

METHODS FOR CREATING A BIOREGIONAL COMMUNITY PROFILE, DARHAD VALLEY, NORTHERN MONGOLIA

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INTRODUCTION

The Darhad Valley is located in northernmost Mongolia just west of Lake Hovsgol. Residents, both nomadic herders and townspeople, are faced with determining how to define and create a balance between ecological integrity, social function and infrastructure needed to support basic needs as traditional and contemporary lifestyles converge. This paper shows initial steps in developing a holistic, bioregionally sensitive approach to decision-making and community planning within the Darhad Valley.

Sustainable Communities

In times of change, local communities can be proactive in creating the kind of environment, social structure, and enterprises they desire. With increasing globalization, the loci of decision-making and control tends to shift toward entities outside a community. These entities may be insensitive to honoring a realistic balance between ecological integrity, traditional social function, and local infrastructure necessary for sustainability. Short term opportunities for economic gain often result in long term degradation of natural resources (ecological integrity) and social fabric (function). It would seem that, to be sustainable, i.e. to be able to provide for human needs far into the future, a community would want to make decisions taking advantage of all known innovations and technologies, but also respect and nurture the ecological integrity of its land base and respect, value and engage in social practices which nurture basic values and traditions within the community.

BioRegions Program, Holistic Management Process, and Wealth Profile

A bioregion is a geographic area with a common topographic pattern and climate. For

example, in northern Mongolia there are several repeating sets of north-south valleys with mountain ranges in between. This area of common topography and climate has common flora and fauna. People inhabiting the area face similar challenges and opportunities related to weather, terrain, local flora and fauna, and how to get along. The BioRegions Program goal is to learn “*How to foster collaborative community decision-making and development based on science and technology, bioregional knowledge/tradition and new paradigm thinking, including training community members and students to facilitate locally based bioregional sensitive decision-making*”. The BioRegions Program works with communities of similar bioregions but different cultures so people in one bioregion can learn from the experiences of people in similar bioregions. To this end, the BioRegions Program is collaborating with communities, organizations and individuals in similar bioregions of Greater Yellowstone Ecosystem USA, Hokkaido northern Japan, and Darhad Valley northern Mongolia.

Holistic Management (Savory, 1999) is a decision-making process which encourages people to “think in wholes”. Based on the concepts of holism (Smuts, 1926), Holistic Management engages decision-makers in defining a *WHOLE UNDER MANAGEMENT*, creating a *HOLISTIC GOAL*, and determining the status of *ECOSYSTEM PROCESSES* for the situation at hand. With the whole adequately defined, decision-makers can then consider all available tools for application in moving the situation (whole) towards the holistic goal. This is the time for conventional as well as new paradigm thinking. Useful information may come from exchange between similar bioregions. *TESTING GUIDELINES* help to identify tools which may be unsustainable environmentally, socially or economically. Remaining tools are

applied through *MANAGEMENT GUIDELINES* and *PLANNING PROCEDURES* designed to continue to work within the whole situation, even as it changes. A monitoring *FEEDBACK LOOP* assures that the process continues as conditions change.

The Sierra Nevada Wealth Index (1996) is a set of multiple indicators for natural wealth, social wealth and infrastructure wealth. The indicators are selected to be readily qualified and/or quantified. Then a community and its decision-makers can use the indicators to establish a baseline describing the current situation and monitor for change over time. The BioRegions Program uses such indicators to establish a *wealth profile* to show details of the community's Resource Base within the Whole Under Management, and as a platform from which a community can select tools for management and start a planning process if desired. The *Bioregional Community Profile* includes the wealth profile along with a holistic goal statement. It represents the suite of information useful as a base for planning and information exchange with other bioregions.

Objectives

The BioRegions Program is in the midst of a long-term iterative process to foster collaborative and bioregion-sensitive decision-making in three similar bioregions. The objective of this paper is to describe the initial process of creating a wealth profile and bioregional community profile for the Darhad Valley and present preliminary results.

METHODS AND RESULTS TO DATE

Making Contact

The BioRegions Program works with Mishig Jigjidsuren, former mayor of Renchinlumbe soum (county) and local partner in a tour company, Boojum Expeditions and its subsidiary Hovsgol Lodge Management Company. In 1998, 1999, 2000 and 2001 the BioRegions Program conducted "work expeditions" to the Darhad Valley. The expeditions included university students, citizens and university faculty from the Greater Yellowstone Ecosystem and Montana State University, along with Mongolian university students and Mongolian school teachers. Working primarily with Renchinlumbe soum (county), one of three soums in the valley, expedition members have queried local citizens for wealth profile details

while establishing and maintaining community programs to promote ecological integrity, education, health and small business/infrastructure.

