

ABSTRACT

While still in very early stages of execution, this poster highlights research strategies and preliminary findings from in-situ ethnographic fieldwork in the Upper Washita River watershed. The context for this particular socio-ecological observatory corresponds more precisely to the political boundary of Caddo County and the overlapping tribal jurisdictions of the former Kiowa-Comanche-Apache and Wichita-Caddo-Delaware reservations. Situated amid a semi-arid mixed cropland/ prairie mosaic landscape, this observatory displays a staggering diversity of water, land, and community/cultural resources. Historic and contemporary land tenure relations and land use patterns continue to shape perceptions of local resources and climate conditions in significant ways. While land and resource relations both within and between variously differentiated communities has been shaped by a host of federal, state, and local agencies and interventions, research in the Upper Washita is exploring the influence of internal community dynamics and individual agency on the reception and implementation of climate adaptation strategies.

BACKGROUND

On-site ethnographic research in the upper Washita River Watershed is centered around the town of Fort Cobb in Caddo County, Oklahoma, though the county in its entirety constitutes the greater study area. Chosen not only for its location on the north bank of the Washita River, the town of Fort Cobb lies at the river's intersection with two additional major hydraulic resources that have heavily shaped the area's development since the middle of the twentieth century. These are Fort Cobb Lake reservoir, built on a tributary of the Washita River four miles north of its namesake town, and the Rush Springs aquifer, one of Oklahoma's major bedrock aquifers. Other county water resources include the Sugar Creek Watershed, a major recipient of NRCS flood control project funding, and Tahoe Creek and Cache Creek in southernmost section.

Situated mostly within the state's Cross Timbers Transition ecoregion, Caddo County's landscape encompasses a mosaic of rolling-to-level cropland (39% of the land base as of the 2012 agricultural census) and native prairie and "improved" rangelands (52.1% of the land base). The county's geological diversity ranges from red rock sandstone formations in the north to the limestone rangeland of the Slick Hills in the southwestern corner. The easternmost section of the county, lying in the Northwestern Cross Timbers ecoregion, contains the wooded sandstone canyonlands of the Sugar Creek Watershed. In this transitional rainfall region typified by periods of extended drought interrupted by severe flood events, the combined effects of water-induced soil erosion and wind-induced soil blowing has been the twin impetus for concerted soil and water conservation efforts since the Dust Bowl era.

The Washita River also serves to delineate historic and contemporary tribal boundaries, with the Wichita, Caddo, Delaware tribal jurisdiction (and former reservation) lying north of the river, and the Kiowa, Comanche, Apache jurisdiction (and former reservation) to the south. Caddo County is home to all of these tribes as well as the smaller Ft. Sill Apache Tribe, former prisoners of war held at Fort Sill who were granted lands in the county after their pardon by the US government in 1913. The complex land tenure relations that are the legacy of tribal allotment are a major component in the area's climate vulnerability and adaptation profile. This includes a checkerboard land ownership pattern and leasing system that implicate Native landowners, both Native and Non-Native lessees, and several federal agencies in the management of the county's land and resource base.

