Health and Safety
Operational Guidelines

Fieldwork & Survey

Faculty of Resource Science and Technology

UNIVERSITI MALAYSIA SARAWAK

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Health and Safety Operational Guidelines for Fieldwork or Survey

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Updated Version 5 May 2020 by
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Preface

Fieldworks and survey excursion are fundamental to the Faculty of Resource Science and Technology. The forest is the real living laboratory that provides a platform for dedicated researchers the opportunity to explore, investigate, evaluate, ponder, and unravel the mystery of this complex ecosystem and its rich biodiversity. Fieldworks and surveys are the wisdom pillars of all scientists. Nonetheless, it is essential that this pursuit of knowledge be done with personal safety and wellbeing of the entire team in mind. All staff and students in the Faculty of Resource Science and Technology abide to the principle of safety, proficiency, and dedication during fieldwork, and at the same time enjoying what biologists treasure most — being in the field with the natural environment. It is hoped that these guidelines will be useful to all staff and students in the Faculty of Resource Science and Technology and put into practice whenever they are in the field.

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Foreword

Personal health and safety are two important factors that every fieldworker must observe whenever conducting fieldworks or surveys in the pursuit of new knowledge. The publication of this Health and Safety Operational Guidelines for Fieldwork is timely as many of our faculty members make use of the forests as their research laboratory. It complements the faculty's Laboratory Safety Regulations. I hope this guideline will bring awareness on the potential risk or health hazard for better preparation and necessary precautionary actions while in the field. I hope these guidelines will serve as a useful reminder to whom it may concern and prevent careless accidents or untoward incidents in the field.

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1.0 INTRODUCTION

This Standard Operating Guideline is a comprehensive guidelines and safety measurement for staff and students during fieldwork. The faculty/staff must be trained, equipped, and prepared to assess and minimize risk when conducting fieldwork. This document provides the faculty with a way to demonstrate that all staff and students are following good practice to manage fieldwork, thereby facilitating a safe fieldwork in challenging environments, especially during Covid19 pandemic. In this guidance, it is aimed to set out:

a) A definition of fieldwork
b) A framework for managing fieldwork safety
c) A Guidance related to Covid-19 during fieldwork

This guideline is necessary to reduce bureaucracy in UNIMAS administration prior routine travelling. For smooth execution of the guidelines three operational levels of executors have been identified by color coding as follows:

Orange	University Level: RIEC, *Pusat Kesihatan* UNIMAS
Green	**Field/Survey Management**: Dean, Deputy Dean Research and Commercialization, Programme Coordinator, **Programme Coordinator** • Warrant that adequate resources have been allocated for carrying out the fieldwork in accordance to the fieldwork plan. • Monitor the performance of supervisors, staff and students concerning their safety responsibilities for fieldwork. • Ensure that appropriate records such as approvals from the Dean/VC are related to the fieldwork activities
Blue	**Fieldwork/Survey implementation**: Project Leader, supervisors, participants (co-researcher, students and supporting staff) **Academic and Supporting Staffs** • Provide appropriate supervision to ensure that staff, students and visitors comply with the fieldwork plan and safety regulation of UNIMAS, SFC, SFD or other related bodies. • Supervise the development of fieldwork plans and approve the fieldwork plans of staff, students and visitors under their supervision. • Review fieldwork plans and ensure that new fieldwork plans are developed if the nature of the work changes and/or a plan proves inappropriate. • Provide induction and training for fieldwork participants. • Ensure that corrective action is implemented for all accidents and incidents involving fieldwork. **Staff, Students and Visitors responsibilities for fieldwork** • Participate in development of fieldwork plans and obtain approval from the supervisor prior to the commencement of fieldwork (e.g. at the planning stage of an expedition or of a research diving excursion). • Follow the procedures set out in fieldwork plans on a day-to-day basis. • Participate in fieldwork induction and training programs as instructed by supervisor. • Ensure that emergency procedures and equipment are in place

2.0 DEFINITION OF FIELDWORK, SURVEY, AND GLOSSARY OF TERMS

2.1. Definition of fieldwork/survey

Fieldwork is defined as "Any work carried out by staff or students for teaching, research, or other activities while representing the institution off-site".

