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| **IMPACT #13 BAT-HARVESTER INTERACTION  SUPPLEMENTARY SITE CHARACTERIZATION** | | | |
| **GENERAL SITE INFORMATION** | | | |
| **Local Site Name:**  **Lino Cave** | **PREDICT Site Name:**  **HpaAn-Lino Cave** | | **Alternate Site Name:** |
| **Survey Date** (YYYY-MM-DD):2018-July-19 | | **Surveyor(s)**:Marc Valitutto, Ohnmar Aung | |
| **Start Time** (hh-mm): **13:30** | | **End Time** (hh-mm): **14:30** | |
| **Site Latitude 16.88 (**degrees-decimal min): | | **Site Longitude (**degrees-decimal min): **97.64** | **GPS Uncertainty**: **(**degrees-decimal min): |
| **Site Type** (circle one):  **Cave**  Farm Other | | **Is Site Access Controlled?** (circle one): **Yes**  No  **If yes, what kind?** (circle one):  Fenced Permit (PERMIT is contracted for guano harvesting from Dept of Forestry, Hpaan) Other: As religious temple taking care by Monks and cave maintenance committee | |
| **Farm Site Only:**   1. **What kind of tree(s) do bats roost in?**  * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  1. **Is an artificial roost present in trees?** (circle one)   Yes No | | **Cave Site Only:**  **Height of the cave at entrance:** 15 m **(SOME CAVE HAVE MULTIPLE ENTRANCES)  Height of the cave at harvesting area:** 10-15 m  **To what degree does light penetrate cave to guano  area?** (select one)   * 0 – 20% * 21 – 50% * 51 – 80% * 81 – 100%     **To what extent does water cover the cave area?** (select one)   * Little to none (0-20%) **SEASONAL VARIATIONS (+)** * Some (21-50%) * Most or all (51-100%)   **What is the ease of navigation into the cave?** (select one)   * Walk in, open area * Some difficulty walking, lower parts requiring ducking * Difficulty navigating, crawling required | |
| **Approximate Area of Guano-Covered Area** (select one):   * < 50 m2 * 50 – 100 m2 * 100 – 500 m2 * > 500 m2   **Approximate Depth of Guano-Covered Area** (select one):   * <5 cm * 6 – 10 cm * 11 – 30 cm * 30 cm | |
| **Are bats present when guano is being harvested?** (circle one)  Yes No | | **Approximate Size of Bat Roost** (select one):   * < 50 * 51 - 200 * 201- 1,000 * > 1,000  (specify over 500,000) | |
| **HARVESTER INFORMATION** | | | |
| **Number of Harvesters**: **7**  **Approximate Age Range** (yrs): 35-56 | | **Number of Non-Harvesters in Guano Exposure Area**  (check all that apply, #)   * Children 6 * Locals 5 (Monk & helpers in Monastery and local visitors ) * Tourists \_\_\_\_\_\_ * Other \_\_\_\_\_\_   SEASONAL VARIATIONS (+) & OBSERVATORY??? | |
| **Origin of Harvesters (**check all that apply, #)   * Local \_\_\_\_\_ * Seasonal \_\_\_\_\_ * Other (origin: \_\_\_\_\_\_\_\_\_\_\_\_\_, number: \_\_\_\_\_) | |
| **Duration of Time Harvester Spends in Guano Exposure Area** (estimate of range, minutes per person):  Low: 60 minutes  Typical: 120 minutes  High: 240 minutes | | **Duration of Active Harvesting** (estimate of range, minutes per person):  Low: 60 minutes  Typical: 120 minutes  High: 210 minutes (DEDUCTED THE TIME - TAKING LUNCH & SNACK IN THE CAVE) | |
| **Frequency of Harvesting (**select one):   * Daily * Weekly (\_\_\_ times per week) * Monthly (3 times per month) * Annually (\_\_\_ times per year) * Holidays only   **Per Person (**Low / typical / high)  Once every 1\_/\_\_\_\_\_/3 (days/weeks/month) | | **During which months is guano harvested?** (select all that apply)  □ Jan. □ Feb. □ Mar. □ Apr. □ May □ Jun.   □ Jul. □ Aug. □ Sep. □ Oct. □ Nov. □ Dec.  **Season of Harvest** (select all that apply)   *  Wet  Dry  Shoulder   **Are there limitations to guano harvesting?** (select all that apply)   * Bat migration elsewhere * High water levels * Other Low demand | |
| **Method of Collection** (select all that apply):   * Shoveling * Sweeping * Use of hands only * Other:  \_\_\_\_\_Plates | | **List of Activities around Site** (select all that apply):   * Harvesting  within guano exposure area * Packaging  within guano exposure area * Storing  within guano exposure area * Selling  within guano exposure area * Drying  within guano exposure area * Other  within guano exposure area  \_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **GUANO INORMATION** | | | |
