

**Control of Invasive
Arenga Palm (*Arenga obtusifolia*) in Habitat Suitable
for Javan Rhino (*Rhinoceros sondaicus*)
in Ujung Kulon National Park**



By: Sectionov Inov, IRF Indonesia Liaison

**2013 International Elephant & Rhino Conservation
& Research Symposium**

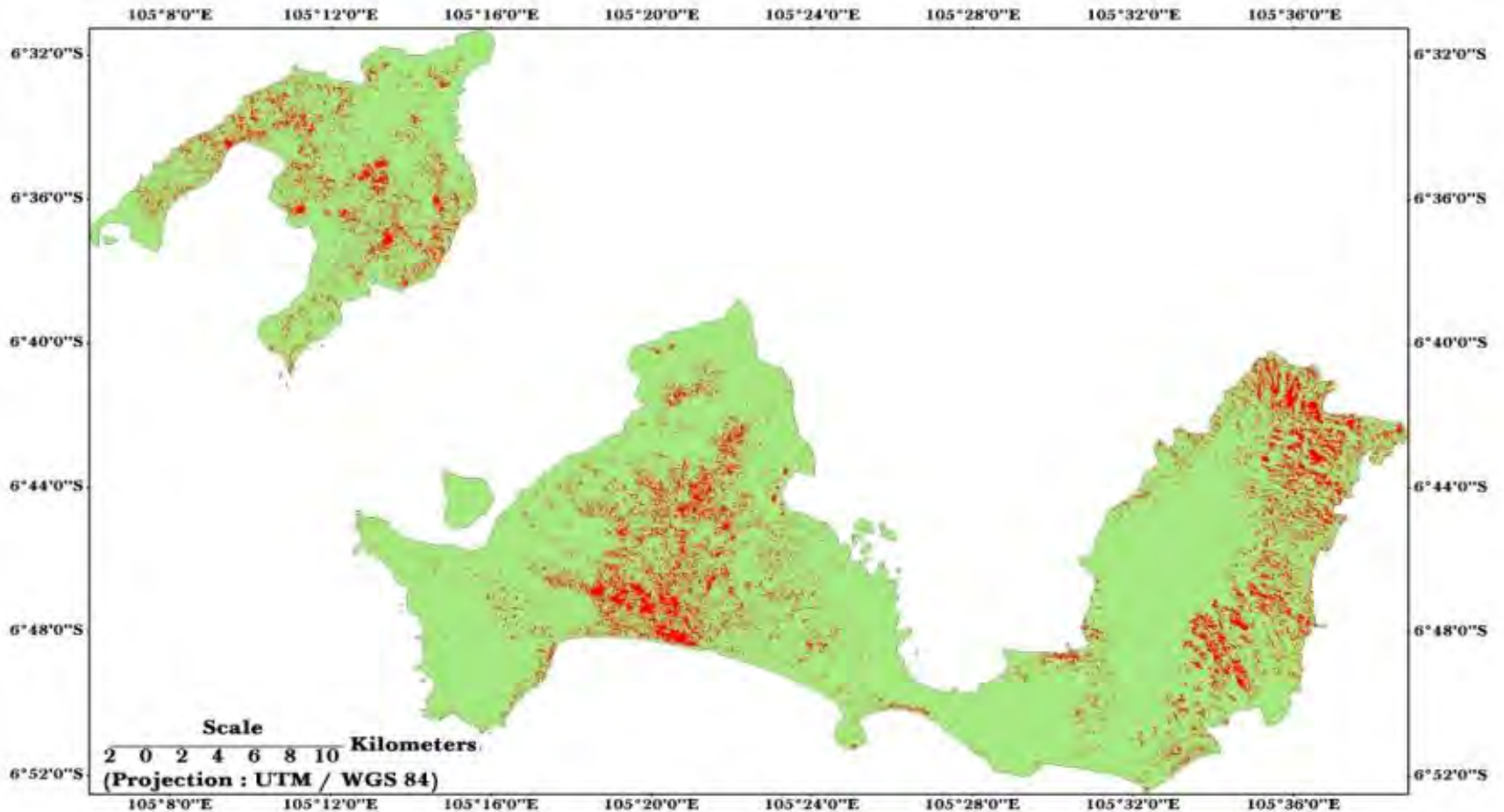
A photograph of a Javan Rhino standing in a dense, sun-dappled forest. The rhino is dark brown with thick, wrinkled skin and a prominent horn. It is facing left, looking slightly upwards. The background is filled with various tropical plants and trees, creating a lush, natural habitat.



