

Climate Change – LRD Databases Experience and Best Practices

SPC Land Resources Division
Information and Knowledge Management

<http://www.spc.int/lrd>



Growing the Pacific.
Growing our future together.
L'Océanie, le terrain de notre avenir.
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Definition – Information Knowledge Management

“Concept in which an organisation gathers, organizes, shares, and analyzes its knowledge in terms of resources, documents, and people skills.” – SPC-LRD IKM strategy

This can be applied to Climate change --- need to gather information/data , develop, transfers, transmits, stores and apply knowledge, as well as providing the members of the organization, communities, stakeholders with real information to make the right decisions, in order to attain the organization’s goals....



Information and Knowledge Management

- In 2007, GTZ funded the development of the IKM strategy in LRD
 - How are data and information currently managed?
 - How is information accessed across LRD/SPC?
 - What immediate difficulties and shortcomings are perceived?
 - To what degree are data and information shared with others?
 - What technologies (software) are currently used for the management of information?
 - Is there any need perceived for GIS services?



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IKM - Implementation

- Development and assigning responsibility for information knowledge management – existing staff taking over the responsibility
- Reorganising the shared folders – reviewing user access right
- Development of a naming convention
- Development of a LRD intranet portal and events based management system – also accessible to decentralised staff
- Development of a GIS based system/portal

Development of databases and maintaining existing databases



LRD Databases

- Databases, Portals, web 2.0 platforms, ICT applications managed by the various thematic teams:

- Pacific Islands Pest List Database, <http://pld.spc.int/pld/> (PIPLD) which records the distribution of plant pest in the Pacific has a web interface and back-end data is stored on a MySQL database server,
- World Animal Health Information Systems, <https://www.oie.int/wahid> which records animal disease distribution, an Animal Genetics database
- PRIPPP Checklist Database – information on national pandemic influenza plans, avian influenza ; surveillance, diagnostics, disease investigation and responses to incursions; national diagnostic facilities and capacities; <https://wwwx.spc.int/checklist>
- <http://www.spc.int/lrd/angr/login.php> Stores all gene banks for animals specimens and the MS Access accession database that records accession details, evaluation, descriptor, passport and distribution data for accessions in the CEPACT collection.



LRD Databases

- **Forestry**

- GTZ Forestry -- monitoring data on the Fiji forest research area in Nakavu; Fiji forest cover assessment, land use). Data sharing is informal with most national counterparts.

- **Trade Statistics**

- Pacific Regional Trade Statistics Database
<http://www.pacifictradestatistics.com/> which hosts trade data for export commodities from the Pacific.
- Applicable to climate change impacts, example CePaCT is establishing a climate ready collection and screening their crop collection for certain climate resilient traits and we could be using climate to predict infectious disease outbreaks



GIS Applications

- GTZ Forestry have also procured licenses for SimCLIM and have carried out training in Tonga and Vanuatu.
- PacCLIM <http://www.waikato.ac.nz/igci/projects/pacclim.htm> and PlantGro are known to the Crop Production and Agricultural Policy technical staff for advising PICTs on the suitability for group crops in different areas.
- CLIMEX <http://www.climex.com/> is known the Plant Health and BATs team to be used to predict the potential distribution and relative abundance of species in relation to climate.
- There is existence of GPS coordinates for the locations of fruit fly traps in the PICTs, pest distribution, location of villages that have pig farms and waste management composting sites. These are all available as MS Excel spreadsheets.
- But the Forestry and Agricultural Diversification team in collaboration with SOPAC are using GIS/remote sensing for forest inventory and monitoring.



Best Practices

- Plant pest database used for import risk analysis for fresh fruit commodities exported from the PICTs and Animal Health Information System...
- Best Practices
 - Data sharing agreements - MOU between SPC and Member countries --
- important to establish this
 - Countries take ownership of their data – PLD/Animal Disease reports/data submitted to OIE are owned by the governments of the country
 - Periodic data maintenance – 6 monthly basis
 - Accessibility - Bandwidth in some countries are very good allowing for data to be uploaded, compatible on all browsers – but not all
 - Electronic data sharing --- data sharing facility for PICTs to upload data.



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Lessons Learnt

- Trust, changing the mindset, perception
- High staff turnover in the PICTs Ag Departments
- PICTs need continuous support from LRD for data maintenance.
- Technical constraints - Firewall issues --- internal IT issues, low bandwidth – internet penetration is low
- Complexity of the database design made it difficult for countries to carry out basic data retrieval, database maintenance etc.
- Lack of capacity --- in-country training depending on funding
- Human resources – member countries trained have other responsibilities
- Sustainability?



Future projects/possibilities

- Implementation of the Market Information Systems (MIS) -- provision of quality market information to stakeholders involved in the production of fruits and vegetables in Fiji, and to facilitate improved markets for domestic produce. INFOSHARE is a database system for gathering and sharing information on commodity prices (including farm, export and import prices).
- We are also looking at integrating an sms (via mobile) system with the infoshare database. The SMS system will disseminate short bulk texts updating farmers, traders and exporters:
 - Pest and disease information/Disease surveillance
 - Regional Price information
 - Transport Cost information/Road conditions/ Weather outlook
 - Current market activity in each commodity
 - Future market opportunities
 - Other possibilities --- can be linked to climate change ?



Future recommendations?

- Linking ICT policy with the Ministry – example, agriculture, forestry etc
- Database maintenance and updates – this needs to be taken into consideration
- Reliable sources of data
- MOU need to be established between organisations and the countries
- Capacity building - Training capacity
- Budget allocations
- Establishing the owner of source code --- who owns the data sets and database?
- Formulate information management policies – IKM strategy to be further developed...
- Having a one stop shop for all databases/portals etc – linking databases to sms mobile systems

