

Session 3 - Who pays the mapper?

The session was chaired by **Robin McLaren** (Know Edge Ltd. UK)

Robin opened the session with a few questions posed by the speakers:

- What are the costs of building SDI?
- What products and services should we offer?
- Who should own the data? The Government, or the NMA?
- Should profits be put back into the public sector for education/health etc?
- If the data is not free can you make full cost recovery?
- What considerations are required for 3rd world GI sustainability?
- GSDI have called for funding who should help?
- Do we need more people to challenge what we do?
- Is the NSDI a highway built by government the user pays to maintain?

Joakim Ollen presented the paper “Funding the Spatial Data Infrastructure”

Joakim painted a picture, from which the lessons were:

- The user always pays
- Government is not necessarily a reliable, stable source of funds for mapping.
- NMAs are changing. Printed maps are still produced, but Spatial Data Infrastructures are typically key

How can this be resolved?

- There is currently limited information about the cost of mapping. This is essential to have an informed debate.
- NMA products must be clearly understood.

The user pays and the user should be king (however defined).

John Spittal presented the paper “He who pays the mapper calls the tune”

Ultimately, the taxpayer pays (whether upfront or down the supply chain):

- Need standard data collection and management across government
- Departments should not pay for data which government already owns
- Errors should be fed back to source

Three key questions need to be addressed:

- Who owns national geographical data (NMA or government)?
- If government, why should it then pay to access the data?
- If the NMA is fully cost recovering, why should government not transfer any surplus to health or other social budgets?

Wilhelm Zeddies presented the paper “Official German Surveying and mapping and the geodata market”

- Official Surveying and Mapping in Germany is the responsibility of the 16 states however third parties are also involved in carrying out these tasks, the states are supported by the Federal Agency for Cartography and

Session 3

Geodesy and licensed surveyors and other bodies collaborate on cadastral surveying.

- An outline of the products, pricing policy, data producers and users in the German Geodata market was provided.
- Wilhelm was of the opinion that data should not be provided for free although full cost recovery was not an objective

Keith Thackeray presented the paper “GSDI: Finding and providing tools for facilitate capacity building” Co Author Kate Lance.

- GSDI is a global organisation which looks at the same problems, concerns and issues that NMOs are currently facing.
- Cited SARS as an example of a national problem which soon became a global problem and highlighted how GIS was used to monitor the spread and track the source of the SARS epidemic.
- Sees GSDI’s role as a co-ordinator across projects, ensuring that organisations are working towards a common goal.
- GSDI is also coordinating funding capacity building in emerging nations and developing countries

Luis Alegria (Military Geographic Institute, Chile)

Presented the paper :- **The Military Geographic Institute of Chile as a Tool for National Development**

The main National Mapping Organisation of the Republic of Chile is the Military Geographic Institute (IGM in Spanish initials), whose functions include the following:

- Maintain the official cartographic representation of Chilean territory, mainly in several series of topographically accurate maps.
- Represent the Chilean State in matters relating to surveying, cartographic and geographic sciences.
- Assist the transfer of technology and information for its specialist fields from outside Chile to itself and other bodies.
- Provide specialised services and consultancy in its fields to a variety of clients.
- Provide a wide range of publications and cartographic products in physical and digital media.
- Cooperate with other governmental agencies and ministries in the definition of a common framework for the modernisation and standardisation of Geospatial data creation and use among all the major governmental, academic and military entities of Chile.

David Cowan (National Research Council Mapping Science Committee, USA)

Presented the paper :- **The Role of the Mapping Science Committee in assisting the mapping of the United States.**

Session 3

The scope of the activities of the committee focuses around six general areas relating to the NSDI, the transformation of mapping into digital environment, and broad societal impacts.

- Fundamental research and science for advancing geographic information technologies.
- Fundamental research on policies affecting the development and use of spatial data throughout society.
- Technology and institutional developments needed for improving the capabilities of spatial data infrastructures.
- Coordination opportunities and efforts from local to global scales for the collection and dissemination of spatial data.
- Human resources and education in support of the advancement of geographic information science.
- Hardware and software systems in support of the advancement of geographic information science and spatial data infrastructure developments.

Qu: - Peter Jakobsen (Kort & Matrikelstyrelsen, Denmark)

Money is a common theme in the presentations, we all need more but we need to fight harder. Money is an important factor as it dictates the data that is captured. Over the years the requirements for data have moved from those in the military arena through to the business sector. These new users need to understand what quality data means, ie is it current data, is it maintained, and is it both accurate and to a high quality. In addition to this what is the access to historical data and how this is important for planning and trend mapping. How can NMA's justify the inefficiencies in the ways we both capture and maintain our data?

Joakim Ollen (National Land Survey of Sweden) said that we should justify the quality of our products. We should better present what we do to justify more efficient structures. There is a risk that when we talk of tax payers funding, when there is not specific transparency in what we do. We need to combine data sources and have better organisational structures.