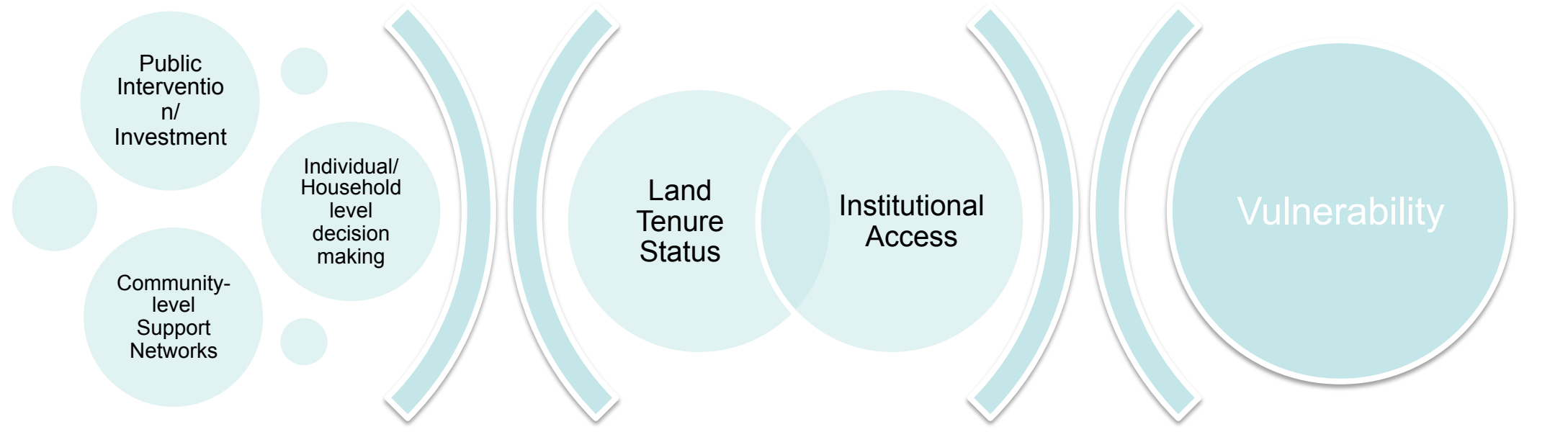


METHODS

Gathering data on the socio-cultural dimensions of water, weather, and land-use interaction at the site is a multifaceted effort. This includes conducting interviews with local stakeholders (especially farmers, ranchers, and tribal landowners), surveying cultural landscapes and reconstructing land use histories, examining local archival resources, and finally, participant observation. The latter allows for immersion in the life of the greater community as well as more targeted observations at special events and/or community group meetings. Since mid-July, we have completed 34 recorded interviews with 36 participants, held 18 non-recorded meetings or targeted discussions with resource agency staff and other informants, accumulated substantial primary historical data from archival sources, completed extensive photographic documentation, and submitted 75 detailed field note forms.

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RESULTS



"Architecture of Entitlements"
"The social, economic and institutional factors that influence levels of vulnerability within a community or nation and promote or constrain options for adaptation" (Kelly & Adger 2000: 326).

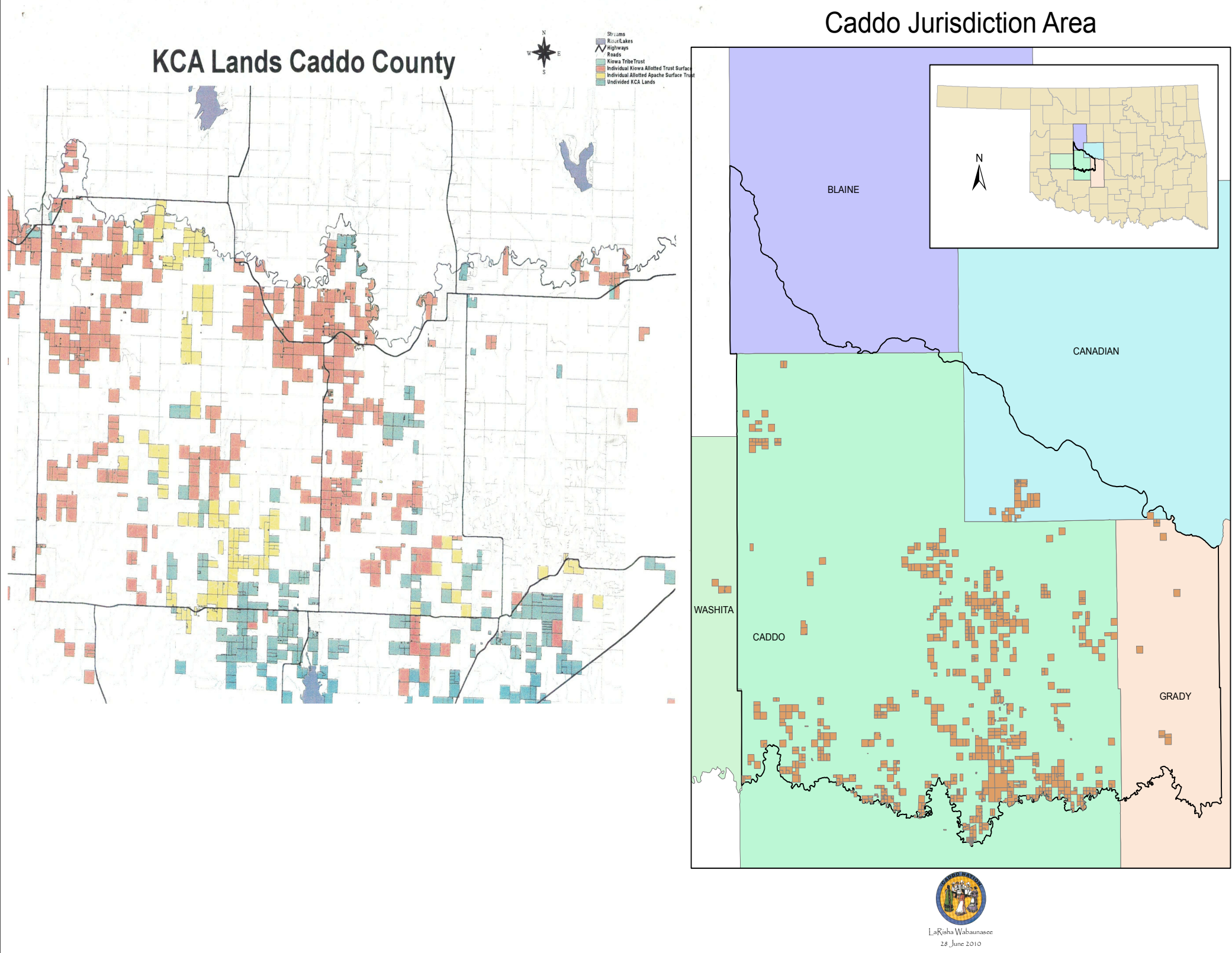
Limiting/Enabling Factors
Land Tenure Status
Institutional Access

"Assessment of vulnerability then, requires analysis of the political economy and examination of the structures of institutions, constraints on institutional adaptation and evolution and the constraints institutions exert on individuals" (ibid: 330).

