C. PROJECT DESCRIPTION

History, Ecology and Cultural Revitalization in West-Central Kamchatka

I. Introduction

In 1987 the Itelmens of Kamchatka peninsula in the Soviet Far East held their first annual conference to discuss cultural revitalization. In 1991, Kamchatka, a formerly closed military zone, opened to foreign travel. In late 1996, UNESCO designated large protected territories of Kamchatka as sites of World Heritage significance and two years later the Koryak Autonomous Okrug (District) designated a "Specially Protected Territory for Traditional Resource Use" to protect indigenous subsistence rights. In the years between these events, the Soviet Union collapsed and international interest in both industrial extractive resource development and environmental protection soared. Small, especially native communities went into economic and social tailspins that have continued to this day. Behind this intense period of dramatic social change lies a long history of over 14,000 years of indigenous inhabitance on the peninsula, over 300 years of influence from Russian settlement and control, 70 years of Soviet domination and the past few years of radical economic and social disruption. In the western half of central Kamchatka, the crisis hit just as indigenous groups were beginning to consolidate the cultural restoration hopes of recent decades into organizations and programs aimed at local community revitalization. Now, in this period of economic decline and social change across Russia, questions of traditional resource use and environmental protection have become particularly acute for Kamchatkans. The relative lack of industrialization and damage to the environment, made possible by Kamchatka's prior isolation, has left a range of relatively sound ecosystems. The dependence of local communities on biological resources, particularly salmon, have made environmental conservation a vital goal for groups both on and outside the peninsula. Yet, at the same time, the critical economic situation has made alternatives of industrialized extractive resource use much more attractive and plunderous over-exploitation of vital renewable resources a real threat.

This proposal outlines a five-year collaborative study of the historical and contemporary dynamics of human-environment relationships and their significance for contemporary community revitalization in central Kamchatka. It is part of a complex project made possible by a unique opportunity for combining this research with programs for sustainable development and environmental conservation currently being prepared by the Global Environment Facility, United Nations Development Program (GEF). The project brings together an international team of anthropologists who have been conducting long-term, community-driven work in the region, specialists from the Kamchatka Institute of Ecology and Nature Management (KIEP) and community participants. This combined group will not only conduct research on important scientific questions of great local interest but do so in a manner carefully calibrated to enhance information flow among and between the researchers, the communities and GEF.

II. Aims, Scientific Significance, Researchers and Importance of the Research Area

A. *Objectives.* The primary objective of the research is to develop an integrated picture of human-environment relationships in west-central Kamchatka both in the memorable past and over the preceding 1,000 years. The project will attempt to fill in the gaps in our understanding of the nature and structure of inhabitance, of subsistence practices and their traditionality and of changes wrought by the political and historical events of the Russian and Soviet eras. The aim is then to integrate the historical ecological research with contemporary ethnographic study of current natural resource use, cultural revitalization and plans and aspirations for the communities' futures. In this examination we will pay close attention to social processes and individual agency in relation to systemic parameters.

Employing archeological, historical and ethnographic methods and perspectives, paralleled with the work of wildlife and ecosystem specialists, this research will thus contribute to answering basic social scientific questions of:

{1}the nature and effects of rapid social change in Soviet and post-Soviet times, with comparison to social transformations in earlier periods;

{2}the role of local, translocal, national, transnational and global social and political developments in social transformation and changing human-environment relationships;

{3}changing notions of work and social relations;

{4}the social and political meaning of "traditional" today and the potential for revitalization of traditional practices;

{5}endangered language preservation and analysis of associated worldview;
{6}human-environment relationships, perceptions of the landscape, how they have changed and are changing and the social and environmental reasons for such changes;
{7}how the variety of ways of understanding and communicating about the natural environment can be better documented and understood and
{8}the effects on communities of participation in self-governance, resource co-management and research programs.

The project has simultaneously several practical aims:

{9}to incorporate and develop local perspectives and expertise in planning and implementation of research and program initiatives, in large measure by involving community members in the work;
{10}to create structures and pathways of information gathering and communication that will make scientific information relevant, usable and available for local populations;
{11}to produce a comprehensive ecological and historical database, useful for researchers and community planners;
{12}to develop and distribute information and educational materials for local communities;
{13}to establish programs that will enable continued community involvement in and control of research, monitoring and implementation of new programs.

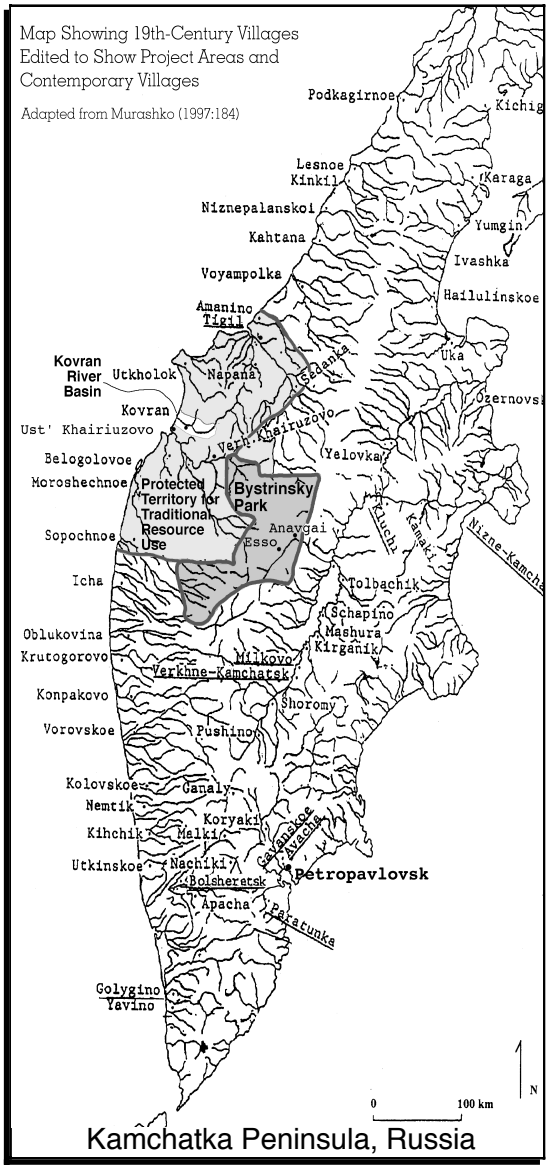
Other important questions, specific to the region, will also be addressed in the course of the project description.

B. *Researchers*. The principal researchers in this project, David Koester, Olga Murashko and Erich Kasten all began their work when the revival movement was still active, and much of their work has been devoted to helping in its various aims. They have produced language study materials in published and electronic form (EK), helped start a local newspaper (DK), produced public museum exhibits both abroad and in the local community (EK & DK), worked for native rights and legislation on native and local community issues (OM), published on the history and demography of the area (OM), worked with elders (DK, EK, OM) and used the information to inform historical studies, educational materials (OM, EK) and community heritage publications (DK), and even collected and published local songs (DK). Both Koester and Kasten have collaborated and published with native authors and Murashko publishes regularly in a Kamchatka-wide native newspaper *Aborigen Kamchatki*, and edits a national news magazine on indigenous issues, *The Living Arctic, World of Indigenous Peoples*. Koester and Kasten have both collaborated extensively with researchers from KIEP (Kamchatka Institute of Ecology and Nature Management). Murashko has worked extensively with the Itelmen Cultural Revival Council and local communities in creating a model for and implementation of a Protected Territory for Traditional Resource Use.

