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Track on International Perspectives: Summary Proceedings

By Giacomo Rambaldi[1] and Daniel Weiner[2] (Track Leaders)

1 BACKGROUND

Founded in 1963, URISA is a non-profit association for professionals involved in improving urban and regional environments through the use of information technology. On regular one-year intervals URISA provides support to a group of US academics in organising an annual PPGIS conference. The main focus of the event is generally on experiences gained in the United States. Nonetheless, since 2003 there has been an international track where practitioners/researchers of developing countries share their PPGIS development and experiences acquired in developing regions.

The Madison conference was organized into five thematic tracks:

(i) PPGIS Practice, Monitoring and Evaluation

(ii) PPGIS Theory, Science and Scientific Methods

(iii) Data, Organizational, and Policy Issues Affecting PPGIS Practice

(iv) PPGIS in Rural Settings and in Small Communities

(v) International Perspectives

With support provided by the Technical Centre for Agricultural and Rural Cooperation (CTA), the international track of 2004 was particularly relevant to the conference as it demonstrated that the transfer of knowledge and competences about PPGIS are not necessarily North – South in direction. Learning, is, of course, reciprocal in nature. This was a valuable contribution to the conference and the PPGIS practitioners' community. This document focuses on the International Perspectives track and takes stock of the remarks made in the plenary concluding session.

Through its Seminar Support Programme (SSP), CTA supported the participation of three practitioners/researchers from Fiji (1), Jamaica (1), and Cameroon (1); two were women.

2 PERSPECTIVES FROM THE INTERNATIONAL TRACK

The international track was chaired by Daniel Weiner and Giacomo Rambaldi. It included three thematic sessions, one track meeting, one roundtable[3] discussion and one focus group discussion/workshop.

The thematic sessions focused on the following issues: (i) Negotiating between "Expert" and Indigenous Knowledge, (ii) PPGIS for Environmental Planning and Management, and (iii) PPGIS and Community Development.

The roundtable discussion was attended by almost all conference participants and built on three introductory presentations:

(i) *Reflections from the International Track* by Daniel Weiner, West Virginia University;

[1] Programme Coordinator, Technical Centre for Agricultural and Rural Cooperation (CTA), The Netherlands
[2] Professor of Geography, Department of Geology and Geography, West Virginia University, USA
[3] The roundtable discussion has been attended by almost all participants to the conference.

(ii) *Participatory Spatial Information Management in Developing Countries* by Giacomo Rambaldi, CTA;

(iii) *The Fiji Locally Managed Marine Area (FLMMA) Network Experiences* by Silika Tuivanuavou, Fiji Native Land Trust Board.

The Focus Group (FG) discussion involved some workshop activities and built on the outcome of the international roundtable and preceding sessions.

2.1 The International Roundtable

International track participants convened and discussed the main issues resulting from the thematic sessions. The results of this preliminary discussion were presented by Daniel Weiner as "Reflections from the International Track" during the International roundtable discussion. The follow-up presentations delivered by Giacomo Rambaldi and Silika Tuivanuavou demonstrated that PPGIS/PGIS can be practiced with low-tech integrated spatial information management systems and technologies that support locally existing analytical capacities, enrich the discussion, add value and negotiating power to existing knowledge and enhance peer-to-peer communication.

2.1.1 Reflections from the International Track

In his presentation, Daniel Weiner argued that PPGIS practice, although it includes a wide diversity of approaches, also has some important commonalties. For example, in most poor regions with low levels of technology, PPGIS is a spontaneous merger of participatory development methods with geo-spatial technologies (GIS, GPS and remote sensing). In such contexts, PPGIS is usually geared towards community empowerment through measured, demand-driven and user-friendly applications of GIT and GIS. PPGIS is an integrated methodology which has multiple dimensions, builds on diverse tools, and highlights the integration of 'expert' with socially differentiated local knowledge, and builds essentially on high levels of participation at all stages of project implementation.

