

Community Based Monitoring issues within SAON Status Report

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1. Introduction

The peoples inhabiting the various regions of the Arctic spend vast amounts of time on the land and at sea. Drawing on personal experience, information shared with others, and knowledge handed down through the generations, residents of the Arctic are able to recognize subtle environmental changes and offer insights into their causes. They are community-based monitors by virtue of their day-to-day activities. As recognition of this CBM components are increasingly becoming a part of monitoring projects in the Arctic.

In addition to their inherent capacity in community based monitoring (CBM), Arctic residents have the ability to employ standard scientific monitoring procedures in the practice of citizen science, thereby extending the reach and effectiveness of programs which tend to rely solely on a limited number of trained scientists to carry out monitoring.

2. Report aims

In 2009 a steering group¹ was formed within SAON to consider how to promote the inclusion of Traditional Ecological Knowledge (TEK) and CBM within SAON. A discussion paper was developed by this group entitled –“How to include CBM and TEK into the SAON process – a proposal on ways forward”. The purpose of this current document is to provide an overview of the three current CBM project (proposals) which have been developed since 2009. These include:

- Conducting a review of CBM - *ICC Canada*;
- Conducting an inventory of CBM/ Local TK/ TK biodiversity monitoring programs and datasets - *CBMP*;
- Developing a CBM classification – *AIA*.

Each of these projects focuses on a key item which is necessary in order to facilitate a more cohesive approach towards facilitating the inclusion and integration of CBM within monitoring activities.

3. An International Review of CBM – ICC

3.1. Project lead(s) and partners

Eva Kruemmel, EKruemmel@inuitcircumpolar.com, Inuit Circumpolar Council, Canada

Peter L. Pulsifer, pulsifer@nsidc.org, Exchange for Local Observations and Knowledge of the Arctic (ELOKA), U.S.A.

¹ Members included AIA, CAFF, GCI, ICC

Shari Gearheard, shari.gearheard@nsidc.org, Exchange for Local Observations and Knowledge of the Arctic (ELOKA), U.S.A.

Scot Nickels, nickels@itk.ca, Inuit Qaujisarvingat: The Inuit Knowledge Centre (<http://www.inuitknowledge.ca>), Inuit Tapiriit Kanatami, Canada.

3.2. Goal

The primary objective of this task is to perform a comprehensive, international review of the general area of Community-Based Monitoring (CBM) as well as integration and use of Local and Traditional Knowledge (LTK). The review will include:

- a) a discussion of what CBM and LTK is (review of definitions) and how it can/should be used
- b) identification of the needs of Arctic communities and scientists with respect to CBM methods and outcomes;
- c) an inventory of existing CBM projects and programs;
- d) a set of best practices drawn from existing research and projects identified in the inventory;
- e) A set of practical recommendations on how CBM and LTK can be effectively integrated within the SAON process.

3.3. Status

A number of activities were listed in the task proposal. These activities have been completed or are moving forward as planned, including:

- A special session on community based data management and knowledge stewardship was successfully convened at the ICASS VII conference (see http://www.iassa.org/images/stories/Session_1020_draft_June_10.pdf).
- Peter Pulsifer (ELOKA) attended a workshop on local knowledge and scientific research held in Paris, June 14-16th. Peter developed new working relationships with workshop participants that will help to move the task forward.
- Contact has been made with Ira van den Broek, convener of the SAON polar metadata profile working group to ensure alignment of activities between the task groups.
- The ELOKA workshop titled “Data Management and Local Knowledge: Building a Network to Support Community-Based Research and Monitoring” occurred November 15-17, 2011 in Boulder, Colorado. Over 70 people from 7 countries participated including Indigenous community representatives from the Canadian Arctic, Alaska, and Russia. Over three days there were 40 presentations and posters given and many formal and informal discussions. Eva Krueffel presented a talk at the workshop on Community-Based Monitoring in the Context of the Sustaining Arctic Observing Networks (SAON) Process, outlining ICC’s efforts to promote CBM within SAON. ICC made several connections with people working at other CBM projects that could be included in the review and/or can further be linked in CBM efforts.

3.4. Next steps

ICC is working with ELOKA to ensure funding to conduct the CBM review as outlined in the task proposal. The ELOKA workshop outcomes will include a workshop report, and 14 participants confirmed that they will submit papers to a special issue of *Polar Geography* based on research presented at the workshop.

3.5. Further information

Information about the ELOKA workshop can be found at: http://eloka-arctic.org/news/eloka_workshop.html

4. Inventory of existing CBM/ LTK/ TK biodiversity monitoring programs and datasets.

4.1. Project Lead(s)

Project partners include Circumpolar Biodiversity Monitoring Programme (CBMP), Exchange for Local Observations and Knowledge of the Arctic (ELOKA), ICC, Saami Council, Gwich'in Council International (GCI), Arctic Athabaskan Council (AAC), and RAIPON.

4.2. Goal

The primary objective is to identify and maintain a current inventory of existing arctic CBM/ LTK/ TK, TEK biodiversity monitoring programs and datasets, in order to facilitate their discovery and use to assist monitoring and assessment efforts. The inventory 'service' will be available online for query and access.

