SAFELY CONDUCTING QUICK RESPONSE RESEARCH: TIPS FOR GRADUATE STUDENTS AND SUPERVISORS

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The intent of this check sheet is to help promote the safety and well-being of students who plan to conduct quick response research. When students and their supervisors work through this sheet together, it can encourage shared learning, build trust, and help identify potential challenges and deficiencies in research design and approaches.

RESEARCH PLANNING AND DESIGN

☐ **Research Design**
- Plan your research design and then carefully review with a special focus on research questions and objectives.
  - » Clarify the intent of the research in order to ensure the methods and approach are appropriate given the research goals and can contribute to the research's overall purpose.
  - » Work through the CONVERGE Extreme Events Research Check Sheet Research Design Table to ensure that key research elements have been carefully considered and addressed.

☐ **Ethics Clearance or Permits/ Licenses Required**
- If the proposed research involves human participants, seek ethics approval through the appropriate institutional board/organization.
  - » To receive ethics approval, you will need to develop a research proposal that considers risks and benefits; create consent and confidentiality forms; establish contacts for assistance; identify key actors (e.g., interviewees); and prepare recruitment materials, including an information brief on the nature of the research and the method of data collection.
  - » Seek guidance online and from your supervisor to ensure that all forms are properly filled out and ready to be submitted.
  - » Depending on where the research is being conducted, you may be required to acquire special permits or licences (this is necessary in many Arctic regions, for example). In addition, some countries such as Indonesia and Brazil require research visas. You should be aware of any such legal requirements or cultural expectations before entering the field.

☐ **Research Planning**
- Confirm research approach and plan.
  - » Create a detailed research plan and schedule to enhance organization and efficiency in the field.
  - » Develop a daily itinerary and leave space to update your supervisor or seek guidance as necessary.
  - » If interviews with key actors are to be conducted, consider using a spreadsheet to organize meeting times, locations, contact numbers, check-ins prior to the interviews, etc. Provide your supervisor with the name of your primary contact, and if appropriate, a list of all your interviewees, including contact information.
  - » Don't assume that there will be reliable cellular or internet service. Print or download maps to help with local navigation.
  - » If field research involves travel/car rental, book as soon as possible and be prepared to provide documentation for rental insurance, liability insurance, etc.
  - » Determine where emergency services (e.g., hospital, police station) are located in the community.

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» Make a list of all the things you need to bring into the field. To start, review the CONVERGE Extreme Events Research Check Sheet Don't Forget: A Checklist of Things to Bring to the Field.

☐ **Local Knowledge**

- Before beginning fieldwork, it is crucial to discuss with your supervisor the contextual factors that are relevant to the efficient collection of data.
- Ideally, you should conduct "virtual reconnaissance" before leaving for the field, where you attain information and data from online sources. If possible, establish a local contact who can assist you with local knowledge that may be relevant to your study or logistical arrangements. For example, if your field research is in a remote or unfamiliar location, ask locals about cellular coverage, roadway conditions, wildlife occurrences, and other concerns. It is also important to carefully consider cultural differences and power differentials.

☐ **Field Research Budgeting**

- Finalize the budget for field research activities.
  - » Be sure to include travel (e.g., flights, car rental), accommodations (e.g., hotel, Airbnb), food, field equipment, data management (e.g., transcription services), and other costs.
  - » Prepare an envelope to store and keep track of your receipts and build a spreadsheet to help with organizing expenses on-the-go. Your supervisor may ask to see this when you are back on campus for accounting purposes.

☐ **Field Activities Plan**

- Create and submit a Field Activities Plan (FAP) to appropriate faculty and/or supervisor. An FAP can include a range of information, depending on your university's requirements. The following criteria are some basics to include in an FAP (these are adapted from the University of Alberta Field Research Office (2020)):
  - » Project Details
    - * Department
    - * Supervisor name and contact information
    - * Principal investigator
    - * Date of departure and return
    - * Location of research
    - * Project description
  - » Field Research Participants
    - * Principal investigator, supervisor, volunteers
  - » Hazard Assessment and Control (note the task, hazards, control/mitigation)
  - » Emergency Response Information
    - * University-specific information (department contacts)
    - * Field-specific emergency contact information (phone contact of participants, satellite phone, local emergency response number, local police department, general hospital numbers, etc.)
  - » Communication Check-In
    - * Set up regular check-ins with your supervisor and trusted colleagues, if appropriate. A daily check-in around the same time each day can be especially helpful for both you and your supervisor, although given the dynamic nature of fieldwork, this schedule may be subject to changes.
    - * Be specific about how the check-in will occur (e.g., email, phone) and who will be a part of the daily check-in.
  - » Emergency Response Plan
    - * High-level summary of potential emergencies sustained from the hazards identified in hazard assessment and control (e.g., potential hazards, procedures for dealing with the potential hazard, training requirements, emergency communications).
  - » Field Worksite Safety Inspection
  - » Daily Field Safety Meetings
    - * Develop a field safety logbook to keep track of daily field observations and safety meetings.
  - » Permits Required or Ethics Clearance Needed
  - » Training
  - » Immunizations
  - » Accommodations (type, details), Meals, Transportation (type, details), etc.