Javan Rhino

World Population ~40



Distribution of Arenga Palm in Ujung Kulon National Park (Based on Landsat ETM Imagery of 7th August, 2008)



Legend	
	Distribution of Arenga Palm
	Ujung Kulon National Park

Map Prepared by *Aaranyak* in Partnership with YABI & IRF.



Aaranyak

Why Arenga Palm

- Considered as an invasive species
- Not used intensively by the Rhinos
- Over shading inhibits growth of other plant species (reduced biodiversity)



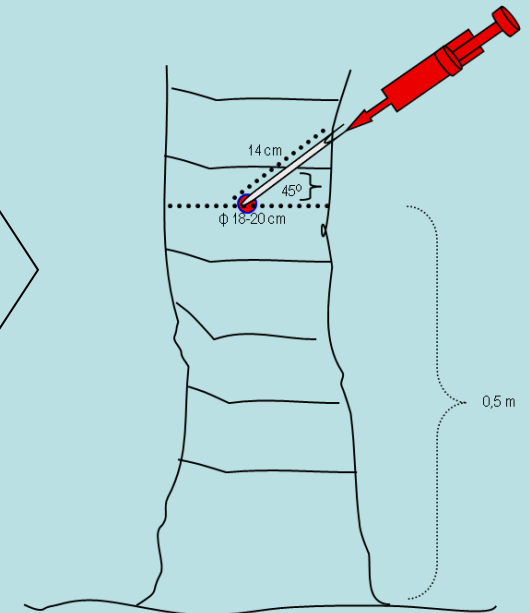
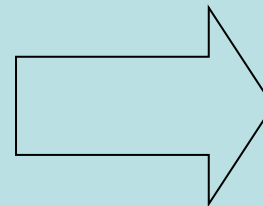
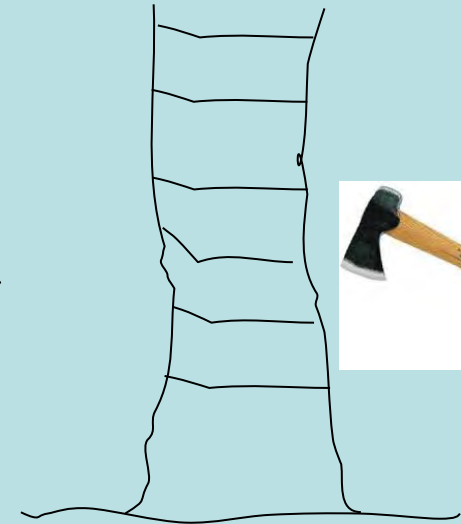
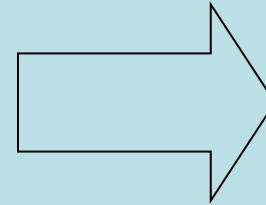
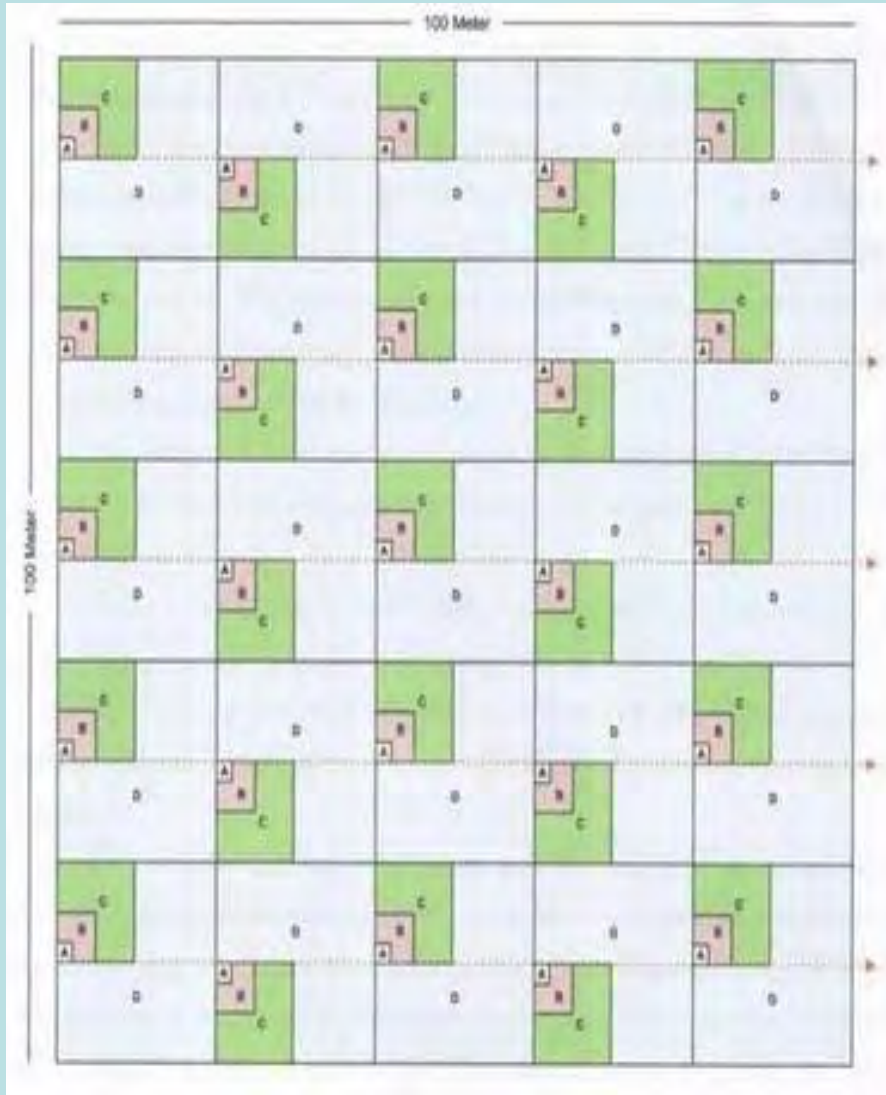
Main Ideas