The Chair asked the audience are you transparent in your costs? (Nobody said yes).

Brigit Thuesen responded by saying that the private sector does not disclose all its pricing details. The key thing is to demonstrate the value of your products with good business cases. We should also consider the benefits to society of our data.

Trevor Shaw (Surveys & Mapping Division, National Land Agency)

We are truthful but not transparent, as our costs are based on estimates.

Peter Holland (GeoScience Australia) Said that any organisation receiving tax payers money should be transparent. The problem is that costs are at aggregate levels and not broken down to specifics (e.g. products). In addition he felt that based on our presentations that we were pressurised outside our borders for the provision of free data. Australia is currently trying pan Australia

Session 3

data sites, the issues they face are based around the complex access and price issues of the states. As we now contribute to a global mapping system, who pays the mapper?

Wilhelm Zeddies (Working committee of the state Surveying Authority) said that within their organisation they have cost benefit systems that enable them to be able to demonstrate transparency.

Keith Thackrey (GSDI Secretariat) said that when considering price, both tangible & intangible costs should be considered. Price should not be viewed in isolation and should be considered along with the value the data brings and the social aspects / benefits of complete high quality data capture.

Andrew Bowles (Ministry of Agriculture, Marine & Marine Resources) said that he has copyright concerns regarding the wider use of their data.

Ingrid Vanden Berghe (National Geografish Instituut, Belgium)

Data is subsidised by governments and customers pay for mapping required by the private sector. Book keeping and timesheets are used for internal budgeting. Their organisation is positioned as working with but not competitive to the private sector. They feel they are expected to play in the private sector but feel constrained by public sector rules. It is difficult to privatise an organisation which needs to provide complete coverage mapping (urban and rural areas).

John Spittal (Land Information, New Zealand) Said that cost rescue for the taxpayer overwhelmed us, ruled by the unions and a seven hour working day they could not hope to compete with the private sector. John said that his organisation has inefficiencies that they are looking to improve.

Hadgu Medhin (Ethiopian Mapping Authority) said that they work on the basis of financial cost recovery and not profit. They work in an awareness oriented way to provide the required data. In the future they plan to look for an annual budget for specific user driven projects. Geographic information is becoming more demanding as the technology continues to move forward and with it the demands of the users. We need to use the technology to ensure capacity building with a transfer to the new technology. We need to ensure that private sector organisations respect our intellectual property over the data.

How do you control copyright and reproduction?

How should we run cost recovery?

The Chair – Do you have full cost recovery?

Hadgu Medhin No I am funded by my government.

Keith Thackrey (GSDI Secretariat) said that the US has cost recovery, but that the cost of maps is FREE and therefore they have no copyright. As the US data is free it would be a problem to enforce copyright.

Session 3

The Chair Do you feel you would make more money by reducing your costs.

Fraser Taylor (International Steering Committee for Global Mapping) asked Why should the mapper be paid? We demand money as a defensive reaction to the demands put upon us in this changing market. What we should be concentrating on is; Do our products provide what our customers require? Times are changing and we should be challenging ourselves as to the products and services we provide and how suitable they are based on what our customers require both now and in the future.

Wilhelm Zeddies (Working committee of the state Surveying Authority) said that they are funded by the government. He said that the issue with free data is that as it is free it is perceived as having no value.

Joakim Ollen (National Land Survey of Sweden) said that with Euro funding and the new directives, we need to be able to explain to our customers what they need and their ROI as a basis for why they should expect to pay. There are large amounts of money within the Euro funds, our task is to be able to justify our share of those funds as NMA's.

Luis Alegria (Military Geographic Institute, Chile) said that their budget is <\$4million per year. The government subsidise 1/3 of our budget, the remainder is made up from the sale of books and cds. In the north of our region it is very hard to make a return on our investment as this is only captured for military purposes. The government is one of our most important customers with the municipalities also contributing to our annual funds for the use of our data.

Nick Land (Eurogeographics) asked How has the New Zealand policy worked? And How has this been measured to prove its value?

John Spittal (Land Information, New Zealand) Said it has worked, however the private sector does not make as much money as they can no longer make money from just selling on the data but must add real value. Successes have been seen in a number of areas one being the TOPO online project which has had 93,000 maps downloaded per month, the interesting comparison being that during this time sales of other products have not been effected. John sees this as an indicator of new users giving an example of the Science Organisations that now use the National TOPO data to visualise their data, something they have not previously done due to cost restrictions. Pirate copies have gone away as it is now easy to use the actual products.

Szabolcs Mihaly (Institute of Geodesy, Cartography and Remote Sensing) We have products and value added products with set costs. How do you set prices and how are these prices changed?

Joakim Ollen (National Land Survey of Sweden) In Sweden we have a cost related calculation, we adjust prices based on the market structure. Costs are related to the individual markets.

