

Integration of Scientific and Local Knowledge in the Protection of Sacred Sites in the Russian Arctic

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Abstract

There is a lack of scientific information about the biodiversity of marginal and remote Arctic ecosystems. Yet in the Russian Arctic, the share of natural protected areas is relatively high (6-10%) compared to the rest of Russia (2%). But the protection of these vast territories cannot be secured adequately. Paper describes the importance of indigenous and local beliefs and knowledge through the lens of sacred sites. Sacred sites accumulate the local knowledge and cultural values of the Russia Northern communities. In addition, sacred sites are often located within important natural areas with significance for biodiversity conservation. The protection of the sacred sites by indigenous peoples can make a substantial contribution to biodiversity protection in the Russian Arctic. Sacred sites also provide an opportunity to establish environmental and social monitoring by the local community. We also stress the importance of the ecosystem management of the sacred sites that could be a vital component to the indigenous community sustainable development. More focus to economic, social and environmental interlinks could bridge the gap between the traditional local knowledge and modern science.

Significance of traditional knowledge for the sustainable development of the global community

Indigenous peoples have inherited a rich culture, including that of social behavior and environmental perception, their ancestors accepted a code of conduct that may serve as a basis for sustainable development. This code comprises the core of traditional knowledge and determines their traditional way of life.

Traditional way of life of indigenous peoples includes subsistence economy, environmentally sustainable land use and utilization of natural resources; these practical skills ensured preservation of the natural and cultural heritage in the vast areas of the North for the future generations, and have protected intact and pristine nature for the global civilization. We are proud of aboriginal resilience and adaptation capabilities, insuring survival in extremities of harsh climate and protection of the fragile Arctic ecosystems. In fact indigenous peoples have created efficient subsistence economy and continue to develop it in a sustainable manner.

Holistic vision and perception, peculiar features of traditional philosophy are the fundamentals of the concept of sustainable development elaborated by indigenous peoples. Human being is a part of nature, a component of environment – this is the traditional attitude of the aboriginal peoples. Holistic approach is an ideal for the modern, integrated and highly specialized and differentiated science, that is still not capable “to grasp” a problem in its complexity and propose an integrated way for its solution. Integration of the science and traditional knowledge would be mutually beneficial and is highly needed.

These principle ideas have been formulated in the document “The Sustainable Development of the Traditional Lifestyle” that has been developed by the Russian Association of Indigenous Peoples of the North (RAIPON) based on the proposals from the indigenous peoples of the Russian North, Siberia and the Far East.

The main objective of the RAIPON activity in the biodiversity conservation is the involvement through observations and traditional knowledge of the indigenous peoples both into the registration of environmental change, and into the assessment of relevant impacts and the human vulnerability to the ecosystem transformation.

The ecosystem approach has gained a greater significance since declaration of the Convention on Biodiversity (CBD) in 1998. One of the principle objectives of the CBD is the maintenance of the ecosystem functions covering diversified human needs - health and welfare, environmental safety, cultural, spiritual and esthetic values provision. The ecosystem approach has also fostered the participation of the indigenous peoples and other local communities as principle stakeholders for the implementation of the CBD principles. Transferring stewardship of ecosystems to local people has increased the role of the traditional knowledge.

*Capacity building of the indigenous communities
in the Environmental Impact Assessment*

The capacity of indigenous peoples in the environmental monitoring and ecosystem assessment can be demonstrated by the results of the recent implementation of the two projects under the RAIPON - the first one in cooperation with the UNEP/GRID-Arendal - “Local Health and Environmental Reporting by indigenous peoples in Russian Arctic” and – the second project in cooperation with the Arctic Council working group - “The Conservation Value of Sacred Sites of Indigenous Peoples in the Arctic”.