Bioregional Community Profile

Information in this section is for Renchinlumbe soum, and does not include the other two soums, Ulaan Uul and Tsagaan Nuur.

Whole Under Management

Decision-makers During the socialist government rule, decision-making was top down. People told us they are still used to this paradigm. The democratic government continues this tradition, which people are comfortable with, but the door is open to more grassroots initiative. Certainly herders are now much more in charge of making management decisions, and the family unit should be considered as a key decision-making level. The current governmental hierarchy from the bag level (local community) to soum and aimag (province) levels and on to the national level is respected and intact. Besides the soum and aimag governors and vice governors, key local decision-makers include environmental officers and school officials. An additional key decision-maker is the Superintendent of Lake Hovsgol National Park. He enforces land use policies across the park lands, including the newly established Horidol Saridag Strictly Protected Area. Other key decision-makers will emerge from the citizenry. Mishig is an example of a citizen who was a professional veterinarian, then a government official (soum mayor or governor), and now a private businessman. He has connections in the soum and the aimag and frequently travels to Ulaanbaatar on business. He is an effective organizer and motivator among local citizens.

Resource Base and Ecosystem/Human System Processes The Holistic Management process calls attention to the importance of the Ecosystem Processes of *Water Cycle, Mineral Cycle, Energy Flow, and Community Dynamics*. They describe how a natural system works; it requires a driving force (energy), and materials or parts (water, minerals, biota). The resultant "emerging properties" which come from the synergies within the system are expressed through community dynamics (interrelationships between a diversity of organisms). The geographic location provides

bioregional (environmental variables) infrastructure components such as climate, biota, topography, and geologic and soil materials. Likewise for a human system, a driving force is motivation (based on human values). The material or parts which cycle within the system consist of knowledge which is gained through education and communication. Emerging synergies are again expressed as community dynamics (diversity of people with many interactions). Infrastructure provides background support. These parallel processes (Table 1) provide a template for a *Wealth Profile* which serves to identify important multiple indicators of ecological integrity and social function.

After visiting the Darhad Valley and speaking with its citizens, we identified a set of ecological, social and infrastructure indicators for a wealth profile. The indicators follow the systems terms presented in Table 1 for ecosystem and human system processes. We also compiled a set of *wealth profile condition* questions for residents to answer. They ask respondents to select numerical values according to the following scale: Healthy = 3; Mediocre = 2; Poor condition = 1; Not functioning = 0. The questions are arranged in four categories, natural wealth (ecological integrity), social wealth (social function), and infrastructure wealth. We asked participants to reply to the questions from three possibly contrasting viewpoints: one's individual viewpoint, that of one's community, and that of the whole bioregion (taken here as the Darhad Valley). The questions were administered at the Boojum Lodge in bag 2, at bag 2 headquarters, at bag 3 headquarters, in bag 1 and to the soum environmental officers. Usually the interviews involved citizens who had attended a community meeting the BioRegions Program called to show videos from the other bioregions on a gas generator-powered television. The questions were prepared on a form in both Mongolian and English. Some interviews involved small groups of participants, whom usually presented a consensus number. In this case the number is recorded as a sample of one. Table 2 lists wealth profile questions and answers from Darhad Valley residents compiled in June 2001.

We conclude from this survey questionnaire that local people believe ecological integrity indicators of energy flow, water and soil are healthy (2.62 to 2.94 on a 0 to 3 scale), but that community dynamics are mediocre to poor (1.53 to

1.78). This suggests that the local people believe the populations of native fauna are lower than ideal. In the social function category, community dynamics (strong social interaction and family ties) are healthy (2.50 to 2.75), and motivation is mediocre (2.19-2.27). Availability of knowledge is mediocre to poor (1.35-1.73).

Darhad people rate infrastructure and exchange wealth as poor to mediocre. Communication is lowest (0.69-1.00), followed by transportation (1.21-1.65) and available capital (1.49-1.54). Health care scores suggest a mediocre level: 1.63 to 1.85. This wealth profile evaluation suggests that people would like to increase the populations of native animal species, have better access to learning, and build community infrastructure for capital, communication, transportation and health care.

