DISCUSSION PAPER

COMMUNITY-BASED MONITORING

SUPPORTING PUBLICATION TO THE CIRCUMPOLAR BIODIVERSITY MONITORING PROGRAM FRAMEWORK DOCUMENT

















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DISCUSSION PAPER

COMMUNITY-BASED MONITORING

Supporting publication to the Circumpolar Biodiversity Monitoring Program Framework Document

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Introduction

The Conservation of Arctic Flora and Fauna (CAFF) Working Group of the Arctic Council received a mandate from the Arctic Council Ministers to develop the Circumpolar Biodiversity Monitoring Program (CBMP). This program will include community-based monitoring in order to take traditional knowledge and Indigenous Peoples' perspectives into account. The Inari Declaration of 2002, says that the Arctic Council:

Recognizes that enhanced monitoring of biodiversity at the circumpolar level, fully utilizing traditional knowledge, is required to detect the impacts of global changes on biodiversity, and to enable Arctic Communities to effectively respond and adapt to these changes;

The aim of the CBMP is, among other things, to enable informed decision-making by making existing data and analyses available for the Arctic Council and its members and stakeholders, and focus on sustainable use of living and non-living resources in the Arctic.

The Indigenous Peoples of the Arctic are the sentinels of change – in the environment in which they have always lived and the societies in which they now dwell. As reported in the Arctic Climate Impact Assessment (ACIA), Indigenous Peoples throughout the Arctic are observing changes in the ecosystems which have supported their cultures for millennia. These observations played an important role in the ACIA and reinforced the scientific analysis, and will continue to be needed as subsequent work on climate change is carried out. One of the key findings of the ACIA makes explicit the relationship between the knowledge of Indigenous Peoples and scientific activities:

Indigenous knowledge and observations provide an important source of information about climate change. This knowledge, consistent with complementary information from scientific research, indicates that substantial changes have already occurred.

The Arctic Human Development Report (AHDR) is another important "benchmark" for any discussion on community-based monitoring. Among other things, the AHDR:

...seeks to devise a suite of measures of human development that can pave the way toward the development of indicators capable of illuminating some of the special features of life in the Arctic, ranging from efforts to capture economic rents associated with the extraction of natural resources to the devolution of authority to regional and even local decision-makers and to measures designed to empower men in a rapidly changing social environment that is calling into question some of their traditional roles.

These two important works provide a foundation for the development of a community-based monitoring component to CAFF's Circumpolar Biodiversity Monitoring Program. It is at the community level where the wider biodiversity concerns of CAFF and its proposed program intersect with the needs and goals of the Arctic's Indigenous Peoples.

The examples in this paper of monitoring programs under development by a number of the Permanent Participants are evidence that there is a need and a desire for such a program.

What is community-based monitoring?

Community-based monitoring is defined as:

A process where concerned citizens, government agencies, industry, academia, community groups and local institutions collaborate to monitor, track, and respond to issues of common community concern. ¹

From an indigenous perspective, community-based monitoring is beneficial in the sense that the science can be used to explain what the local people see happening in their community, such as changes related to climate, pollution etc. The gathered information would support local decision-making processes in the interest of the communities, with full participation by the communities.

The international community also recognises the vital role of traditional knowledge of the Indigenous Peoples. The Convention on Biological Diversity² (CBD) article 8j acknowledges the role of traditional knowledge and the Indigenous Peoples' perspectives, by asking that:

¹ The Canadian Community Monitoring Network (CCMN), coordinated by the Ecological Monitoring and Assessment Network Coordinating Office (EMAN CO), the Canadian Nature Federation (CNF) and Voluntary Sector Initiative 18.08.2004: http://www.ccmn.ca/english/glossary.html#CBM

² 22.09.2004: http://www.biodiv.org/programmes/socio-eco/traditional/default.asp

"Each contracting Party shall, as far as possible and as appropriate:

Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices".

The CBD defines traditional knowledge as:

"Traditional knowledge refers to the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry."