This definition includes activities such as attending conferences and recruitment fairs, or undertaking social science interviews (survey), as well as activities more traditionally associated with the term fieldwork such as survey/collection work carried out by academicians.

2.2. Glossary of terms

Glossary	Term
Fieldwork leader *aka* Project leader	The person with delegated operational responsibility for all aspects of the fieldwork. This term may be applied to a variety of types of fieldwork e.g. taught courses, research, and collaborative expeditions
Fieldwork team	Two or more individuals who are conducting fieldwork to a common purpose. A fieldwork team may or may not have a designated fieldwork leader present during the work
Participant	An individual who is undertaking fieldwork as part of a supervised group.
Independent fieldworker	An individual who is undertaking fieldwork on their own without direct supervision. This includes research-based postgraduate students.
Supervised fieldwork	Supervised fieldwork is mainly under direct supervision, such as taught undergraduate or postgraduate courses, e.g. SLUSE coordinator, Final Year Project Supervisor.
Home contact	The person in the institution – usually in the School/Department who is involved in (or has knowledge of) organizing the fieldwork – nominated and contactable in an emergency, and for general support (ideally linked into institutional arrangements). The level of knowledge and involvement will be dependent on the level of risk arising from the fieldwork E.g. Senior Assistant Registrar
Local contact	The person or organization who acts in support of the fieldwork in the location of the off-site work.
Institution	The generic term for an organization in the higher education sector, to which this guidance applies, i.e. Universities and Colleges
RIEC	Research, Innovation and Enterprise Centre UNIMAS
SOP MOH COVID-19	Standard Operational Procedures Ministry of Health for Coronavirus 19

GENERAL RULES

- At all times, respect the ecology of the study areas. Do not intentionally damage vegetation or other natural features. Do not throw stones or roll boulders downhill slopes.
- All alcoholic beverages are **PROHIBITED** at any time during fieldwork.
- In the event of persistent unsafe or inappropriate behavior by a fieldwork/project participant/student, the fieldwork/project leader will insist that the participant or student to be removed him/herself from the fieldwork/project at the participant's/student's expense or other means of transportation deemed appropriate.
- No climbing trees unless experienced and well trained
- No running or horsing around on the suspension bridge.
- No jumping into the river and swimming in any river/sea.
- No one leaves the field station/base camp without permission from fieldwork/project leader.

3.0 STANDARD OPERATING GUIDELINES

The following Standard Operating Guidelines will be managed by different level of executers as represented by the color coding below:

Orange	University Level: RIEC, *Pusat Kesihatan* UNIMAS
Green	**Field/Survey management**: Dean, Deputy Dean Research and Commercialization, Programmed Coordinator,
Blue	**Fieldwork/Survey implementation**: Project Leader, supervisors, participants (co-researcher, students and supporting staff)

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
Pre-Field Work/Survey	**3.1. Permits**	• Proper permits to conduct research and take specimens should be applied by the project leader through Dean and granted by the state authorities prior to field works or survey. • Permits can be applied via the followings: a) Sarawak Forestry Department https://forestry.sarawak.gov.my/page-0-399-1191-Permits-and-Licenses.html b) Sarawak Biodiversity Centre https://www.sbc.org.my/sbc-news/downloads/biodiversity-research-permit-application
	3.2. Letter of indemnity	• Students should sign a letter of indemnity on the risk of the field trip, and the University or its agents are not liable for litigation in case of an accident. • The students should declare his/her illness and lack of swimming skill.
	3.3. Fieldwork Application form	• Fieldwork Application Form should be applied by Project leader/supervisor, supported by Program Coordinator and endorsed by Dean Faculty
	3.4. Precautions: Diseases Transmitted By Animals	• *Pusat Kesihatan* UNIMAS will be referred for any medical-related issues pertaining to fieldwork and survey