The presenter further reported that the discussions held after the presentations delivered within the international track led to the common agreement that *PPGIS/PGIS is an integrated practice having multiple dimensions, and building on diverse tools, methods and processes for best adding value and authority to local knowledge*. In addition PPGIS could offer outsider-generated data and/or information ('expert knowledge') to broaden the analytical capacity of insiders.

In the presentation, "participation" was viewed as taking three broad forms (or, intentions of those *promoting* or *implementing* "participation"):

(i) Participation for legitimation: donor-driven project-induced participation (mainly on a consultative level) used to justify specific interventions that are essentially top-down;

(ii) Participation for publication: short-lived and stirred-up by researchers to exploring hypotheses and generating inputs for their publications;

(iii) Popular Participation: embedded in local civil society and serving the genuine purpose[4] of empowering disadvantaged members of society in having a stake in decision-making and in shaping developmental change.

Dan further summarised the current status of knowledge about PPGIS practice in less developed regions as follows:

[4] Popular participation", or "democratic decision-making" – in practice - does not necessarily lead to "empowering disadvantaged members …

Baseline data available from official sources are frequently limited, inconsistent, outdated, scarce and/or inaccurate. Local georeferenced knowledge is very valuable in such environments.

GIS is used mainly as computer cartography with limited GIS functionality. Users use the outputs mainly as media (re: the power of the map!) to support their arguments.

Sound PPGIS practice empowers communities through visualizing and representing peoples' spatial stories (examples include indigenous land mapping, participatory 3D modelling, multimedia GIS, etc.). Planning and/or development agencies find data in this format very useful. Visualising geo-referenced indigenous spatial knowledge helps communities entertaining peer-to-peer dialogues and promotes their issues and concerns vis-à-vis planners and decision makers. The integrated and multifaceted process of which PPGIS is a component, gives communities confidence in interacting with outsiders and adds authority to local knowledge.

There is power associated with GIS production as flashing map outputs are highly communicative forms of spatial representation, "communicate information immediately and convey a sense of authority" (Alcorn 2000:11) and are hardly disputed. As a result, practicing PPGIS has political implications and can destabilize local power relations. There is also a risk of elites corrupting the process and using community knowledge to their own advantage.

Furthermore, the widespread perception of "community" being a uniform entity is problematic. Even ethnically uniform communities are socially differentiated and a lot of work has to be done to better understand how such diversity can effectively be incorporated into participatory geographic information systems[5].

Another important consideration is that GIS applications in Developing Countries are often externally driven. Will PPGIS have the same pattern? Many advocate for technology transfer to ensure sustainability. In doing this, important questions of ownership should be addressed at the onset, when decisions are taken to set up GIS facilities (Whose GIS? Whose spatial questions? What will happen when experts leave or when donor funding dries up?)

The presenter highlighted some critical issues, specifically the relationships existing between PPGIS, local civil society and socially differentiated communities and questioned **who** and **how** individuals and/or groups could be empowered by having access to GIS/GIT data and facilities and how the same situation could marginalize and disenfranchise others.

Also of interest is the issue of "**scale**" as different community issues and questions have a particular scale of analysis. Community questions and concerns are scale-dependant and PPGIS implementers need to be aware of this critical reality. Also important, is the degree of spatial / locational "**precision"** (or accuracy) which is required or appropriate in participatory (local-level) spatial planning, and thus in PPGIS.

Additional issues raised concerned the need to identify avenues for institutionalizing PPGIS practice within local planning and development agencies (if appropriate), mechanisms for ensuring protection of privacy and intellectual ownership of local knowledge and for promoting control and access to data and information to those who generated such data. Ethical questions were raised on who should participate, what information should be visualized and made public? Who would decide on what is important, define the legend and finally own the displayed data?

[5] E.g. countermaps', genderised maps. etc.

