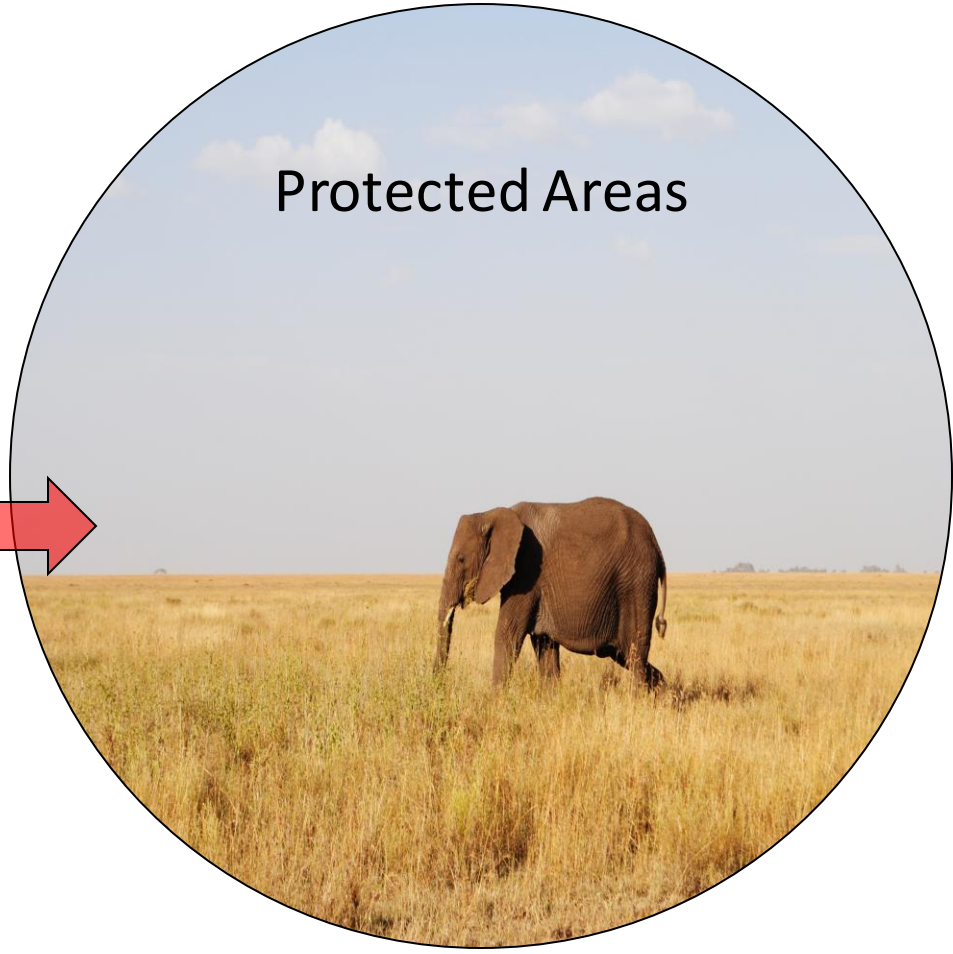
Protected areas, poverty, and community-based natural resource management: a case study from Ghana

