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Experiences on the application of the new FDES

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Mauritius

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Mauritius Environment Statistics

- In Mauritius the old FDES was applied including: Flora, Fauna, Atmosphere, Water, Land and Human Settlements
- http://statsmauritius.gov.mu/English/Documents/Environment/digest%20environment%202012/environment13.pdf
- Qu. New FDES and way forward: can we use the components as chapters to organise env. Stats and its report? +
- Presentation of FDES stats so that all countries are on the same line?

Mauritius Environment Statistics

- **Remark: some of the terms/indicators are not always clear. E.g, wastewater collected, wastewater treated (are they not the same normally?), wastewater discharged into the environment?**

- **Qu. New FDES and way forward:** we look forward to the Manual which will provide guidelines explaining in more detail what is intended to be collected?

Mauritius Environment Statistics

- **Uses: National reports:**
  - **Environment Outlook**
  - **Sustainable Consumption and Production**
  - **Rio+20**
  - **National Comm on climate change**

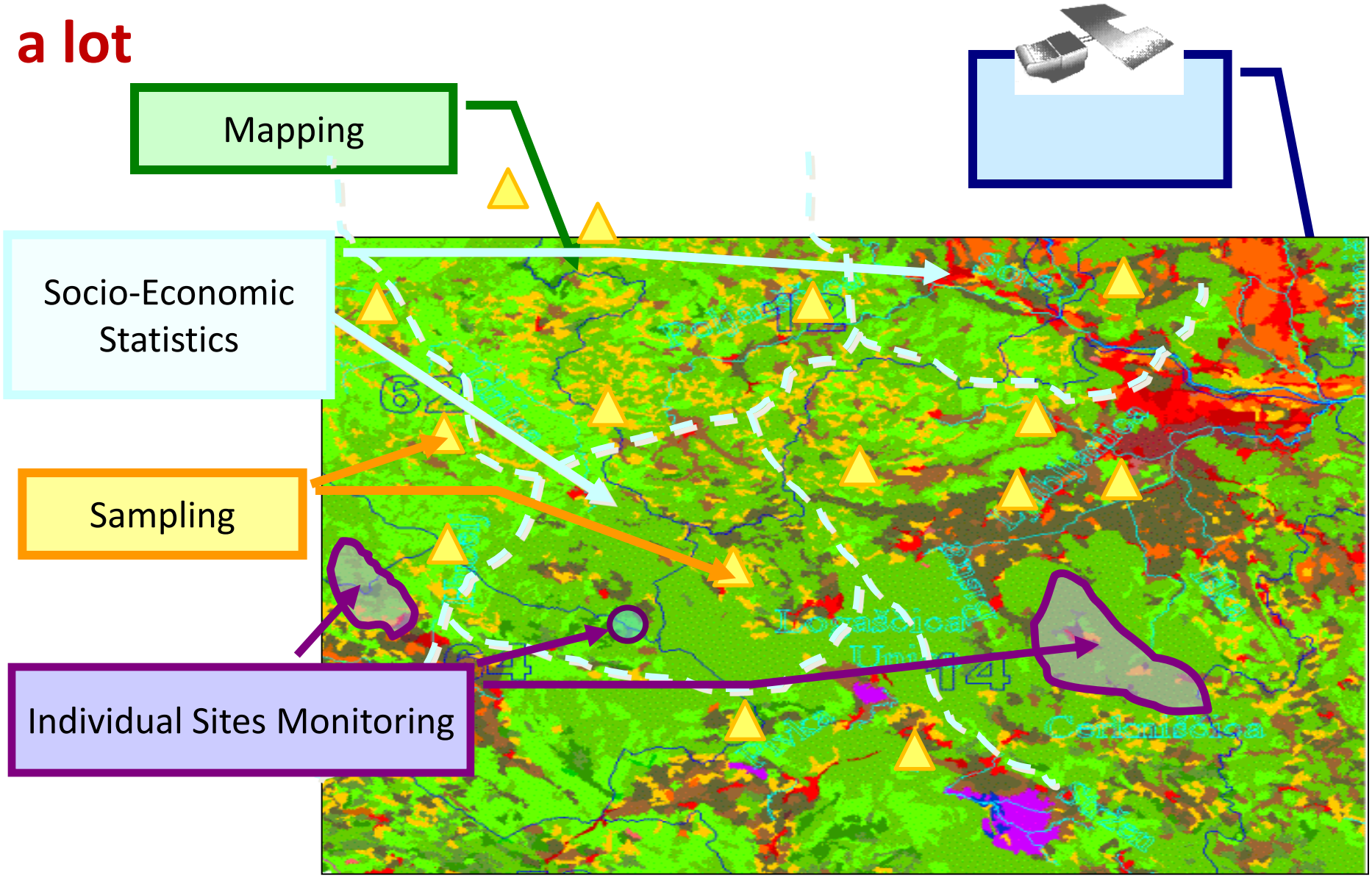
Baseline study on SD indicators for UNDESA SIDS UNIT – Develop the Vulnerability – Resilience Profile (VRP).

