

## Interview



### Take Advantage of Best Proved Practises

*GIM Interviews Santiago Borrero, Chair of the Global Spatial Data Infrastructure SC*

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The Colombian government, through its national mapping agency, Instituto Geografico Agustín Codazzi (IGAC), took a leading role in Global Spatial Data Infrastructure (GSDI) at the GSDI 5 Conference, held in Cartagena in 2001. IGAC Director General, Santiago Borrero, chairs the GSDI Steering Committee preparing the GSDI 6 Conference to be held in Budapest in September 2002. GIM International interviewed Mr. Borrero at the FIG Congress in Washington in April. His vision: sound spatial datasets should be available and accessible worldwide, otherwise the – digital - gap between rich and poor nations will expand even further.

The GSDI represents co-ordinated action on the part of nations and organisations promoting awareness and implementation of complementary policies, common standards and effective mechanisms for the development and availability of interoperable digital geographic data and technologies. These support decision making at all levels and for many purposes. Implementation of this concept requires commitment and ambition, driven by the conviction that sharing spatial data in applications helps to improve the management of public infrastructures and natural resources and produces numerous other benefits.

*Could you introduce the GSDI community?*

GSDI is being advanced through the leadership of many nations and organisations, represented by a GSDI Steering Committee. This multi-national Steering Committee includes representatives from all continents and all sectors - government, academia and the private sector. There are many stakeholders representing all levels: global, regional and local. Behind the global interest, the second level of execution is the regional level. So far, there are three established regional spatial data infrastructure permanent committees. The first one is located in Europe and called EUROGI, the European Umbrella Organisation for Geographic Information. The second one is the Permanent Committee on GIS Infrastructure for Asia and the Pacific region, PCGIAP, and the most recent one, established in 2000, is the Permanent Committee on SDI for the Americas, PC IDEA. At this moment we are looking for the establishment of a similar committee for Africa. We hope that after the GSDI 6 Conference in Budapest in September 2002 this will be permanent. Then, after the regional level, we have a third one, a compound of the more than 52 ongoing national SDI initiatives. In addition, there is a key role for the industry and the professionals. The GSDI is evolving, right now, into a public private 'not-for-profit' organisation to guide leadership activities for GSDI. This is one of the most relevant projects that

I am carrying out now: the GSDI association, the vehicle to support access to geo-information.

*What are the benefits of the introduction of GSDI on those three levels?*

We have to focus on two components related to recognition of the GSDI contribution. On one side, I believe having a GSDI is impacting the way geoinformation is produced. Let me give you examples: we are now talking about global metadata standards; global quality standards and a global geo information terminology. We developed an implementation guide called the SDI Cookbook. This is a set of recipes that is freely available and is dynamically updated in accordance with best practises or new cases. On the other side, GSDI is currently working on the development of a Global Decision Support System or GDSS, based on the availability of interoperable digital geographic data and taking advantage of the technology to support the needs of all those working at all levels with geographic information. To complete this point, we are also advancing a global inventory of the SDI initiatives. This inventory so far indicates that SDI activity is growing and taking place in every region in the world.

*Why is there a need to organise a separate GSDI family; could it be an idea to integrate with existing communities like FIG, ISPRS or ICA?*

I think that we are living at a time where we have to share a common SDI vision but that this will be achieved by having a distributed system of responsibilities. The idea you indicate is not taking place with the international geographic associations mentioned. On the contrary, based on the inventory of SDI activities to which I just referred, it is perfectly clear that there is a need to introduce innovative means and ways of collaboration, co-operation and viable integration amongst the growing number of SDI-related activities currently under the responsibility of many differing organisations and many other stakeholders. For instance, there are a number of global initiatives in need of environmental data to support the vision of sustainable development. However, there is a need to introduce a more efficient way to produce this data in order to be successful, as presently there is in many cases duplication and a significant waste of resources. This is also a role for the GSDI Association.