- Prevent any increase/reduce the distribution of *Arenga obtusifolia* within Ujung Kulon National Park;
- Increase natural feeding grounds commonly used by Javan rhinos;
- Document Javan rhino habitat utilization pre-and post-injecting and cut down of palms on experimental plots; and
- Evaluate the most cost-effective and environmentally-responsible techniques for habitat restoration.



Methodology

Manual (Cutting Tree)



Injection Herbicide (*glyphosate*) Treatment



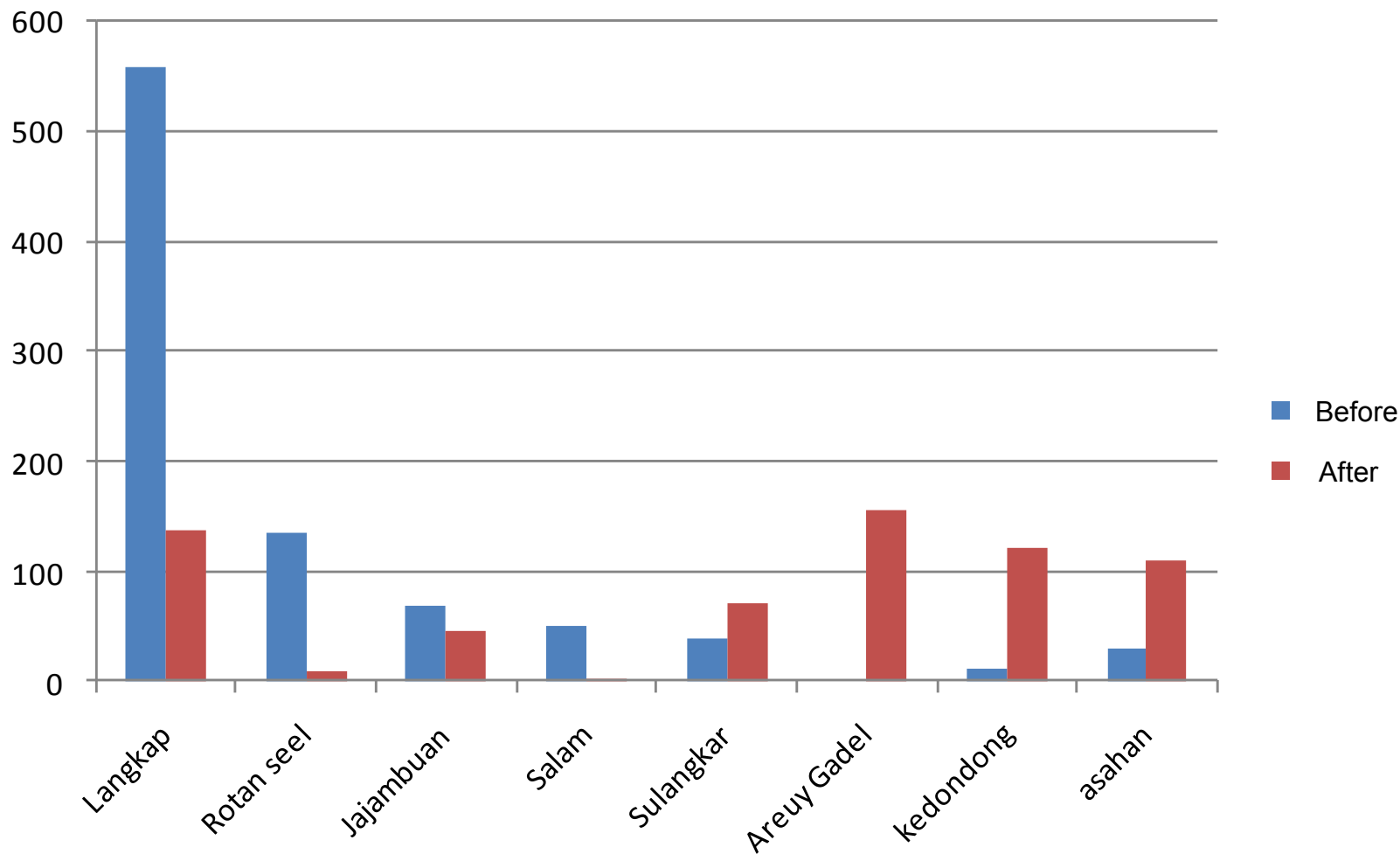


RESULT



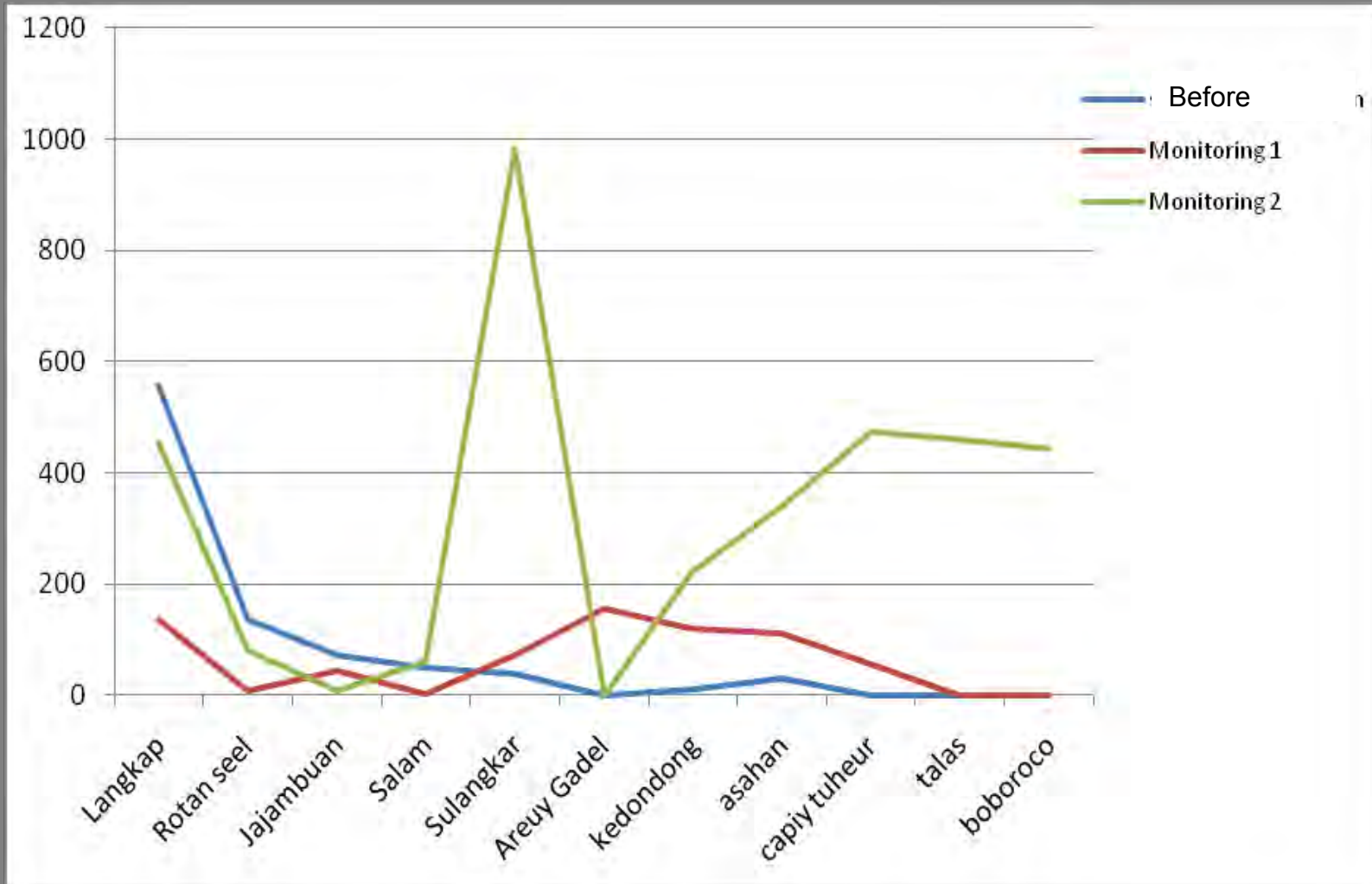
First Monitoring

Seedling growth





Seedling growth After cutting treatment



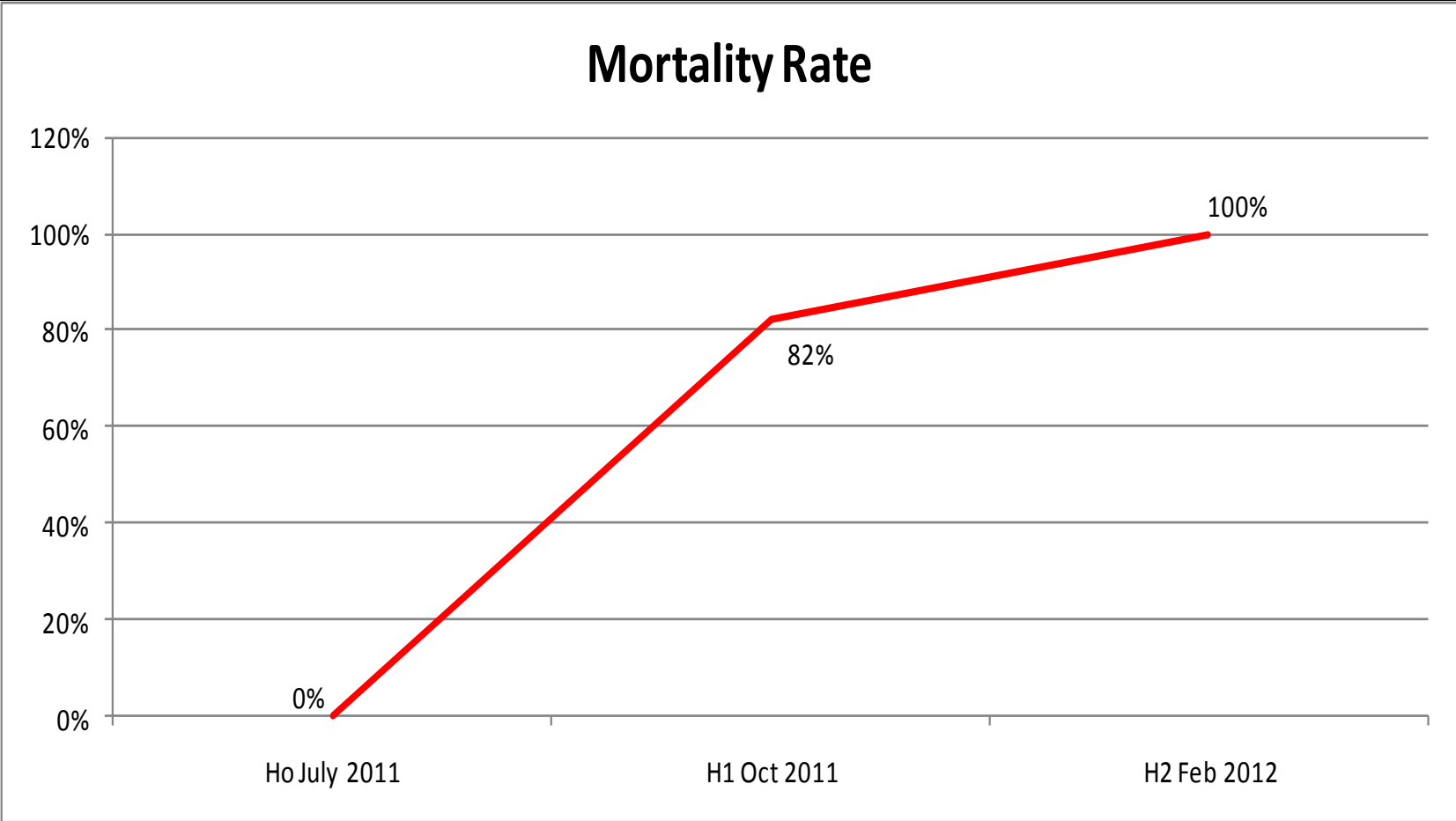




Injection Treatment and result after 6 month

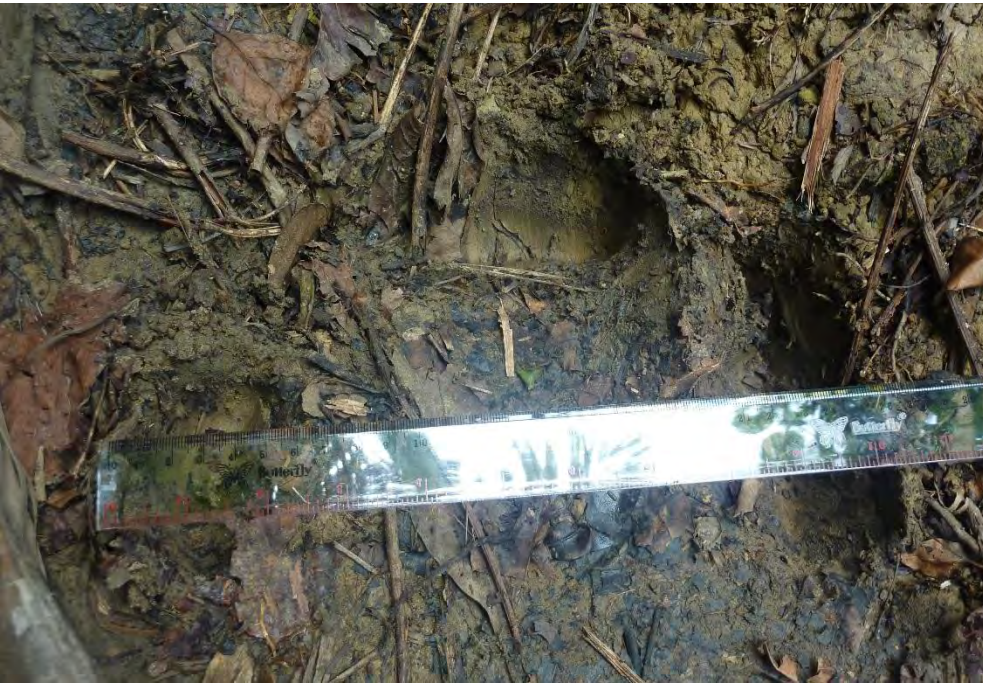


Mortality Rate Arenga Palm









Discussion

- The dominant factors affecting palm clearance and re-growth patterns are seasonal weather patterns, light intensity and methods of seed dispersal.
- Chemical clearance methods (the injection of glyphosate isoprophylammonium © Roundup), produces relatively rapid palm mortality (three months), produces no detectable negative environmental impacts, and is no more expensive than cutting.

Discussion

- By comparison, manual palm clearance (cutting and removing trunks, fronds and fruits) is essentially immediate (about one week to clear one hectare), but requires a larger local work force and thus engages more members of neighboring communities in this wildlife conservation effort.
- Preliminary results document a significant rate of plant regrowth on experimental plots, a predominance of rhino food plant species (more than 90%) replacing areas initially covered by *Arenga obtusifolia*, and an apparent increase in restored habitat use by the resident Javan rhino population

Thank you



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the mission is a rhino.

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