- **Qu. New FDES and way forward: New FDES can provide guidelines. Can FDES Toolkit (TBD) highlight for what can FDES stats be used further – e.g. research, education etc**

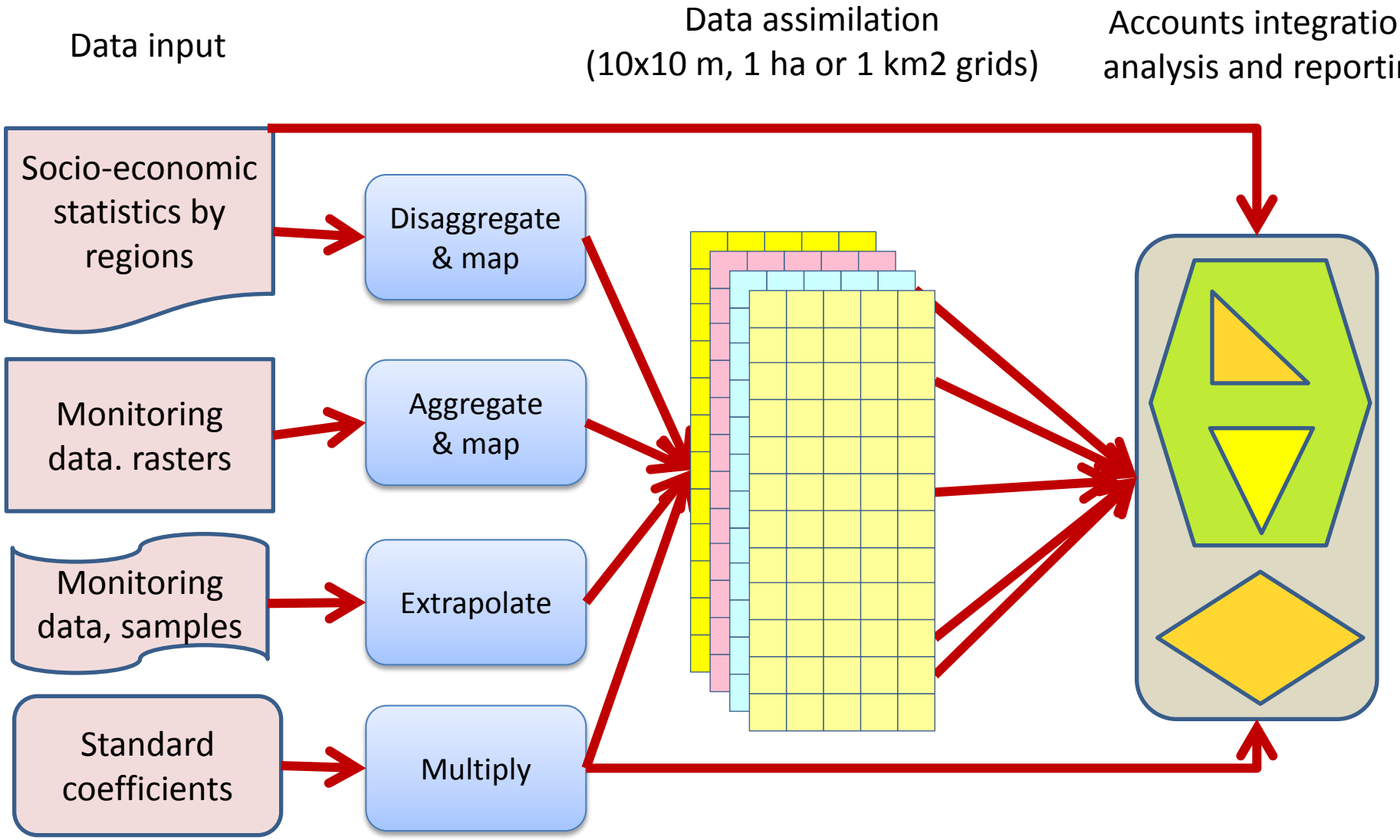
Using FDES to develop Ecosystem Accounts

