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| --- | --- | --- | --- | --- | --- | --- |
| **Process** | **System Roles** | | | | | |
| **Human** | **Non-Computing**  **Hardware** | **Computing**  **Hardware** | **Software** | **Database** | **Communication**  **& Network** |
| **Data Entry** | **A. Weather station/ Research organizations & NGOs/ City Corporation**  1. Collect information from weather monitoring devices (WMD)  2. Save a copy of the data (.CSV file and physical) and send the data to the forest ministry.  **B. Forest Ministry** 1. Collects the data and sends it to the admin for processing | **A. Pen and Paper**  1. Taking signatures of sender when data is collected. **B. Data Sheet in**  **Printed Version**  1. Data sheet is collected in a printed form.  **C. File Holder**  1. Data sheets are kept in organised file holders  **D. Cabinets**  1. The files are kept in the cabinets | **A. Weather monitoring device(WMD)**  1. To collect the weather data, these devices are needed.  **B. PC/ Laptop/**  **Other**  **computing**  **device**  1. The data from the devices are stored on storage devices of computers.  **C. Printers**  1. Printers are used  to print the data  sheet by the  data source team. | **A. Microsoft Excel / Google Sheets**  1. All data collected is stored on computers in .CSV files which can be accessed using Excel/Sheets  **B. Operating System**  1. To operate the computer where data is collected and stored, we need an operating system like Windows/ Linux  **C. Printing software**  1. Printing software needed if data is wanted in physical form | **A. Microsoft Excel / Google Sheets**  1. All data collected is stored on computers in .CSV files which can be accessed using Excel/Sheets  **B. Data files/ Log files (physical copies)** 1. Paper copies of data is printed and stored in holders and cabinets. | **A. Telecommunication/phone calls**  1. Stakeholders can communicate with each other using by making phone calls. |
| **Data Verification and Processing** | **A. Admin**  1. Admin checks the initial data for any anomalies and then processes it. | **A. Pen and Paper**  1. Verifies that data is alright and processed with stamps and signatures. **B. Data Sheet in**  **Printed Version**  1. Data sheet is collected in a printed form.  **C. File Holder**  1. Data sheets are kept in organised file holders  **D. Cabinets**  1. The files are kept in the cabinets | **A. Printers/Copiers**  1. Printers and copiers are used to make copies of the processed data sheet. | **A. Printing software**  1. Printing software needed if data is wanted in physical form or copies are to be made. | **A. Data files/ Log files (physical copies)** 1. Paper copies of data is printed and stored in holders and cabinets. | **A. Telecommunication/phone calls**  1. Admin can communicate with ministry and people maintaining system using by making phone calls. |
| **Entry of processed data** | **A. Admin**  1. Admin entries the processed data into the system. | **A. Pen and Paper**  1. People maintaining system confirms processed data has arrived.  **B. Data Sheet in**  **Printed Version**  1. Data sheet is collected in a printed form.  **C. File Holder**  1. Data sheets are kept in organised file holders  **D. Cabinets**  1. The files are kept in the cabinets | **A. Printers/Copiers**  1. Printers and copiers are to be used if copies of data sheets are to be made. | **A. Printing software**  1. Printing software needed if data is wanted in physical form or copies are to be made. | **A. Data files/ Log files (physical copies)** 1. Paper copies of data is printed and sent from admin to system, which is then stored in holders and cabinets. | **A. Telecommunication/phone calls**  1. Admin can communicate with people maintaining system using by making phone calls. |
| **Generate reports** | **A. Users**  1. Users are able to generate weather reports and make relevant decisions  **B. Policy Makers**  1. Policy makers are able to generate weather reports and propose changes to the system. | **A. Paper**  1. Users and policy makers have the options to print physical copies of reports. | **A. PC/ Laptop/**  **Other**  **computing**  **device**  1. PC is used to access the system and view and print relevant reports.  **B. Printers/Copiers**  1. Printers and copiers are used to print and make copies of the reports | **A. Operating System**  1. To operate the computer, we need an operating system like Windows/ Linux  **B. Printing software**  1. Printing software needed if report is wanted in physical form or copies are to be made | **A. Reports (physical copies)** 1. Paper copies of reports are the only data the users and policy makers have access to. | **A. Internet**  1. Internet will be needed for users and policy makers to access the system and the data.  **B. Telecommunication/phone calls**  1. Policy makers can suggest changes through phone calls. |