Looking at differences between bioregion, community and individual levels, for ecological integrity and infrastructure and exchange wealth, people gave the bioregion higher scores than they gave at the individual level. The community level values always fell between the individual level and the bioregional level. In infrastructure and exchange wealth, the community values were also higher than for individuals. On the other hand, under social function respondents gave higher ratings at the individual and community level for motivation and community dynamics. In the same category, people rated knowledge as being more available at the bioregional level than for their community or for themselves.

This survey paints a picture of Darhad country people as perceiving that they live in a healthy natural environment, except for lack of wild animals and plants and soil erosion connected with sand dunes. They have strong social structure, but need more access to knowledge. They feel severely limited by lack of transportation and communication, along with need for capital and better health care. Except for strong feeling of community and family, they think that things are better at the bioregional level. This may be a typical "country-side" perception that resources are more available at the regional level compared to the local or personal situation.

Holistic Goal

A holistic goal must be created and owned by the people most affected. It needs to include peoples' deep values for the *quality of life* they live

or intend to live, *forms of production* needed to provide necessary goods, services and financing to support the quality of life, and a vision for the *future resource base* to work toward for support of the necessary production activities (Savory, 1999). The following goal, written in the third person by the BioRegions Program, is simply a step in the iterative process with the local communities. The next step is to share this goal and ask the communities to take active steps to revise it, in the first person, to their satisfaction.

Quality of Life Darhad people cherish their self-sufficiency and ability to live close to the land through a tradition of nomadic herding and small community settlements. They value continual or frequent interactions with family, friends, and community members. They value hard work and simplicity as opposed to materialism beyond their needs for meeting basic requirements for food, clothing, shelter, transportation, literacy, and health.

Forms of Production Darhad people produce domestic animals for food, raw materials, and exchange wealth. They process animal products at home for family use. Residents obtain wood from the forest for heating and construction of log cabins and corrals. They obtain cloth to make clothes. Teachers produce learning at the Renchinlumbe school and medical workers provide health care at the hospital around the county. Some residents, as well as outside traders, provide manufactured and processed goods (cloth, shoes, clothing, rice, flour) from other locations. Governmental services are provided by elected and appointed officials. Some Darhad residents produce tourist experiences while serving as outfitters and guides for fishing and ecotourism clients.

Future Resource Base -Ecological Integrity We visualize an ecological base with higher numbers of native species in addition to domestic animals. Grasslands will provide a mix of perennial species suited to the climate and soil conditions, with a minimum of overgrazing and overutilization. Soil quality will be maintained and improved through possible stabilization of eroding stream and lakeshore banks, blowouts and sand dunes. Riparian woody vegetation will occupy more stream side areas to reduce erosion. Forests will be productive, with vigorous regrowth and diversity of

age class and size. Water quality will not be degraded except for unavoidable influence of livestock.

Future Resource Base-Social Function Community centers for gatherings and meetings will be accessible around the valley. Medical services, education, and basic personal services, such as hot shower facilities, will be available. Families and students will have access to education and a means to pay for the room and board of students whose families reside outside the population centers. Health care providers will be well trained, have reliable vehicles to travel into rural areas, and have adequate facilities and supplies.

Future Resource Base- Exchange and Infrastructure Wealth Funds will be available to assist startup businesses. Cooperative organizations will assist in providing supplies from outside and marketing local products. There will be less dependence on "the middleman".

Transportation and communication with the outside will be improved with better roads and bridges. People will have more access to telephone or other electronic communications media. The valley will have an internal electronic communications system. Necessary vehicles and fuel will be available for transportation. Power will be supplied by solar, wind and perhaps water sources, along with traditional wood and petroleum sources.

FUTURE STEPS

The next steps in this iterative process include having a series of creative brainstorming meetings to identify Tools and approaches which may be used to attain the goal. Many tools and approaches will initially seem to be "out of the box". The Testing Guidelines can be used to determine which tools are feasible, and the Management Guidelines will provide common sense approaches for learning, organizing, and marketing as well as environmental management. The Planning Procedures assist in planning the best use of financial, land and grazing resources. Finally the Feedback Loop sets up a monitoring and replanning procedure so that the community can be proactive to change.

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