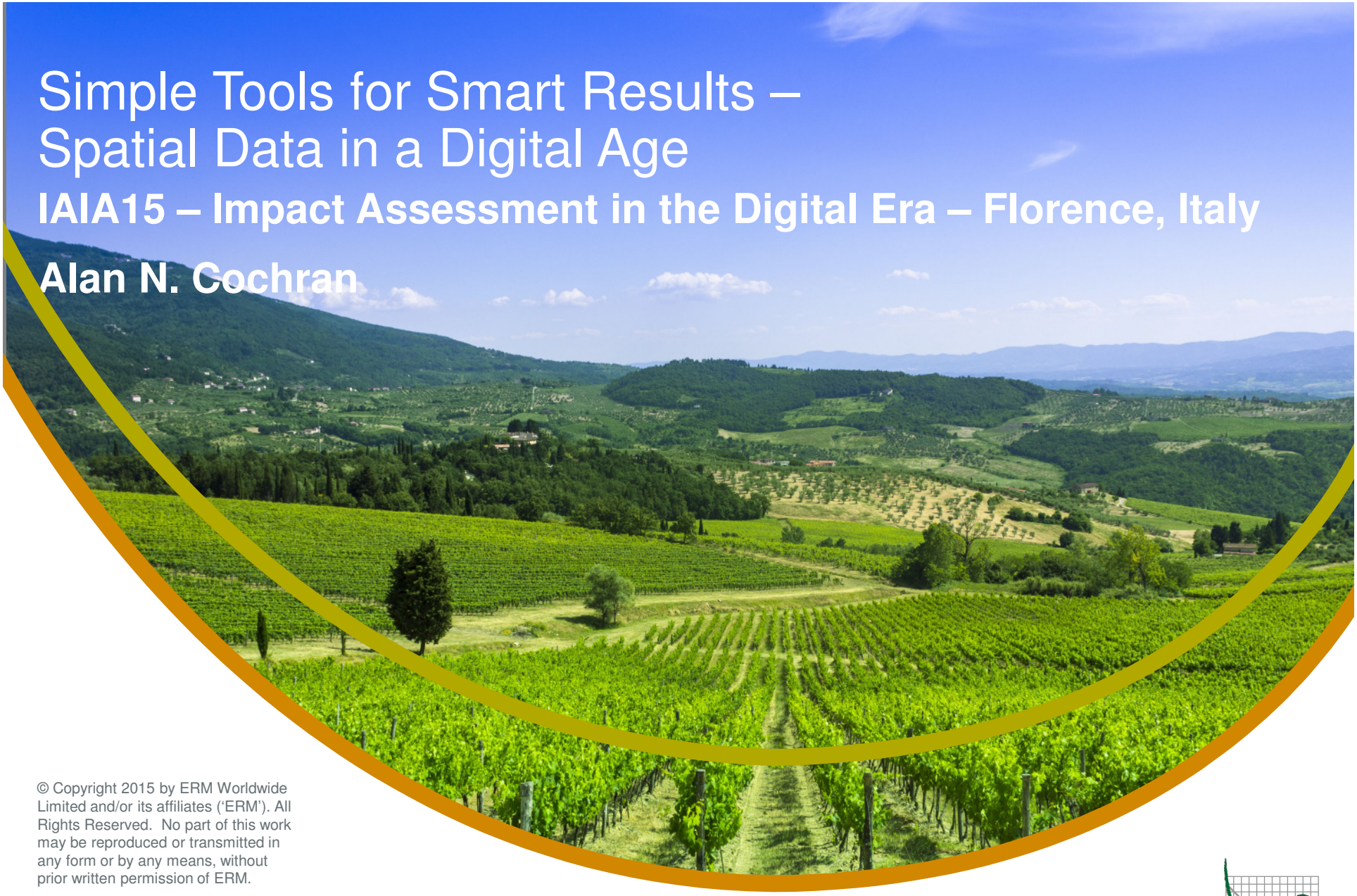
Simple Tools for Smart Results – Spatial Data in a Digital Age