Dana Baker, PhD student, Duke University Marine Lab

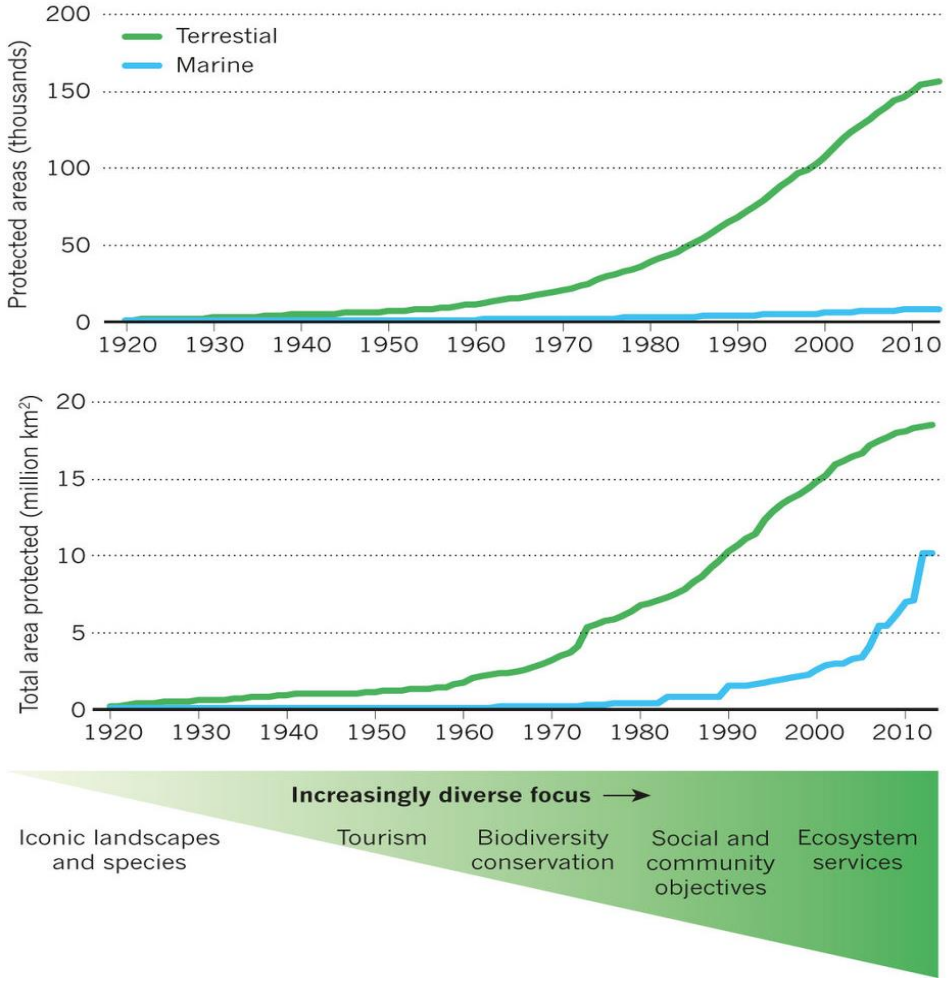
Dr. Grant Murray, Duke University Marine Lab