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.4.1. Malaria	• Anti-malarial pills should be taken one week before the field trip (areas with known cases for Malaria) following the dosage recommended by a medical doctor. • Rabies vaccine should be provided for participants involved in sampling and managing wildlife. All staff and students must take anti-malarial medication (two tablets or any number prescribed) one week before fieldwork begins. Thereafter, another two tablets on the 6th day and another two tablets the following week. • Those who are allergic to this medicine should inform the person in charge for further action. All staff and students must be provided with bed nets treated with permethrin. Flying-insect spray products that contain a pyrethroid insecticide should be available at the field all the time.
	3.4.2. Dengue	• Infection from the bite of an infected mosquito (*Aedes spp*.). The infected person shows flu-like symptoms, fever, and rash, which normally takes up to 1 month to recover. Dengue fever is characterized by sudden onset, high fever, severe frontal headache, and joint and muscle pain. Many patients have nausea, vomiting, and rash. See a doctor if you suspect Dengue Fever. • **Preventative measure:** wear lightweight, long-sleeved shirts, long pants, and a hat to wear outside, whenever possible. Use insect repellents and mosquito net at night. All staff and students must be provided with bed nets treated with permethrin. Flying-insect spray products that contain a pyrethroid insecticide should be available at the field all the time.
	3.4.3. Tetanus	• Tetanus is a disease caused by the toxin of a bacterium, *Clostridium tetani*. Transmission via spores entering the body through wounds, cuts, laceration from contaminated soil, or excrement. The incubation period varies from 4 days to 3 weeks. • **Preventative measure:** All fieldworkers must have tetanus immunizations. All wounds should be immediately given first aid to prevent tetanus. • The department must maintain a list of personnel and students who have taken the immunization. This should include the date of the last shot and the subsequent immunization.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.4.4. Rabies	• Rabies is transmitted from infected animals (with *Lyssavirus*) to humans through saliva when animals bite or lick open wounds. There is no cure for rabies, and fatality is caused by respiratory paralysis. The period prior to the onset of symptoms is typically between 3-6 weeks. Clinical symptoms of rabies infection include a sense of apprehension, headache, fever, and malaise. • **Preventive measure:** Be extremely careful when handling any wild animals, particularly sick or dead ones. Immunisation against rabies is compulsory for all staff and students whose work involved handling wild animals. Any bat bites should be thoroughly cleansed with Dettol, soap, and water and treated immediately with post-exposure vaccination if the person is not vaccinated against rabies. Always use gloves when preparing specimens.
	3.4.5. Lyme Disease	• Lyme disease is spread by an infected tick. Clinical symptoms typically appear within about one week in the form of donut-shaped red discoloration around the bite, joint pain, fever, chills, headache, and malaise. • **Preventive measure:** Wear light-colored, long pants, and a long sleeve shirt when working in tick-infested areas. Use of an insect repellent is recommended.
	3.4.6. Histoplasmosis	• This is spread by inhalation of fungus from soil contaminated by *Histoplasma capsulatum* with bat or bird droppings (important for students working on bats ecology in caves). Symptoms include mild flu that typically clears up in 3 weeks. • **Preventive measure:** Caution when disturbing dry soils or working near bat or bird droppings. Keep surfaces wet to reduce dust. See a doctor if you suspect histoplasmosis.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.5. Fieldwork Preparations	• The most effective way to prevent mishaps is to prepare for the trip adequately. Knowledge of the area, weather, terrain, and a little common sense can help to ensure a safe trip. • Fieldwork activities should be done in teams of at least three persons. Adopting "buddy" system is the safest way to work. • Communicate your itinerary and expectations to all trip participants in advance. All participants should know the locations of emergency equipment and necessary emergency procedures. • Basic tools/things to carry for overnight fieldwork include compass or GPS, map, machete/parang, torchlight, spare battery, water, some food, camping gear, proper clothing, and shoes (Attachment 1)
	3.6. Emergency	• A first aid kit must be maintained at all times during the fieldwork or managed at the remote field station. • Always travel with a cellular phone or 2-way radio, and carry a list of emergency phone numbers and contact persons. • If the case of emergency, firstly call the nearest EMS, hospital, clinic, or medical doctor. • Later, to notify the person-in-charge, field supervisor, and the head of the respective programme/faculty as soon as possible. • Sick or injured person must seek medical attention as soon as possible, and his/her immediate family members notify accordingly by the faculty.
