Institute of Primate Research

STANDARD OPERATING PROCEDURE (SOP) DOCUMENT

Data Collection (Manual and Electronic)

SOP No.	Issue Number	Issue Date	Revision Status	Revision Date
SOP/KIPRE/RPD/DSAS/3.1.76	Version 01	October 2025	-	-

Approvals

	Name	**Signature**	**Date**
Developed by:	_Patrick Waweru Mwaura_	_____	**_6th October; 2025_**
	_____	_____	_____
	_____	_____	_____
Reviewed by:	_____	_____	_____
Approved by:	_____	_____	_____

Table of Contents

1. PURPOSE

To provide a standardized framework for collecting, recording, and capturing high-quality research data across DS&AS projects. This SOP ensures accuracy, reproducibility, ethical compliance, and integration with downstream data management, storage, and analysis SOPs (SOPs 6–16).

2. SCOPE

Applies to all DS&AS research projects involving **biomedical, ecological, genomic, primatological, and public health data**, covering manual and electronic data capture, observational studies, surveys, laboratory assays, sensor-based measurements, and field recordings.

3. PERSONS RESPONSIBLE:

- **Field/Research Staff:** Conducts primary data collection per protocol.
- **Data Entry/Analyst Staff:** Performs digitization, verification, and quality checks.
- **Data Engineer / ICT Officer:** Configures and maintains electronic data capture platforms.
- **Head of DS&AS:** Oversees compliance, quality, and alignment with institutional standards.
- **Data Protection Officer (DPO):** Ensures data collection complies with Kenya Data Protection Act (2019) and ethical guidelines.

4. FREQUENCY

- **Continuous:** During study or project fieldwork.
- **Periodic:** Daily, weekly, or project-specific verification of collected data.
- **Post-Collection:** Data quality audits and verification conducted at milestones or prior to analysis.

5. MATERIALS

1. **Manual Collection:**
    - Paper forms, notebooks, pens, rulers, calipers.
    - Cameras and audio/video recorders for observational or ecological data.

2. **Electronic Collection:**
    - **Survey/Data Capture Tools:** REDCap, CSPro, ODK/ODK Collect, KoBoToolbox.
    - **Databases & Spreadsheets:** Excel, Google Sheets, Neo4j (for network/relationship data).
    - **Biometric and Sensor Devices:** GPS units, digital calipers, biomedical sensors, wearable devices.
    - **Mobile Devices:** Tablets, smartphones configured with electronic capture apps.
3. **Software for Quality Control and Validation:**
    - R, Python, SAS for automated validation scripts.
    - Version control platforms (Git/GitHub/GitLab) for tracking scripts or forms.
4. **Metadata Capture:**
    - Standardized templates to record time, date, location, observer, instrument calibration, and protocol deviations.

6. PROCEDURE

1. **Protocol Familiarization:**
    - All data collectors review the study protocol, instruments, consent procedures, and ethical requirements.
2. **Instrument Calibration:**
    - Ensure all measurement tools, sensors, and devices are calibrated according to manufacturer or SOP guidelines.
3. **Participant/Subject Preparation:**
    - For human studies: Obtain informed consent; assign unique IDs; ensure confidentiality.
    - For ecological/primatological studies: Record environmental conditions, GPS coordinates, and identifiers.
4. **Data Capture:**
    - **Manual:** Record observations on pre-printed forms with standardized coding.
    - **Electronic:** Input data into REDCap, CSPro, ODK, or other digital platforms. Ensure offline functionality and synchronization protocols are followed.

5. **Quality Control at Point of Capture:**
    - Validate entries in real-time for missing, inconsistent, or out-of-range values.
    - Use double-entry or cross-checking for critical variables.
    - Take photographs or videos as secondary verification where appropriate.
6. **Data Transfer and Backup:**
    - Sync electronic forms to institutional servers daily.
    - Store manual forms securely; digitize and verify for completeness.
    - Ensure encrypted transmission of sensitive data, complying with SOP 6 and SOP 7.
7. **Metadata Documentation:**
    - Record all relevant metadata: observer ID, instrument ID, calibration info, collection time/date, environmental conditions, and protocol deviations.
8. **Validation and Cleaning:**
    - Conduct preliminary checks for completeness, duplicates, and consistency before downstream storage and analysis.
    - Document all corrections or transformations.
9. **Archiving:**
    - Store raw and validated datasets in secure repositories according to SOP 7 and SOP 8.
    - Maintain audit trails linking collected data to source instruments, forms, and observers.
10. **Periodic Review:**
    - Head of DS&AS and data management team conduct routine audits to ensure adherence to collection SOPs and ethical standards.

7. REFERENCES