Painting by John Kofi Aryee

Volta Region near Digya National Park, Ghana

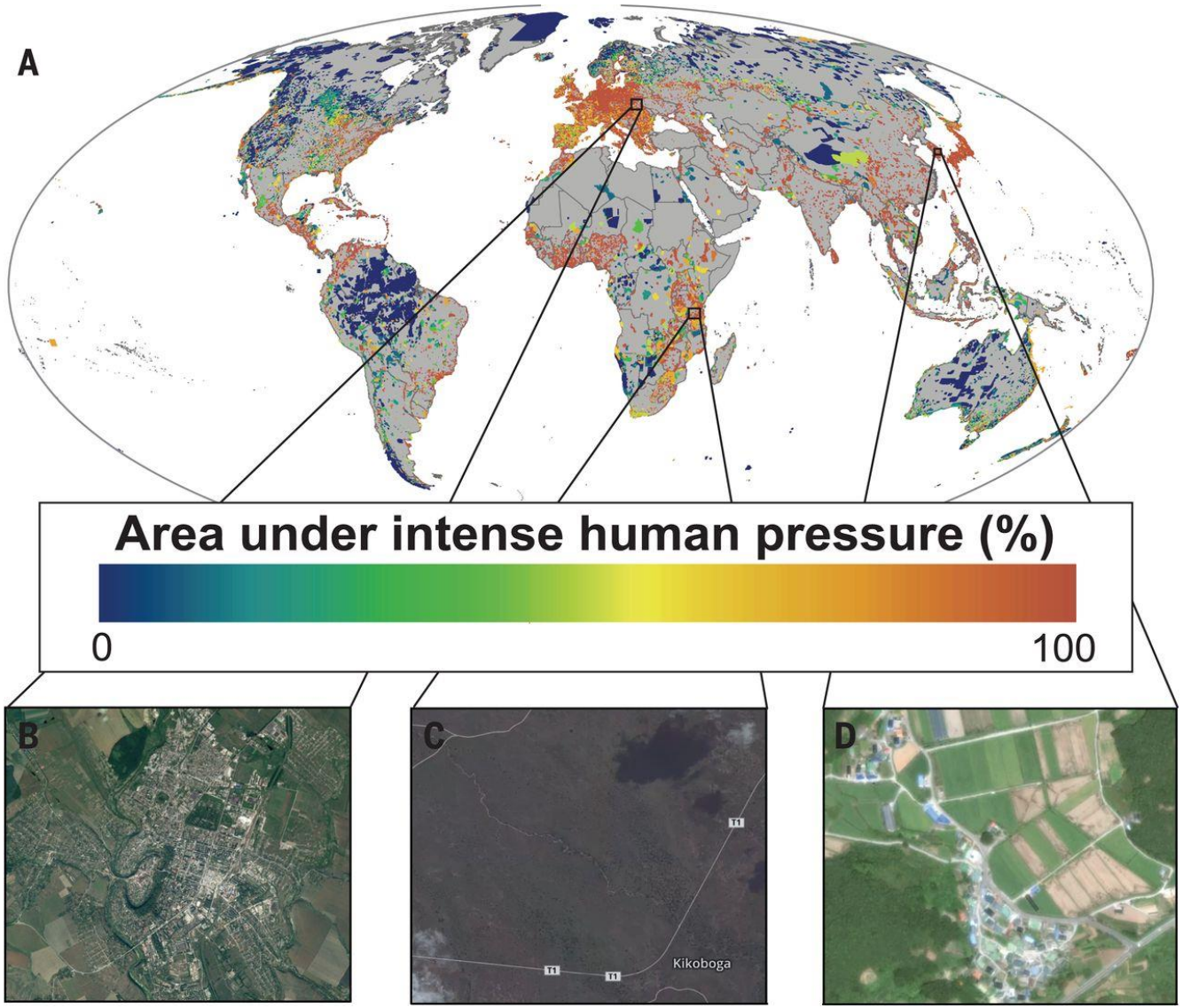


Serengeti National Park, Tanzania



From Watson et al. 2014. The performance and potential of protected areas.

Fig. 1 Human pressure within protected areas.

