Chapter 9
Deep Knowledge as the Core of Sustainable Societies

Alex Bennet
Mountain Quest Institute, USA

David Bennet
Mountain Quest Institute, USA

ABSTRACT

Knowledge-based social communities are critical to sustain economic levels and quality environments for community members. The pace of change, rising uncertainty, exponentially increasing complexity and the resulting anxiety (CUCA) have made competition among nations, cities and communities greater and more fierce. As economies look from industry to knowledge for their prime income generator, the role of knowledge and its supporting infrastructure become critical to economic and social health. In this chapter the authors focus on what deep knowledge is and the environment needed to maximize its contribution to the health and growth of societies. They also introduce knowledge attractor network teams as sources of power for community sustainability.

THE STARTING POINT

Society is taken to be all of the conditions and actions of a social community, both inter-connected and inter-dependent. A social community is a bounded group of people living together in the same locality under the same governing structure, with conditions from which emerge a culture and related behaviors. Further, a social community is a complex system which must adapt quickly to opportunities to develop knowledge-based solutions while at the same time implementing solutions for value creation and maintaining learning efficacy. When these occur the social community is behaving as an intelligent complex adaptive system. This perspective is consistent with the perception forwarded by Garcia (2006) describing cities as connected (Huysman and Wulf, 2005) complex systems of values (Carrillo, 2004), meanings (Tuomi, 2005) and conversations (Dvir, 2006).

Consistent with our previous work, **information** is considered the result of organization expressed by a non-random pattern or set of patterns (Bennet and Bennet, 2007b, 2008a, 2008b, 2008c, 2008d, 2009a;

DOI: 10.4018/978-1-61520-721-3.ch009

Stonier, 1990, 1997). Information is represented in the brain by patterns of neuron connections and the strength of those connections. Data (a form of information) is simple patterns, and data and information are both patterns but have no meaning until some organism recognizes and interprets the patterns. As a functional definition grounded in the natural world, **knowledge** is *the capacity (potential or actual) to take effective action in varied and uncertain situations* (Bennet, 2005; Bennet and Bennet, 2004, 2007b).

This definition highlights knowledge as a creation of the human mind. It exists in the human brain in the form of stored or expressed neuronal patterns that may be selected, activated, mixed and/or reflected upon through thought. From this mixing process (associative patterning) new patterns are created that may represent understanding, meaning and the capacity to anticipate (to various degrees) the results of potential actions. Through these processes the mind is continuously growing, restructuring and creating increased organization (information) and knowledge (Bennet and Bennet, 2006, 2008b, 2009a).

Recognizing that knowledge is the result of associative patterning in the mind/brain, we choose to consider knowledge as comprised of two parts: knowledge (informing) and knowledge (proceeding) (Bennet and Bennet, 2008b, 2008c, 2009a, 2009b, 2009d). This builds on the distinction made by Ryle (1949) between "knowing that" and "knowing how". **Knowledge (informing)** is the *information* part of knowledge and represents understanding, meaning, insights, expectations, theories and principles that support or lead to effective action. **Knowledge (proceeding)** represents the *process and action* part of knowledge. In other words, it is the *process* of selecting and associating the relevant information—knowledge (informing)—from which specific actions can be identified and implemented, that is, actions that result in the desired outcome.

It is also useful to think of knowledge in terms of surface, shallow and deep (Bennet and Bennet, 2008d, 2009b). **Surface knowledge** is predominantly, but not exclusively, information. Surface knowledge answers the question of *what*, *when*, *where* and *who*, is primarily explicit, representing visible choices that require minimum understanding. Further, it is more of an awareness on the part of the receiver of *what is* and only minimal action is typically required. Surface knowledge in the form of information can be stored in books, computers, and the mind/brain. Much of our everyday life such as light conversations, descriptions and even top-level self-reflection could be considered surface thinking and learning that creates surface knowledge. A large amount of what is taught in schools falls into this descriptive category. For example, the National Research Council expressed concern that the U.S. education system teaches students science using a mile wide and inch deep approach (National Research Council, 2000; Oakes & Lipton, 1999).

Shallow knowledge is information that represents deeper levels of understanding, meaning and sense-making. To understand is to comprehend some level of meaning, with meaning typically relating to a specific individual, organization or situation, and implying some level of action. To interpret meaning requires context. Thus shallow knowledge requires a level of understanding and meaning such that the user can—utilizing logic, analysis, observation, reflection, and even to some extent prediction—identify cohesion and integration of the information in a manner that makes sense (Bennet and Bennet, 2008d).

Deep knowledge is the development and integration of six components: understanding, meaning, insight, creativity, judgment, and the ability to anticipate the outcome of one's actions (Bennet and Bennet, 2004, 2007). Deep knowledge represents the ability to shift your frame of reference as the context and situation shift. The unconscious plays a large role in this area. The source of deep knowledge lies in an individual's creativity, intuition, forecasting experience, pattern recognition, and use of theories (also impor-