- **SEEA-Experimental Ecosystem Accounting tested in Mauritius.**
- **Important points are:**
  1. **In most cases accounts in physical units (covered in FDES) precede valuation in money**
  2. **Statistical units for ecosystem accounting are to be defined as spatial units (covered in FDES); Basic Statistical Units (BSU) as grid-cells and Ecosystem Accounting Units (EAU) as functional units - BSU grids of 1ha and 1 km2 (Europe) and 10mx10m and 1 ha (Mauritius) and EAU: land cover ecosystem functional units, socio-ecological landscape units, river basins and sub-basins, river systems and (for Mauritius) sea coastal units**
  3. **Ecosystem extent (quantity…) and condition (quality, health resilience…) have to be measured altogether**
  4. **The ecosystem accounting framework is integrated with the SEEA Central Framework and the SNA**
  5. **Physical accounts for land cover, biomass/carbon, water and ecosystems functional services (depending from ecosystem integrity, biodiversity…)**
  6. **Basic resource balances are combined with diagnosis of ecosystem health**
  7. **Integration means altogether integration with the economy, the integration of interconnected ecosystems and the integration of ecosystem components, altogether quantities and qualities.**

The Multiple Data Sources needed for Ecosystem Natural Capital Accounting (ENCA)… and FDES helped a lot

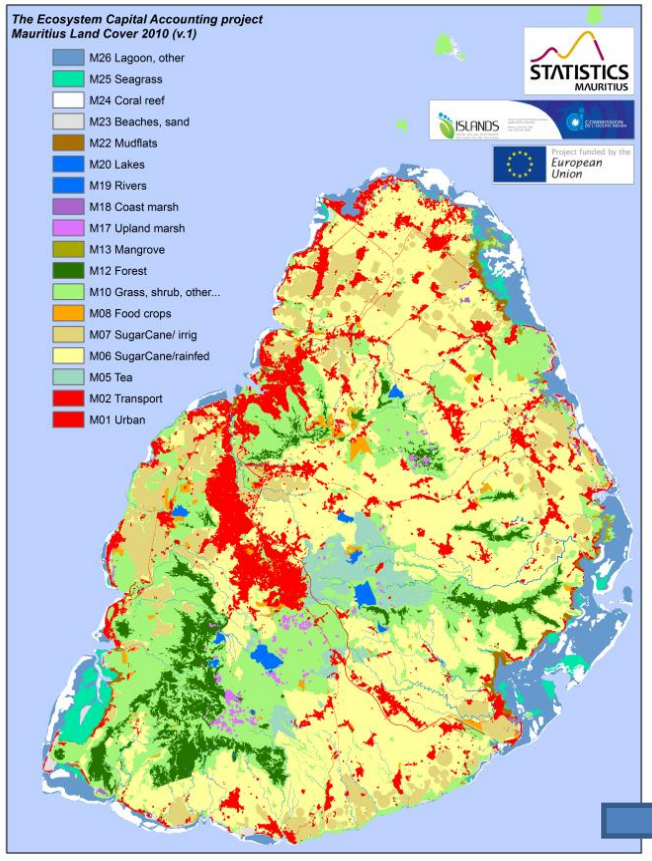


… and the data model to process them



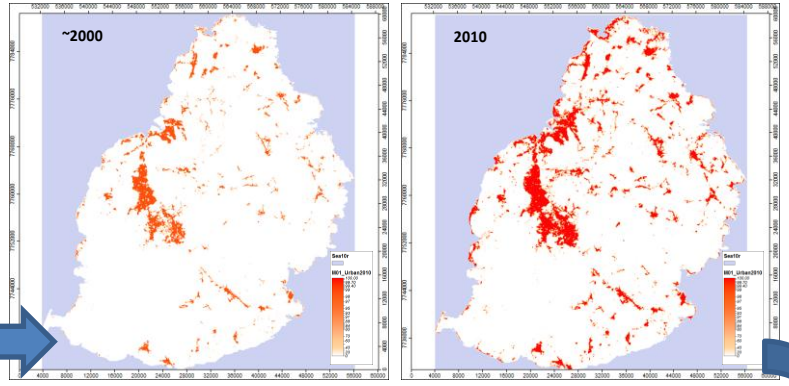
SEEA-ENCA Mauritius preliminary results :

