**IAI Scientific Advisory Committee (SAC)**
**Report to the Conference of the Parties**
**SAC Chair: Frank Muller-Karger**
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SAC members (2014-2015): Frank Muller-Karger (Chair), Claudia E. Natenzon, Jose Marengo, Carolina Vera, Hal Mooney, Rodolfo Dirzo, Michelle Grunauer, Susana Adamo, Carlos Joly, Trevor Platt.

The SAC congratulates the IAI Directorate for their effort in supporting natural and social science research and capacity building programs throughout the Americas. This work brings our research communities closer together and leads to higher standards of excellence in research, and ultimately to a higher quality of living for our communities throughout the Americas. The IAI Directorate conducted exemplary management and leadership in spite of numerous obstacles derived from the separation of administrative offices in three separate countries.

The SAC and IAI Directorate continue to implement a strategy of interdisciplinary work for IAI programs. The IAI funds strong social and natural research to address the needs of decision-makers and other stakeholders in the region, and promotes capacity building that facilitates the joint work of natural and social scientists. The SAC provides scientific advice to help ensure that the programs sponsored by the IAI meet the highest levels of scientific excellence and follow strategic goals. Over the past year, the SAC has helped review gaps and accomplishments in these programs.

The members of the SAC feel that the IAI is conducting research in an interdisciplinary model that is unique, and that is starting to show useful results. The work of the IAI is now being examined by other countries and regions around the world as an example of how social and natural sciences can be combined to lead to policy-relevant solutions.

The member country representatives play a unique and very important role in disseminating the results and successes of the IAI. The SAC wishes to send a strong message to the CoP that the model of science integration being implemented by the IAI is one of the key pathways to the future. The social and institutional integration of the IAI's knowledge production in Latin America will require the support of the CoP. The SAC wishes to find new mechanisms to engage members of the CoP outside of the CoP dates to exercise the 'advisory' role of the SAC to the IAI. The results of the IAI projects need to be better understood by countries in the region and can be highlighted by the parties.

Just to cite two examples from projects managed by the IAI Directorate on behalf of the CoP, the team led by Cecilia Hidalgo (project CRN 3035) has compiled and quality-controlled meteorological data for South America since 1961 to generate climatological statistics that are being used for crop yield modelling. Similarly, the project led by José Paruelo (CRN 3095) is modelling the vulnerability of populations in several countries to the loss or decline of ecosystem services, for example changes in the hydrology, water table level, and salinity of soils due to deforestation, and how this affects crops. These projects help design social and economic programs for small and large communities in Latin America.

The SAC identified some project teams that are stronger than others in their capacity to link the social and natural sciences, and in designing research solutions that are policy relevant. The SAC has therefore recommended to the IAI Directorate to have the more successful teams share their experience and methods with those that are still in the early stages of such efforts. One possibility is that members of the experienced teams visit with the teams that need to learn how to do this better. An alternative proposed was that the IAI hold a mid-term meeting of Investigators. This meeting should be designed as a training workshop to address these shortcomings, and not simply as another eclectic science symposium.

The SAC notes to the CoP that there is at present no regional framework or infrastructure to host and serve data and other products to countries, decision makers, or the public of the region. There is no 'service' that distributes products to communities that may benefit from the knowledge generated by IAI programs, other than through each individual IAI CRN project. A data and products services framework needs to be planned and built in partnership between members of the CoP, the IAI and other regional and local entities. Such a facility would serve data, products and results beyond the CRN projects or the life of these projects. The CoP should plan and assist in developing the solution for this serious shortcoming in our region.

The SAC continues the dialogue between its members and the Directorate on how to optimize future calls for proposals, how to evaluate science and its impacts beyond publishing, what capacity building is needed, how to communicate IAI efforts better, how the Directorate can function better, and how to develop the understanding of the relationship between SAC and SPAC.

The SAC met in person in Quito, Ecuador, between May 20-22, 2015, to review the progress of the CRN3 projects and to continue its dialogue with the IAI Directorate. During this meeting, members of the SAC provided brief summaries of their own research. The goal was to inform SAC members and IAI Directorate staff, so that they are more familiar with the diverse background of SAC members.

The SAC maintains an active and healthy relationship with the IAI Director and the Directorate Staff, holding monthly cross-continent teleconferences in addition to the annual in-person meetings.