Development of a community-based monitoring program must be done carefully and it must recognize the diversity within the indigenous communities of the Arctic. Just as the goal of the CBMP is to protect the biodiversity of the Arctic, the community-based monitoring program must reinforce and strengthen the <u>diversity of approaches</u> among the Arctic's Indigenous Peoples.

The following discussion papers submitted by the Permanent Participants address community-based monitoring in their communities. These papers have the following goals:

- to provide an opportunity for Permanent Participants to present their already existing programs, and new ideas on community-based monitoring;
- to form a background for developing a proposal for the "next steps" in the process to integrate Indigenous Peoples' perspectives into the overall CBMP program.



ALEUT INTERNATIONAL ASSOCIATION (AIA)

prepared by Victoria Gofman



Children's Dance Group Ataqanakun, Saint Paul Island, The Pribilof Islands, Alaska. Photo courtesy of Victoria Gofman, AIA

Introduction

Community-based monitoring (CBM) is identified as an essential element in a number of large-scale scientific research initiatives aimed at comprehensive and methodical monitoring of the environmental, social, and economic changes and trends in the Arctic. It is widely acknowledged that a year-round systematic collection of data can be possible only with active participation of local communities. In addition, traditional ecological knowledge (TEK) of the Indigenous Peoples is recognized as a vital element of CBM.

The objective of this paper is to summarize selected information on CBM efforts in Alaska and the Russian Northeast that could help guide the design and effective integration of the CBM element in the CBMP developed by CAFF.

Understanding how CBM functions

Firstly, it is important to understand that CBM is not something new that needs to be created. Hundreds of projects are being implemented now in North America. Secondly, it is necessary to have a clear understanding of CBM as a system as it stands today.

• What are the drivers for these projects? Who initiates the projects?

People in local communities are the first ones to notice changes and abnormalities in the environment. The local self-governing bodies, such as Tribal or Village Councils, identify the problem, develop a proposal, and seek funding from an appropriate government agency.

• Who are the beneficiaries and recipients of the final product?

Project results are usually delivered back to the community for use by local policy makers, health officials, public education etc.

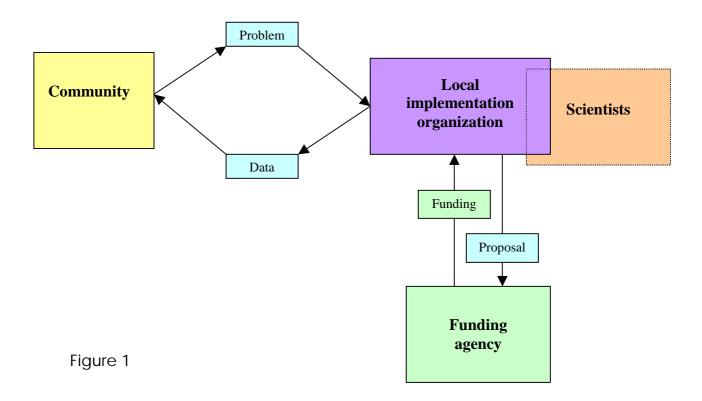
• What role does conventional science play?

In almost all projects, conventional science plays a supportive role providing consultation, laboratory facilities, and analysis.

• What type of monitoring is performed?

Biotic monitoring is the most common in CBM projects. However, in North America, local communities have developed capacities for abiotic monitoring and have extensive ties with the scientific community. Traditional food safety (contaminants monitoring) is an example of such a project.

The following diagram (Figure 1) shows the process and relationships between participating entities in a typical CBM project.



Developing Network

The need for integrated information calls for establishment of networks. Both indigenous organizations and scientists have made efforts to begin the design of a network that would include CBM. The discussion is often focused on the relationship between CBM and a major network addressing the question of whether CBM should be a subordinate element or an independent network. It is likely that both approaches are valid, as long as it is a collaborative decision made by scientists and CBM entities. However, it may be too early to look for answers to this question prior to addressing the issue of changing the system of CBM.

Figure 2 shows a simplified version of required changes.