*So capacity has to be developed worldwide?*

GSDI was established in 1996, at the first conference in Bonn, Germany. The initial reaction was that GSDI was a creation by, and for the benefit of, the most advanced

nations in the world. Only five years later we all know that SDI is also of the utmost importance for the developing world. Otherwise, the 'digital gap' will be widened and the situation of the poorest economies will become even more difficult. There is a connection between having spatial information available and the possibility of solving critical problems concerning sustainable development, natural disasters and poverty. So at GSDI we are focusing on the needs of every nation in the world. We know about NSDI cases that so far have not been successful because of the difficulty in implementing basic SDI components and the sustainability of the process. In my experience, capacity building is one critical success factor. This means that without an effective capacity-building strategy for SDI, there is no guarantee that we are going to achieve the vision of a truly global spatial data infrastructure.

*And you're working on the development of such a strategy?*

Yes. The way spatial data is produced in the majority of nations still lacks standards and appropriate use of technology. And there are big difficulties in terms of training and education. This is not the best way to develop sound spatial data initiatives. For most developed nations the problem today may be how to make their data applicable in a much more efficient way. In the developing world, on the contrary, the problems start with making information available. At the same time, these countries are confronting problems of accessibility and applicability. So the solution here requires a sustainable capacity-building strategy. This is definitely part of the GSDI business plan.

*A business plan?*

Core to the work of the Steering Committee, and for the continued effectiveness of the GSDI in attaining a global environment of compatible SDIs, is the development of a plan that identifies the business case for SDI. The business plan will further refine the GSDI mission and goals for achieving compatibility for collaboration on geographic issues at the regional and global levels. A study of the economic benefits of SDI advanced by Australia has been complemented by an International Case Study Analysis - Lessons for the GSDI - prepared recently by the Rand Institute for the GSDI Secretariat and these reports provide the initial step in developing such a business plan. There is also a programme plan related to the business plan and its implementation, including technological elements and capacity building. I should remind readers that during the first three GSDI conferences the focus was on the emerging GSDI, its policy and the organisational framework, while later conferences focused on GSDI implementation for decision making and sustainable development, promoting the UN Agenda 21. Now, at GSDI 6 in Budapest this September, there will be a lot of attention for the developing and transitional countries.

*Could GSDI contribute to poverty alleviation or will it enlarge the gap between rich and poor?*

I enjoy this question. My experience indicates that the GSDI initiative is a key component of national strategic plans for

the developing nations. We are in a situation in which the developing nation has no other option. Without sound spatial data infrastructures there will be further isolation. This means that today we must have spatial data well structured, documented and standardised. If we can take advantage of ICT for education and participation, every citizen in the poorest part of the world should have improved possibilities for access to information. This has an enormous impact on development and democracy. There is an evident need for national policy concerning Geographic Information in the majority of the third world nations. For instance, should the data be free or should the taxpayer pay for it? Must framework or fundamental data-sets be developed at government expense?

*Do you think that at this moment standards have the maturity to be used as governmental systems, or do we need more time?*

I mentioned standards for one reason: they are the common language we are looking for, and I am talking in particular for the developing nations. Data is being produced at the same time in a large number of organisations without any possibility of being interoperable, due to a lack of properly implemented geographic information standards. Decision-makers are asking everywhere for information they can use. This is a problem. Data must be interoperable. What is clear at this moment is that maturation of many aspects of the SDI process is taking a lot of time. We are looking for a GSDI that is consistent. I insist, we should have a global vision but a distributed implementation through a series of responsibilities. We are relying on these issues being addressed in the working of the ISO TC 211 and the OGC, of which at GSDI we are very supportive.

*Conclusion?*

My experience, I trust, could be a good example to others in developing nations. Simultaneously, I work on SDI at all levels. I have responsibility for the development of the Colombian Spatial Data Infrastructure, called ICDE. As I am interested in the production of seamless data, actually not available for the Latin America region, with great support received from colleagues in the region I promoted the Permanent Committee for SDI in the Americas, PC IDEA. This experience, combined with day-to-day responsibility in national and global mapping, formed the basis for my understanding the need and the value of a GSDI. In this context, my experience indicates that there is need for a strong capacity-building and funding SDI strategy at national level in order to achieve the GSDI vision. My recommendation is that any strategy for developing nations should take advantage of the best proved practises.

Visit the GSDI website: [www.gsdi.org](http://www.gsdi.org)  
 The GSDI Cookbook is available here.

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