ASSESSMENTS

☐ **Research Risk Assessment**

- A research risk assessment can consist of several factors. At the basic level, an assessment should involve considering the tasks (e.g., driving), the hazards (e.g., collision, weather, isolation), the pre-control risk (i.e., potential risk before controls are in place), existing controls (e.g., seat belts, training), and post-control risk (i.e., risk following the implementation of existing controls).
  - » Awareness of risk associated with research activities can help you and your supervisor mitigate risk and/or be better prepared while in the field.
  - » The use of a rating system can help to determine whether a particular activity is too dangerous, or whether your approach needs to be modified to reduce risk.
- See eCompliance Hazard Assessment reference for an example.

TRAINING

☐ **Training to Complete Prior to Entering the Field**

- Use the research risk assessment to inform which training should be completed prior to conducting field research.
  - » Consider whether the risk is too high to commence fieldwork. If the risk is low enough, complete a course on appropriate risk mitigation procedures. For example, if you have determined wildfire to be a hazard, consider education on evacuation preparation, fire suppression systems, and environmental/disaster response protocols.
  - » Other courses/trainings to complete include:
    - * Workplace Hazardous Materials Information System (WHMIS)
    - * First Aid
    - * Driver Training
    - * Training on use and maintenance of specific field equipment such as through the NHERI RAPID facility
    - * CONVERGE Extreme Events Research Check Sheets
    - * CONVERGE Training Modules

ENTERING THE FIELD: OBSERVATION AND AWARENESS

☐ **Weather Conditions and Field Work**

- Given uncertainty associated with climate and weather events, it is useful to monitor local weather forecasts prior to entering and once in the field. These forecasts may shed light on the nature of potential hazards such as wildfire or flooding. Reflect on these forecasts with your supervisor to discuss conditions you are going to be working in and to brainstorm safety protocols/measures.
  - » Be sure to dress according to weather conditions and prepare for fluctuations.
  - » Pack items such as sunscreen, water bottles, and weather-appropriate clothing. If you are driving, ensure that the vehicle you bring or rent is appropriate for the local conditions.
  - » Be sure that your vehicle has a full tank of gas, particularly for long trips or remote locations where gas stations may be sparse

☐ **Evacuation Routes, Procedures, and Safety Protocols**

- In the event of a climate/environmental hazard, it is critical to be aware of local evacuation routes and procedures (e.g., tsunami or wildfire evacuation zones and routes), as well as connectivity of infrastructure, including how to navigate a road closure.
- Frequently refer back to your Field Activities Plan to update yourself on local police, fire, and hospital contacts. These contacts should be shared with your supervisor and readily available, particularly if conducting field research alone.
- Utilize a field safety logbook on a daily basis to record any safety incidents or protocols used, as well as general observations gleaned from the field. These records can be helpful during the data analysis stages and provide contextual information that is critical to bolster findings.

☐ **Data Storage in the Field**

- Ensure that collected data is stored in a safe, secure, and confidential manner.
  - » Be sure to utilize multiple security and data backup methods so as to not lose any data (e.g., audio from interviews can be saved digitally on a recorder as well as phone or laptop/computer, and subsequently uploaded to a protected cloud-based service such as the DesignSafe Cyberinfrastructure for the natural hazards research community).
  - » Consider completing an online course on data publication.

☐ **Communication Backups**

- Cellular communication and data coverage are not always reliable, particularly in remote locations, and especially during disasters. Consider alternative forms of communication, including satellite phones and Very High Frequency (VHF) radio.
- Ensure that cell phones, laptops, recorders, etc. are fully charged and make sure you have necessary power adaptors.

LESSONS LEARNED

☐ **Post-Fieldwork Check-In**

- After fieldwork is completed, take time to update your lists and action plans in order to integrate any new lessons learned.
  - » Work with your supervisor to incorporate procedures/activities that will improve the fieldwork experience moving forward.

REFERENCES:

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Suggested Citation: Bonnett, N., & Birchall, S. J. (2021). Safely Conducting Quick Response Research: Tips for Graduate Students and Supervisors. CONVERGE Extreme Events Research Check Sheets Series. DesignSafe-CI. https://doi.org/10.17603/ds2-7vbg-3f39.

The CONVERGE Extreme Events Research Check Sheets series is supported by the National Science Foundation (NSF Award #1841338) and the Institute for Catastrophic Loss Reduction (ICLR). Any opinions, findings, conclusions, or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the NSF, ICLR, or CONVERGE.

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