

ABSTRACT

This thesis shows how rural communities and their relations with ecosystems are interdependent. It uses the concept of linked social ecological systems and resilience to allow these systems to be studied in unity. It focuses on locations in Pakistan where disturbance and shock happens in both social and ecological realms by including two study sites in the coastal areas and two in the mountainous areas.

A review of scholarship shows that the adaptive cycle and resilience theory are suitable for the complexity of social and ecological interactions. They bridge disciplinary divides that hamper holistic analysis. Mixed methodologies are used to analyze ecological history, institutional arrangements and knowledge realms. Field work spanning 2005-2008 led to findings that vary from conclusive to speculative observations.

Keti Bunder and Sonmiani are coastal communities that share mangrove ecology and fishing livelihoods. In Keti Bunder resilience has been lost as all three key variables that sustain human life are in decline. The Indus Delta topography, forest cover and livelihood diversity have diminished, leading to human outmigration and ecological loss. In contrast, at Sonmiani, there is a gain in resilience. Vibrant local institutions initiated by internal leadership collaborate with NGOs and government. Innovation in mangrove forestry, control of harmful fishing nets and changes in Provincial laws indicate adaptive capacity leading to institutional, economic and ecological enhancement.

Shimshal and Passu are both neighboring Wakhi pastoral communities in the High Karakoram. Sustained by agropastoralist livelihoods and threatened by unpredictable glacial movements, resilience is historically defined by these two parameters. The Karakoram Highway reached Passu in 1984; 21 years later in 2005, Shimshal got its first jeep track connection. This has meant integration into regional and global economies and cultures especially through tourism. Shimshal has shown highly resilient responses to these changes. Innovations happened through new institutions like the Shimshal Nature Trust, labor alterations in pastoral practices, and thsing together traditional and scientific knowledge systems. These are enriched by discerning interactions with international researchers and agencies. Passu has invested in two different systems simultaneously without losing resilience in either system over the past 16 years. It has shifted the management of its agropastoralism onto women; while men have innovated in tourism related business. The shock of 9 September 2001 to tourism has renewed Passu's social investment into agropastoralism with the formation of the Passu Reform Panel and active internal evaluations of collective ecosystem initiatives.

The adaptive cycle is used as a model to suggest how disparate localized cases of social ecological change can be understood through a generalizable model. It shows that interventions from institutions both inside and outside the community can enhance resilience provided they are made in a phase adaptive manner. This work demonstrates that resilience theory is appropriate to studying phases of social and ecological change at different locations in a unified cycle of adaptation, much like the cycles of nature itself.