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CONSOLIDATION OF INFORMATION – A MYTH FOR PEATLAND DATABASE SYSTEM?

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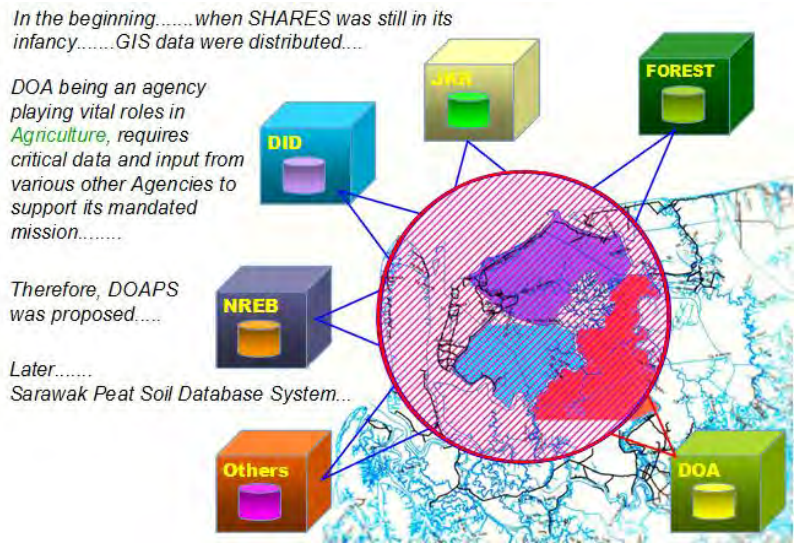
SUMMARY

Peatland covers 1.64 million hectares or 13% of Sarawak's total land area. It has become a subject of interest for stakeholders within and outside the state due to its environmental, economic and social importance. Conflicts of interest and perception on peatland utilization have arisen in the state. Currently, different agencies govern their own databases on peat. Hence, it is crucial that a consolidated peatland database system be developed for use by various stakeholders. The Department of Agriculture Sarawak initiated a peat database project in collaboration with Sarawak Information Systems Sdn Bhd in 2011 to counter these issues. The database is accessible through the Sarawak Government Portal website and currently has entered its third phase. The project includes the compilation of databases on peat soil chemical and physical properties, substratum, peat depth, topography, climatic data, hydrology, height markers, natural drainage patterns, original forests distribution patterns, infrastructure, land use and land cover. Currently, most of the data layers are at 1:50,000 scale. Data sharing is complicated as the governing agencies' policies restrict mutual use due to the sensitivity of the information. Furthermore, rapid land use changes on peatland cause the land use information to become rapidly outdated. The updating process for land use is very tedious due to inaccessibility and the huge areas involved while outdated satellite imagery also poses a problem. In addition, soil information is still updated using conventional methods (ground surveys). With the establishment of the database, peatland development stakeholders will be able to access a centralized data repository for decision making, planning and implementation purposes.