The research will benefit from the participation of archeologist Nikolai Krenke (Institute of Archeology, Russian Academy of Sciences) who has been conducting research with community participation in Kamchatka since 1997. Two linguists, Jonathan Bobaljik (McGill University) and Michael Dürr (Berlin Union Catalogue) will also participate. Both have extensive experience with this research team in Kamchatka and especially in creating educational materials for Kamchatkan communities. Three postdoctoral researchers, one archeological and two social-cultural, will be employed during the course of the project to help both in the field and in analysis and publication. One graduate student will be supported for four years of the project, participating as a research assistant. Two other graduate students will be employed for summer contributions, including Gleb Raygorodetsky, Ph.D. candidate in Environmental Biology at Columbia University who will contribute GIS mapping, wildlife census and hunting and herding information. Community participation, the work of Kamchatkan ecologists and other necessary parallel work will be funded by GEF at a dollar-for-dollar level to match the funding of this proposal.

C.*West-Central Kamchatka –Environmentally, Culturally and Historically Unique*. The region in which the proposed project is to take place is important and unique for historical, social, cultural and environmental reasons. Environmentally speaking, the network of river basins in this area hosts the greatest diversity of salmon species anywhere in the world. The area is considered to have global significance because of this richness and for that reason is included in GEF's plans for a project to preserve local salmon biodiversity. At the same time, with the assistance of the World Wide Fund for Nature (WWF), the Koryak Autonomous Okrug has recently established a Territory for Traditional Resource Use under a legislative framework drafted in 1992 (Fondahl 1997:77-79; Murashko 1997b; Murashko 1998). The primary traditional resource for people of the Territory is salmon. Moreover, salmon is also considered a "corner-

stone" species upon which much of Kamchatka's wildlife depends. On the eastern side of the research area, Bystrinski park was one of five protected territories included in the World Heritage designation. It has been identified by GEF for conservation and development initiatives under its protected areas program. The research project proposed here is similar to other anthropological studies related to conservation programs in that it involves work with indigenous groups in protected areas (Orlove and Brush 1996). It is unusual in that the conservation is not of plant genetic diversity or of large mammals but of an economically significant fish and especially unusual in the high level of funding for community involvement.



Historically, sources on the people and environment in this area go back to the earliest recorded account of Kamchatka by Vladimir Atlasov (Al'kora and Drezena 1935:30-31; Dmytryshyn, et al. 1988:5). His expedition was followed forty years later by the state-sponsored explorations of the First and Second Kamchatka Expeditions which--especially the latter--provided remarkably detailed descriptions of daily life, rituals and relations between Kamchatkans and Russians (Krasheninnikov 1755/1994; Steller 1774). Since that time many important research expeditions crossed Kamchatka, including Jean-Baptiste de Lesseps 1787-1788 (1790b), Karl von Ditmar 1851-1855 (1890), V. N. Tiushov 1896-98 (1906), Vladimir Jochelson 1910-11 (Worth 1961), Sten Bergman 1921-22 (1923), Elizaveta Orlova 1958 (1999) and others. This array of research contains information about food, shelter, clothing, medicines, rituals, beliefs and other standard categories of ethnographic description. The accounts provide a rich, if rigidly framed, picture of human-environment relationships during the period and constitute the basis for developing a detailed historical-ecological picture. One of the principal tasks of the research will be to bring together this information in computerized data bases, maps, reports and other forms such as brochures and newspaper articles useful not only for organizing our understanding of the dynamics of human-environment relationships, but also to the local communities in the challenges of self-determination they will face in working with GEF.

The region of the project is unique within Kamchatka because it is the only area in which the Itelmen language is still spoken and thus the only region where the languages of all three of the most populous Kamchatkan indigenous minority groups–Itelmens, Koryaks and Evens–have been preserved. Historically, early sources suggest that these groups engaged in economically complementary productive activities. All hunted and gathered forest and tundra products, but the Itelmens were primarily engaged in coastal and riverbank pursuits, including sea mammal hunting and fishing, while the Evens and Koryaks concentrated more on reindeer herding. Their economies depended in part on trade and our research will examine how this interdependence contributed to community viability, economic resilience, ecosystem balance, cultural change and continuity.

III. Environment and History, System and Agency – The Historical Picture of Human-Environment Relationships

A. *Community Histories*

When the cultural revival movement began in Itelmen villages in the 1970s (Khaloimova 1998:182), leaders sought to involve the communities in their own self restoration. Efforts were made to begin teaching the Itelmen language in schools, serious talk about resettling formerly

closed villages began (Zaporotskii 2000:47) and interest in cultural tradition and local history grew significantly. Many native scholars have argued that work in cultural revitalization is an essential component of social and economic development (Pullar 1996; Robbek 1996). History can serve as a resource for both making decisions about the future and cultural revitalization because community narratives can be a valuable way to promote self-understanding (Rappaport 1991) and the writing of community histories can encourage other activities associated with cultural and natural heritage (Payne 1995). There are several excellent examples of such community based historical studies in the North, including Cruikshank (1991) and Schaaf (1996). One of the aims of the project described here is to contribute to the regrounding of communities in their historical and social foundations, sought in the initial phases of the movement, by interjecting the research in such a way that it will answer basic questions of both scientific and local interest. What is perhaps unique about this project is the potential, with GEF resources, to involve community members in oral historical and contemporary research through interviewing, transcription, analysis and comparison, and in research with local and regional community records.

B. *Settlement Structure and the Environment*. In 1994, Itelmen elder Anastasia Pritchina began recounting her life story with the comment, "actually, there are three Kovrans." She needed to explain that, though she had always lived in Kovran, the village had moved twice in her lifetime. Itelmen lives have been punctuated by the moving of settlements up and down river basins since at least the earliest days of recorded history, Krasheninnikov noted that the idea of a "home territory" was associated with individual river basins (1972:215). This idea, linking landscape, cultural and familial identity is summarized in the Russian word "*rodina*," which often means in Kamchatka, the village or river basin from which one's ancestors came. For many Itelmens, environment and identity are linked in this concept

Steller's portrayal of Itelmen social life suggests that settlements were kin-structured with matrilocal residence primary (Steller 1996:147). Itelmen and settled Koryak villages consisted of one or several large semi-subterranean dwellings for winter and a large number of small, pile-raised huts known as "balagans." With greater intermarriage and intercultural exchange with Russians (Murashko 1997a), adoption of Russian-style houses (Margaritov 1899:123-124), the introduction of livestock, and increasing control through taxation (Jochelson n.d.), the settlements took on the political and economic character of Siberian peasant villages (though Kamchadals continued, "in their satirical way," to distinguish their villages from Russian Kittlitz 1858:301). Nineteenth-century travelers described Itelmen villages as "scattered," and "unplanned" (Starkova 1976:42). Yet, in this century, at the beginning of the Soviet period there was remarkable consistency in Itelmen village size at an average of 13 households (Starkova 1976:39). Soviet policy brought profound changes to village life: boarding schools, kolkhoz and artel work regimes, and most significantly the closing of villages. These forced resettlements wrested families from their homeland river basins and placed them in state-dependent, oversized, urban-planned villages that were not sited according to traditional principles (Petrasheva 1993).