IAIA15 – Impact Assessment in the Digital Era – Florence, Italy

Alan N. Cochran



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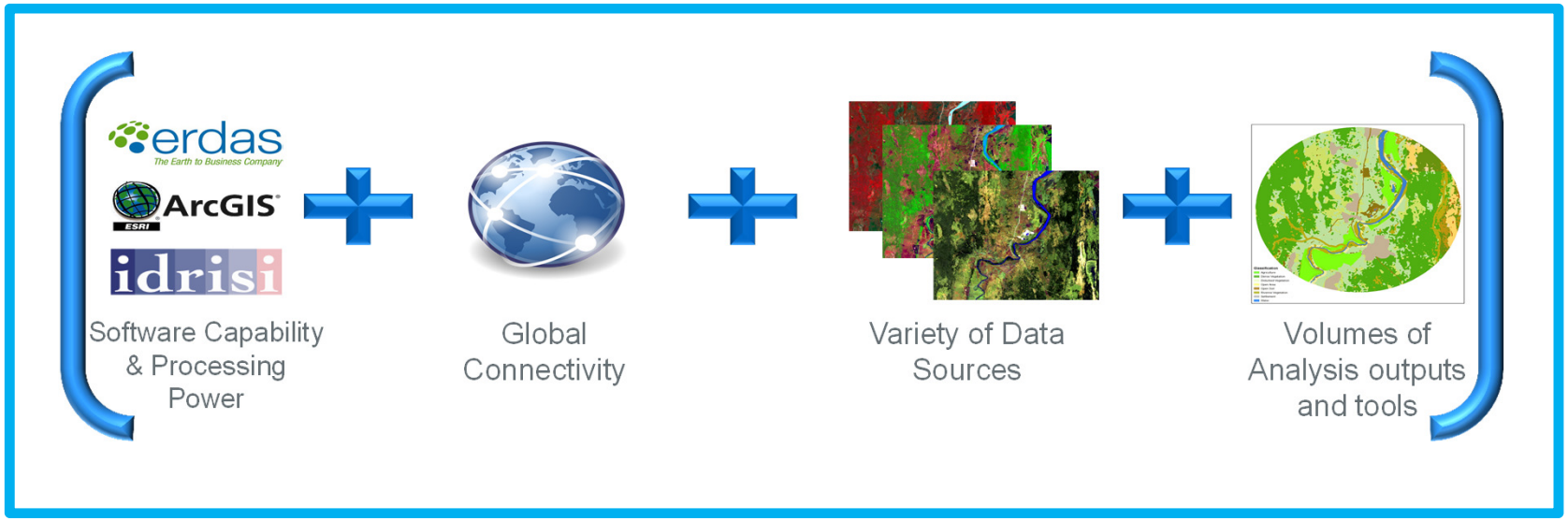
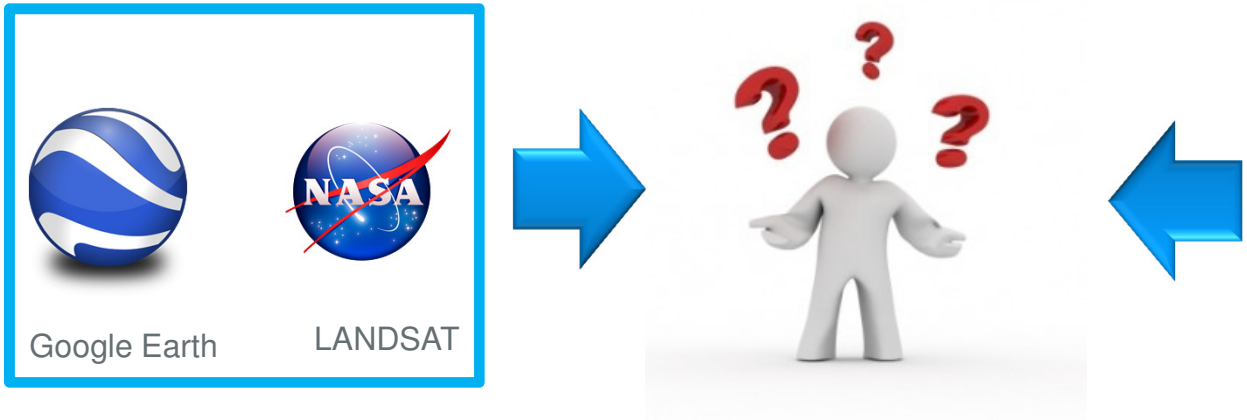
Spatial data and the digital age