In summary, over the past year the SAC worked on the following items:

**1) CRN3 project review:**
The SAC completed a review of the CRN3 project reports. Each CRN3 project was discussed during the meeting of the SAC with the IAI Directorate held in Quito during May 20-22, 2015. Concrete recommendations were transmitted to the IAI Directorate for strengthening each team. The SAC does not "police" the teams or their research, but rather uses the review as an analytical process to identify gaps for the IAI, and as a way to provide feedback to the teams and the IAI as appropriate to improve the research and be more effective in how they address new problems.

The SAC also continues to discuss "lessons learned" on the IAI proposal review process jointly with the IAI Directorate. SAC members confirm that it is important that future calls for proposals take these lessons into consideration: 1. Future projects should avoid the add-on of social scientists at the end; they need to involve the social science community and social relevance of the project from the beginning. 2. The science community needs to be prepared a priori to do what is required by IAI; this may require training teams of social and natural scientists, jointly with policy makers, to identify problems and design interdisciplinary research programs to find solutions. 3. Capacity-building efforts need to be fully integrated into the science programs.

The SAC recommends that the mini-grants programs focused on proposal development be continued. This will require member country contributions.

The SAC also recommends that external reviewers should be compensated in future reviews. Similarly, SAC members and other researchers that actively participate in capacity building programs as instructors should be provided a modest honorarium.

**2) Linkages between the IAI and other international programs:**
The SAC assists the IAI in improving its strategies for better integrated science and innovation. During the SAC meeting in Quito, SAC members discussed the possible role of the IAI in the following programs:
- Future Earth,
- IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services),
- Group on Earth Observations (GEO),
- Ramsar Convention on wetlands (Convention on Wetlands of International Importance Especially as Waterfowl Habitat), and
- Belmont Forum-like coordination model within the Americas.

During the SAC meeting, we hosted a teleconference with the Chair of the Ramsar Convention Scientific and Technical Review Panel (STRP), Roy Gardner. The Chair of the STRP highlighted the unique opportunities to engage with the IAI to explore the needs of the Ramsar countries in Latin America and the Caribbean. Ramsar provides an interesting venue to help IAI research programs to solve socially- and policy-relevant problems.

As mentioned above, another need for the region that is relevant to the CoP is a data service facility. At the moment there is no facility that serves the region. Countries in the region continue to use products from NOAA and NASA in the United States, for example, but the CoP should envision developing a data services framework that addresses the need of the region. This can and should be done in partnership with the IAI and the CRN teams.

The SAC will continue to analyze how to identify topics of regional importance for the Americas.

**3) Science-Policy Advisory Committee (SPAC):**
The SAC has sought to maintain an active participation in the development of the framework for a SPAC. SAC members see the need for a close integration and communication between the SPAC and the SAC.

**4) IAI Capacity Building.**
SAC member Claudia Natenzon participated in a two-stage capacity building program. She has reported back to the SAC about the importance of conducting workshops during which natural and social scientists interact with each other, learn each other's cultures, and define solutions together to problems presented by decision-makers.

**5) SAC membership:**
Per IAI statutes, the CoP needs to have a SAC with 10 members. Two vacancies need to be filled by the CoP in its 2015 conference. We welcome action on the part of the CoP on nominations and appointments as needed to maintain a fully populated SAC. The SAC members should:
- Have published peer-reviewed articles on either the natural or social science of the region, or both,
- Have experience and established international research networks and collaborations in the region,
- Will provide unbiased scientific advice to the CoP and to the IAI Directorate,
- Will help to further develop and implement the IAI Strategic Plan,
- Will work with teams of scientists engaged in the IAI CRN, other regional science efforts, on capacity building, and developing linkages between science and policy in the region.

**6) Implementation of the IAI Strategic Plan:**
The IAI SAC continues to make significant progress in implementing the IAI Strategic Plan. The implementation of the CRN3 teams and projects and IAI Training Institute activities provide the mechanism to implement the strategic plan.

**7) IAI Restructuring and the SAC role:**
The SAC continues to provide advice and support to the IAI Directorate and the Executive Council as needed in the process of developing and implementing the new IAI administrative structure. The SAC requests the active participation of the CoP in implementing a functioning structure for the IAI Directorate Office.

The IAI SAC expects to be informed about the activities of these various offices. The SAC will also help as needed in facilitating the interaction between these offices, defining and carrying out research agendas of the IAI, and will work with the international research, applications and education communities and with the public in general to make the integrated IAI offices a success.

**8) Next SAC meeting:**
An invitation has been received to hold the meeting at Columbia University in New York in May 2016. Action is pending to make a final decision based on an analysis of cost.