In addition to the radical disruption of long-term residence and attachment to a particular river basin, many of the negative consequences described for other communities in the North apply to Kamchatka as well. As elsewhere in the North, new government-created settlements have thrown "cultural groups…out of balance with their traditional social and natural environment" (Müller-Wille 1978:132) and created pockets of desperate poverty and its consequences (cf. Marcus 1995). Over-sized resettlement villages have caused local environmental damage and over-use of local resources. To assess the effects of these changes and their significance for current planning, the researchers will (1) work with historical sources and community members to develop documented and oral historical accounts of village life and subsistence practices. These accounts will be considered in relation to specific environmental and social conditions gleaned from interviews, critical analysis of government production records and use of other unpublished and published sources. These will then (2) be related to environmental assessments and ecosystem maps provided by the work of KIEP researchers (with GEF support) to create models or "ideal type" depictions of social life and subsistence in particular villages. These models will then (3) be presented to individuals and the local public in general for commentary and correction and then (4) the information will be published, with local approval, for the scientific community. All of this will help to give a clearer picture of how today's villages compare ecologically, demographically and socially to settlements in the past, to illucidate the role of local, translocal and national political policy {2} and to assess changes that have taken place in local relationships with the natural environment {5} (numbers given in brackets refer back to the aims

stated in section II.A).

One of the important goals of the project will be to work back and forth between the general discussion of environmental factors, historical conditions and events and the specific actions of individuals and groups through the course of time. How did particular individuals come to take leadership roles and what are the hindrances and incentives for individual and public participation? We can ask, as Hoxie has for Crow leaders (1992), did leadership emerge as a response to oppression and cultural disintegration? Has political leadership played a role in cultural continuity? The researchers will also pay attention to the impact on communities of past and present participation in research–a topic already of interest to some native leaders (Zaporotskii 2000). The research will examine the relationship of changing traditions to ecosystem dynamics on the one hand and to the course of local, regional and national historical events on the other. Our aim will be to counterbalance our systemic descriptions of ecosystem change, local, natural and global historical processes with culturally informed accounts of agency, initiative and creativity.

Building on previous demographic studies (1997a; 1999; 1994), Murashko will study the dynamics of homeland and family relationships using church and government archival records. She will employ genealogical methods for analysis of prior village and family settlement patterns. She is also working on a methodological study on the value of this type of research and will work closely with community members as they conduct their own genealogical inquiries {10}. More generally, we plan to work with community members to research and write community histories for all villages and settlements in the area, including closed villages (Sopochnoe, Moroshechnoe, etc.; see map). Each researcher will serve as a coordinator for particular histories. A significant component of the research will involve transcription, compilation, indexing and coordinated organization of material previously collected by the three researchers. These oral historical data contain narratives of village closings and the institution of new labor and lifestyle regimes, of hunting, fishing and gathering and other aspects of daily life {1-3, 6}. Transcribed and indexed material will be made available on CD and reports prepared for the community in order to obtain feedback and suggestions as the research continues. The researchers will continue to collect narratives and information on village and family histories, especially as they relate to use of resources and attitudes toward the natural environment. Comparison of these multiple histories lies at the foundation of our study of social change.

Early published sources will also be of value both for establishing baseline understandings of village populations and resource use and for details of specific community history. Kasten has nearly completed the collection and encoding of all early German sources for reproduction on CD. As these are being organized for ready analysis, Koester and the graduate research assistant will work on English sources and KIEP (GEF-funded) will gather and encode Russian sources. All of these will be indexed according to topics relevant to the project and community needs {1-5, 7}, and designed to work with topical search and display programs (Koester and Thorn 1993) {10-12}. GEF project support for translation of non-Russian historical, ecological materials into Russian, will make possible their inclusion in community histories and create the possibility for dialogue about them as the research progresses. We will also work on relatively untapped resources such as the extensive notes of Steller's assistant, Gorlanov (Kasten) and the archives of the Hudson's Bay Company (Koester) concerning their "Kamchatka Venture" (Morton 1996). Government archival research in Kamchatka will be supervised by Murashko and will be coordinated with community members funded by GEF. Study of Kamchatkan library resources and work in special institutional archives will be supervised by Koester and a post-doctoral researcher and conducted by graduate students and GEF-supported community members {12}.

C. *Archeology of Settlements and Trade - Historical and Prehistorical Questions*. Descriptions of life in Kamchatka from the mid eighteenth century are often interpreted as representing native life as it was before contact with Russians (Antropova 1964:877-878). Yet, it is important to keep in mind that by the time of these writings Russians had already been on the peninsula for 40 years. Steller stated that life in Kamchatka had changed rapidly and lamented the evil influences of Russian trading posts on native communities (1774:285) and Krasheninnikov reported widespread Christianization and assimilation (1972:209). Thus, though we do have a remarkably detailed picture of this distant point in Kamchatkan history, from a historical ecological point of view, it is important to have confirmatory archeological evidence of continuity or change in settlement patterns, resource use and trade that preceded and accompanied the Russian incursion. Krasheninnikov, for instance, indicated that populations were concentrated in single winter settlements (ostrozhki) on each river, but this settlement pattern might have been a result of Rus-

sian administrative influence.

The primary objectives of the archeological research are the following:

•To determine the distribution of settlements along the Kovran river basin over roughly the last 1000 years; to study the chronological development of this distribution and establish the degree to which changes in settlement can be attributed to purely natural processes and events such as volcanic eruptions or to changes in sea level, the climate or the river channel; to human impacts on the environment and/or to social factors (such as intra-ethnic and interethnic contacts and conflicts and systemic demographic changes);

•To estimate the population density for the region and for components of the landscape (coastal area, main valley, watershed) and on differing scales of analysis (groups of villages, villages and dwellings);

•To describe the resource base and system of subsistence practices and to estimate quantities exploited and the human pressure exerted on the resources; to assess the carrying capacity of the entire territory and localized ecosystem patches;

•To collect data on material culture and estimate the influence of traditions from Siberia via the Okhotsk sea coast, from Chukotka and from Kurile islands via southern Kamchatka, tracing routes of trade, exchange relations and their intensity.

Substantial archeological work has been conducted in the region, with projects carried out in 1911, 1975 and 1987. Several dwellings were excavated, a map of known sites was compiled and site plans showing dwelling pits were drawn up (Jochelson 1928; Ponomarenko 1997; Ruban 1979). Jochelson's results were discussed in part in monographs on the archeology of Kamchatka and the Okhotsk Sea region (Dikov 1979; Vasil'evsky 1971). Nikolai Krenke and Olga Murashko continued archeological work in the area in 1997 and 1998 (Krenke and Murashko 1999). The archeological map was improved with the help of local indigenous guides bringing the total number of sites to 33, including a hill fort that could control the territory of the lower Kovran river basin. A newly discovered site located far from the river on a fishless stream raised questions about the usual assumptions of primary subsistence on fish. 24 radiocarbon dates were obtained with conventional AMS methods (Institute of Geology, Moscow, Groningen Lab, Helsinki University Lab). A preliminary sketch of the chronology of sites was established, with some of them appearing to have existed simultaneously.

The archeological investigations will be headed by Nikolai Krenke. Siberian and Alaskan specialist W. R. Powers will assist in the project to help bridge terminological and methodological differences and offer comparative perspectives. Koester will also participate in excavations, especially during year 2. We also plan to collaborate with biomolecular specialist Sven Isaksson (Archaeological Research Laboratory, Stockholm) who, with independent financing, will be participating in excavations and conducting food residue analyses. We plan during the third year (2003-04) to hire a post-doctoral zooarcheological researcher for both assistance in excavations and lab analysis.