An observation network that includes strong community involvement can greatly enhance scientific research, especially for research in the Arctic. CAFF's Circumpolar Biodiversity Monitoring Program's (CBMP) primary activities relate to the development of pan arctic integrated monitoring plans. Such plans require significant partnerships with Arctic Council countries to identify existing monitoring programs and datasets. However, despite various efforts, the need to include community based programs and datasets largely remains unfulfilled due to lack of capacity. For the successful linkage of CBM and LTK to the CBMP process, it is necessary to create an inventory of current arctic CBM/ LTK biodiversity monitoring programs/ datasets.

4.3. Status

A project plan and budget has been developed and project partners engaged. A team approach will be applied to implement the project activities i.e:

- CBMP will assist with the coordination, communication of various project partners.
- Permanent Participants, with participation of their membership 'scope' will be charged with identifying the key arctic biodiversity monitoring programs/ datasets that involve CBM/ LTK/ TK. And also inputting the list of records for consolidation by the database service managers.
- ELOKA will focus on providing technical expertise for managing metadata records and provide access to datasets via agreed upon Open Geospatial Consortium interoperability services to the CBMP data portal.

4.4. Next steps

Once project funding has been secured the expected outcomes include:

- A searchable website of a comprehensive and up to date list of known circumpolar CBM/ LTK biodiversity monitoring programs in the north. Updated annually.
- An accessible database for interoperability/ integration with CBMP's data portal.
- Improved participation of local knowledge and community based monitoring efforts within CBMP Expert Monitoring Groups
- Improved involvement of CBM/ LTK when recommending arctic monitoring indicators for the integrated monitoring plans.
- Enhanced capacity for PP's to evaluate state of CBM/ LTK in the north for future assessments and reporting requirements.
- A model for coordinating arctic CBM/ LTK metadata management.
- Improved access to examples of CBM/ LTK biodiversity monitoring for communities and researchers seeking to conduct research in the north.
- Enhanced linkages of individual CBM/ LTK programs with each other spatially and by theme.

4.5. Further information

More detailed information on CBM products developed by CAFF/CBMP includes²:

- CAFF Monitoring Report nr. 4, Lessons Learnt: ECORA An Integrated Ecosystem Management (2011);
- CAFF CBMP Report No.21, Community Monitoring Handbook: lessons from the Arctic (2010);
- How to include community based monitoring and traditional knowledge into the SAON process (2009);
- CAFF Monitoring Report nr. 4, Biodiversity, traditional nature use and Climate Change in the Russian Arctic (2009);
- CAFF Report No. 13, A Strategy for Facilitating and Promoting Community-Based Monitoring Approaches in Arctic Biodiversity Monitoring (2008);
- A Strategy for Developing Indices and Indicators to track Status & Trends in Arctic Biodiversity - 2008;
- CAFF CBMP Report No. 9, Community Base Monitoring - a discussion paper (2004);
- CAFF Technical Report No.11, Conservation Value of Sacred Sites of Indigenous Peoples in the Arctic: A Case Study in the North of Russia (2004).

² The above documents can be downloaded here www.caff.is/community-based-monitoring

5. Development of a CBM classification to improve standardizations of vocabularies.

5.1. Project Lead(s):

Aleut International Association (AIA).

5.2. Goal

To convene a series of workshops to develop a CBM classification that uses standardized terminology leading to a better CBM metadata standard, better interoperability of CBM data and better integration of CBM data with data collected by other means.

AIA proposes to form a small international expert group. This expert group will hold two or three workshops during which a CBM classification will be developed. The expert group can build on the CBM Handbook developed by the Circumpolar Biodiversity Monitoring Program in 2010. There are several sections that deal with CBM types, methods and activities. In addition, there have been a small number of papers written on this subject. Taken together, these publications can serve as a foundation for this work.

Following the workshops the project lead will compile a report consisting of the workshop proceedings and the CBM Classification to be submitted to the Arctic Council, IASC, and other relevant bodies for their approval and for subsequent recommendation to potential users.

5.3. Status

AIA is engaging with potential funders and keeping in close contact with the other CBM related tasks within SAON. As of November 2011 AIA has received a commitment from the North Pacific Research Board for US 5,000 to fund technical writing for the final workshop report and classification paper.

5.4. Next steps

AIA will continue to pursue funding for this task and continue to collaborate with the other CBM tasks to determine how the results from this task can best inform the others. In addition, AIA is in contact with the leads of the SAON task - "Establishing a Polar metadata profile" in order to determine how to best incorporate the project findings into their product.

5.5. Further information³

- Bering Sea Sub-Network Pilot Phase Final Report – 2011 - CAFF Monitoring Report Number 2.
- Community Based Monitoring Handbook – Lessons from the Arctic – 2010 – CAFF CBMP Report Number 21.
- The Bering Sea Sub-Network Annual Report – 2008.
- Response and Intervention System for Climate Change Induced Paralytic Shellfish Poisoning (PSP) in Aleut Communities – 2008.

³ These documents are available from CAFF as noted above, and from www.aleut-international.org/ / www.bssn.net



6. Comments

It would be helpful if the SAON Board could contact funding agencies to see if certain agreements can be made to help with funding of SAON task proposals. If that's not possible, the SAON Board could create some funding suggestions (links, timelines, what is being funded by which agency etc) for task proposals that go on the SAON website.