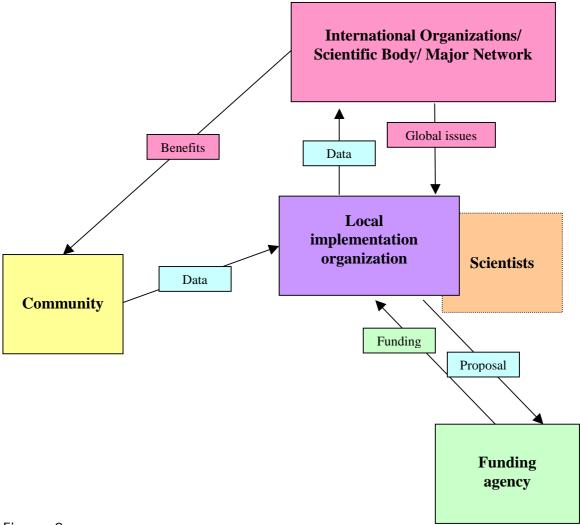


Figure 2

Considering the fact that there is little or no experience of working as a network within communities, the bottom down approach seems to offer a sensible way to begin the design of a network. Rather than designing a coordinated network and waiting for all existing monitoring projects to join it, it may be practical to begin with connecting monitoring projects in one region and then building it as a snowball, adding to it until it grows into a coordinated network. This would allow developing standardized procedures and protocols on a smaller, more manageable scale.

Using Indigenous Ways of Knowledge

Indigenous Peoples have a long history of living in the same locale. Knowing the environment is essential for their physical survival. Information (knowledge) and the skills to observe nature have been transferred from generation to generation. Today, this special knowledge could provide an insight into the past that conventional science has little or no information on. The difficulty is in transcribing traditional knowledge since it does not exist in the form of graphs or tables filled with numbers. This information is encoded in stories and tales. The same way scientists measure CO₂ in samples of a thousand-year-old ice to compare it with the air quality today; it could be possible to compare information contained in stories with contemporary data. Monitoring requires data collection over time, and traditional knowledge could extend the timeline.

Indigenous hunters, fishers and gatherers possess special skills and unique understanding of nature. These invaluable resources could become available for monitoring networks and enhance their capacities.

Identifying Challenges

Any architect of a CMB network should be mindful of inherent difficulties. Today, most of the CBM projects are driven by local interests and results go back to the communities. For large-scale monitoring, CBM will be driven by global issues and international research communities will use the results. It is important to consult communities on establishing appropriate relationships between their work and the science that would use its results. It is equally important to educate communities on the importance of circumpolar work for the protection and sustainability of local bio resources. Any direct benefits from the participation in international networks should be clearly understood by the communities.

Other challenges include:

• Identifying current CBM

Many projects that involve monitoring fall under different categories and are titled according to the subject of research and not the method of research. It is almost impossible to identify how much monitoring is happening within those projects without actually reviewing each locally implemented project. This is one of the major difficulties in identifying what projects could contribute to the work of a monitoring network.

• Protecting intellectual property rights

As monitoring systems become more complex and more actors will participate, the question of ownership of intellectual property (data) as well as of the material infrastructure created for or by networks will need to be regulated.

Utilizing current funding opportunities

Many federal programs have limitations such as on objects of research or monitoring, geographical area, eligibility of participants, and often prohibit funding projects that span across borders. Below are two examples.

U.S. EPA Exchange Network Grant Program provides support for activities that involve geospatial information. EPA and states, territories, and tribes are working together to develop a nationwide Environmental Information Exchange Network. The Exchange Network is an Internet- and standards-based, secure information network that facilitates the electronic reporting, sharing, integration, analysis, and use of environmental data from many different sources. The Exchange Network will make it easier for EPA and its partners to obtain the timely, accurate information they need when making decisions concerning human health and the natural environment. (EPA website, program description)

NSF recently awarded \$6 million dollars to the American Institute of Biological Sciences for the planning of a National Ecological Observatory Network (NEON) that would establish a national platform for integrated studies and monitoring of natural processes at all spatial scales, time scales, and levels of biological organization. The planning proposal relies on input from the scientific community to define NEON's science questions, and may rely on regional groups for implementing the infrastructure, which is envisioned to have a 30-year life span. (NEON Group's program description)

Building partnerships between indigenous, scientific and educational organizations will increase eligibility for funding of a project. It would take a special effort to convince governments to think in terms of ecosystems rather than administrative regions. For example, to this date, there is no program that would allow for the creation of a circum-Bering Sea monitoring network spanning through two states (US and Russia) and three regions (Chukotka, Kamchatka and Alaska).

