



A Quick Biodiversity Survey (QBS) for Rapid Agro-Biodiversity Appraisal (RABA)

Background

- Diversity of fauna and flora in the landscape disappearing fast; much efforts going into conservation programs;
- Many man-managed systems (e.g. jungle rubber) becoming increasingly important biodiversity reservoir as primary forests are cut down for more intensive agriculture and monoculture crops.
- 'payment for environmental services' schemes are developing that target rewarding local people for their contribution to conservation practice.
- Rapid Agro-Biodiversity Appraisal or RABA (Kuncoro et al. 2005) developed as an analytical framework to identify the information necessary for providers and beneficiaries of biodiversity protection in order to engage in environmental service agreements; but the assumption that biodiversity data for potential sites are available is not always correct.
- Time, resources and expertise required for detailed inventory of flora and fauna are often limited; but quick surveys of indicator species maybe do-able.
- Methods for detailed inventory of plants, birds, beetles, bats, primates and mammals can be adapted for rapid checking of these biodiversity 'indicators' in the landscape.
- The recently developed Quick Biodiversity Survey (QBS) methodology is currently under test in a range of agro-ecosystems in Indonesia. Further refinement and fine-tuning is possible based on context and need.



Dung Beetles (*Scarabaeidae*)

- Location survey for biological parameters such as population and species
- Dung beetle sampling in transects of 1-2 km
- Dung (human faces) baits set up at 100 m distance in the transect
- Dung beetles collected after 24 hours, and identified

Tools and Materials

Binoculars, hand counter, notebook, digital camera, compass, GPS, altimeter, thermometer, plastic rope, yellow bowl 750ml, plastic bottle 90cc, pin set, scissors, machete, plastic box, transparent plastic, alcohol 70%, light detergent, saline and naphthalene, mist-net, tomahawk trap, burnt coconut, salty fish, measuring tape, 10mm rope and bags (cotton).

Time estimate: 2 weeks in field, 2 weeks for data analysis and interpretation

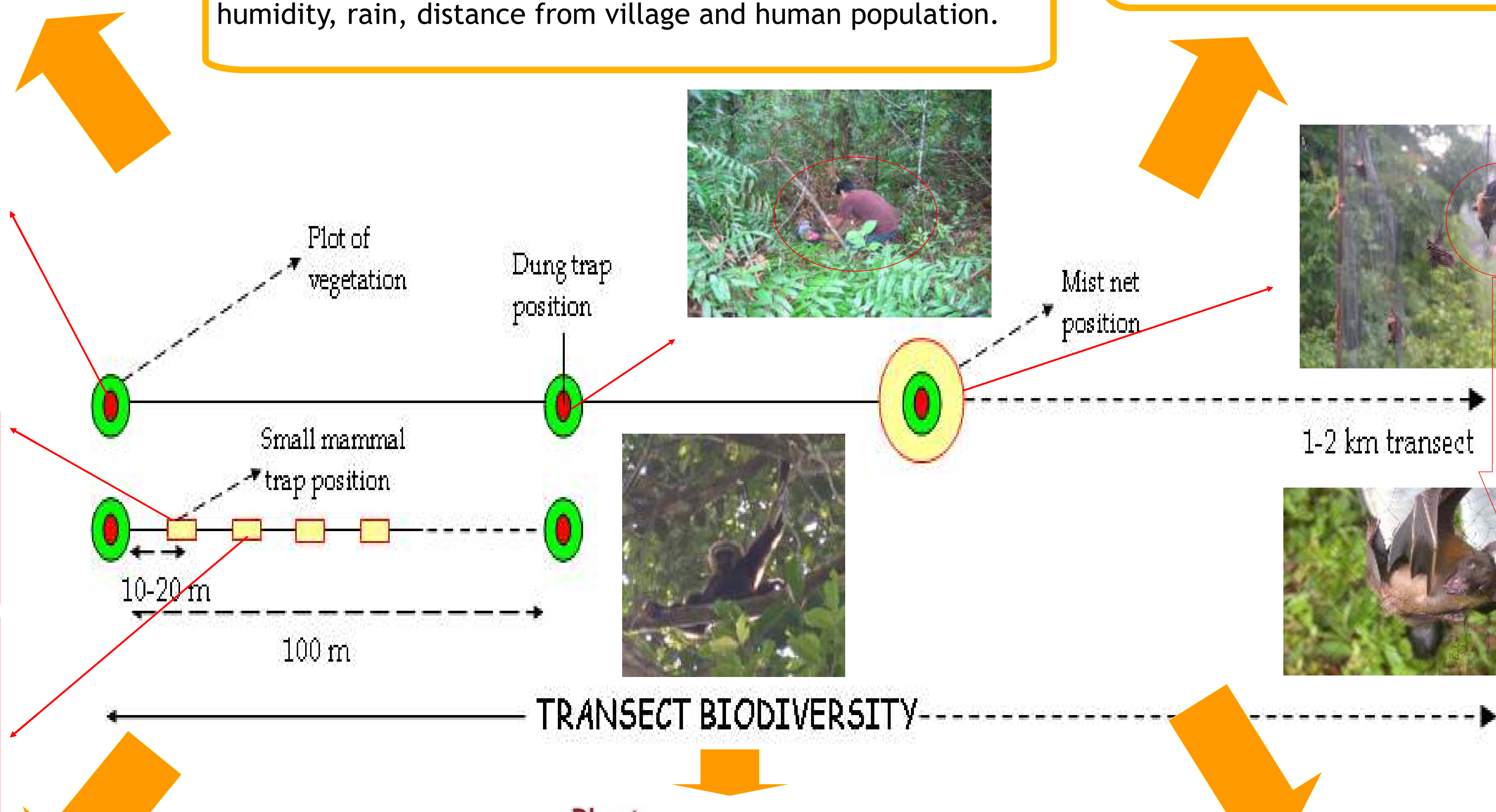
Physical parameters to be measured

Temperature of air and soil, water and soil pH, altitude, humidity, rain, distance from village and human population.



Bats (*Chiroptera*)

- Bat sampling using mist-net 6x2.7 metres and 10x2.7 metres with 30-33mm mesh.
- 4 mist-nets installed at 3-15 metres above ground.
- Mist-net is installed in path/areas known to be used by bats: open area, narrow space between hillocks, small roads in the forest.
- Mist-net is installed for 3-4 days in the evening at 5 pm, and monitored at regular interval in the evening and next morning.



Small Mammals

- Sampling using rodent traps.
- Salted fish and burn coconut are used as baits.
- Traps are installed for 3 days (3 x 24 hours) from early morning in 1-2 km transect and monitored every day (after 24 hours).
- Traps are installed every 10-20 metres along the transect.

Plants

- Trees: all trees (girth > 31 cm) in plot area of 8 m wide are surveyed - trees for local name, girth (cm) and phenology (fruiting and flowering).
- Saplings: All plants (girth < 31 cm and height > 2m) in 4m plot area are surveyed - saplings for local name and population per species.
- Collect plant specimens using standard method if the scientific names are unknown.
- Analyze wood density profile.
- Analyze seed dispersal profile (wind, long range animal, short range animal, large seeded autochory)

Primates

- Area surveyed along 1-2 km and 40m width of transect in each sampling location based on habitat and landscape.
- Observe primate species habitat, population, and perhaps the group strata and sex
- Materials/ tools: binocular, hand counter
- Repeat 3 - 5 times from the morning to evening.