Keywords: *peatland, database system, Sarawak*

INTRODUCTION

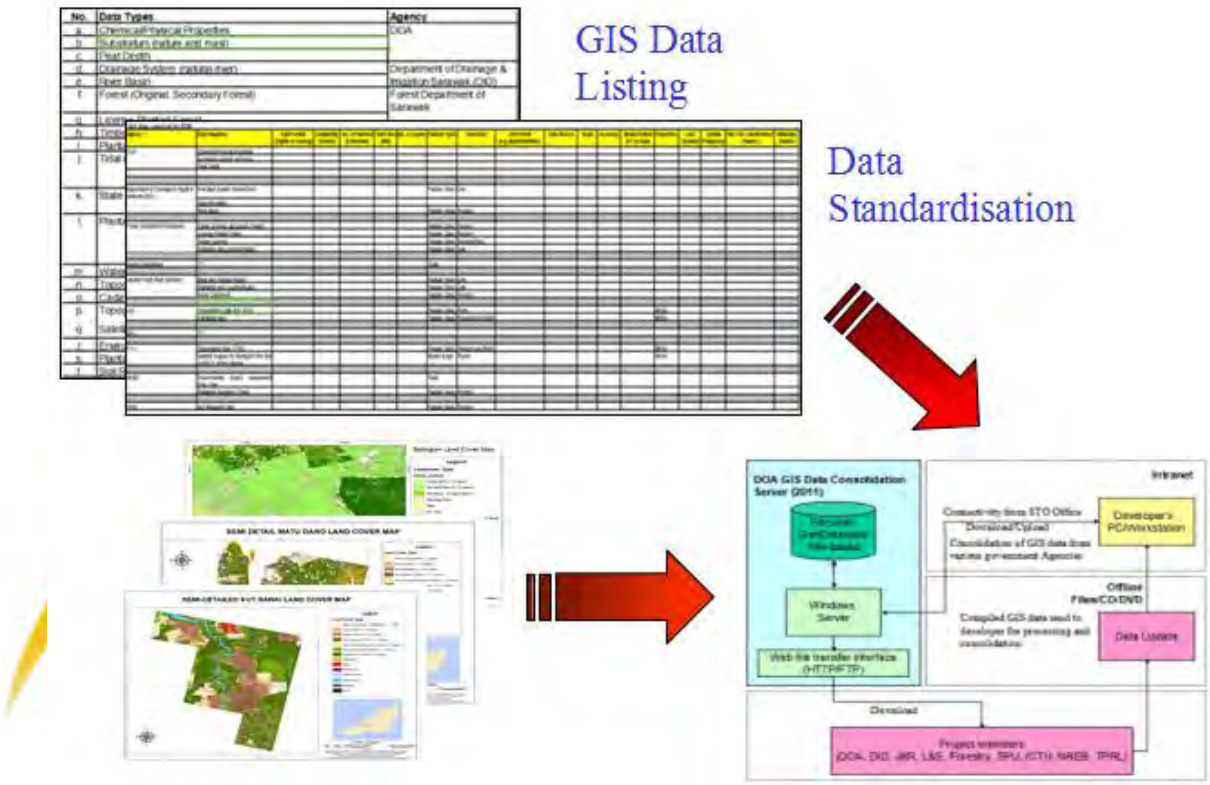
Data sources pertaining to peat land exist at various locations, are poorly maintained and in some instances are duplicated and most of the data are neither catalogued nor shared. Consequently, the Department of Agriculture Sarawak (DOA) finds utilisation of this information very unsatisfactory and most state agencies also face similar problems. In order to address these concerns the Sarawak State Government has made many efforts to embark upon setting up a centralised State Geospatial Data Repository (SHARES) to include the development, implementation and management of geospatial information and data sharing through policy frameworks, procedures and guidelines.



METHODOLOGY

DOA, galvanised by the need for a consolidated database for peat, took the initiative to spearhead the implementation of a centrally hosted peat land database system. In 2011 DOA introduced a peat database project in collaboration with Sarawak Information Systems Sdn. Bhd. (SAINS). The objective was to identify the information technology requirements needed to bridge the information gap in the data most sought out by stakeholders in the sustainability of peat land and related activities.

The peat land database system makes use of the proposed SHARES architecture and framework for its large number of geospatial datasets and application integration. An interface to utilise the SHARES geospatial data infrastructure platform has been developed to further expand the potential of peat land research and development in the State. A series of planned activities, as depicted above, were then implemented to effectuate the inter-agency cooperation needed to support the Sarawak Peat Database System development and implementation strategy.