Planning for the First Step

A workshop for current CBM project coordinators/managers should be organized to discuss the needs for circumpolar cooperation among CBMs, to request their understanding and support, to exchange best practices and to seek input for setting up regional sub networks. One of the objectives of the workshop could be the development of a document package defining procedures for collection of data that all participants would agree to implement in their region.

This workshop could be planned in conjunction with the CAFF-AMAP Planning Workshop in early 2005 that would allow CAFF scientists and other relevant experts to participate in the workshop. They could help with formulating the research needs, assisting with the development of a unified data collection protocol, and with designing the means of communication.

Traditional ecological knowledge and its application in the network should be addressed as a separate issue, possibly, at another workshop. It would be useful to consult with other organizations that have already made substantial contributions to the advancement of TEK. One such organization is the Alaska Native Science Commission.

Conclusion

This paper is intended to provide a brief sketch that could be useful for further discussion. The ultimate success of CBM integration into larger networks will depend on careful and thoughtful consideration of specific circumstances and on the ability and desire to listen to the advice of the people who will be responsible for the monitoring and observations on the ground.



GWICH'IN COUNCIL INTERNATIONAL (GCI)

prepared by Craig Fleener



Looking for medicines. Photo courtesy of Craig Fleener, GCI

About Community-based Monitoring in Gwich'in Communities

For many years Gwich'in communities in Alaska and Canada have done community-based monitoring which naturally incorporates indigenous knowledge and wisdom in order to answer life's questions.

The tribes have undertaken these efforts because of the importance of locally managed research projects that ask culturally relevant questions to provide meaningful results in accurately interpreted reports.

Gwich'in communities have been training tribal members at home, followed by relevant university education, so they can return to conduct research from an indigenous perspective with the ability to translate results for science and indigenous interests in order to bring the benefits of both systems together to answer scientific and community questions. This system we have developed is vitally important, primarily because when we relied wholly on outside researchers we discovered that they often misinterpreted or misrepresented indigenous knowledge therefore nullifying the value of research within the communities and presenting faulty information to the world.

Our researchers have recognized climate change by documenting regional changes over the past twenty years. We've documented meadow shrinkage due to vegetation encroachment, lake shrinkage due to less precipitation and less dependable spring flooding, extremely volatile forest fires, and the lowest river conditions in history due to less precipitation.

Community-based monitoring has been an important research component for many years within Gwich'in Territory because of our need for conducting culturally relevant place-based research. The Gwich'in Council International supports the concept of community-based monitoring and would like to work closely with the CAFF Working Group and others to support this concept. We look forward to assisting the CAFF Working Group and the Arctic Council in developing this idea further and to introduce and support community-based monitoring throughout the circum-polar arctic.



prepared by Vladislav Peskov



Nenets reindeer-herders from Kanin peninsula in a forest of the Mezen region,
Community "Kanin", March 2004.

Location – The Kuloy river onset, Mezen region, Archangelsk oblast.
Photo courtesy of Association of Nenets people of "Yasavey"