The method of survey in the first project has been selected as an instrument of rapid and sufficiently reliable registration of the perceptions of indigenous persons in respect to the human impact and negative environmental consequences for their traditional way of life and health. It is known and effectively used by social sciences as the structured interviewing. First results of such survey demonstrated a great concern of indigenous peoples about their lifestyle and changing environment. Now the results of this structured interviewing is under the process of analysis, interpretation and assessment. Computer database with 459 questionnaires filled-in by indigenous respondents from 10 settlements located in different

geographical, ecological and ethnic regions is now available at the RAIPON office in Moscow.

While making this questionnaire we intended to study the perception of indigenous peoples on their health and environmental (including climate change) problems, as well as to get the vision of their desired living conditions (desirable way of life). Based on indigenous peoples' beliefs and values, where they want to live (in contemporary houses or in traditional homes), where they want to work (in traditional economy or to be employed in modern branches of economy or services) this survey makes a very important assessment for the development of the pro-active adaptation strategy to environmental changes, including climatic ones. The idea of this questionnaire meets requirements of the local environmental reporting to get the documentation oriented not only to registrations, for example, of the climate change or ecosystem changes, but to the assessment of social vulnerability and social response to these changes. The obtained data further on can be used for the elaboration of the local adaptation strategies and recommendations on regional environmental policy development.

The opportunities of this method have not been revealed to a full extent. Unstructured interviews, effectively used by anthropologists, might be an appropriate expansion of the survey in the field. In this sense the future research could identify specific sensitive issues in the Arctic traditional lifestyle systems, the impacts that are likely to result in adverse consequences, and strategies to avoid or cope with such impacts.

One aspect of the indigenous people's perception - human impact and its adverse effects upon health and biodiversity – is interesting to mention. The results of the survey reflect the environmental factors, issues of concern for indigenous people that have never been considered in the scientific papers or documents. These outputs include:

1. Climate changes registrations by indigenous peoples;
2. Climate change impact assessments by indigenous people's concerning impacts on their health and well-being status;
3. Main stakeholders/institutions responsible for local and regional environmental changes, due to perceptions by indigenous peoples;
4. The delineation of the most ecologically and socially vulnerable communities/settlements.

Unstructured interviewing in contrast to the structured one, enables to make correlations with the climate change processes and their direct impacts on traditional branches of economy, health, infrastructure, socio-cultural dimensions of indigenous life.

During such interviews there can be obtained more evidence on how the documented climate and environmental changes affect the reindeer herding, fishing, hunting and gathering, all social, economic and cultural aspects of the traditional lifestyle. It is important that the structured interviews make it possible for aboriginal people to express their own ideas based on their traditional knowledge of the local situation. Our aim is to obtain vivid accounts from indigenous peoples based on their own perception and experience. It may also be possible to ask why these changes have happened. In unstructured interviews there is no set schedule of questions but a check-list of topics to be covered.

The analysis of the responses to the question: “What types of human impacts on natural environment most of all affect the well-being of your settlement?” revealed the following threats in the prioritised order:

1. Poaching is a very serious socio-economic factor in the Russian Arctic aggravating the loss of biodiversity;
2. Ranked next is the forest fire caused by the human activity. Poaching (along with the growing number of tourists) increases the pressure on ecosystems and due to a lack of environmental education and code of conduct contributes to forest fires;
3. Industrial timber logging;
4. Deforestation (cutting forest) for firewood;
5. Water pollution by industrial wastes and discharges.

The visible changes and threats to the traditional lifestyle have been obtained in the following order: 1) less fish, 2) the low harvest of wild plants, 3) low harvest of cultivated crops.

The more detailed questionnaires could be filled in by the trained indigenous people. But the idea of the integration of knowledge makes it urgent to ensure their further involvement into the collaboration with the western science representatives - researchers and decision-makers, so capacity building in this area is crucial. The unstructured interviewing has been effectively used by the anthropologists, but less applied in the environmental and biodiversity protection activities.

The traditional knowledge has a great opportunity in the form of the unstructured interviewing to build bridges between the epistemologies. However there still exists the challenge in the formulation of the ways that the ecosystem assessment produced by the indigenous people should be incorporated into the science.