Land cover and change from 2000 to 2010



The land cover data are stored using geographical datasets which use grids (10m x 10m and 100m x 100m) at the most detailed level.

Urban land cover 2000 & 2010

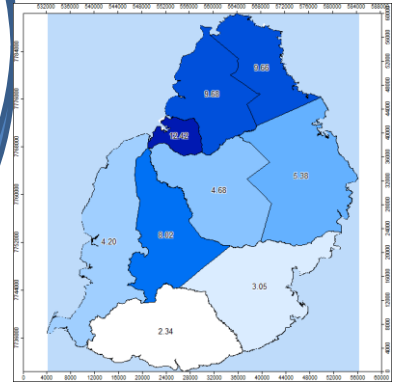


These grids allow computing statistics and producing ecosystems/natural capital accounts for various statistical units such as municipal and village council areas, districts, coastal zones, river basins, socio-ecological landscape units and any relevant zoning.

Land cover stock and change account/ urban sprawl **2000 2010 - km2**

Provisional	*Rivière du Rempart*	*Pamplemousses*	*Flacq*	*Moka*	*Grand Port*	*Plaines Wilhems*	*Black River*	*Savanne*	*Port Louis*	**TOTAL**
District AREA SQKM	14703	18019	29826	23512	26134	19839	25558	24758	3976	186325
M01 Urban land cover 2000 v0	747	705	405	282	406	2060	334	266	2667	7872
M01 Urban land cover 2000 v1, adjusted	1225	1172	667	510	549	2456	542	379	3284	10782
lf1 Urban sprawl	478	467	263	228	143	396	208	112	616	2911
M01 Urban land cover 2010	1704	1639	930	738	691	2852	749	491	3900	13693

Urban sprawl 2000-2010 by Districts



Mauritius FDES

- Accounts require FDES data
- The cost of IT investments is no more an issue; performing freeware can be used as well as commercial software packages – and cloud computing has started to propose solutions and deliver products from the web.
- Training (in statistics and accounting, data management, GIS applications) is the main capacity building issue.
- Institutional cooperation between the various agencies holding data and knowledge is essential. Creation of shared environmental information system is recommended.
- The implementation of integrated physical accounts should facilitate further work on assessment, modelling and valuation of ecosystem services.

Experience from Vietnam

- In Vietnam the general Statistical Office (GSO) have a National Statistical Indicator System (NSIS) including a part on Environment (about 70 indicators)
- The Ministry of Environment has a separate NSIS dedicated to Environment with much more stats and indicators.
- The FDES was applied to revise the NSIS on env. Where the components of the FDES and the DPSIR framework helped to organise proposed indicators. (Reviewed: Botswana ES, Nepal, Malaysia)
- The GSO and its partners would require TA to build regular env stats.
- Required to develop Indices – **ESI and EPI**

Experience from St Lucia

- St Lucia has a big project to set up a platform to host MEA reporting.
- The FDES was proposed as the main reference for developing indicators.
- Other indicator frameworks were also explored: United Nations Environment Programme (UNEP) Core Indicators, Latin American and Caribbean Initiative on Sustainable Development (ILAC), The Caribbean Community (CARICOM),
- Similarities and small differences exist between FDES and other frameworks. Similarities are more common.