- 1. RAIPON (Association of Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation) supports the CAFF-initiated CBMP project on the whole. Conservation and monitoring of biodiversity in the Arctic Region is an important priority of cooperation in the Arctic. Indigenous People are interested in this process since the traditional lifestyle and subsistence economy of the native population of the Russian Arctic directly depend on the Arctic nature and wildlife. Arctic Indigenous People derive their livelihood from such activities as reindeer husbandry, fishing, marine mammal harvesting, hunting, and harvesting wild plants. These activities are based on traditional native principles of rational, careful and sustainable use of Arctic biological resources.
- 2. RAIPON is developing a cooperative network of native communities in the Russian Arctic. The main priorities of this work are legal infrastructure, economic development, land management and relations with the mining industry. A network of information centers has been created in several regions such as the Nenets, Evenk, Kamchatka, Magadan, Chukotka and other regions. These centers distribute information, work with e-mail, process Internet materials, and some of them publish their own regional information bulletins. The centers also conduct workshops, hold various events, and interact with regional associations of Indigenous People (RAIPON members), communities and other public organizations. Information centers are usually located in regional capitals (Naryan-Mar, Krasnovarsk. Magadan. Petropavlovsk-Kamchatsky Information centers develop their own regional networks involving local activists and creating local centers in various districts. Collection of information on traditional management and use of nature in the Kamchatka Region is a good example. The Lach Information Center held a questionnaire survey of the local population on traditional nature management and use. The information collected during the survey has been organized in a database of traditional nature management in the Kamchatka region. The "Sacred Sites" Project can serve as another example. Participation of the local population allowed collecting information about sacred sites and making the project a success. In several regions Indigenous People participate in major international projects to conserve biodiversity, such as the WWF project to protect the tiger in the Primorsky Territory, the Salmon Conservation Project in Kamchatka Region and others.
- 3. The development of the Indigenous Peoples' network in the Russian Arctic can provide support for the CBMP project. RAIPON can involve the network of information centers in the CBMP project and subsequently develop local networks and involve local communities in the project. At the initial stage, information centers will need some training (seminars or workshops) to define CBMP priorities and objectives for the regional level. After that, the centers will invite representatives of native communities (reindeer herders, hunters, fishermen and others) to participate in the CBMP

project. The work of the "Yasavey Manzara" information center in the Nenets Region to collect goose tags from hunters is a good example of such involvement. Local hunters bring information about the tags they collect from harvested geese to the local information center. And the center e-mails this information to its partners in Holland.

- 4. Native communities in the Russian Arctic can assist in the CBMP project. RAIPON can organize this interaction through its network. Further on, existing capabilities and necessary resources need to be discussed. Another necessary condition is training and assistance with organizing monitoring, and identifying the data to be transmitted and used for the CBMP project. It will be necessary to resolve the issue of Indigenous People's access to project results and the use of the data obtained during monitoring. This is an important and necessary condition for the indigenous participation in the monitoring.
- 5. RAIPON will support the development of cooperation between the Indigenous People of the Russian Arctic and scientific researchers within frameworks of international projects. Such interaction is essential and will allow exchange between scientific and traditional knowledge.

- 1. RAIPON (АКМНСС и ДВ РФ) в целом поддерживает проект СВМР инициированный САFF. Сохранение и мониторинг биоразнообразия в Арктическом регионе является одним из важных приоритетов сотрудничества в Арктике. Коренные народы заинтересованы в этом процессе, так как традиционный образ жизни и хозяйственная деятельность коренных народов и местного населения Российской Арктики зависит напрямую от природы и животного мира Арктического региона. Такие виды деятельности как оленеводство, рыболовство, морзверобойный промысел, охота, сбор дикоросов и другие обеспечивают жизнь коренных народов Арктики. И в основе этих видов деятельности и использования биоресурсов Арктики лежат традиционные принципы коренных народов, направленные на рациональное, бережное и устойчивое использование.
- 2. RAIPON развивает сеть сотрудничества общин коренных народов Российской Арктики. Главные приоритеты этой деятельности правовое обеспечение, экономическое развитие, земельные отношения, вопросы взаимоотношений с добывающей промышленностью. Создана и функционирует сеть информационных центров в нескольких регионах, таких как Ненецкий округ, Эвенкийский округ, Камчатская область, Магаданская область, Чукотский округ и другие. Эти центры занимаются распространением информации, работаю с электронной почтой, Интернет материалами, некоторые из них издают собственные региональные бюллетени. ИЦ проводят семинары, мероприятия, организуют взаимодействие с региональными ассоциациями коренных народов (членами RAIPON), общинами и другими общественными организациями. ИЦ в основном базируются в региональных центрах Магадан, Петропавловск-Камчатский, (Нарьян-Мар, Красноярск, Анадырь). ИЦ развивают свою региональную сеть, активистов на местах и создавая региональные центры в районах. В привести сбор информации качестве примера ОНЖОМ традиционному природопользованию в Камчатской области. ИЦ «Лач» организовал проведение анкетирования местного населения по традиционному природопользованию. Было собраны анкеты и создана база данных по традиционному природопользованию Камчаткой области. Другой пример проект «Sacred Sites» - участие местного населения позволило собрать информацию о священных местах и сделать проект эффективным и результативным. В ряде регионов коренных народы вовлечены в большие международные проекты по сохранению биоразнообразия, например проект WWF по сохранению тигра в Приморском крае, проект по сохранению лосося в Камчатской области и другие.

