

## **4<sup>th</sup> International UN-SPIDER Bonn Workshop**

### **Keynote Address**

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### **Introduction**

It is indeed a privilege for me to be present and deliver this keynote speech at this important workshop. I thank the organisers for the excellent arrangements and for the very kind invitation extended to me.

### **Maldives – the perception and the reality**

Most people know the Maldives, or at least are lead to believe, the Maldives is a nation of high end resort islands, with sand fringed palm island beaches surrounded by coral reefs and bottomless blue sea. More recently the Maldives has become known as a bench mark nation for climate change impacts, with sea level rise threatening to inundate low lying islands before the end of the century.

Although there is certainly some truth in both of these perceptions, it is often overlooked that the Maldives has a culturally vibrant indigenous population with a unique relationship to its environment, but which also has expectations of future growth and development. Similarly it is often forgotten that there are pre-existing stresses on island and marine environments which will be exasperated by climate change long before sea level rise inundation.

The treats of climate change are an additional constraint on the development aspirations of the Maldives. It is clear that a robust and responsive development and disaster response planning capacity is required in the Maldives.

## **National Planning in the Maldives**

The Maldives had, for many years, a planning framework aimed in a large part at moving forward with economic and millennium development goals at national level. The planning process had considerable success in many areas such as education and health, but proved weak and unresponsive in other critical areas such as the environment, transport, housing and infrastructure development. This was largely because the process lacked a spatial dimension which when taken over 200 inhabited islands across the archipelago resulted in a piece meal project based response to development needs.

The issues were further exasperated by the absence of a national database from which to draw information from. Most Ministries collected and held data within their own agencies the data was often duplicated in different formats and corrected using conflicting protocols which limited its use in national development planning processes.

Although the limitations of the planning process had been recognised, the process of change really began to build momentum with the change in Government in November 2008. The new Government came into power under a mandate of decentralisation which could not be supported by previous planning process. The needs of the current governments planning vision emphasised a move away from the centralised command and control approach of the previous Government.

The result has been an overarching push towards the development of a National Geographic Information (NGIS) system within the government of Maldives, which links Ministries, Provinces with the Department of National Planning, through shared access to geospatial databases, hardware and software.

## **Barriers and constraints to Introduction of NGIS**

Geospatial information is not used in a vacuum by governments - or anyone else. The nature of the entire field of geospatial has been changing dramatically over the past decade or more.

While there have been increasing demands for more geospatial information and while new data distribution paradigms have presented themselves, budget pressures, and lack of understanding of the value of geospatial information, as well as conflicting demands and approaches have confused the use of geospatial information.

To these factors are introduced other complexities including new delivery models, issues with inter and intra-governmental cooperation, and greatly different data distribution policies espoused by different players. While one group is chanting “Sell data, make money!”, yet another is saying “distribute the data for free, the tax payer has already paid for it!”

One also finds creative tensions within governments between those producing geospatial information and those who wish to use it from both inside and outside of government agencies.

Such dramatic change tends to cause confusion on the part of government agencies in that much of the change seems to run counter to what government agencies are often suggesting is needed.

### **The framework**

Much has been written elsewhere about identifying the NGIS framework – what it is, what it should be, and what it isn’t. A common framework is “intended to reduce duplication and improve the interoperability of data”.

An important consideration is that what is considered a framework in one jurisdiction is often not viewed as a framework in another. Approaches to the specification of criteria to identify a workable framework must therefore take into consideration the National situation.

In Maldives, for example, the information on boundaries will be less than in jurisdictions with a more complex political situation and with many more levels of

government. However, as an island nation, there will be more interest in the off-shore than would be the case in land based jurisdictions.

Other considerations that enter into the discussion involve data policy which can and should include security, data ownership, applications for which data are used, and the potential use in the future. Ideally the framework criteria should be flexible and capable of being changed as required as one looks to the future.

One of the advantages that the Maldives has is that the area is small, and there is no need to have varying definitions or scales of data from one part of the country to another. This greatly simplifies the question of the data specification for the framework. There are, however, other interesting questions that island status brings into play. For example, what is the role of marine information in terms of framework data? Such issues have been raised in small island developing states where marine resources and allocation dominate the economic, environmental and social agenda.

### **Recent Developments**

Under the World Bank funded Maldives Environmental Management Project, a National GIS strategy and implementation plan have been developed. The hardware and software has been installed and the existing databases and data strategies are being developed to allow for the migration of data into the system.

The system allows the inline Ministries (Ministry of Housing and Environment, Environmental Protection Agency, Marine Research Centre, and National Department of Planning) to collect, process, and manage data collected under their mandated programs. Some of this data will have significance for national planning purposes and will be shared with the National Department of Planning. It is envisioned such data will be made accessible, and editable for decentralised planning through the web.

## **Future Development of the NGIS**

As the name suggests the Maldives Environmental Management Project is principally focused on using spatial data to support evidence based environmental management. Although this is a good start, the need to expand access to the system to include the Disaster Management Centre and the Office of Meteorology is clear. The Government of Maldives has also proposed to develop a Land Registry and create a Surveyor General's Office. Under the NGIS Strategy all this is possible, albeit with additional software and server space.

The need, however, for a concerted focus on developing the proposed NGIS Governance structure, protocols, data standards and metadata standards will be imperative if the system is to be expanded further.

Although human resource capacity in GIS is limited within the Ministries and even within the National Planning Department some effort has been made to address this issue through a combination of overseas specialist training, introduction of GIS into the national environmental management diploma/ degree program offered at the Maldives College of Higher Education and specialist in-country training courses.

Although the NGIS system design takes account of the future ability of the Provinces to communicate and participate in national planning processes, access to the web is currently limited and the human capacity in areas such as GIS remains very low. Considerable future inputs will be required before this can become a reality.

## **Conclusion**

In concluding, there is no doubt that National GIS can play a critical role in the development planning even in Small Island States. Once properly developed and established significant saving in technical resources, time, energy and efficiency can be expected compared to traditional methods of data collection, analysis and applications in decision making. Being a small island developing state, the Maldives faces acute shortages in resources in particular trained people in the field. Nevertheless the government is keen to showcase itself as a good demonstration for

other small island states on how NGIS can be applied in effective decision making, better planning, for achieving high degree of efficiency and as an effective tool for addressing multiple inherent environmental challenges faced as a small island developing State.

I thank you for your interest and wish you a very successful workshop.

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