develop mitigation plan

Introduction





- 1. Cost for people
 - direct: life loss, physical injury, disease, psychological stress.
 - indirect: predation on crops, other properties, opportunity costs.
- 2. Cost for wildlife
 - direct: life loss or injury, social or behavioral disruptions.
 - indirect: damage on habitat.



Introduction



- Species conservation status (The IUCN Red List)
- National law of protected species list (WCA 2010, WCE 1997, WLPO 1998)
- RSPO Annex 2: Guidance 7.12

Developing responsible measures to resolve human-wildlife conflicts (e.g. incursions by elephants).

Introduction



We need to understand the conflict:

what are the species involved?

where and when has conflict happen?

is there any correlation?

what kind of damage?

how severe is the conflict damage?

are we doing it right?

Understanding the elephant



- Asian Elephants (*Elephas maximus*) are edge specialists (Campos-Arceiz, 2013)
- A mega-herbivore, an adult elephant weighs 1,000-5,000 kg, needs to eat approximately 10% of their body weight every day (*Fernando, 2015*).
- Elephants in primary and logged forests feed mainly on monocot leaves other than grasses and hard dicot material (*Yamamoto-Ebina et al., 2016*)





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AIM OF THE STUDY: PROMOTE AND SUPPORT CO-EXISTENCE BETWEEN AGRICULTURAL SOCIETIES AND WILD ELEPHANTS IN AREAS WITHIN AND SURROUNDING OIL PALM PLANTATIONS







OBJECTIVES:

- 1. Systematically review the literature of HEC
- 2. Describe HEC type and patterns
- 3. Evaluate the effectiveness of current HEC mitigation measures
- Developing policy and protocol of HEC in oil palm plantation

















"The elephants came in droves when we started to fell our old palms, feeding on the shredded palm's heart (shoot)" - Sandakan Bay Estates team



"They stayed away when the palms were newly planted and came back once the palm's base grew big enough to feed on." - Sandakan Bay Estates team





How severe was the damage?





N=200,242 (2011 - 2018)

What age of trees did the elephants prefer?



N=200,242 (2011 – 2018)



What other age of tree have they damaged?





N=4,001 (2016 – 2018)

Before and after the electric fencing







How much we have lost?



Total Loss = A (planting cost for 3 years) + B (Loss of potential yield)

Calculation for A

A = Ha of damage (no. of tree / av.145 SPH) x Forecasted immature cost up to the month of attack/Ha (land clearing, material, labour, transport, maintenance)

Calculation for B

- 1. FFB (yield) = Ha of damage x Average yield/Ha/annum (e.g: 21 MT) x potential harvesting period (e.g 22 years)
- 2. CPO = FFB x OER (average 21%*)
- 3. Kernel = FFB x KER (average 5%*)
- 4. CPO x current price (MPOB average e.g: RM2170/MT)
- 5. Kernel x current price (MPOB average e.g: RM1100)
- 6. Cost of palm product/mt. = [CPO, (2) + Kernel (3)] x RM1,350/MT Palm product (average) /estate-mill

Hence, B = (4) + (5) - (6) Not consider time value of money (no DCF)

How much we have lost?



Therefore,

Total Loss = A (planting cost for 3 years) + B (Loss of potential yield) = RM 18,873,068.80 + RM4,734943.48 = RM23M = USD5.7M = USD706K/year*

Notes*:

Not consider time value of money (no DCF) Exclude the other 6 estates that not within the scope Exclude multiple fields replanting of Tun Tan Estate, Sentosa Estate and Mentakab Estate Mitigation and management invested; trenches and electric fencing Running cost of manpower and maintenance of fencing

Insurance – business loss compensation

The total amount paid for premium insurance coverage during 2009-2018 estimated less than RM2 million covering more than 300K hectare of planted trees.

The total amount of the claim that was reimbursed over the period 2009-2018 was estimated RM3.62M

The highest claims reimbursed for the period of 2009-2018 were 60% for floods, followed by 32% for elephants, 4% for wild boar and others.



Flood



■ Fire ■ Elephant ■ Wildboar ■ Cattle ■ Others



2018



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Using data collection to develop responsible measures to mitigate the conflict at the landscape level





INTERNATIONAL ZOO YEARBOOK:

Shift of paradigm needed towards improving human–elephant coexistence in monoculture landscapes in Sabah: Nurzhafarina et.al.

Int. Zoo Yb. (2019) 53: 1–13 DOI:10.1111/izy.12226



Preliminary >5 years >3 to <5 years >1 to <3 years <1 year water bodies



0 625 1,250 2,500 3,750 5,000 Meters

Supporting 5 intervention strategic phases to mitigate human elephant conflicts (Lim, 2018):

Phase	Intervention	Appropriate timing
1	Land-use controls	Before a development
2	Barriers to protect people and crops	During elephant raiding at high risk areas
3	Financial tools	After elephant raids
4	Building tolerance	At any time
5	Removal of wildlife	As a last resort
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- It is vital to understand the human-wildlife conflict locally. The evidencebased information is needed to support in the development of conflict mitigation policy and protocols at respective areas.
- Certification is part of sustainable solution; plantation committed to transparency and open for collaborations; we need more collaborative partnership among plantations (sharing what we know).
- One company at a time, but, it takes landscapes & beyond to save the species.



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