2.1.2 The Debate

In the discussion which followed the presentations, Professor Harlan Onsrud raised a question about whether GIS technology has advanced to support varying forms of community participation. He cited the example SPRING http://www.dpi.inpe.br/spring/english/index.html, an object-oriented GIS freely available on the Internet produced in Brazil which is quite powerful and easily accommodates cultural data layers. There was general consensus on the fact that progress has been made in making software more user friendly, but that more effort is necessary to develop software which is appropriate for enhancing genuine participation. Integrated approaches (e.g. P-mapping, Participatory 3D modelling & GPS & GIS) tailored to local settings, may be the best way forward. Comments were made on the fact that software and hardware prices are steadily declining and this would favour access of civil society to GIS/GIT.

On the issue of for institutionalizing PPGIS practice, Harlan Onsrud pointed out that some groups use PPGIS to counter the "establishment" (counter mapping) and that this form of PPGIS could not be institutionalised.

One participant raised the question on how PPGIS could contribute to bring the cost of GIS down. Dan Weiner suggested that by adopting a sound PPGIS process, GIS/GIT are brought in and chosen only once the priorities/needs/aspirations of the concerned communities have been identified. By adopting this process, researchers and practitioners would avoid wasting resources in setting up data-driven systems which do not meet the objective of supporting genuine participation and community aspirations.

Another participant suggested that GIS practitioners/researchers should learn from PRA practitioners and should consider that GIS is not a "must" when dealing with spatial information management, but an option able to support/complement other low-tech methods which may be more appropriate in certain cases.

Rina Ghose cautioned the presenters in using the term "developing countries" when discussing access to ICT and GIS, as some "developing countries" (e.g. India) are at the forefront in technology development and utilisation.

There was a general consensus on the necessity to promote a better understanding of the fact that different issues have different scales of analysis and accuracy requirements.

Questions were raised on whether GIS is an appropriate technology in the development context. The chairpersons recalled the fact that PPGIS has to be flexible, adaptable to different contexts and practiced respecting sound code of conduct and with full awareness of the risks inherent of manipulating and displaying spatial data and local knowledge (for example, conflict and disempowerment). In addition the chairpersons stressed that PPGIS has to be embedded into long-lasting interventions in the position to support stakeholders in jointly pursuing (collaborative development) set objectives and to eventually deal with conflict resulting from new realities which may emerge from the process (e.g. delineating a static, linear boundary defining access to resources in a context of overlapping / seasonal pastoralist / farming land uses).

Clarifications were asked on the difference between the abbreviations "PPGIS" and "PGIS". Professor Harlan Onsrud reminded us that the term Public Participation GIS (PPGIS) was coined to cover a specific geographical context (North America), and for a particular purpose -- how GIS technology might support public participation for a

variety of possible applications[6]. While many changes have occurred both in terms of available GI systems, technologies, and processes, the term has rolled over without any action being taken to find a more appropriate one, better embodying the thrust and extent of the practice.

In response, Daniel Weiner suggested that Participatory GIS (PGIS) should be considered as an umbrella term to include the great diversity of community interfaces with GIS and GIT more generally. He then differentiated PGIS practiced in the South as an intersection of Participatory Development and GIS/GIT, and PGIS practiced in the North as an intersection of Participatory Planning and GIS/GIT.

2.2 Outputs of the Focus Group Discussion

With the objective of collectively generating additional inputs for conceptualising the 2005 International Conference-workshop on participatory spatial information and communication management in developing countries, 17 participants and 2 moderators brainstormed[7] the following questions:

(i) Critical issues captured during the conference

(ii) Key issues on PPGIS practice in the periphery to be explored in a dedicated conference

(iii) What is needed to support PPGIS good practice in "the Periphery"

2.2.1 Critical Issues Captured During the Conference

Aside from what was agreed on during the roundtable discussion the participants convened on the fact that PPGIS practice has to be embedded into a well thought out process including the following steps: (i) understanding people's questions, (ii) assessing the existing legal/regulatory framework, (iii) jointly setting the objectives, defining strategies and actions including choosing appropriate spatial information management tools. Such choice should take into consideration a broad range of tools and methods starting with low tech sketch mapping upwards towards integrating GI systems and technologies, but always taking into consideration the issues of connectivity, human skills and capacities of actors concerned with the use of to-be-established systems, with and without external support and funding. There was general consensus that external support is needed particularly when dealing with resource poor agents of change.