How to navigate this maze of information and possibilities to find the approach that is fit-for-purpose?



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Key Actions to get Smart Results from Simple Tools

Determine Study Resolution

Design the Study

Capture and Integrate Data

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Case study: Baynes Hydropower Plant SEA

Client: **PJTC (Project Joint Technical Committee)**

Location: **Namibia & Angola**

Sector: **Power**

- Development of a hydropower scheme on the Lower Cunene River (border between Angola and Namibia);
- Techno-economic study completed;
- ESIA nearing completion;
- Need to consider options for ancillary infrastructure for construction and operation of the project.
- SEA of ancillary infrastructure undertaken to support ESIA

SEA required to provide sufficient information to facilitate informed decision-making with regards to the environmental and social impacts of the overall project

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Study Resolution

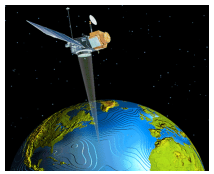
Field Surveys

VS

Desktop

Google Earth

VS



Purchase Satellite Imagery

- High level understanding of what environmental and social features are potentially occurring and where they are in relation to the ancillary infrastructure (e.g. habitats or settlement types); and
- Assessment of the potential sensitivity of the identified features to the proposed activities associated with the ancillary infrastructure

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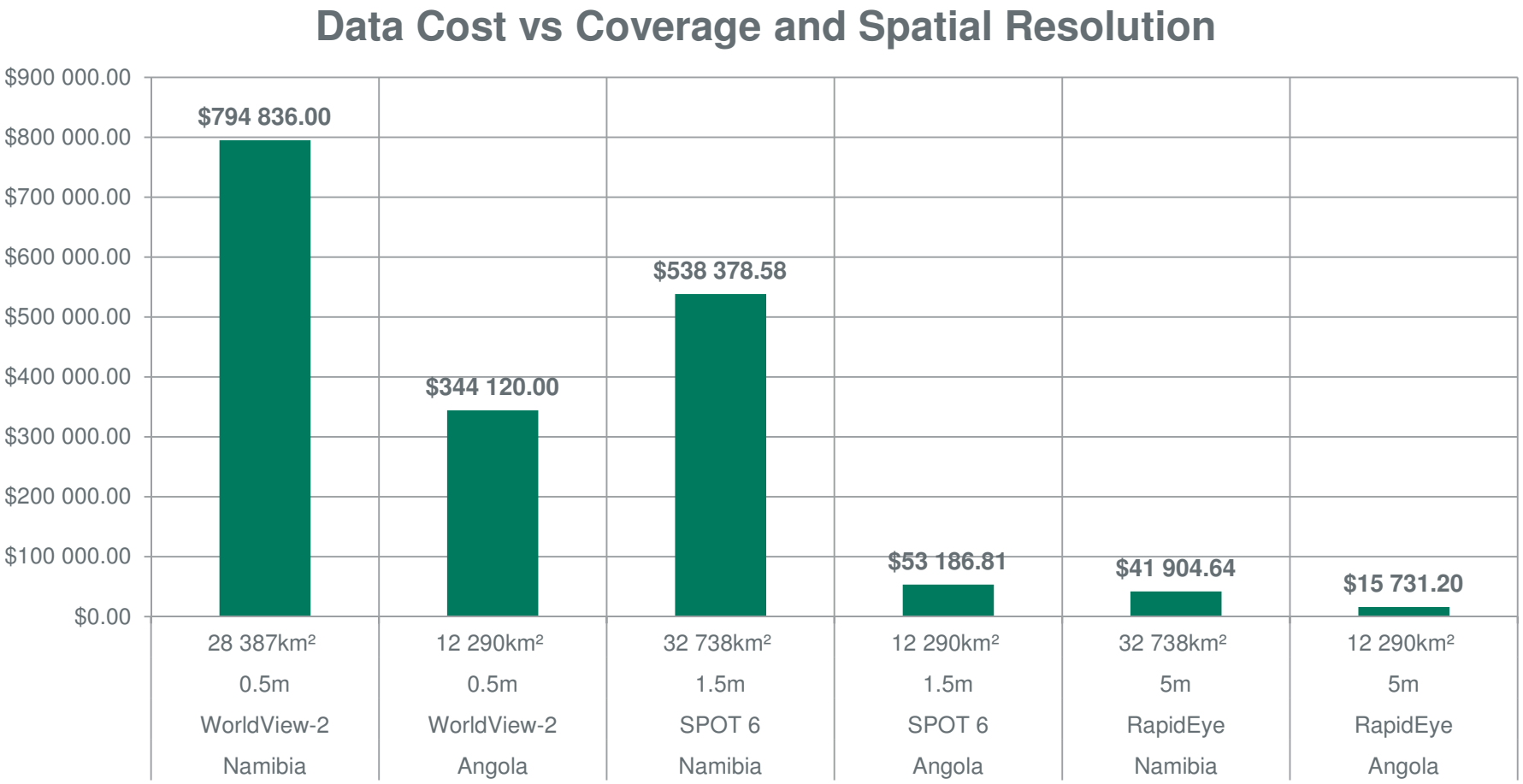
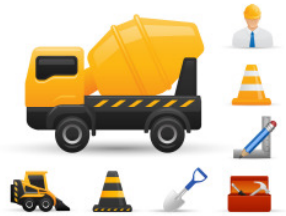
Study Resolution