Zooarcheological work will provide important corroborating evidence for written historical descriptions of the faunal basis of subsistence, the seasonality of inhabitance and patterns of exchange, especially for reindeer. The early ethnographic record indicates that Itelmens prepared a tremendous variety of beverages, pastes and mashes (Krasheninnikov 1972:111-114) and residue analyses from cooking and preparation vessels will help us to corroborate this production in pre-Russian times. Paleoenvironmental information in the form of tree-ring data and spore and pollen spectra will be compiled from both existing data and additional field study by KIEP under the GEF program and can help in determining both the general resource base of the area and climatic and hydrological changes that may relate to settlement shifts (Shilo, et al. 1967). There are important trade questions to answer as well. Steller reported that the Itelmen word for a Japanese person, *Sühsemann*, comes from *Sühse,* 'needle', arguing that Itelmens' first iron needles came from the Japanese (see also Oshima 2000; 1774:249). Excavations (guided in part by the use of a metal detector) could yield evidence of trade with Japanese or other mainland peoples prior to the coming of Russians as well as with Koryak and Even neighbors, important for the historical study of group interrelations (see below, V.c).

The first task will be to improve the site inventory and general map by use of aerial photography data available from the Institute of Vulcanology, Russian Academy of Sciences. Stratigraphic profiles from all the known sites will be compared to develop a regional stratigraphy (Hoffecker and Powers 1989; Hoffecker, et al. 1993) for the river basin. Identifiable volcanic ash layers will help in aligning these profiles. They will in turn guide comprehensive test sampling for radiocarbon dating that will allow more precise determination of the sequence and si-

multaneity of the known sites in the watershed. We will match settlement distribution with ecosystem data, including microclimatic data using the GIS to be established by KIEP with GEF support. The GIS will aid in assessing the resource potential and location benefits in relation to the character (fortified, seasonal, etc.Maschner 1996) of particular sites. Population estimates will then be made on the basis of probable simultaneity of dwellings within village clusters (that is, based on probabilities calculated from multiple radiocarbon dates) and ethnographic descriptions of dwelling capacity.

Excavations will begin at a village site at the mouth of the Kovran river which poses questions about the seasonality of coastal inhabitance and the immediate necessity of fuel resources. The site includes a large round dwelling that appears to be a semi-subterranean yurt of the type that, in ethnographic accounts, was located upstream for winter inhabitance. Our first excavations here will seek to determine the basis of subsistence for this site and whether it was in fact inhabited year round. Useful seasonal indicators likely to appear in the excavations include teeth (seal, dog, fox), antler pedicles, otoliths and mollusks, which can be analyzed by sectioning and in the latter case oxygen isotope analyses (Bailey, et al. 1983; Monks 1981; Weber, et al. 1993). Zooarcheological identification for presence and absence of particular species, including water fowl and sea mammals will also contribute to the picture (Ramsden and Murray 1995). Food residue analyses (Isaksson 2000) will help to understand the balance between use of sea mammals and fish for food as well as other resources from the area.

The next extensive excavation will take place at a village site located 6 km from Kovran (one ^{14}C date of 600 B.P. for this site) on a small, fishless stream. This site is of particular importance because the traditional view is that "Itelmens' main occupation was fishing and this above all determined the choice of location for settlements" (Starkova 1976:35). Investigation of this site will help our understanding of diversity and change in Itelmen subsistence. In a manner analogous to the study of settlement relationships to agricultural sites (Stone 1991), our aim will be to consider village location and structure in relation to variously distant and productive ecosystem patches (Winterhalder 1994:33-34). Ecosystem mapping and resource inventories will be provided by researchers from KIEP with sponsorship from GEF. We plan to use the archeological data along with toponymic and ethnohistorical data to give local meaning to components of the ecosystem GIS (Gaffney, et al. 1996). Subsequent excavations will be determined on the basis of the results of these and consultations with the community.

It should also be noted that community leaders have for many years requested that we conduct archeological work in the area. Local students and knowledgeable elders participated in the field surveys in 1997-98 and have shown great interest in participating in the future. Archeological work involving local community members and the results of that work can serve to stimulate environmental awareness (Marquardt 1994) and better historical understanding of life and living conditions over time (Crumley 1994:7). In cooperation with GEF we will be able to support significant community participation, preservation of artifacts, publication of a school textbook and educational and informational materials such as a guide for tourists.

IV. Environmental Knowledge: Tradition and Expression

A. *Strata of Traditionality*. As community members look back from the present day, they distinguish several periods of historical relevance that contributed to the constitution of the "traditional" past. People contrast the present with the relative prosperity of the late 1960s and 70s and the days before village closings in the late 1950s and 60s (Starkovo and Turaev 1990:49). The hard-working era of collectivization in the late 30s into the 50s, which also saw the spread of boarding schools (internaty) was important in shaping many people's ideas of work and community responsibility. People remember having household property taken away during collectivization and think of the period before that as what life was really like. Further back in time, beyond memory, villagers recognize a long era described in the pages of Krasheninnikov and a pre-Russian era that can only be imagined (Kasten 1996:237-238). Thus, the remembered past, overlain with years of Soviet teachings about backwardness, necessary progress and carefully defined categories of indigenousness, has given, as elsewhere in the North, complex meaning to local history (Balzer 1999; Grant 1995).

Each of these historical layers offers its own vision of what constitutes *traditional* Itelmen, or Koryak or Even social life. Some scholars have argued that the traditions from before the coming of Russians have all been lost, particularly in Itelmen communities (Antropova 1964; Jochelson 1906). And discontinuity is, in fact, a prevalent theme in Kamchatkan discourse about

trends in social life. The disruption brought about by formalized education in boarding schools, loss of language, changes in work routines, and now, economic collapse has caused many to fear complete disconnection from the past. On the other hand, as Kamchatkan indigenous scholar Efimenko has pointed out, traditional knowledge has always been subject to change precisely because it can be selectively modified in being handed down from generation to generation (1998:178). In studying traditional practices and their meaning our focus will not be on loss nor discovering the inventedness of tradition in the creation of new practices (Hobsbawm, et al. 1984), but on time depth, ritual significance, beliefs, power relations, legal structures and the sheer familiarity that give practices and ideas the character of being traditional (Comaroff and Comaroff 1992; Pocock 1973).

B. *Traditional Knowledge and Resource Use*. Many important aspects of traditional resource use were standard foci of early ethnographic description: construction of shelters and storage buildings, fishing, preparation of food, hunting of fur-bearing animals, birds and sea mammals, preparing furs and hides, food preservation, dog-keeping, horse-keeping, reindeer herding, gathering and preparation of wild plants, use of coastal resources such as crab and marine plants for medicinal purposes. The earliest written account of the use of resources on Kamchatka (Atlasov 1701) recorded the use of berries, pine nuts, fish, sea mammals and reindeer (Al'kora and Drezena 1935:30-31). Steller and Krasheninnikov vastly expanded this record of resource use and noted the extensive and detailed knowledge that Itelmens had. Yet, despite Kamchatkans' broad knowledge and complex range of subsistence practices, Komarov judged in 1912 that the economic well-being of small villages in Kamchatka was dependent on two resources, fish and sable (1912:437). Though Itelmens and Koryaks are said to be the greatest eaters of vegetable foods in northeast Siberia (Arutiunov 1988:32), the basic image of peoples focused on fishing or reindeer herding has remained to the present day (Krupnik 1988; Zaporotskii 1996). The complex nature of culturally specific resource practices was systematically ignored in Soviet planning (Schindler 1997:197). Production quotas and incentives were fixed on designated resources such as fish, reindeer and furs, and agricultural products such as potatoes and milk (Sergeyev 1964:506-507; Slavin 1960:352). Thus, one of our objectives in the study of traditional resource use is to go beyond the officially traditional and detail its genuine diversity {4}. For this part of the research we will again use compiled archival materials, government production data, oral historical materials (much previously collected by each of the researchers) and data from the records of KIEP. One of our significant goals is to help the communities in exploring the economic potential of revitalizing traditional practices and in the self-study they hope will lead to the restoration of what are considered to be traditional values {8}.