In general these pilot surveys have revealed the outstanding capacity of the indigenous peoples to observe and register physical environmental changes interfering with their

traditional lifestyle, to identify driving forces and transformations leading to negative impacts. This capacity could be used through the new types of the sustainable activities in the indigenous communities. It could be effectively applied in the EIA, social and ecological monitoring, elaboration of the local programs of sustainable development and the regional environmental policy, including the sphere of biodiversity conservation.

*Importance of the integrated social and environmental monitoring
of the fragile Arctic ecosystems*

We stress the importance of the integrated environmental and social monitoring in the Arctic regions on a constant basis by the local community. The periodic unstructured and structured interviewing can be recommended as the monitoring tools. They can be also used as an instrument to assess the demand of the indigenous communities in the ecosystem functions. These can be defined as the types of environmental (ecosystem) changes that directly or indirectly affect the traditional life of local communities. The interviewing makes possible to trace the crucial parameters for the indigenous communities that are also highly relevant to their holistic environmental consciousness, their tangible and intangible assets and values.

The integrated monitoring is designed to assess the pattern of development of indigenous communities (sustainable or unsustainable) based on the following criteria (groups of parameters) representing three major threats to indigenous communities:

1. Environmental threat to community health
2. Threat to the traditional way of life
3. Threat to sacred sites – natural and cultural heritage of indigenous peoples

Table 1. Criteria crucial for the community health

	Perceptions	Parameters	Quality changes
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1	Comfort	Resilience capacity Limited ecological niche High adaptation capacity to extreme environmental (climatic) factors At the same time – high vulnerability to external economic and social impact	Destruction of the traditional way of life
2	Harmony	Health – individual, family, or ethnic group	Social peace, Environmental safety, biodiversity conservation, sacred sites protection
3	Locality	Traditional and customary lands, Extensive nomadic activities and intensive local knowledge on the environment	Sacred sites network as a cultural landscape Validation the traditional knowledge and its proper dissemination
4	Threats	External pressure, Internal disturbance Lack of social integration with the other social groups Ignorance of the genetic traditions	Globalization of social and economic processes, climate change, oil and gas extraction, infrastructure development, road construction

We consider the health of the community as the most comprehensive indicator. It reflects the indigenous community development comprising the natural, spiritual, social, economic components of the traditional way of life. It implicates the natural evolution and stability of natural ecosystems, welfare of community members, sustainable development and is consistent with the principle of fair sharing of ecosystem goods or services.

The Millennium Ecosystem Assessment concept was designed to overcome the existing shortcomings in the ecosystem management. One of them is “deficiency in indicators assessing the trade-off between the well-being of people and state of the ecosystem services and goods”. This statement appeals to further development of the integrated indicators. The **community health** is remarkable for its comprehensive character and its intrinsic links of the traditional life with the ecosystem goods and services for indigenous people.

We believe that the further development of structured and unstructured interviewing of indigenous peoples will contribute to the building up a concept of the sustainable development for indigenous communities and subsequently will make an input into the elaboration of the sustainable development indicators.

A vital component of the indigenous community sustainable development

The sacred sites are frequently located in the regions where preservation of nature is of high importance for the indigenous peoples: on the highly efficient hunting grounds, the regions with rich biodiversity, along migrations routes, in the areas populated with rare species, as well as in the areas with unique landscapes. The indigenous peoples still worship Nature as a living being and consider the relationship with their land to be the primary factor of survival - “Sacred sites mean environment, morality and veneration for life” (an expression of one of the indigenous respondents in the Sacred Sites project).

We propose herewith the following classification of the sacred sites based on scientific approach (ecosystem level, historical date) and the indigenous knowledge.