Study Design

Step 1: Understand the location and nature of the ancillary infrastructure.






Step 2: Identification and characterisation of environmental and social sensitive features.



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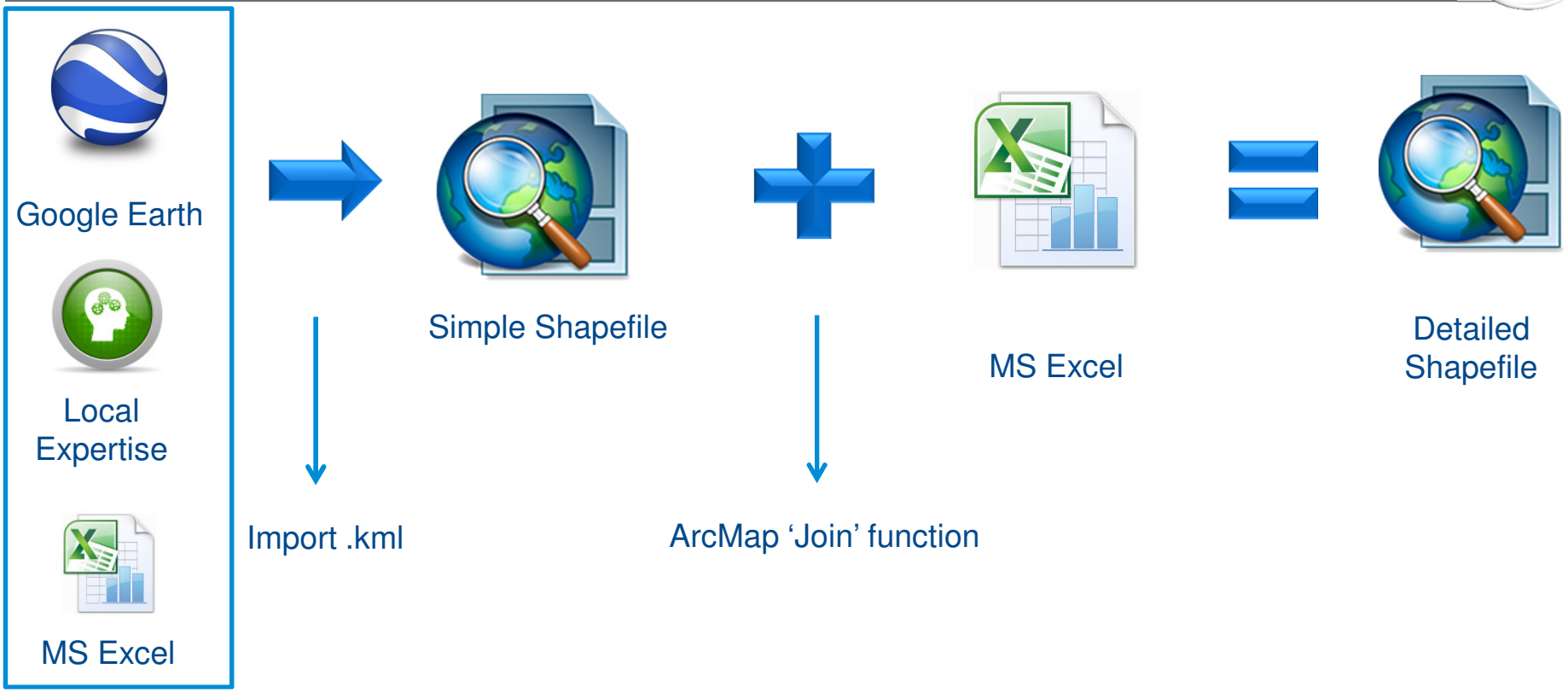
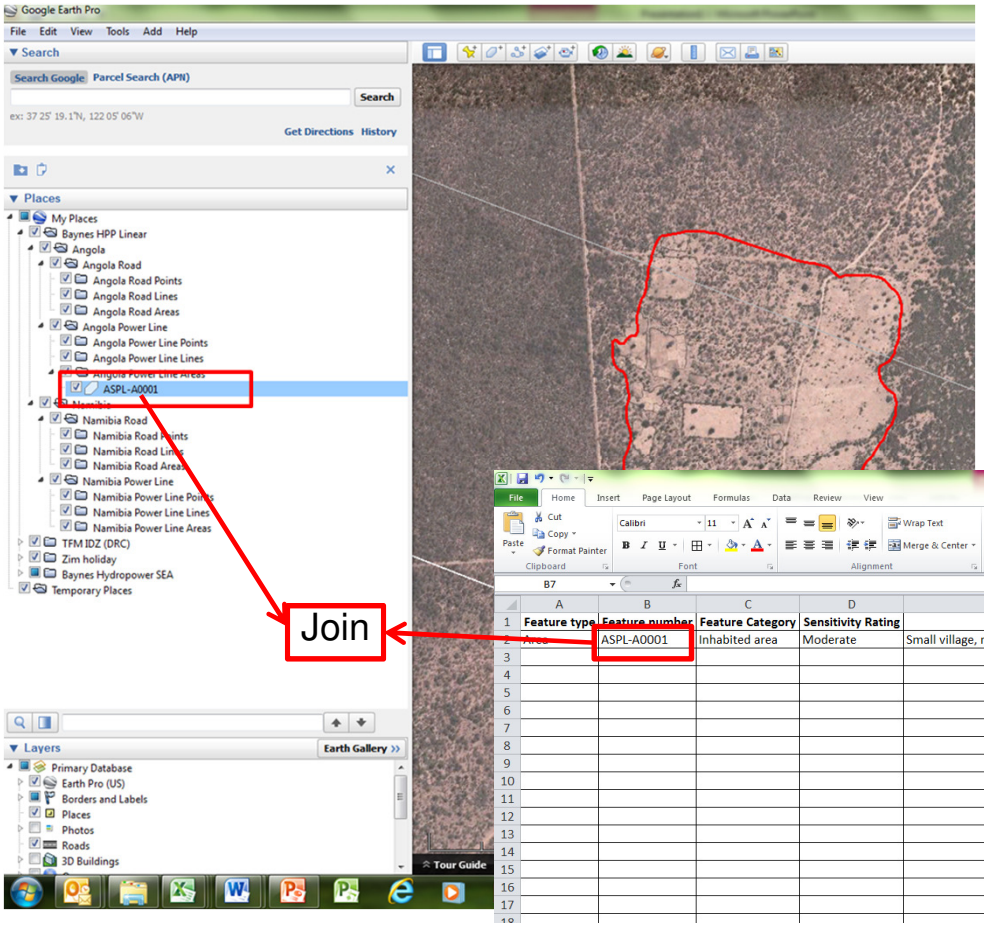
Data Integration