Study of traditional subsistence practices has gone from the political struggle to gain recognition of the value of the knowledge behind these practices (Feit 1979; Freeman 1979) to the institutionalization of Traditional Environmental (Ecological) Knowledge (TEK) in NGO committees and quasi-governmental agencies (Freeman 1995; Gwich'in Elders 1997). GEF supports "the preservation and maintenance of indigenous and local communities' knowledge, innovation and practices relevant to the conservation of biological diversity" (Griffin 1998:283). With the support of GEF for community member participation, the project will employ several approaches for recording, storing and presenting local ecological knowledge. Typically TEK work proceeds in the form of interviews with elders or experienced resource users to understand their ways of living and working in the environment (Johnson and Ruttan 1993). We will work with local community members to conduct semi-directive group and individual interviews (Huntington 1998) on vegetation, wildlife, fish and their procurement and uses, as well as on perceptions of the environment and environmental change. Interview protocols will at first cover questions relating to settlement patterns and subsistence, ecosystem change, microclimates, hydrology and then focus more specifically on biological resources. Community members will both participate in and be trained to conduct interviews and transcribe and prepare presentations of results {13}. Part of the work will be done in conjunction with village schools of Tigil, Kovran Sedanka, Khairiuzovo, Esso and Anavgai. School children will work with individual elders, each recording a particular practice and knowledge of a feature (or set of features) of the ecosystem ranging from river swiftness to playfulness in bear behavior. They will learn to enter this information into databases and groups will prepare reports for presentation {11, 12}. This information will be, where appropriate, included in the databases and maps prepared by KIEP with GEF support. Krupnik and Vakhtin have pointed out that people with strong ties to tradition may have little in the way of explanation for specific practices. Newly formed environmental under-

standing can come to provide secondary explanations for such practices (Krupnik and Vakhtin 1997:242-243). Unsureness of explanation on the part of knowledgeable elders can contribute to a feeling of inadequacy characteristic of the divergence of values given to competing knowledges (Balto 1996:7). Thus, careful to take into account the situated nature of this knowledge, we will seek to ascertain the impact the widespread changes–brought on by the economic crisis–have had on people's attitudes toward the natural environment {1, 5}.

Traditional studies of language and environment (Sapir 1949) and more recent studies of language and place (Basso 1996; Parmentier 1985) and of the links between linguistic diversity and biodiversity (Harmon 1996) point to the importance of the study of indigenous languages in relation to their near environments. To deepen the understanding gained from the interviews described above, Koester will work for 4 months with Itelmen retired professional hunter, G. D. Zaporotskii. Zaporotskii is the only hunter still fully conversant in Itelmen. The aim of this part of the project will be to record Zaporotskii's hunting knowledge and practices as much as possible in Itelmen. This work is critical. Except for the brief study by Starkovo of Itel'men sea mammal hunting (Starkova 1974), there has been no Itelmen language work done on hunting or, for that matter, life beyond the village. Contrasting work will be conducted by Kasten with Even and Koryak herder/hunters in collaboration with the TEK studies of graduate student Gleb Raygorodetsky. To understand the ways in which cultural tradition and environmental knowledge are being imparted to children today, the researchers will observe and ask about adult-child interactions, interview educators and collect essays and drawings from children of varying ages on selected topics. Similar work on children's writings was done by Koester in Iceland (1997a; 1998a) and some collection and analysis of drawings has already been done by Kasten (1998b).

C. "*Whatever I saw, I sang*" - *Expressive Culture and the Natural World*. One of the primary aims in research on traditional environmental knowledge has been to bridge the gap between scientific knowledge of biologists, ecologists and other specialists and the knowledge of people who live in daily, practical contact with their natural surroundings (Berkes 1988; Nuttall 1998:78). While there have been many successes in this regard, there are also important ways of experiencing the natural environment such as narratives and anecdotes that, though they may contain environmental information, do not necessarily offer knowledge formulatable as scientific knowledge (Cruikshank 1981:82). It is not just that there is a difference between the quantitative knowledge of scientists and the qualitative knowledge of hunters (Gunn, et al. 1988:25). Public, observational, categorizing forms of knowing are different from empathic, mimetic, expressive knowledge (Taussig 1993). A good example of this other kind of knowledge was recognized in the following observation by 18th-century explorer Jean-Baptiste de Lesseps: "[Kamchadals] must have a perfect knowledge of [the bear] and have made it their particular study, for they represent all its motions as exactly, I believe as it is possible" (1790a:105). We can and ought to steer clear of false notions of "nature peoples" inherently in tune with their environments and yet still appreciate the closeness that many peoples who "participate as a part of the ecosystem" (Johnson 1997:10) have with the surrounding natural world by elucidating understandings and relationships embedded in expressive forms such as joking, singing, dancing and telling tales about the natural world (Cruikshank 1990).

Ethnographically, the project will record the variety of experience of the natural world and forms of expression for that experience. In Kamchatka, expression of self and social relations linked to the natural world is a part of daily life (Rethmann 2000) as well as public performance and there are close interconnections between sound imagery and the natural environment, as elsewhere (Feld 1990:44-85; Feld 1996). In the mid eighteenth century, ethnographers described that a considerable amount of Itelmen daily activity was spent in music making (Georgi 1776-80:338; Steller 1774:332). People sang about their experience and observation was made into enjoyable expression: "The Itel'mens observe everything with interest, put their thoughts into unrhyming songs" (Steller 1774:332). Despite all the changes that have taken place in Kamchatka over the last three hundred years, this notion of expressing one's observations of the world around in song has continued to this day. At a public event for children, Itelmen elder Jakov Zhirkov told of happy times as a child going into the forest with elders and remarked, "whatever I saw, I sang." The continuity suggested by this statement, in the close relationship between observation and creative expression, shows that a fundamental relation between experience of the natural world and song remains. This is similarly true of Koryak and Even song and especially dance. All of the researchers will continue their work in the collection and analysis of songs (Koester 1998b), poetry, narratives and material works of art (Kasten 1998b) {6}. Linguists Jonathan Bobaljik and Michael Dürr, who both have extensive experience with

Kamchatkan materials, will provide assistance in editing songs and texts collected in Itelmen, Koryak and Even and in creating educational materials for schools, including multimedia materials on CD (continuing the work of Kasten and Dürr 1999; 2000).

