Section II: Interactions of Knowledge Forms in Conservation: Natural Science, Social Science, and Indigenous Knowledge

Section Overview

Stephanie Rupp
Yale University

Natural and social systems have been intricately integrated in the Sangha River basin for centuries if not millennia. In earlier times local perspectives on the forest, particular “indigenous” understandings of the dynamics of forest surroundings, were sufficient for human communities to survive and even flourish, spawning migration and trade throughout the region. Although it is impossible to determine whether earlier generations lived in some kind of unique balance with the natural ecosystem, it is patently evident that contemporary communities struggle to meet their subsistence needs, while forest resources dwindle because of increasing human densities, increasing pressures from commodity production, timber export, game hunting for meat, as well as tourism and mining. Because of the rapid and profound expansion of human numbers as well as national, ethnic, and economic diversity, multiple perspectives are essential for understanding the complex, contemporary dynamics of human and natural action and interaction in the region.

To arrive at a nuanced understanding of the forest environment today, and to conceive and implement effective, fair conservation and development policies, it is critical to address the multiple perspectives and forms of knowledge held by various actors within the Sangha River region. First, it is essential for scholars and practitioners to critically examine and understand the outlooks and experiences of local communities, as they hunt, fish, gather, cultivate, trade, and participate in wage labor to earn their livelihoods within the forest. African forest residents understand their environment according to their own knowledge systems; local people’s quotidian experiences and interactions with natural and cultural phenomena result in particular perspectives on environmental and social processes within the forest. Second, it is critical to understand the interests, goals, and methods of different institutions, whether they are state-controlled, non-governmental, funding, or academic institutions. For example, development practitioners and anthropologists...
seek to understand the conditions of human life within the forest, and the relationships between human society and the forest ecosystem, and draw up economic aid policies based on these perspectives. Finally, one must understand the biological complexities of the forest’s flora and fauna if one is to grasp the resiliency of the forest as a system, as well as the fragility of specific forest resources. Conservation organizations, often directed and staffed by biologists and ecologists, prioritize this perspective of natural science in their research and policy formation concerning the Sangha River region.

Because of the diverse interests of the various organizations operating in the Sangha trinational region, systems of knowledge through which the parties understand ecological, economic, historical, and cultural phenomena are distinct and sometimes divergent. One of the primary goals of this volume is to address this complex interface of natural science, social science, and indigenous knowledge, to foster an understanding of forest systems that takes multiple approaches into account.

Section II, Interactions of Knowledge Forms in Conservation, addresses issues of natural and social science data collection and analysis in the trinational region, illuminating the ways in which natural and social science research articulate with conservation and development policies. This section focuses on the differential forms of knowledge held by local communities in the Sangha River watershed and surrounding forests, suggesting that local people hold diverse perspectives that offer alternative interpretations of natural and cultural phenomena from those held by western researchers, conservationists, and development practitioners. The authors of papers in this section analyze the specific characteristics of, as well as the articulation among, natural science, social science, and indigenous knowledge, and discuss their different roles in the conservation agencies working in central Africa today. Through this portion of the publication, dialogue is established between academic scholars and field practitioners of conservation and development, addressing the following core questions:

• How have natural science, social science and indigenous knowledge been (differentially) influential in the creation and implementation of conservation policies, and why?

• Do these forms of knowledge interact with one another optimally? Or are they in opposition to one another?

In the opening essay of the section, Roger Fotso presents a natural science perspective on the Sangha River region, as he discusses the diversity and contiguity of natural resources throughout the forests of central Africa, emphasizing that trinational evaluation,
monitoring, and conservation of these overlapping natural resources are critical to the long-term perpetuation of the forest. Fotso presents an overview of overlapping climatic, floral, and faunal zones in the Congo River basin, and indicates that tropical moist forests throughout central Africa face similar economic pressures of timber, wildlife, and mineral exploitation. To demonstrate the degree to which natural systems are integrated, Fotso highlights migrations of the Black-casqued Hornbill throughout central African forests. These birds pay no attention to national boundaries and serve as important vectors of seed dispersal, contributing to regeneration of the forest across vast distances. Given the permeability of national boundaries to fauna (and flora), in addition to the pervasive social and economic pressures on forest zones throughout central Africa, Fotso concludes by calling for a concerted effort at regional monitoring and assessment, as well as active participation of local communities in conservation efforts.

Exemplifying a social science perspective, Zéphirin Mogba and Mark Freudenberger then examine in detail the causes and effects of intensive mining in the Central African Republic, paying particular attention to human migration and the impact of burgeoning human communities on the forest near the Dzanga-Ndoki reserve. The authors argue that the influx of people into the regions surrounding protected areas poses one of the most complex obstacles to conservation in central Africa. Their essay examines the contexts from which immigrants move to the Bayanga area, as well as the conflicts that arise when they settle near the Dzanga-Ndoki Reserve. New immigrants to the Bayanga region of southwestern CAR, who are often in search of economic opportunities through wage labor or illicit extraction of minerals and animal products, tend to clash with local inhabitants. These encounters create an ambiance of social conflicts and distrust, elevating tensions and exacerbating relations among various communities of people, and between people and conservation projects. The authors discuss numerous strategies to counteract the proliferation of social and ecological disturbances that arise with intense human immigration to the forests of southwestern CAR, including monitoring of human demographics, creation of community-level organizations to manage local development projects, zoning and planning for land use around the reserve, and coordinating national and regional conservation and development efforts.

In the third paper of this section, Daou Joiris presents “indigenous” perspectives on the forests of southeastern Cameroon based on her anthropological research among various villages. Joiris searches for a solution to conflicts in land access and use, when
customary forms of land tenure differ from land management for integrated conservation and development. Furthermore, she suggests that systems of land tenure, subsistence production, and politics change within forest communities when external agents of economic exploitation, conservation, or development arrive in the forest. Her essay clearly indicates that local communities embrace quite different interpretations of land use and land trespassing from those of conservation managers. Joiris demonstrates that local people and foreign conservationists embrace radically divergent perspectives on the forest, resulting in differing symbolic understandings and technical uses of forest resources. As examples of conservation programs that have attempted to address the disjunctions in perspective and practice between conservation organizations and local communities, Joiris discusses the participatory management model as it is implemented by the ECOFAC Program (Ecosystèmes Forestiers en Afrique Centrale, or Central African Forest Ecosystems) in various regions of central Africa. Although she supports the goals of this approach, she questions its effectiveness as it does not foster local community involvement in the design and implementation of conservation strategies. Joiris concludes that more concerted work must be done to involve local people in the research, conception, and management of protected areas, so that their traditional systems of land management, as well as their contemporary needs and priorities, may be more fully addressed.

To foster deeper understanding of the forest as a whole, as well as greater understanding and tolerance for divergent perspectives on “reality” in the Sangha River region, Section II attempts to bring together normally incongruous perspectives on the forest, striving for dialogue and exchange of information rather than the all-too frequent misunderstanding and conflict.

STEPHANIE RUPP is a doctoral student in the Department of Anthropology at Yale University. She has conducted fieldwork in southeastern Cameroon as a Fulbright scholar, studying the ethnoecology of the Bangando, who live near the proposed Lobéké Reserve. Her dissertation work examines the formation of contemporary social identities in the Lobéké Forest, in an attempt to foster a reexamination of categories such as “hunter-gatherer,” “farmer,” and “fisher.”

Selected bibliography:

Stephanie Rupp, Department of Anthropology, Yale University, 51 Hillhouse Avenue, P.O. Box 208277, New Haven, CT 06520. Tel: 203.432.3700, Fax: 203.432.3669, E-mail: stephanie.rupp@yale.edu