	3.7. Health and Conditions of Team Members	• Person-in-charge should make a list of staff members or students with health issues such as asthma, allergy, or hypersensitivity. It is the responsibility of each student to inform the person-in-charge of their health condition (if any) prior to the trip so that necessary precautionary measures or attention is given.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.8. Additional Field Safety Measurement	• It is advisable that fieldworkers should know how to swim.
	3.8.1. Swimming course	• For those not having the skill, it is recommended that they attend a swimming course conducted by UNIMAS Swimming Club or other relevant clubs.
	3.8.2. First aid course	• For every fieldwork, at least one member of the team must have undergone training in first aid course and knowledgeable about rendering first aid when necessary. • First aid course should be attended once in 24 months by staff and students to be conducted by the Unimas medical officer/ faculty of medicine and Health Science
During Field Work/Survey	**3.9. Field Sampling And Survey**	Use a lot of common sense when carrying out field sampling or survey. Below is a list of precautionary steps to be strictly adhered to in the field:- • Wash your hand thoroughly with soap after preparing specimens and before meals. • Always wear appropriate and comfortable shoes. • Look carefully for poisonous animals (i.e., scorpions, snakes, wasp nests, etc.) before taking the next step or holding onto tree trunk/branches. • Be alert for slippery areas, and take your time to avoid tripping.
	3.10. Sampling Near Water Body	• Must wear a life jacket if the water is about 1-2 meters deep or while traveling in a boat/vessel. • Students are encouraged to attend a swimming course to learn basic swimming skills. • Carry out sampling with someone who knows how to swim when sampling near the water body. Must provide information on swimming skills to the course coordinator at the beginning, of course, that deal with contact to water directly or indirectly. • For those who do not have any certificate on the First Aid Kit course, it is a must to bring along lifesaver while sampling at the water body.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.11. Night Sampling	• Must bring touch light and extra batteries (preferable with second smaller spare touch). • Must be accompanied by at least one laboratory assistance that is familiar with the sampling site (until they are familiar with the area). • Must work in a group of 3 or more persons. The group of two-person is prohibited. • Must bring along communication items (cellular phone or walkie-talkie). • Must bring food, camping gear, drink (plain water), lighter, and candle. • Sampling at the deep water site is prohibited unless deem fully prepared by the course coordinator. • The group leader must take care of all group members by counting the number of students going in and coming out from the forest (e.g, checking traps, transect survey, frogging etc.). • Must inform the field manager about the specific site to carry out the survey.
	3.12. Trekking in the Forest via Transect Survey.	• The minimum number of people in a team is three (3 persons). In case of emergency or injuries, one person should stay with the victim (provide first aid, companion, and assurance to the victim) while the other person goes for help. • Never walk in the forest (or trying to rush back to base camp) during a thunderstorm or strong wind. • Always carry a small torch light, lighter and machete (parang), ample water supply, and preferable energy bars or snacks. • Let the person-in-charge know where you are going and when you plan to return. • Stay on the trail or clear path. NEVER let the excitement of rare sighting let you astray.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.13. Animal Handling: **3.13.1. Mammals**	• Students should attend courses on how to handle mammals properly before handling them. • Use heavy-duty cotton gloves when handling rodents (e.g., squirrel, rat) to avoid them biting you. • When removing a cage trap with a trapped specimen inside, always on a lookout for snake ambushed nearby before extending your hang to pick up the cage. • Close their eyes to minimise the stress on the animals as they will reduce struggling (this will facilitate the measurement process). • Thick protective gloves should always be worn when mammals are handled to avoid contamination via cuts or wounds on hands. • Use gloves when removing bats from mist-nets and harp traps. • Do not eat, drink, smoke, and rub your eyes while handling mammals. • Wash hands with soap after handling mammals.