Session 3

Irwin Itzkovitch, *Canada* suggested that delegates should be discussing what the role of government is in the generation and distribution of geo-spatial info.

The Chair asked Mr Itzkovitch if there are guidelines for data users in Canada? He replied that Canada is just as far behind as everywhere else is. They are still working on how they use data and how to minimise duplication. The Geobase initiative is a way of looking at how Canadian territories can collect data once that can be used many times. This concept is great in principle but how is data collected and its quality maintained without generating revenue?

John Spittal (*Land Information, New Zealand*) outlined how his organisation's functions had been synthesised. They are responsible for regulation, policy development, leadership and good practice, national data standards and quality, quality assurance of data and dissemination at the least possible level. They don't consider issues such as production and added value products.

The Chair summarised the above points by suggesting that Land Information, New Zealand has a tight remit and asked the floor whether they have similarly tight remits? The response from the floor was no.

Wilhelm Zeddies (*Working Committee of the State Surveying Authorities, Germany*) commented that it is necessary to have a common structure for all data; from the cadastral to topographic level. Data should be collected once but used many times and therefore a common structure is most important.

Iain Greenway (Ordnance Survey, Ireland) asked how the idea of an NSDI works in developing countries where the market is still developing?

Andrew Bowles (Ministry of Agriculture, Land and Marine Resources, Trinidad and Tobago) explained that, in his country, they were in the process of establishing a digital map facility with complete large-scale coverage. They can recover the majority of their costs but are experiencing uncertainties in other areas such as copyright.

The Chair asked Mr Bowles how he would spend \$50m if he was given this money to spend on his organisation. Mr Bowles replied that he would use this money to produce medium scale coverage of his country, to look at their manufacturing methods and to produce new products. The chair stated that maybe some of the money should have been spent on capacity building.

Steve Erskine (*Ordnance Survey GB*) outlined how the user-pays model employed by Ordnance Survey helps to fund the organisation, develop their technical infrastructure and new products etc. He asked whether the New Zealand model inhibits the future development of his organisation and its data/infrastructure?

Session 3

Mr Spittal replied that this question raises the fundamental issue about the role of government and NMOs. Mr Spittal explained that he has operated under every system (cost recovery, user-pays etc) and that he has not found any system easier than the other; in fact, each system is as difficult as the other.

Derek Clarke (*Surveys and Land Information, South Africa*) suggested that the sustainability of NMOs is a key issue. He explained that the project-based approach cannot continue to be employed, emerging nations need to catch up and keep going therefore should developed countries not contribute to the sustainability of emerging countries by providing funding to them?

Bryson Morebodi (*Department of Surveys and Mapping, Botswana*) agreed with Mr Clarke on his point about sustainability and the need for financial assistance for emerging countries to catch up with the developed world. He has failed to find a formula for the funding of geo-spatial information.

The Chair asked whether there is a requirement for a Task Force to help developing countries?

Mr Clarke replied that a working group was required to look at the issues facing developing countries. One had been set up (Geo-CODI for Africa). The Chair asked the delegates if there were volunteers to support this initiative? There were no responses.

Jean Dotse (*Survey Department, Ghana*) explained that cost recovery is not possible for his organisation because only a few agencies in Ghana actually use maps.

Don Grant (*Land Information, New Zealand*) asked how agencies who use the cost recovery model can be expected to bring data to a Spatial Data Infrastructure? It would be difficult for agencies with different funding models to forge partnerships.

Keith Thackery, USA replied that this issue of who should be the recipient of revenues from data is a difficult one. GSDI will provide the fundamental framework for data which is required by everyone and is in the public domain. Specific markets will drive the need for more specific applications and data. The global need for data should drive it into the public domain.

Ravi Gupta, India referred to the development of Ordnance Survey's business model to becoming a profit-driven organisation. Developing countries are in the position the OS was in 25 years ago. He cited the example of India's mobile phone infrastructure which was not built by the government but by the private sector and asked whether NMAs were needed at all? Can their job be done by someone else?

Kemueli Masikerei, Fiji followed this question up by suggesting that perhaps government should not be responsible for producing all types of maps.

Session 3

Trevor Shaw, Jamaica asked how his Agency should charge other government organisations for information which is partly funded by government? John Spittal New Zealand simply replied that he shouldn't charge!

Dietmar Gruenrich, Germany continued the cost recovery debate by outlining a problem currently facing NMAs. On one hand, they are asked to reduce costs and fund themselves. On the other hand, government sets e-Government targets, with GI as a fundamental element, and this work requires funding.

The Chairman closed the session by summarising the key issues discussed:

- The role of government in NSDI creation and maintenance
- The new paradigm for emerging countries and developing countries
- The need to focus on users' needs and societal benefits to justify NSDI
- The need to review the role and direction of NMAs, especially in the leadership of NSDI initiatives