| **How much guano is being collected per person?** (select / fill in one of the following):   * **\_120** kilograms per \_\_\_\_\_\_\_\_ (day/week/month) * **\_4** bags per \_\_\_\_\_\_\_\_\_ (day/week/month). Approximate size of bags 100 (L/other \_\_) * Other measurement: 70X50X30 cm   **How much guano is being collected overall, estimate**?(*total at site,* select / fill in one of the following):   * **\_900-1200\_** kilograms per \_\_week (day/week/month) * **30** bags per Week (day/week/month). Approximate size of bags 100 (L/other \_\_) 1 bag weigh about 30-40 kg * Other measurement: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| **Is guano fresh or dry at time of collection?** (circle one) Fresh Dry | | | |
| **Guano Usage** (select all that apply):   * Own use  Storage on-site * Selling for local use  Selling for non-local use * Processing  Packaging to sell off-site   **Notes** (e.g. where guano is sold to, if guano is sold directly, livestock grazing on guano-fed crops, etc.):  FOR RUBBER PLANTATION | | **Approximate Bat Species Contribution of Guano** (species, %)   * Hipposideros larvatus, \_\_\_\_\_\_ % * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_ % * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_ % * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_ % * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_ % * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_ % | |
| **PROTECTIVE PRACTICES AND EQUIPMENT** | | | |
| **How many harvesters are wearing some form of Personal Protective Equipment (PPE)?**  (select all that apply / number of harvesters at time of observation /  % range estimates of harvester population wearing PPE at low, typical, and high ends):  Number of Harvesters low (%) typical (%) high (%)  Gloves \_\_\_\_\_\_\_ \_0% \_\_\_\_\_\_\_ \_\_\_\_\_\_\_  Mask \_\_\_\_\_\_\_ \_0% \_\_\_\_\_\_\_ \_\_\_\_\_\_\_  Makeshift mask made of cloth \_\_\_\_\_\_\_ \_0% \_\_\_\_\_\_\_ \_\_\_\_\_\_\_  Goggles \_\_\_\_\_\_\_ \_\_0% \_\_\_\_\_\_\_ \_\_\_\_\_\_\_  Shoes \_\_\_\_\_\_\_ \_0% \_\_\_\_\_\_\_ \_\_\_\_\_\_\_  Clothing specifically for harvesting \_\_\_\_\_\_\_ \_\_0% \_\_\_\_\_\_\_ \_\_\_\_\_\_\_  Other (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_\_ | | | |
| **Are any of the following practices observed?**  (check all that apply, # of harvesters,  % estimates of total population low, typical, high):  # low typ. high   * Washing of shoes afterwards \_\_\_ \_\_\_% \_\_\_ % 100% * Washing of feet afterwards \_\_\_ \_\_\_% \_\_\_ % 100% * Washing of hands afterwards \_\_\_ \_\_\_% \_\_\_ % 100% * Washing of body afterwards \_\_\_ \_\_\_% \_\_\_ % 100% * Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_ \_\_\_% \_\_\_ % \_\_\_% | | **Are any of the following tools used?** (check all that apply, # of harvesters,  % estimates of total population low, average, high):  # low typ. high   * Shovels \_\_\_ \_\_\_% \_\_\_ % 50% * Spades \_\_\_ \_\_\_% \_\_\_ % \_\_\_% * Brooms \_\_\_ \_\_\_% \_\_\_ % 50% * Hands only \_\_\_ \_\_\_% \_\_\_ % 50% * Other \_\_\_\_\_\_\_\_\_ \_\_\_ \_\_\_% \_\_\_ % \_\_\_% | |
| **Availability of clean water for washing?** (circle one):  Yes No TOOK SHOWER IN THE RIVER JUST IN FRONT OF THE CAVE  **Observed number of harvesters washing: 3-4 Estimate of all harvesters washing** (% range)**: 40-60%** Low (%) 10\_ Typical (%) 50 High (%) 100 | | **Availability of soap for washing?** (circle one):  Yes No  **Observed number of harvesters using soap: \_\_\_\_  Estimate of all harvesters using soap** (% range)**:** Low (%) \_\_\_\_ Typical (%) \_\_\_\_ High (%) \_\_\_\_ | |
| **Is footwear restricted due to religion?** (circle one): Yes No | | | |
| **OTHER COMMENTS, GENERAL OBSERVATIONS, PHOTOS** | | | |
| **20-25 visitors per day, most of them are foreigners, some are local students, movie stars and group for shooting**  **Entrance fee is 2,000MMK (1.5 USD) per foreign tourist.** | | | |