	3.13.2. Birds	• When possible, wear disposable latex gloves that can be disinfected and goggles or protective eyewear when handling birds. • Wash hands with Dettol or soap and water after handling birds. • Do not eat, drink, or smoke while handling birds. Staff and students should work in well-ventilated areas if working indoors. When working outdoors, work upwind of birds, to the extent practical, to decrease the risk of inhaling aerosols such as dust, feathers, or dander. • Do not rub your eyes while handling birds.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.13.3. Herpetofauna **3.13.3.1. Snake**	• Never handle or catch the snake with a bare hand. Always use snake hooks and tongs to catch snakes. • If bitten by a snake, identify the snake whenever possible (e.g., coloration, size, etc.). Let the wound bleed freely for 30 seconds. Apply a cold pack sparingly (if available). Do NOT use tourniquet/bandage. Keep area immobilised at heart level. Take the victim to the hospital (alert ahead if possible).
	3.13.3.2. Frog	• A few species of frogs (e.g., *Odorrana hosii*) and toads secrete mild poison from the body glands. • Most of the time, it is easier to catch amphibians with bare hand (not slippery as compared to wearing gloves), but never rub your eyes or mouth during "frogging" duration. • Wash hand thoroughly upon returning to base camp.
	3.13.4. Insects & Other Poisonous Invertebrate **3.13.4.1. Bee & Wasp**	• Stay clear of bee's hives or wasp's nest. The latter is usually hidden in cracks, branches, and even large foliage. • Do not leave scented or sweet food exposed, especially honey. • Some are attracted to light traps. Take extra precautions. • If stung, remove the stinger quickly. Place an ice pack (if available) and elevate to heart level. Use an antihistamine if needed.
	3.13.4.2. Scorpion	• Avoid contact with scorpions whenever possible. • Avoid rotten timber piles and old tree stumps. Always shake out clothing and bedding before use. If bitten, clean wound and put a cold pack on the area, keep area immobilised at heart level. Use painkiller or antihistamine if desired. Take the victim to the hospital if he or she shows no signs of improvement.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.13.5. Jellyfish Sting	• Use seawater to remove nematocysts. • Pour vinegar on the wound. • Seek medical attention immediately.
	3.14. Microbiological samples **3.14.1. Bacteria**	• Bacterial sources sampled from the environment are wide-ranging in species and diversity. Hence, they can encompass pathogenic and non-pathogenic organisms. However, one must always assume that all microbiological samples have the potential of causing harm to the collector(s). • Appropriate containers, tubes or vials (preferably with screwed cap lids) must be used to store aqueous or liquid medium/samples containing microbes. In the case of direct culture on solid (agar medium), agar plates (or Petri dish) with appropriate agar media should be used. Culture plates should be fastened with parafilm and placed inside portable (field) incubators while in the field. If incubation is not required, plates should be fastened with parafilm and stored in appropriate carrying bags. Plates or bottles with bacterial samples should not be left exposed while in the field. • Protective latex gloves should be worn at ALL TIMES when collecting and handling microbiological samples (wet or dry). These gloves should be disposed of properly (placed in biohazard containment bags) after use.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.14.2. Virus	3.14.3.1 All samples that potentially carry viruses MUST be treated with EXTREME CARE. Only personnel who is properly trained and certified by relevant authority to handle viral samples can perform a collection of virus-containing specimens in the field. 3.14.3.2 Trained and authorised person(s) involved in the collection of virus-harbouring samples should be vaccinated against common pathogenic viruses (e.g. Hepatitis B, and rabies). 3.14.3.3 Appropriate containment overalls/suites (Biosafety Level 3 and 4) must be worn at all times. Standard protective wear such as face mask, double latex gloves, and eye goggle must be used at all times. Containers/tubes/vials for storage of samples must be certified to be of at least BSL 3 containment capability. Collection containers with samples must be kept inside portable liquid nitrogen dry-shipper flasks that have an internal chamber temperature of below -100°C, while at the field. 3.14.3.4 Collection devices (eg. forceps, scalpel blades, syringes, and needles) must be heat sterilised and stored in thick biohazard disposal bags in the field after use. Cotton wools/buds or swabs exposed to samples must be incinerated in the field (if portable field incinerators or dry furnaces are available) or stored in airtight-sealed thick biohazard disposal bags. All these should be ultimately stored in metal boxes or containers during transportation. 3.14.3.5 Faunal carcasses or floral matters that are suspected of containing virus (and from where samples are collected) must be incinerated in the field. However, if the whole animal or plant serves as the sample, it must be placed inside airtight-sealed thick biohazard disposal bags and stored in airtight iceboxes that are certified to be of at least BSL3 containment capability while at the field.

