

Foreword: Bioarchaeology and Climate Change

Climate change has long been invoked to explain extinction events, rise and fall of civilizations, and alterations in productivity in the past. Bioarchaeology, the study of human remains from archaeological settings, offers an important opportunity to address key issues relating to climate and a range of other circumstances. In the last two decades, bioarchaeologists have investigated the consequences of key adaptive shifts on health and wellbeing in the Holocene. The global development of the foraging-to-farming transition has figured most prominently in these discussions, revealing a general decline in health and quality of life in virtually every location studied, including in South and East Asia.

In this book, Gwen Robbins Schug offers an important study addressing a fundamental question: How did climate change impact subsistence and health of human populations during the latter half of the second millennium in peninsular India? Toward the end of the Deccan Chalcolithic period in west-central India, farmers virtually abandoned agriculture as the primary means of food production. Many authorities have long thought that this reversal—back to foraging—was somehow linked to climate change, largely involving a presumed association between increased aridity and reduced agricultural productivity. Many authorities have also suggested that this subsistence transition could have led to an improvement in health status for the people of Inamgaon—because of the association between agricultural subsistence and poor health.

Robbins Schug's study confirms that the links between climate, new dietary adaptations, and biocultural outcomes are complex and must be approached from numerous avenues of investigation. Specifically, she uses new methods and new approaches to assess demography, growth and development and then to infer nutritional status and health. Her research reveals that

human populations adjusted and adapted at a highly local level to increasing levels of aridity which began during the phase known as the Early Jorwe (1400-1000 B.C.). Rather than representing an environmental disaster, climate change was initially met with an increase in adaptive diversity that was a successful strategy for a time. However, by the end of the second millennium B.C., after 400 years of settlement growth, these villages were largely abandoned. At that point, there was a transition away from agricultural production and a de-emphasis on drought-resistant barley as a staple crop. The people of Inamgaon began to rely more heavily on wild foods, sheep/goat pastoralism, and saline-tolerant crops. Robbins Schugs' demographic and skeletal growth profiles indicate that quality of life and human health suffered from the collapse of a major portion of the subsistence base. These community-level effects are demonstrated in a compelling manner.

Robbins Schug's biocultural synthesis provides us with a new way of looking at the adaptive, social, and cultural transformations that took place during the Deccan Chalcolithic. The links between climate, subsistence, and biological change are not so straightforward as once thought. As Robbins Schug so wonderfully demonstrates, the climatic and bioarchaeological record in South Asia demonstrates highly dynamic circumstances and complex links between environment, culture, and biology.

Climate change is an important element for understanding human settlement and population change. However, this study makes clear that old models relying on simple links between climate and resource productivity are not sufficient for explaining the broad sweep of human adaptation. New models drawing on multiple elements of complexity are where new breakthroughs are being made in the growing picture of adaptation and change in the archaeological past.

Clark Spencer Larsen

Series Editor

Bioarchaeology Research Laboratory

Ohio State University