- Public Intervention/Investment
 - Large Scale Interventions
 - Shelterbelt Program (1935-1942)
 - Flood Control/Water management Infrastructure
 - Price support & Indemnity programs
 - Livestock indemnity
 - Crop Subsidies
 - Grant assistance/cost share/lending programs
 - 2501 Programs
 - Conservation incentive programs
 - Conservation Stewardship Program (CSP)
 - Environmental Quality Incentives Program (EQIP)
 - EQIP Strike Force Program
 - Knowledge/technology transfer functions
 - Extension services
- Individual/Household Level Decision Making
 - Production strategies
 - Crop choices
 - Land management
 - No-till/strip till, etc.
 - Precautinary strategies
 - Crop insurance
 - Technology adoption/investment
 - Irrigation infrastructure
 - Federal support programs
- Community-Level Support Networks
 - Producer Cooperatives
 - Farmers Cooperative Mill, Elevator, & Gin, Carnegie & Mountain View
 - Farmers Union Cooperative Gin/Eakly Farmers Coop, Eakly
 - Apache Farmers Cooperative, Apache, Ft. Cobb
 - Non-profits/NGOs/Grassroots organizations
 - Indian Country Agriculture & Resource Development Corporation (ICARD)
 - Wind Hollow Foundation
 - Professional Member Organizations
 - Caddo Cattlemen's Association
 - Lending Institutions/Credit Associations

The post-reservation/post-allotment land use history of the upper Washita/Caddo County field site includes numerous and substantial federal level interventions. Indeed, the capacity of productive agricultural systems to withstand both acute and systemic climatic stresses has been enabled to a considerable extent by investment from federal initiatives and funding mechanisms. In a 2011 news release from the Oklahoma Conservation Commission concerning the \$20 million worth of recent conservation infrastructure improvements and repairs in Caddo County, representative Phil Richardson is quoted as saying, "Can you imagine the kind of problems we would be having today if we had not maintained the conservation infrastructure and agricultural best management practices we developed in response to the Dust Bowl of the 1930s?" In Caddo County, the material legacy of those responses is imprinted on the land itself, whether in the subtle forms of terraced fields or farm ponds, or in the more striking remnants of shelterbelt tree plantings from the late 1930s and early 1940s. The distribution and benefits of these kinds of public investments, however, has been highly inequitable, producing a condition wherein some populations of land owners, particularly Native Americans, remain more vulnerable than others to the vicissitudes of increased climate variability.

In the context of the Upper Washita/Caddo County field site, the ability to leverage land resources, while realized through individual endowments (political, social, natural capital) and mediated by public investment, are further constrained or enabled through land tenure status, and/or institutional access. A localized history of Native American allotment and the legacy of the trust status of those lands has resulted in a pattern of highly differential treatment and access to both community level and public support programs. This legal status likewise impinges on individual decision making capacity, as for example in the investment of productive infrastructure (i.e., irrigation technology) that provides a buffer against short term climate variability. Accordingly, Caddo County's mixed agricultural landscape can be read as a racialized landscape where the capability to navigate climate variability is often over-determined by one's tenure status (i.e., fee simple title holder vs. trust title beneficiary). Though a parallel history of differential institutional access has been acknowledged in settlements from recent class action lawsuits (Keepseagle v. Vilsack; Cobell v. Salazar) and USDA outreach initiatives (NRCS Strike Force, 2501 programs), local patterns of unequal access persist nonetheless. Local observers from nearly every perspective agree that this has much to do with bureaucratic inertia and antiquated administrative procedures of the Bureau of Indian Affairs. Local grassroots efforts have developed in response to these ineffectual inter-governmental initiatives, but they exhibit high levels of vulnerability themselves, and limited capacity to respond to acute stresses, including drought and other extreme weather events. Though still in the early stages of data gathering, findings from Washita/Caddo County site indicate considerable variation in levels of social vulnerability to climate variation.



References:

Kelly, P.M. & W.N. Adger. 2000. Theory and Practice in Assessing Vulnerability to Climate Change and Facilitating Adaption. *Climatic Change* 47: 325-352.

Sen, Amartya. 1984. *Resources, Values, and Development*. Oxford: Basil Blackwell.