V. Critical Issues: Rapid Social Change and Community Viability

A. *Communities in Crisis - Critically Rapid Social Change*. As native communities seek to revitalize cultural tradition and as government agencies, international organizations and the communities themselves attempt to plan for future development in the Russian North, they face significant practical social problems. Communities that were once accustomed to following orders (Efimenko 1998) are ill-prepared to make necessary decisions. As many researchers and native activists have pointed out, powerful forces worked to shape northern peoples' pasts in Russia (Forsyth 1989; Grant 1995; Slezkine 1994) and the communities have, until recently, had little voice in planning their futures (Balzer 1983; 1999:138; Schindler 1991). There is general consensus that environmental, health and economic problems are now critical (Murashko 1996a:13; Riewe 1992:127). In a survey of 121 specialists on peoples of the North in Russia, 97% described the current situation as disastrous (Ryvkina, et al. 1996:251). Just the mere fact of being ignored, after having been put in a situation of dependence, can be not only disorienting but life endangering (Abriutina forthcoming). Undermining peoples' means of sustenance can be as threatening as violence (Freeman 1997:7-8) and governments do not have to commit genocide for groups within states to face disappearance (Reed 1997:19). These points have especial resonance in the post-Soviet era where peoples of the Russian North have seen general loss of support for the infrastructure on which they were made dependent and access to natural resources restricted (Moiseev 1999). In Kamchatka, villages dependent on local rivers have seen personal fishing quotas decline below subsistence needs. As elsewhere in Russia, communities in central Kamchatka are stressed to the point of collapsing and there have been catastrophic declines in life expectancy (Bogoyavlinsky 1996) and increases in violent death, including suicide (Bogoyavlensky 1997).

As the situation has unfolded, some scholars and policy analysts have argued for economic models that include consideration of native knowledge while going forward with industrial development (Armstrong 1992:131-132) and creation of compensatory structures for and contractual obligations with native communities (Zaidfudim, et al. 1994). Recently, as conditions have changed and government enforcement of obligations has come to appear less likely, many of these plans are now being rethought to include ideas of local participation, self-determination and co-management of resources (Murashko 1996b:248; Osherenko 1995:1097; Piliasov 1998; Turaev 1998:296; Yetylen 1996). Under current conditions, however, local communities have been forced to turn their attention from cultural revival to community survival and participation and self-determination seem to many people impractical. They are too busy trying to survive to be able to spend time informing themselves about options, hazards and benefits. A past history of unreliability and broken promises and uncertainty about the present hinders decision-making (Vitebsky 1992:235). At the same time, access to alternative forms of knowledge, such as that provided by scientists, developers and planners, can be time-consuming (Gunn, et al. 1988:27). There is a significant need, before community members can make informed decisions about future directions, to study current attitudes toward subsistence and work and their historical background.

B. *Changed and Changing Patterns of Work and Social Relations*. On a community organized tractor trip to gather Kamchatkan "wild garlic" (cheremsha), Koester recorded that some families expressed a competitive work ethic: who could gather the most in the shortest amount of time. Such Soviet-inspired valuation of productivity-as-quantity contrasts with Russian Siberian peasant ideas of hard work to get the job done (Minenko 1992:59-161) and also contrasted with an interest in the quality of collected plants expressed by a native leader on the trip. Elsewhere in the Russian Far East, Turaev's survey of labor attitudes among Nanai and Udege peoples indicated that 40% of respondents preferred to work in Soviet-style brigades (1995:75). Layered beneath such varied pronouncements, both in daily conversation and on surveys, lies a stratigraphy of senses of economic well-being and security, past demands, discussions and personal decisions that now make up the variety of work and production ideologies on which present economic life is based. Just as industrialization, technological developments and economic expansion in the "capitalist" North brought new ideas and incentives to production and work (Caulfield 1997; Honigman 1978:154), the settling of nomadic reindeer herders, collectivization and the resettling of villages to consolidate the labor force reoriented production in concept and

practice in the Soviet North (Kuoljok 1985:131-135; Sergeyev 1964:506-509; Zaslavskaya, et al. 1989). Traditional economic activities could only be engaged in by a minority of the population, while the majority ended up involved in wage labor (Müller-Wille 1978:132). At the same time, new ideas of social status, leadership and economic well-being were introduced into the realm of production and consumption (Freeman 1992). In the Soviet world the government employed, in various periods, propaganda, social recognition (honor roll), stigmatization, bonus incentives (*premii*), payment in kind, wages and penalization to instill a new work habitus. Social relations changed as competition and performance replaced cooperation and such ideas as "specialisation" of productive activities created a hierarchy among workers (Humphrey 1983:228). Preliminary study of these questions suggests that in Kamchatka, the transformation of labor practices changed productive, socially organized relations with the land (Koester 1997b). Our study of changing patterns of work and social relations will investigate the hypotheses that modified labor practices brought about changes in perceived relationships to the land and natural environment and that this resulted in generational and gender differences in attitudes toward work and the environment. By careful cohort analysis, with attention to geographic, ethnic and gender differentiation, Koester and Murashko will investigate the changing relationship between work, social organization and sustenance {1, 3, 6}. In doing so we will also include in our interviews questions that take into account the mechanisms of change common across the Soviet Union and industrializing North–introduction of wage labor, increasing commodification, consequent changing of gender roles in the labor force (Golovnev and Osherenko 1999:98-99) and changing of patterns of sharing and distribution (Wenzel 1995). We will also inquire into the preparedness of the population for proposed work in protected areas management in order to assess particular training needs.

C. *Cultural and Community Viability Through Interchange*. During recent fieldwork, community members in inland, reindeer-herding territories lamented the fact that they had lost the regular ties and exchange relations that they had had with their coastal neighbors (Kasten 1998a). They felt that if they could reestablish and maintain these relationships they would both have an outlet for their reindeer products, particularly meat, and would be able to get fish and other goods from the coast. These comments, and similar ones made to Murashko by riverbank Itelmens, raise important questions about the ecological, social and cultural significance of subsistence diversity. Most studies of native subsistence and sustainability have focused on individual cultural groups in relation to their environments. To the extent that these local economies are "de-localized," it is through links with distant production centers in the realm of a dominant political power (Pelto 1978). Recent comparisons of the importance of preserving cultural diversity with that of biological diversity depend on the image of such localized, particular cultural adaptations and their unique value (Berkes 1988:7-8). Yet, it is important to understand the dynamics of relatively localized diversity created by complementary cultural practice and economic interdependence across contiguous ecosystems (Piot 1999). Using the example of Chukotkan coastal hunters and reindeer herders, Krupnik has made the case that "paired economies" can be highly efficient. He goes on to argue that "the more variety, the greater the sustainability" (Krupnik 1993:213). Rees, arguing by analogy to ecosystems, suggests that economic stability in the North, where resources are relatively scarce, needs to be maintained by fostering internal economic diversity–multiple jobs that individuals can perform, varieties of sources of subsistence and income, and so on (1988). This echoes Burch's contention that for Eskimos in northwest Alaska, variety in resources, complemented by networks of kinship and other ties, creates a resilient mode of subsistence overall (Burch 1988b:97). Rees points out that large-scale industrial development, characteristic of government projects in both North America and northern Eurasia, has led to the syndrome of short-term economic booms followed by crushing busts (1988: 65). He argues that programs in the North need to foster diversity both in productive activities and in localized means of capital accumulation (Rees 1988:64-67). While Rees's focus is on internal diversity, much the same could be said for group diversity. Each group has its own local specializations in certain ecological zones, as Krupnik describes. Despite the fact that there are well known and described examples of coastal and inland relations in nearby Chukotka (Kerttula 1997; Krupnik 1993), Kamchatkan ethnic groups have only been mentioned in this regard in economic theory (Moiseev 1989:29) and as a potential important area of inquiry (Schweitzer 2000:45).