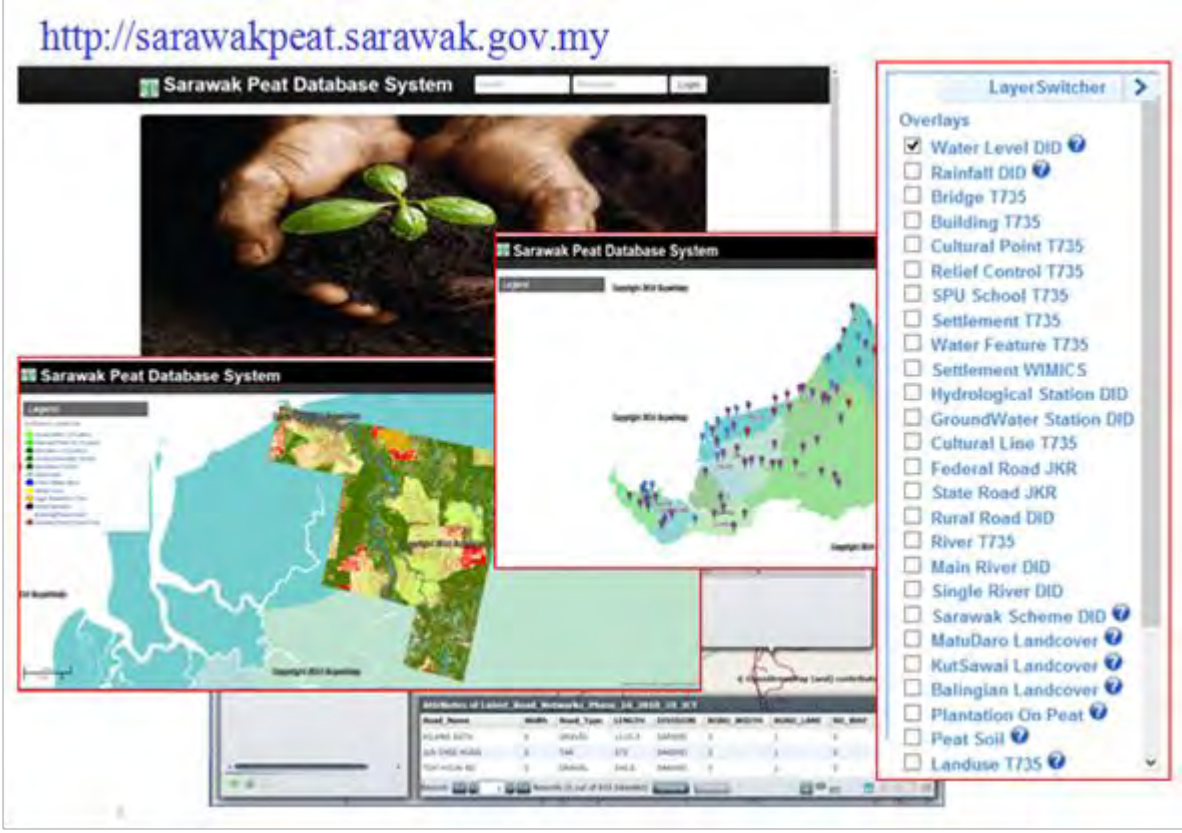


The strategy emphases two major aspects; data consolidation/collection, and data sharing. The data consolidation/collection comprises activities to join forces with various state agencies in the compilation of the geospatial data required for the management and dissemination of peat land information. A task force team led by DOA with members from state agencies, was formed to define the scope of work in developing and implementing the Sarawak Peat Database System. SAINS was tasked to devise an integrated ICT solution to include the appropriate settings for the hardware and software environment, the life-cycle plan of data consolidation/collection, the design and commissioning of GIS application interfaces and to detail the outputs (e.g. digital geospatial datasets and maps) which are to be made available to the stakeholders.

RESULTS AND DISCUSSION

The Sarawak Peat Database System endeavour spanned the years of the 10th Malaysian Plan (2011-2015), with encouraging results the data consolidation/collection endeavour has:

d) resulted in the establishment of an organised and standardised Geodatabase format
e) resulted in the utilisation of the Geodatabase by DOA and state agencies
f) assisted DOA and state agencies to improve their services to the public
g) enabled the sharing and exchange of information/data
h) helped agencies to become open to the sharing concept



All in all, most of the stakeholders' expectations for the efficient provision of comprehensive peat land data and related information have been met. The project implementation has also promoted data sharing among the stakeholders and will be a catalyst for future data sharing and consolidating exercises. With the implementation of Sarawak Peat Database System, DOA is now leveraging on the information made available from the central repository with much ease and enhanced productivity. The lengthy process of data acquisition has now been simplified such that all consolidated data can be obtained and referenced from a single source. This in turn expedites soil mapping of peat land areas while giving a purview to a good many other potential peat land actors.

CONCLUSION

While the Sarawak Peat Database System has been successfully introduced much work is still needed to fine-tune the system in line with the concepts of data sharing advocated by the Sarawak State Government through SHARES. The stakeholders' experiences with the system suggest that in order to move forward the following challenges must be thoughtfully considered:

i. Management decisions are needed to allow sharing of spatial information
ii. More data to be in digital format
iii. How to utilise SHARES as a framework for DaaS/PaaS/SaaS
iv. How to leverage on current Web/Mobile technology