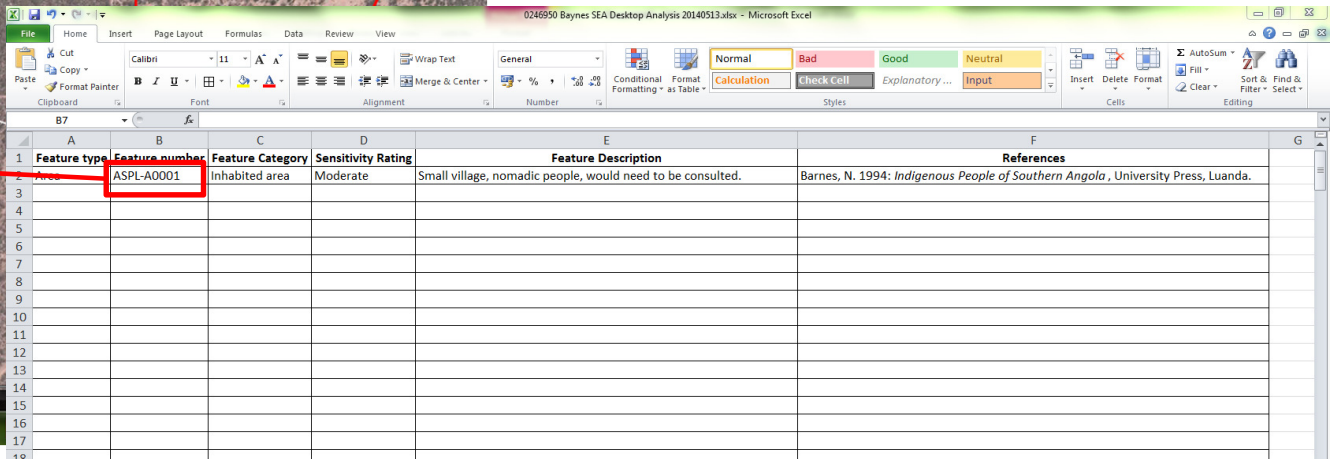


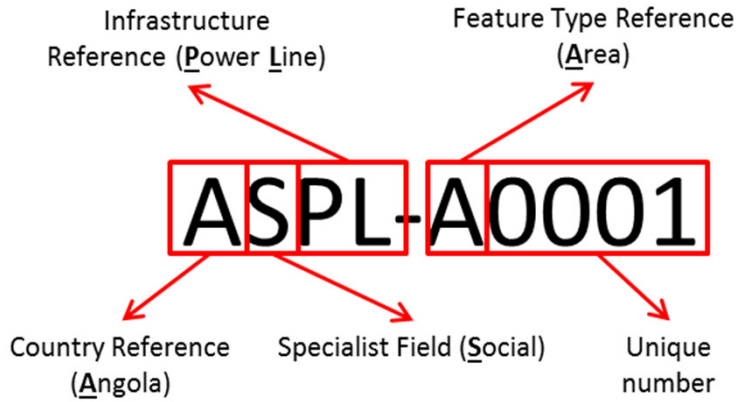
- Specifically designed a mapping procedure employed by two specialists in each country (a social specialist and a biophysical specialist respectively).
- Designed for the project with the final outputs in mind and combined the use of Google Earth, Microsoft Excel, and finally ArcGIS.

