ArcticNet

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4.2: Human Vulnerability

CAVIAR

Community Adaptation and Vulnerability In Arctic Regions

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Problem and Rationale

The Arctic is currently undergoing rapid social and environmental changes, and the cumulative effects are felt across the region. The rapidity and pervasiveness of these changes continue to present challenges to the adaptive capacity of local communities and Arctic societies. Local responses to these changes will depend, in part, on the vulnerability and adaptive capacity of human-environment systems. The aim of this IPY project is to understand the processes that shape the vulnerability and adaptive capacity Arctic communities, and bring together the experiences of local communities experiencing (or expected to experience) rapid and cumulative changes under different internal and external conditions across the circumpolar region.

Research Strategy

The program of research will be undertaken by an interdisciplinary international team, representing all the Arctic nations. The team will build upon existing research initiatives, operating independently in their local applications, but with common goals, concepts and methodologies. Team members, along with stakeholder representatives and partner agencies and organizations, will develop the CAVIAR research program. Major research components are:

- development of the **theoretical framework** for community vulnerability assessment
- refinement of a common stakeholder-based, systematic **methodology** that is directly relevant to policy
- establishment of **case study selection and implementation** procedures
- development of process to **compare and integrate results**
- Incorporation of ongoing **stakeholder engagement** and partnerships for **outreach**.

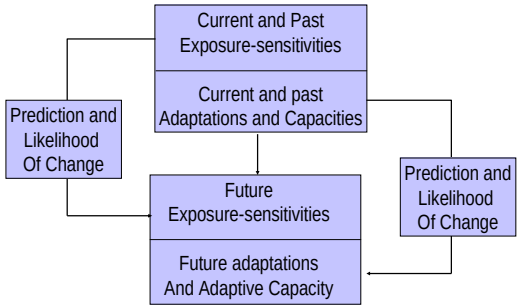
Structure and Organization

The CAVIAR consortium is comprised of key researchers and a coordination unit supported by an Advisory Board including Arctic decisionmakers and indigenous peoples. Field work will be conducted by research teams in national nodes employing a common methodological approach developed jointly. Communities will be intimately involved in the field work at all stages.

Theory

Vulnerability is a function of both exposure-sensitivity and adaptive capacity (resilience). **Exposure-sensitivity** reflects the likelihood of a natural hazard occurring in a particular place over time and the situational characteristics of the place and people which make it sensitive to the hazard. **Adaptive capacity** reflects and individual's or community's ability to cope with an exposure-sensitivity, and is reflected by the community's management of current and past stresses, its ability to anticipate and plan for future change, and its resilience to perturbation. Thus **vulnerability** is related to potential stimulus, physical location and characteristics, governance, economic situation, social parameters and political systems.

Figure 1: Research Approach



Methodologies

The methodology for empirical studies of community variability is based on principles outlined in Lim, 2004; Berkes and Jolly, 2001; Turner et al., 2003; Keskitalo, 2004; and Ford and Smit, 2004. It documents stakeholders' exposure-sensitivities and adaptive capacities for current and future conditions as outlined in Figure 1. Data sources come from within the community and secondary sources beyond the local scale.

Outreach and Engagement

The vulnerability assessment methodology proposed in the CAVIAR consortium requires the active engagement of northern communities. This work goes beyond the inclusion of community members as research subjects and involves them as collaborators and partners. This represents a substantial outreach component, ensuring that research is locally relevant and that community members are part of the process and well informed of the findings.

Integration and Pan-Arctic Cooperation

Circumpolar case studies will be integrated using the theoretical framework and data collection developed by the CAVIAR team. The integration exercise will combine results from cases in each of the Arctic regions to identify attributes of vulnerability and adaptation that are common and those that are place-specific. There will also be an inventory and critique of employed adaptation strategies, in order to facilitate exchange of lessons among communities across the Arctic.

Policy

The CAVIAR research program is designed to be policy relevant:

- it engages community representatives to ensure that the items analyzed are pertinent and applicable to community members and decisionmakers.
- Analyses of adaptive capacities and adaptation options are undertaken explicitly in the context of actual institutions and decision-making structures. The research includes rigorous analysis of policies and decisionmaking as part of the vulnerability assessment, contributing to the direct policy relevance of the results.

CAVIAR Members

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