- 3. Для проекта СВМР реально может помочь развитие сети коренных народов Российской Арктики. RAIPON может вовлечь сеть информационных центров в проект СВМР с последующим развитие региональных сетей с вовлечение общин. На первом этапе необходимы обучающие мероприятия (семинары) для информационных центров для определения приоритетов и задач проекта СВМР на региональном уровне. Затем непосредственное вовлечение представителей общин коренных народов (оленеводов, охотников, рыбаки и т.д.) в работу проекта СВМР. В качестве примера можно привести работу ИЦ «Ясавэй Манзара» (Ненецкий округ) по сбору колец гусей от охотников. Местные охотники передают информацию о кольцах, добытых ими гусей, ИЦ дальше пересылает эту информацию в Голландию по электронной почте своим партнерам.
- 4. Общины коренных народов Российской Арктики могут помочь проекту CBMP. RAIPON может организовать такое взаимодействие посредством своей сети. Необходимо обсудить в дальнейшем существующие возможности и необходимые для этого ресурсы. Также необходимым условием будет являться обучение, помощь в организации мониторинга, тому какие данные необходимо передавать и использоваться для проекта СВМР. Необходимо будет решить вопрос доступа результатам проекта и использования полученных данных в процессе мониторинга самими коренными народами. Это является важным и необходимым условием участия общин коренных народов с процессе мониторинга.
- 5. RAIPON будет поддерживать создание и развитие сотрудничества общин коренных народов Российской Арктики с научными исследователями в рамках международных проектов. Такое взаимодействие необходимо и оно позволит организовать процесс обмена между научными и традиционными знаниями.



SAAMI COUNCIL

prepared by Ritva Torikka-Gelencsér



Young Saami singing in the cultural centre of community of Luujavre [Lovozero], Murmansk Region, Russia. Reindeerherders, fishermen and other people in the community have expressed concerns of changes in climate that they have witnessed. The Snowchange Project [www.snowchange.org] has worked with Saami communities since 2001 to document and collect Indigenous observations of change around the Arctic. Photo: Marko Kulmala/Snowchange Project, 2004. Used with permission.

About Community-based Monitoring in Saami Communities

It is very important that the traditional knowledge of the Indigenous Peoples is respected as expert knowledge about the Arctic nature. Not only as an additional knowledge for scientific research, but as a basis for making decisions affecting the Indigenous Peoples and their territories, as well as the environment.

It is important to work together with scientists, too, but the collected information must be beneficial to the Indigenous Peoples. Indigenous Peoples should make their own decisions regarding monitoring needs and also participate in analysing the results, both in close cooperation with researchers but also by themselves. Also the community-based monitoring, like other actions, must support the active and continuous development of Indigenous Peoples communities and way of life.

Some Saami communities have experience in community-based monitoring projects. For example, in Utsjoki, in Finland, reindeer herders have been monitoring environmental changes in connection with the larger research project, Snowchange.

Reindeer herders and others who are directly working and living in the nature are in a unique and good position to monitor environmental changes. In the follow-up to the ACIA, there is a need to develop concrete long-term monitoring projects combining the knowledge and sole presence of the people on the ground. This will take advantage of the fact that most of the Arctic mainland actually is populated by Indigenous Peoples. There is a clear potential to take the experience from the cooperation between research and Indigenous Peoples traditional knowledge one step further, provided that our intellectual property rights are recognised and respected.

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