3.14.3.6 In cases where the trained and authorised personnel(s) for sample collection is not available or is unable to carry out his/her duties in the field, **NO SUBSTITUTE CAN BE ASSIGNED AS REPLACEMENT.** Under such circumstances, all sampling efforts must be aborted or abandoned.

3.14.3.7 In cases where a person(s) has been exposed to potentially pathogenic viruses while at the field, he/she must be quarantined from the rest of the team, and immediately send (via helicopter if in remote areas; or land transport vehicles if at sites near to urban centres) to the nearest hospital.

3.15. Preparing and Preserving Specimens

3.15.1. Hazardous Chemical

- All chemicals brought to the field must be retained in their original and labelled containers with seals intact.
- Chemicals must be kept or packed separately from food items.
- Suitable and sufficient assessments of risks and adequate arrangements for their control must be made for hazardous substances (e.g., chemical or biological hazards) used or encountered in fieldwork.
- Hazardous substances (e.g., formalin, chloroform) must be disposed of safely.
- Care should be taken when handling chemicals used in preparing specimens, as this can be dangerous if they are inhaled or enter into open wounds
- Protective eye goggles or safety glasses and breathing masks should be worn when handling any noxious chemicals.
- In the open air of the field, gloves and goggles should be worn when preserving specimens using chemicals.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.15.2. Used and Disposable Items	• Equipment and instrument used must be of durable construction, maintained in good repair and kept in a good condition • All reusable equipment must be thoroughly clean and disinfected or sterilised after each use. • The used, disposable, sharp instrument must be placed in a suitable container after used. • All syringes, needles, and disposable blades used when taking blood samples and preparing specimens for preservation should be disposed into a disposable container. • Dissecting tools should be sterilised using alcohol.
	3.15.3. Animal Blood Samples	• Always wear disposable gloves when taking blood samples from wild animals. • Make sure there is no cut, wound, or laceration on your hand. Disposable gloves should be worn to avoid contamination of cuts or wounds on hand. • Surfaces that have become contaminated with blood must be wiped up as soon as possible with a paper towel and clean immediately. • Wash hands with Dettol, soap, and water after dealing with blood samples. • Disinfect the working surfaces (e.g., table) after taking blood from wild animals. • Do not eat, drink, and smoke while taking blood samples.

PERIOD	ITEM/COLOUR CODE OF MANAGEMENT	STANDARD OPERATING GUIDELINES (SOG)
	3.16. Leisure	It is unavoidable and natural that fieldworkers take some time off from their hectic schedule for leisure and relaxation. This is especially true in the evening bath and when the base camp is near a freshwater cooling source, e.g., streams, waterfall, etc. • DO NOT swim alone or allow others to do so. • DO NOT dive into unknown bodies of water. • Check the water level before dipping into a pool, pond, or lake. There may be a shallow bottom, hidden rock, fallen branches, or other dangerous obstruction. • Stay out of the water during thunderstorms and other severe weather. • During lightning storms, seek shelter away from metal objects, in open areas, and large, lone trees.
Post sampling condition	**3.17. Fever/Illness**	• In case of fever or illness after sampling, should immediately seek medical treatment and state the nature of work and location of sampling. • Notify FRST or UNIMAS medical officer should the illness is severe or the disease could be transmitted to other members of the field team.
	3.18. Loss of equipment	• In case of equipment lost during the field survey, it should be immediately reported to the nearest police station and inform the project leader. • The project leader will make the necessary procedure on the loss of university assets according to University policy guidelines.

4.0 GUIDANCE RELATED TO COVID-19 DURING FIELDWORK

As UNIMAS continues to monitor the incidence of coronavirus, COVID-19, it is also important to include the following guidance for field works excursion.

The guidelines are following the Standard Operational Procedures (SOP) of Ministry of Health Malaysia (refer to *Garis Panduan COVID-19 di Malaysia No5/2020* updated version 25 March 2020, https://www.moh.gov.my/index.php/pages/view/2019-ncov-wuhan-guidelines) regarding COVID-19.