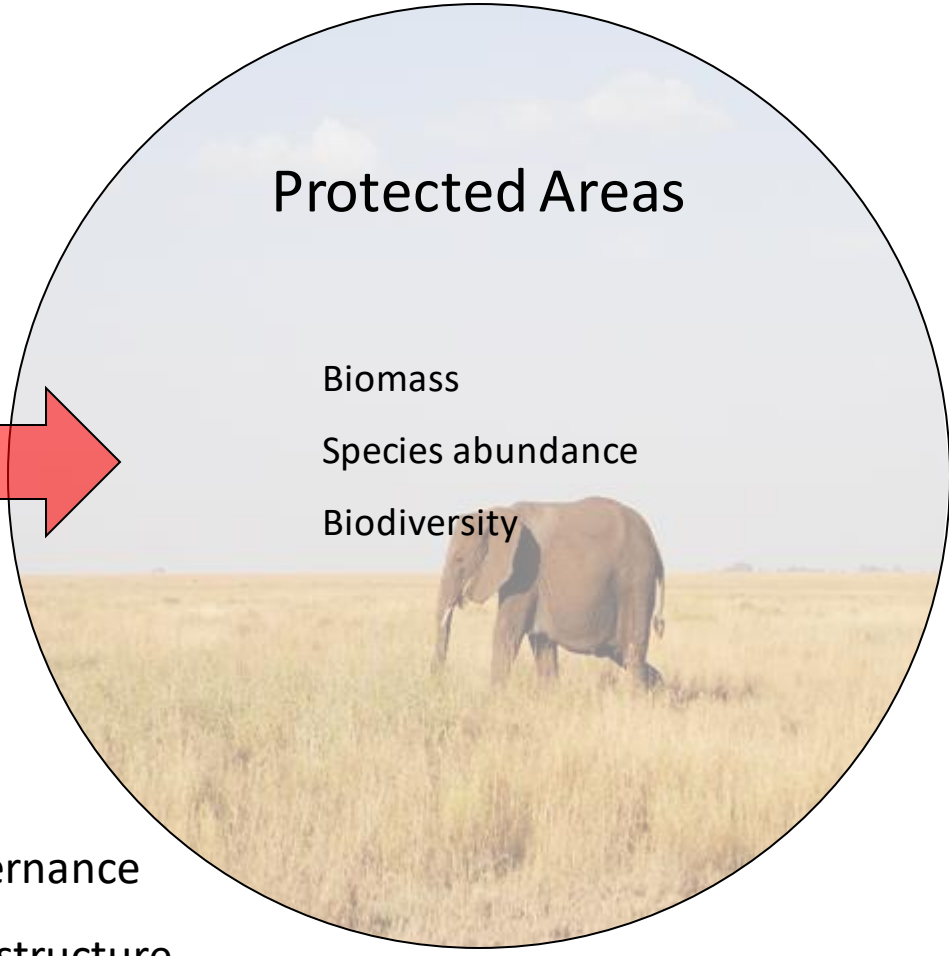


Published by AAAS

Kendall R. Jones et al. Science 2018;360:788-791

SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS

Poverty alleviation and sustainable development in conservation interventions



Governance

Infrastructure