Table 2. Classification of the Sacred Sites

Types of Approach	Types of Sacred Sites
Ecosystem level	
	natural, artificial
	terrestrial, peninsular, island, marine
	landscape- tundra, forest, forested tundra
	Morphological elements in the landscape (rivers, hills, springs)
Historical date	
	before historical records, (BC archaeological sites)
	Christian time and written history (AC)
	Connected to historical events (since colonization)
Indigenous classification	
	Gender (feminine, masculine)
	Scale (individual, family, clan, national, multi-ethnic)
	Genealogy (connected to the ethnic group origin, gods, spirits, cosmogony, ancestors)
	Functional (rituals, sacrifices, etc.)
	Time cycle (seasonal, annual, semi-annual, 3-7 –years cycle)

Other characteristics and relevant classifications of the sacred sites are to be specified depending on locality (for example, various ethnic groups have different sacred sites, even definitions could vary significantly).

At present the major environmental concern in our country is the threat of significant loss of intact natural territories, including the natural reserves and wildlife habitats. The governmental agencies of Russia cannot guarantee due to lack of funds and capacity the proper management and existence of the strictly protected areas in the form of zapovedniks (sanctuaries). The indigenous communities and aboriginal population are interested to protect their sacred sites and traditional lands and are able to contribute significantly to their nature protection and proper ecosystem management.

Accordingly, the particular attention was drawn to the problem of integrated protection for spiritual and cultural heritage of the indigenous peoples and to the preservation of biodiversity, in particular within the framework of the relevant Conventions on Biodiversity Conservation and Heritage Protection.

Under these requirements the pilot project was launched by RAIPON under support of the Arctic Council working group on Conservation of Arctic Flora and Fauna (CAFF) to promote preservation of cultural and spiritual heritage of the indigenous peoples in the Russian Arctic. The cooperation between RAIPON and CAFF was aimed at two important interconnected functions: first, to connect the Western scientific philosophy and methods to the spiritual and cultural concepts of the indigenous peoples in the Arctic region; second, to unite biological approach and measures with traditional knowledge and practices of the indigenous peoples.

The reliable information on sacred sites and their biological and cultural values has been obtained from the indigenous peoples, with their active participation and support. This is the unique feature of this project. Questionnaire for the survey has been developed by the CAFF and RAIPON experts. Regional researchers with involved assistants from indigenous communities carried out surveys among the elders, the fishermen, the reindeer herders and the hunters in order to identify sacred sites in the model areas. The information received in interviews is recorded in questionnaires, collected in two pilot regions- Yamal-Nenets autonomous okrug in the North Siberia and Koryak autonomous okrug in the Kamchatka Peninsula.

There were conducted 70 interviews with the indigenous elders in the Tazovsky district of Yamal-Nenets Autonomous Okrug. There were **263** sacred sites identified,

described, and mapped. All sacred sites were registered and documented. Ten selected sacred sites were described in detail.

On implementing project in Koryak Autonomous Okrug, the interviews were conducted in three villages of Oloyutorsky district: Tilichiki, Hailino, and Sredniye Pahachi. There were 30 people interviewed. There were **84** sacred sites described and identified on the map. Ten selected sacred sites were described in detail. All questionnaires are registered in the RAIPON office and could be used in the further research on the request. Identified and described sacred sites have been mapped and Sacred Sites Inventory List compiled.

The results of the project have proved that the sacred sites network provides a good opportunity to arrange a constant environmental and social monitoring by the local community (focal groups educated and trained).

In respect to the ecosystem management a greater importance has been given to the sacred sites retaining their spiritual life and social significance (living sacred sites) from those which functions have been lost (archaeological or relict sacred sites).

The traditional knowledge is a human dimension of the ecosystem functions. It has been accumulated in the sacred sites form as an indigenous cultural and natural heritage at the local, regional and global levels. It is a strong argument for protection of the certain natural sites from destruction in the course of the future economic development due to their high cultural value.

The traditional knowledge itself is a heritage not only of the local communities but that of the global community. Appropriately the society has the responsibility of their protection. Although the disclosure of the information on sacred sites sometimes creates problems for indigenous people, this knowledge should be protected, as all groups of society could enjoy both natural and cultural values of the indigenous lands in the future.