4.1. Annex 25_ COVID-19: MANAGEMENT GUIDELINES FOR WORKPLACES

Travel Considerations for the workplace

a. Before travelling:

i. Make sure your organization and its employees & students have the latest advisory on travelling from MOH and the Sarawak State Government
ii. Based on the latest information, your Institution should assess the benefits and risks related to upcoming travel plans through travelling form requisition (Borang Permohonan Perjalanan).
iii. Ensure employees & students travelling are not of high risk to develop COVID19
iv. Consider issuing employees & students who are about to travel with small bottles of hand rub. This can facilitate regular hand-washing.
v. Consider providing employees & students with a face mask in case there is a need to use it.
vi. Obtain permission from authorities or person in charge of the field site.

b. While traveling:

i. Always bring along surgical mask and sanitiser for use when required
ii. Avoid crowded places and close contact with people showing symptoms
iii. Avoid visiting animal farms, market, selling lives animals, slaughterhouses or touching any animal
iv. Avoid eating raw or undercooked meat
v. Seek prompt medical treatment if developing symptoms

c. When employees return from traveling:

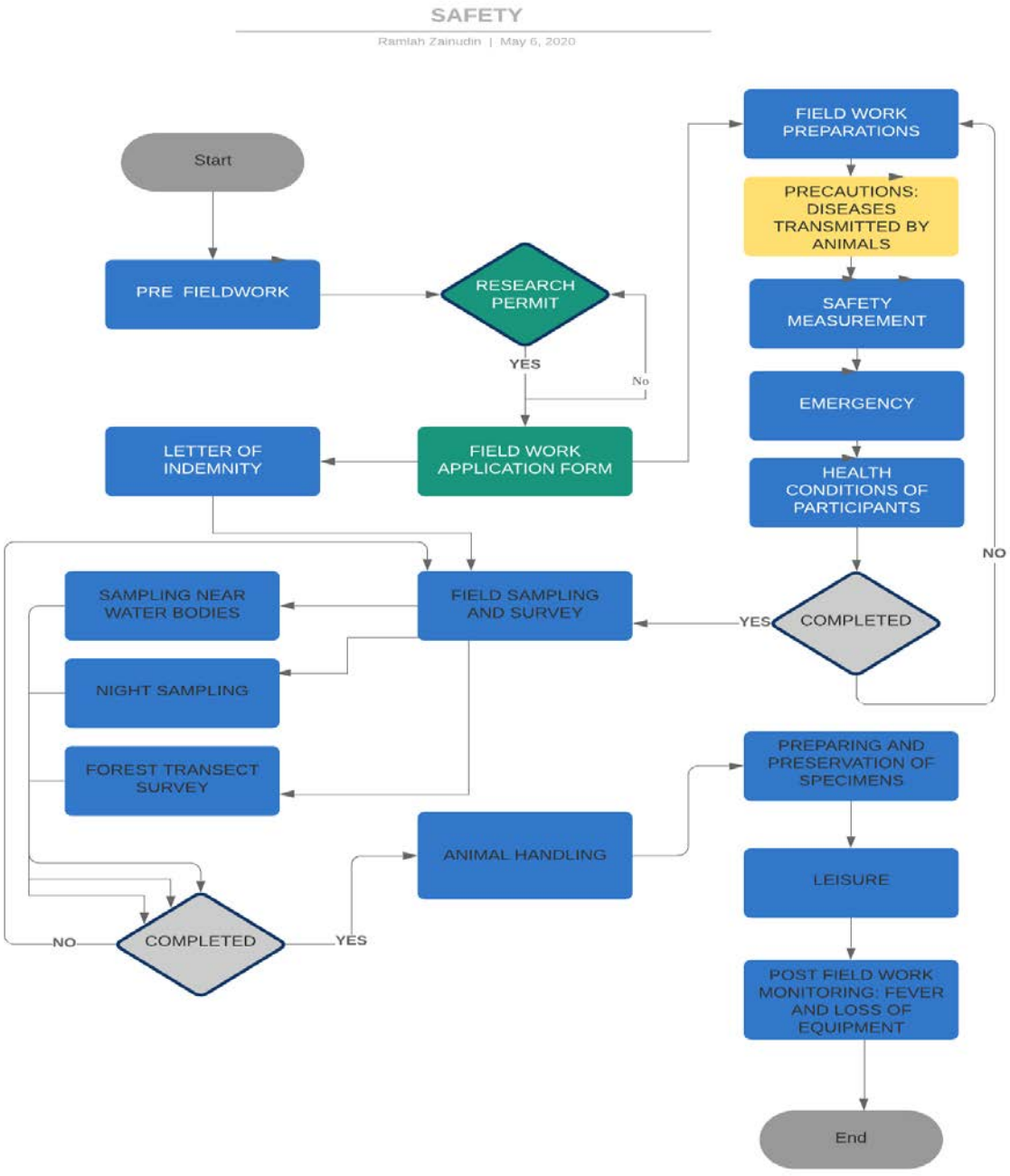
i. Observe home surveillance if necessary, as per MOH advise
ii. Immediately seek medical attention should you have symptoms of respiratory tract infections such as fever, cough or difficulty breathing within 14 days after returning from the visit