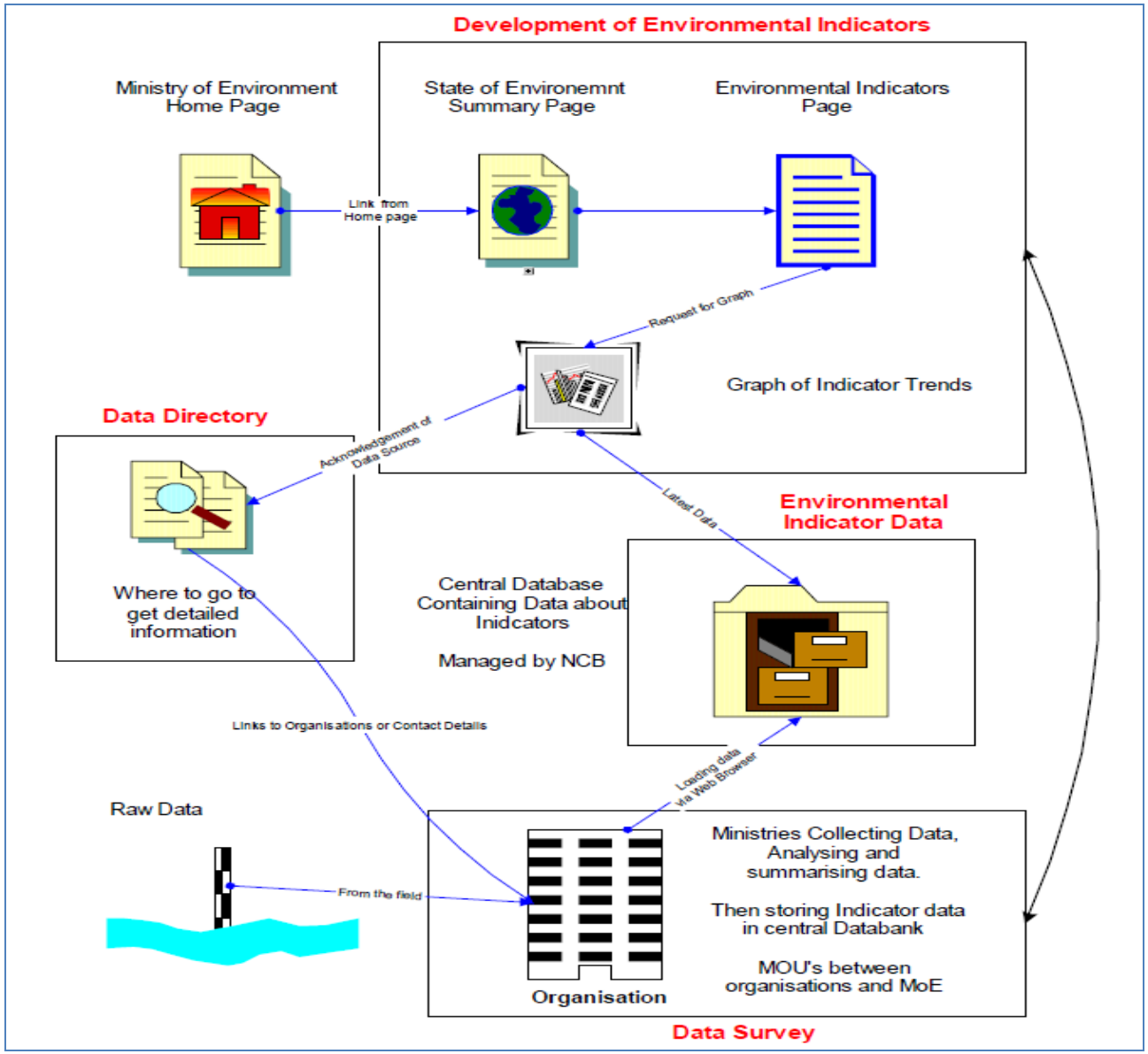
St Lucia: Environmental Information and Knowledge Management

HARDWARE

PEOPLE

SOFTWARE

FDES and EIS: Information and Communications Technology (ICT) ?



CONCLUSIONS

- **Way Forward**
- Welcome the Manual which will provide detailed guidelines about the statistics to be collected from the Basic/Core Sets
- Can FDES become a standard?, Incl. guidance on Institutional set ups for data sharing etc?
- Can FDES adopt modern tech. such as EIS, PDA and Smartphone apps – prepare for future?
- New Tools/Toolkits – e.g GapMinder
- How can FDES better engage with partners for TA and cap. Building – e.g regional organisations/RECs/etc – e.g UNFCCC/IPCC methods require data to compile national GHG inventories and FDES can add to existing guidelines.

- *THANK YOU FOR YOUR KIND ATTENTION*