Shifting settlements and changing concepts of territory are key indicators of human responses to habitat change. Our analysis of the historical literature will look closely at perceptions of the landscape and groups within it and compare social system response to the changing natural

and political environment. As mentioned above, the west-central region is important as a meeting point of the groups that have inhabited Kamchatka in the last three centuries. Intergroup relations have been dynamic and by historical report, both positive and negative (Vdovin 1990:31). Eighteenth-century explorers reported that village sites once occupied by Itelmens had become Koryak and the converse. In some cases environmental conditions contributed to this shift. Gorlanov recorded in the 18th century that after a heavy rain was followed by cold weather all the moss froze, reindeer starved, and many Koryaks shifted to permanent settlements, eventually intermarrying with Itelmens (Vdovin 1973:273). In our work with such sources, we will also pay close attention to political history, the influx of Russians and such policies as the Russian government's encouragement of the in-migration of Evens (Vdovin 1973:252) which sheds light on disputes over hunting territories (Vdovin 1973:247).

At the same time, travel and trade are vital to understanding how groups perceived the limits and extensiveness of their environments. In the mid 19th century the Icha river basin at the southern end of the research territory was important as the end of a major route from the west coast to central Kamchatka, including Mil'kovo (Martynenko 1991:159). One of our tasks will be to identify such routes in the historical record, map them and estimate the amount they were used for intergroup communication. The principal aim of contact, in peoples' memory was trade. Elders today remember trade fondly (Koester and Petrasheva 1997; Zhornitskaia 1983:135) and speak of the good relations that they had with their exchange partners (*priyateli*). They recall trading reindeer skins for fish, fat, seal thongs and seal hides (Zhornitskaia 1983:135) and similar accounts of trade are recorded in historical writings. Our aim will be to develop a picture of the social relations of production and consumption (Wenzel 1995) at the translocal, interethnic level. Tigil, at the northern end of the research area, was for centuries a central trading point for much of Kamchatka. Traded goods included tobacco, beads, reindeer skins, pelts and manufactured goods and utensils (Burch 1988a:236). To understand better both the ecological complementarity and social relations involved in this trade, a number of questions need to be posed: Was anything else traded? How did what was traded or how much of what was traded depend on environmental conditions or cycles? Can production centers for particular goods be identified over a period of time? What, in other words, were the dynamic features of these relationships? Kasten's work will concentrate on answering such questions to develop a picture of sustenance resiliency created by the trading networks. During preparatory work he has traveled to Even settlements where he interviewed Even elders who remembered the trade. His work on the memory of the trade, along with archival and archeological data will provide a key component for understanding the total picture of the system of human-environment relationships in the region. The expressed desire for a return to cooperative relations indicates a recognition, in local circumstances, of the value of cultural-economic diversity. Different practical knowledges are valued for their complementary contribution to the economy and social life and we are interested in how these are expressed in social relations, including gender relations. One of our most important tasks is to document and interpret such ideas. Reports on the interviews and participant field observations will be published for the communities to bring these ideas into broader public discourse in the context of new programs for economic revitalization and nature conservation.

VI. Community Involvement in Research and Community Development

A. *Community Participation.* The most persuasive component arguing for the value of this project is the combination of important basic research and immediate usefulness of the research for the community. The research can help in the creation of the knowledge base necessary for informed community participation and for sustainable community self-management of resources. NSF's *Principles for the Conduct of Research in the Arctic* require both that the research be informed by community interests and that the research be made available and useful for the community. Community participation has been a watchword for development projects, especially in the Third World (Marsden 1991). Residents who are the objects of development plans can understandably be unwilling to participate in projects brought to them from outside, with public meetings or incentive work as the predetermined form of their participation (Russel and Felix 1986; Setty 1985). Much recent work has gone into development of new ways of thinking about community participation; these allow for the development of new strategies based on the community's own criteria and means for participation (Marsden 1991; Uphoff 1991). Self-determination or empowerment for local decision making has been seen as a key means to and end of this participation in the North in general (Keith and Neufeld 1988) as well as in Russia in particular (Pika, et al. 1999; Piliasov 1998). Empowerment needs to be culturally specific and appro-

priate socially and historically (Hirayama and Cetingok 1988). From Freire's work in teaching people to read critically (1970), to more recent views of empowerment as involving a long-term process of adult education (Kieffer 1983-1984), organizing for community control has been seen as requiring a social science perspective that is critically aware of process as well as historical and political circumstances (Cassidy 1991; Morgaine 1987:73-74; Pálsson 1996). Thus, in order to foster community participation in the research process and ensure that the research will be of benefit to the community, research must also involve the community in the project, its goals and outcomes (Cruikshank 1981:86; Francis 1973). The existence of the GEF program means that there will be funding available to achieve these aims in an unusual degree by fostering community participation and organizing the research and its products to have meaning in scholarly and practical terms. In addition to participating as cultural consultants, as transcribers and data managers and in archeological excavations, community members will be involved in co-management, local environmental monitoring and guiding the course of the research.

B. *Contributing to Co-management*. Local resource use practices can in many cases be treated as forms of resource management because the possibility for over-exploitation usually exists yet does not take place (Wheeler 1988:41). In Kamchatka for example, fishing by weirs required some idea of escapement and, by implication, some idea of managing the resource. The idea of co-management refers to an attempt to bring together local/indigenous management practices with rationalized, scientifically guided practices (Osherenko 1988:92-93). The study of traditional ecological knowledge (TEK) has been used to help to create this link (Freeman 1995). One aim of the proposed research is to understand the nature of local management before the introduction of state regulations. The extensive historical record will provide background; interviews with elders will include discussions of limitations on use, timing, ritual activities, sacred places and other important features of subsistence practices {4, 5}.

Co-management of local resources may take place with input from local users, the creation of advisory boards or committees and the training of local experts (Caulfield 1988:61). At the same time, Drijver has also noted that the imposition of particular forms of management can seem threatening to local communities (1992). Recent approaches to adaptive management stress that environmental changes and conditions are not always predictable (Winterhalder 1994:36-40) and recommend more flexible forms of community decision making that include structured workshops rather than committees, compressed clear alternatives rather than detailed quantitative presentation of options and reliance on personal enthusiasm rather than on pure cost-benefit calculation (McDonald 1988:70). Many researchers have stressed the importance of providing forms for self-expression and our research in this area will work toward making local forms of expression part of the process. Being careful not to create disincentives for direct public participation, the research can contribute to public involvement by allowing local perspectives to be voiced anonymously and collectively through our collaborative reports {9, 10}. As international environmental organizations such as IUCN and WWF have recognized the environmental benefits of sustainable wildlife use (Freeman 1995:5), they have argued for replacing excessive government regulations with locally defined incentive systems (Freeman 1997:11). Yet, with problems created by ideological conflicts between institutions within the government (Rose 1986) and indigenous peoples' own ambivalent attitudes to their life prospects (Honigman 1978:155) defining and implementing incentive systems is a difficult task. This project will support elucidation and expression of community interests by researcher participation in public meetings about the GEF project, holding of public meetings about research plans and results, publication of information and results, informal discussions with community members and, most importantly, response to ideas and concerns resulting in continual reshaping of the research. The proposed project will create informational linkages to integrate the local communities' perspectives in the development of management plans. Murashko has worked extensively with Itelmen communities in the planning of the Territory for Traditional Resource Use "Tkhsanom." She and Koester will continue to work with the community as the juridical status of the territory is established and initial environmental monitoring stations are opened.