This guideline may be used as a basis for managing employees during this time. Employers and employees are advised to keep up to date with the latest developments and advice issued by the Ministry of health.

Additional SOP of field work during pandemic COVID 19 are as the following:

1. The size of the fieldwork group should be kept to the minimum number which permits safe completion of the necessary tasks. For overnight trips, ensure extra lodging is available to maintain social distancing, i.e. single rooms, single tents
2. Establish the carrying capacity of the vehicle. Special arrangements should be put into place if this cannot be accomplished.
3. Practice effective social distancing by avoiding close contact with other individuals, handshaking, or joining crowds of ten or more people
4. If possible, carry a thermometer in your first aid kit.

5.0 FLOW CHART OF HEALTH AND SAFETY OPERATIONAL GUIDELINES FOR FIELDWORK AND SURVEY



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Blue	**Fieldwork/Survey implementation**: Project Leader, supervisors, participants (co-researcher, students and supporting staff)

ATTACHMENT

LIST OF ITEMS FOR FIELDWORK (JUNGLE)

Basic tools or things to carry for overnight fieldwork including compass or GPS, map, jungle knife (parang), water, some food, camping gear and also the following:

- **Rubber boots or shoes**: These are **not** an option! Participants/students must have proper boots or shoes to walk on any trail. Make sure they fit well and comfortable for walking. Sore feet make for a miserable time. You won't be allowed out on trails without them for safety reasons.
- **A rain coat or poncho**: A lot of rain can fall during our field trip so a rain coat or poncho is almost an essential
- **Insect repellent**: Mosquitoes are really the only bother if you avoid confusing other plant seeking insect perfumes or other scents. Long pants and a loose, long-sleeved shirt offer good protection minimizing the need for dousing yourself with repellent.
- **Flashlight**: A good flashlight, big and bright, is essential. Bring extra sets of batteries and a spare bulb. Sometime head lamps might come in handy.
- Shorts & T-shirts - Lightweight sport wear is both comfortable and easy to pack. When not in the field, dress comfortably. You'll want long pants & long sleeves for out in the forest.
- **Underwear**: Use light, breathable, cotton undies. Tight, nylon or other non-breathing synthetic fabrics can make you very uncomfortable in the forest. Many experienced tropical field workers will suggest that underwear just isn't very useful or necessary in the tropics. Use good judgment.
- **Small field notebook**: It's a good idea to have a small notebook for making field observations. These can be transferred to a journal notebook during study times. A small notebook is easier to keep dry in the field. Have a plastic bag for it.
- **Camera & film**: Best to bring your own.
- **Backpack**: To carry items on the trail/transect. Use plastic bags to keep items dry when not in use.
- **Zip-lock Plastic Bags**: Electronic things do not like tropical humidity. It's best to keep things bagged and dry when not in use. Keeping extra clothes in plastic bags once they're dried is also a good idea.
- **Cosmetics, deodorants, shampoos**: Avoid anything scented. Good old Head & Shoulders unscented does not seem to attract any undue attention in our experience.