Data Integration

Development of a detailed data capture system to ensure data integrity during transfer from Google Earth into ArcMap







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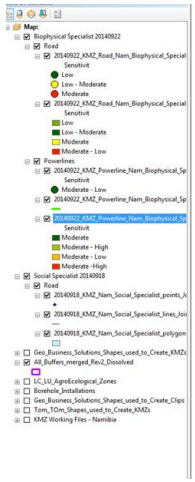
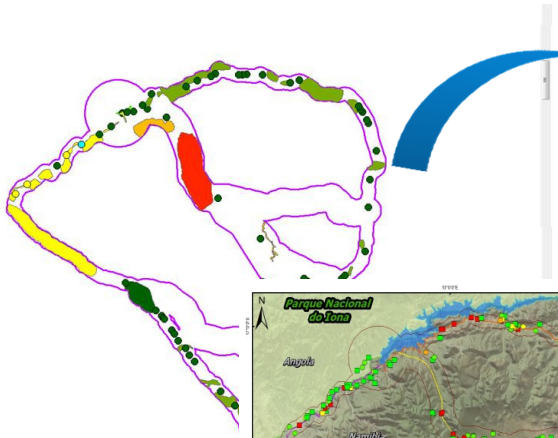
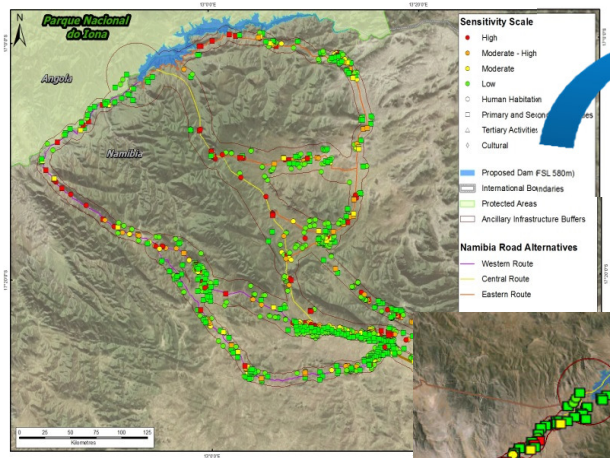
Results

Working data in ArcGIS

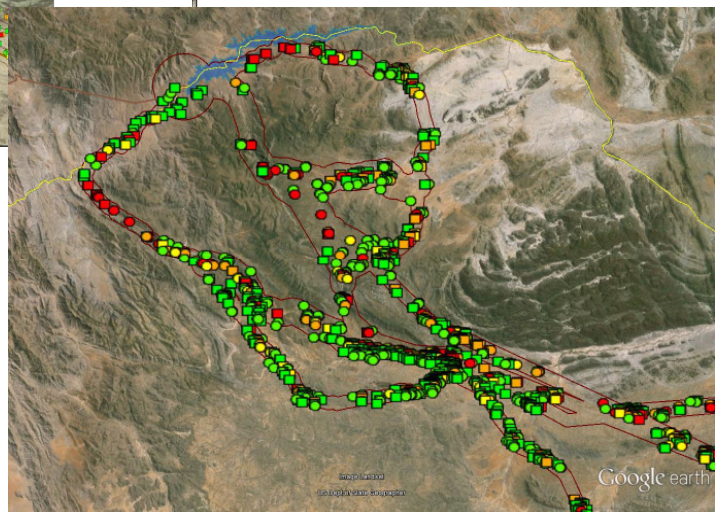




Report Map



Google Earth Data Output



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Conclusions

Key Actions:

Study Resolution

Study Design

Data Integration

Simple Tools:

Local Expertise

Freely available data and commonly used software

Smart Results:

Cost Effective

Time Efficient

Fit for Purpose

Flexible to Change

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Acknowledgements

THANK YOU

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