The traditional knowledge can gain recognition and importance to the rest stakeholders through the training and capacity building activities. There is an experience by the indigenous organizations in Russia (“Yasavey” Association in the Nenets Autonomous Okrug) on training courses in the indigenous knowledge for the oil companies’ staff. The transfer of knowledge facilitates the future dialogues of private companies with the indigenous communities and organizations in respect to the joint management of ecosystem and natural resources management.

The knowledge on sacred sites is to be appropriately disclosed in the course of the ethno-ecological assessment procedure. Ethno-ecological assessment (in Russian –

“expertiza”) is an important instrument for the indigenous communities to prevent the environmental, social and cultural threats created by the investment projects in the traditional land use areas. It can be organized on request of the local communities and in accordance with the provisions of the Federal Law on the Territories of the Traditional Land Use of the Indigenous Peoples of the North (2001). The existing experience of the ethno-ecological assessment in Russia has also proved the validity of the criteria and indicators of the community health.

We hope that the threats and future damages expected from the implementation of large economic projects in the Arctic will be assessed and incorporated into the ethno-ecological assessment and then considered under the national state environmental impact assessment (EIA). This damage will be treated in the category of the losses of the ecosystem functions resulted from the land use change.

Though in principle we are reluctant to give the economic interpretation of the ecosystem functions related to the indigenous communities but there can be found some compromises in this respect. The economic assessment might be conducted upon the initiative of the indigenous communities. It could add positive experience to their continuous integration into the process of the global sustainable development.

All the Arctic territories could be viewed as the indigenous peoples’ cultural landscapes. Accordingly, the sacred sites are the key markers in this respect - their network exists no matter they are living sites or have lost their significance for the existing communities. From this point they can be interpreted as the focal points of traditional knowledge in the ecosystem functions.

Ecosystem management through incorporation of the traditional knowledge

The Federal Law on the Territories of the Traditional Land Use in the Russian Federation has a provision enabling the use of the traditions of the indigenous people (customary seasonal moratorium or restrictions on hunting and fishery activities, the co-management of natural resources, etc) in determination of the regime of different activities within the territories of the traditional land use.

At present in Russia there has been launched a project on an Integrated Ecosystem Management Approach to Conserve Biodiversity and Minimize Habitat Fragmentation in three selected Model Areas in the Russian Arctic (ECORA) funded by UNEP-GEF to enhance the capacity on decision-making based on ecosystem approach. The ECORA project

provides a good opportunity to apply the traditional knowledge to the biodiversity protection objectives to enrich the global community experience.

The concept of the ECORA addresses the indigenous communities and their experience in the biodiversity protection. Since the indigenous people are expected to be the primary beneficiaries from ECORA, their capacity in ecosystem management and assessment should be used as much as possible. Primary objective of this project is the incorporation of the traditional knowledge into baseline studies to provide a comprehensive outlook of the environmental situation in the model areas. Next task is the involvement of the indigenous groups into the project management in respect to development of appropriate consultation mechanisms, conflict resolution and participation strategies.

We hope that the list of subprojects of the ECORA would be substantially enlarged with the contribution from the indigenous communities and proposals on sacred sites protection, environmental (ecosystem) monitoring of the sites of their traditional living and development of instruments of co-management and inter-sectoral cooperation on natural resource management.

Acknowledgements

This presentation has been prepared through the commitment, generosity and support of many indigenous persons who entrusted traditional and local knowledge and their environmental perception to the RAIPON. We would like to express our special thanks to our indigenous colleagues - Dr. Nikita Kaplin, RAIPON vice-president, co-ordinator of the joint RAIPON and UNEP/GRID-Arendal project “Local Health and Environmental Reporting by Indigenous peoples in the Russian Arctic” and Mr. Mikhail Todyshev, RAIPON Vice-President, the coordinator of the Sacred Sites Project. We appreciate principal input from Dr. Tatiana Vlassova, leader of the NorthSet project, (Institute of Geography, Russ.Acad.Sci.), who works on building up the concept of sustainable development in cooperation with the RAIPON members, and finally, extend our gratitude to Mr. Pavel Sulyandziga, RAIPON Vice-President, who supported our joint work.

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