C. *Monitoring*. An important principle of the co-management idea is that the direct consumers of natural resources, on the spot, are a good source of information about the health and well-being of used species. Hunters, for instance are regularly doing a kind of dissection that can indicate much about the health of species (Gunn, et al. 1988:24). Kamchatkan scientists have been using hunters' annual reports as a means for collecting data on fur-bearing species for decades. In 1996 women in the village of Kovran complained of fish with large sores on their outer skin. They had never seen such illness in the fish before. With GEF funding, one of the

aims will assist the community in establishing environmental monitoring and reporting procedures that take into account traditional forms of knowing and sensitivities to nature protection. Monitoring of the environment will include parameters that have been deemed significant by the historical ecological work in the community as well as the recommendations of the GEF program. The monitoring programs will also be integrated with the educational programs in the school. Children's participation in environmental monitoring and care has been shown to be valuable for not only the children who participate but for public agencies and the community as a whole (Hart 1994; Stephens 1994). The research team will work with community members, educators in local schools and KIEP researchers to design programs in the school for environmental monitoring.

VII. Results from Prior NSF Support

Olga Murashko participated in the NSF-supported project "Social Transition in the North" OPP 92-13137; results from her work were published in Arctic Anthropology (1997a; 1994) and have been useful for subsequent research. In 1997 NSF provided support for a "Workshop to Coordinate Projects among Environmental and Cultural Researchers in Kamchatka, Russia" (OPP 97-07060; $7,302, PI/PD David Koester). This workshop led to organization of a collaborative multidisciplinary project by the principal researchers of this proposal in the summer of 1998 (funded by the Center for Environmental Research and Conservation) and again collaboration in obtaining funding for research in the summer of 1999 (from the Environmental Defense Fund). Several reports were written on the basis of the 1998 research. The main result of the Workshop and ensuing collaborative research has been this proposal in cooperation with GEF /UNDP (as was the original intention). Koester has also been PI on two NSF-funded dissertation field projects in the North Pacific region; both students are writing up.

VIII. Summary and Schedule of the Research

This project combines historical and contemporary research on practical and applied questions of fundamental anthropological interest with critical importance to communities in west-central Kamchatka. The historical dimension will illuminate the dynamics of human-environment relationships and help to establish baseline notions of subsistence patterns, settlement size and intergroup trade and interaction. Our research on traditional environmental knowledge will contribute to the general study of perceptions of landscape, of worldview and indigenous knowledge. It will help the communities to establish criteria for delineating their historical and cultural pasts. It will also help the communities to present research-founded perspectives in discussions of development programs. Study of work ideologies, social construction and governmental policies in comparative perspective can help to enhance our understanding of both life in the North and material, ideological and structural problems that lead to social ills. Our study of trade and interchange between groups will better integrate our understanding of the translocal ecological history of the entire region, of the relationship between cultural and community viability and of the various ways the different communities have responded to changing political and environmental circumstances. At the same time, it responds to community interests in revitalizing intercommunity relationships and provides a bridge between the GEF program for protected areas and for protection of salmon biodiversity. Human relationships to the environment are not limited to those that correspond to systems of "knowledge" about the environment. The project will thus also study the expressive forms that exist as a part of daily and ritual celebratory life. Finally, the project, in cooperation with GEF's programs, will contribute directly to the establishment of community based management and monitoring that will give the communities vital input into initiatives and control over conservation and revitalization efforts. The following table sumarizes larger booklength publications planned, community reports, educational materials and public databases. Journal articles and conference papers on specific topics from the research are expected each year but would be too numerous to project here.

	Schedule of Activities	Projected Research Products
Year 1 01-02	-Public meetings to announce and describe project and solicit input (OM, DK, EK) -Training of local community members in computer use, audio recording, transcription, oral history (OM, DK) -Transcription of previously recorded materials (DK,C) -Resource assessment study (ED, KIEP). -Demographic, social, psychological survey (All) -Fieldwork on musical expression & environment (DK) -Fieldwork on hunting & Itelmen language (DK, JDB) -Archeological excavations at XXVII (NK, Com) -Oral and life history interviews (All, MD/JDB) -Collaborative work on Gorlanov text (EK) -Archival data from Russian archives (OM+C)	•School materials on history of Kovran, Sopochnoe, Tvajan, Lauchan ΔLife History of T. P. Lukashkina (Russian) •"German texts from the 19th and 20th centuries on Kamchatka" on CD •Report on demographic survey *Related GEF/UNDP results*: •Ecosystem inventories and maps for Kovran, Khairiuzovo; reindeer pasturage *Additional Russian research support Bystrinsky nature park and salmon conservation, will be supported by GEF.
Year 2 02-03	-Comparative Even, Koryak lang. work - hunting (EK) -Continuation of resource assessment study (EK, KIEP) -Collection of children's narratives (All) -Interviews on perceptions of environmental degradation, causes, ideas for solutions (All) -Archival research for community histories (OM, DK) -Oral and life historical interviews for community histories (All + JDB) -Transcriptions - ongoing -Public meeting to discuss results -Archeological excavations of settlement on fishless river Kovran (NK)	•Report of archeological findings •Report (English), newspaper articles on perceptions of environmental degradation •School materials for histories of Sedanka, Moroshechnoe, Khairiuzovo *Related GEF-funded results and products:* •Data on faunal species abundance •Ecosystem maps for Tigil, Sedanka, Sopochnoe, Moroshechnoe •Russian texts on CD (KIEP) •Resource assessment and biologic inventory
Year 3 03-04	-Continued preparation of Community Histories book in Russian (All + Grad student + Com) -Archeological excavations and analysis (NK, Postdoc) -Transcriptions - ongoing	ΔDraft of community history book for consultations with community •Data, graphs on plant species abundance •Life History of T. P. Lukashkina, Russian ΔCompletion of transcriptions of recorded audio materials; indexed, CD •Publication of Resource Assessment Study
Year 4 04-05	-Prep. of English texts on Kamchatka on CD (DK) -Collection of contemporary Itelmen music (DK) -Final work on Community Histories (All + Postdoc) -Archeological excavations and analysis -Analysis of data from hunting study (DK) -Preparation of draft of Cultures and Ecologies of West-Central Kamchatka (EK) -Study of children's & artists' drawings, narratives relating to environment and identities; curriculum	•Publication of Community Histories book in Russian •Archeology report for community on archeological tourism possibilities •Book of maps published for community members; ecosystems of the region and settlement patterns on Kovran river
Year 5 05-06	-Final preparation of English language version of Lukashkina life history (DK) -Preparation of study (paper or book) on an Itelmen hunter's view of the forest, tundra and living in it (DK) -Archeological excavations and analysis -Concluding demogr., social, psychological survey (All) -Preparation of final project report (All+NK) and newspaper articles for local newspapers (OM + C) -School materials prepared from Community Histories OM = Olga Murashko, EK = Erich Kasten, NK = Nikolai Krenke, DK= David Koester, JDB/MD= Jonathan Bobaljik/Michael Dürr, All=OM&DK&EK, C=local participant(s), ED=Elena Dulchenko •=completion; Δ=working draft	•Book: Community Histories in English •Book: Cultures and Ecologies of West-Central Kamchatka, English/Russian • Booklet - contemporary Itelmen music •CD - English language texts on Kamchatka •Book: Living the Soviet Dream: The Life and Times of Tatiana Petrovna Lukashkina ΔData on salmon catches, community histories to assess development strategies. •Final project report •Databases for continued community use •Book of graphs of species abundance, use over time; climate data over time; production of goods over time [GEF sponsorship]