There was general consensus that PPGIS practice is more advanced than theory and that there is a need to learn from practical experience (failures and successes), and specifically from the monitoring and evaluation of PPGIS projects.

2.2.2 Ideas and Inputs to the Conceptualisation of a 2005 Conference-Workshop dedicated to PGIS Practice in the Periphery (Less Developed Countries and First Nations)

The participants identified the need to develop guidelines for PGIS good practice in terms of understanding who is the public; what are the priority problems, needs and aspirations of the actors; what scales should be used to analyse given issues; what spatial information management tools, methods and systems should be used (likely in an integrated manner) to meet the purpose and empower the users; which are the social, legal, customary preconditions which should be in place for PGIS practice to be implemented successfully (re: enabling environment); how should practitioners

[6] The National Center for Geographic Information and Analysis (NCGIA) Workshop, Orono, Maine, July 10-13, 1996

[7] The process was facilitated by the use of meta-cards, listing of issues, grouping and ranking.

ensure data privacy and confidentiality; how to ensure that communities retain ownership and control over their knowledge, and how it is used and interpreted; is there any "appropriate GIS" or "appropriate technology basket" for developing countries?

The participants further listed and ranked the following as needs for supporting the adoption and implementation of PGIS good practice in the Periphery.

Conceptual

- Understanding of the local political context, culture, people & problems and being able to relate to them;
- Defining good practice (including communities' empowerment);
- Need data models that better address customary land and natural resource rights and ownership rights;

Practical

- Networking to share experiences and to help practitioners to feel they are part of an international community of practice …;

Institutional

- Institutionalizing P+GIS at various levels and in different contexts (to be defined);
- Influencing policy making;

Financial

- Resources;

Technical

- Training and need for expertise.

3 ADDITIONAL NOTES

3.1 Forthcoming 2005 PGIS Conference-Workshop (Arusha, Tanzania)

A steering committee for the 2005 PGIS Arusha Conference-Workshop[8] has been outlined. It includes representatives from all ACP regions and the North (Europe and USA). Two organisations (CTA and GISDECO) have already confirmed their support to the organisation of the event.

A conceptual framework for the workshop will be developed based on the outputs of the GISDECO 2004 PGIS pre-conference workshop and URISA PPGIS 2004 events.

3.2 PPGIS New Online Facilities

The following facilities have been presented during the Conference and are meant to support the establishment of a PGIS community of practice:

- http://t.webring.com/hub?ring=ppgis: Public Participation GIS (PPGIS) WebRing
- http://www.PPgis.net : Open forum on Participatory Geographic Information Systems and Technologies

[8] Researchers/ practitioners/NGOs/ First Nations representatives and other parties interested in the event should get in touch with Giacomo Rambaldi rambaldi@cta.int and/or Mike McCall mccall@itc.nl and/or Dan Weiner daniel.weiner@mail.wvu.edu

Appendix 1 List of participants: Focus Group Meeting in Madison, Wisconsin – PPGIS in International Settings, 20 July 2004

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	x	Daniel Weiner	West Virginia University	Professor	USA	
	x	Francis M. Mosoke	Limbe Botanic Gardens BP 437, Limbe, Cameroun	Assistant GIS Officer	Cameroonian	Sokeman2000@yahoo.com
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	x	Giacomo Rambaldi	CTA, Netherlands	Programme Coordinator	Italian	
x		Glynis Ford	Ministry of Agriculture Hope Gardens	GIS/Regional Rural Planner	Jamaican	Jford@cwjamaica.com
	x	Harlan Onsrud	Maine University	Professor	USA	onsrud@spatial.maine.edu
	x	Jeroen Verplanke	ITC, Netherlands	Training/Research Alumni Coordinator	Dutch	Verplanke@itc.nl
x		Lea Shanley	Wisconsin University, Inst. for Environmental Studies	Graduate Student	USA	Lshanley@wisc.edu
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