Tourism/Eco-tourism

Processes of PA establishment

Increase participation

Alternative livelihoods

The Ghanaian Context

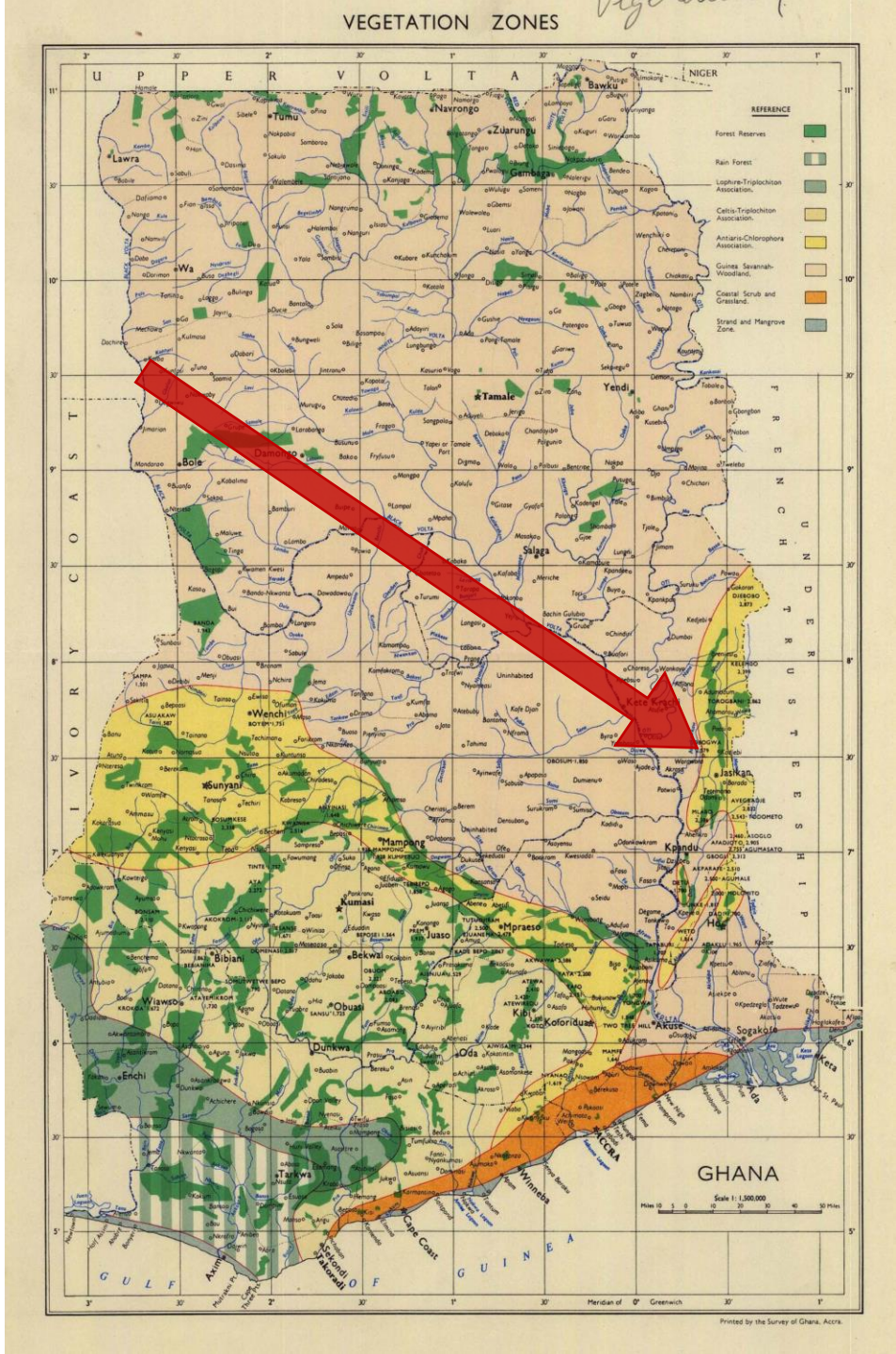
The Ghanaian Context

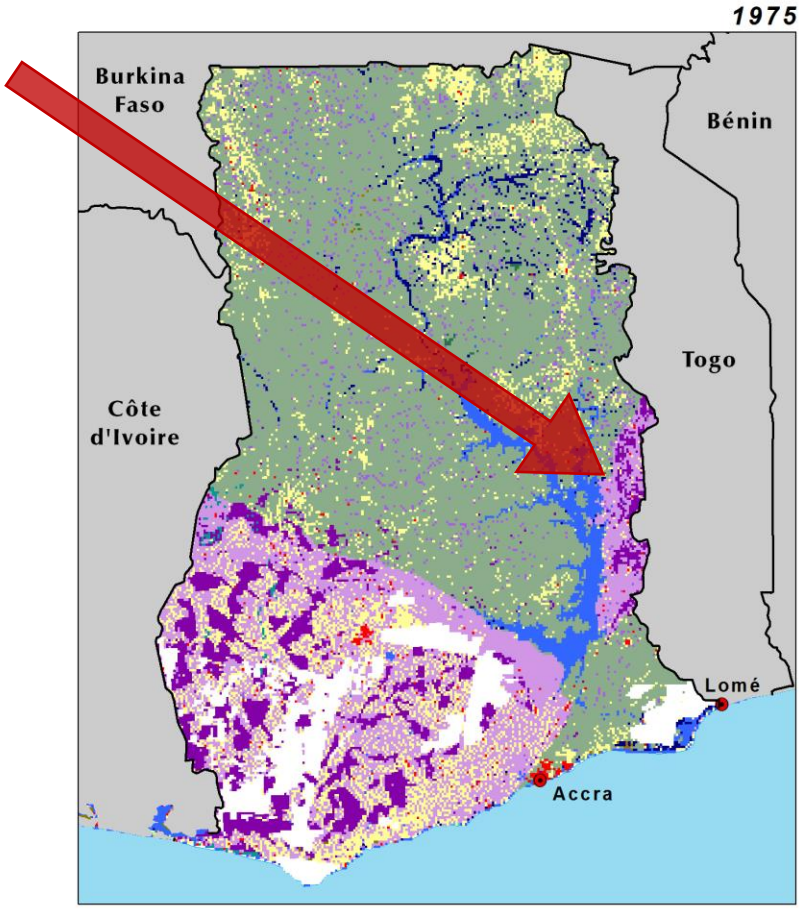
Community Resource Management Areas

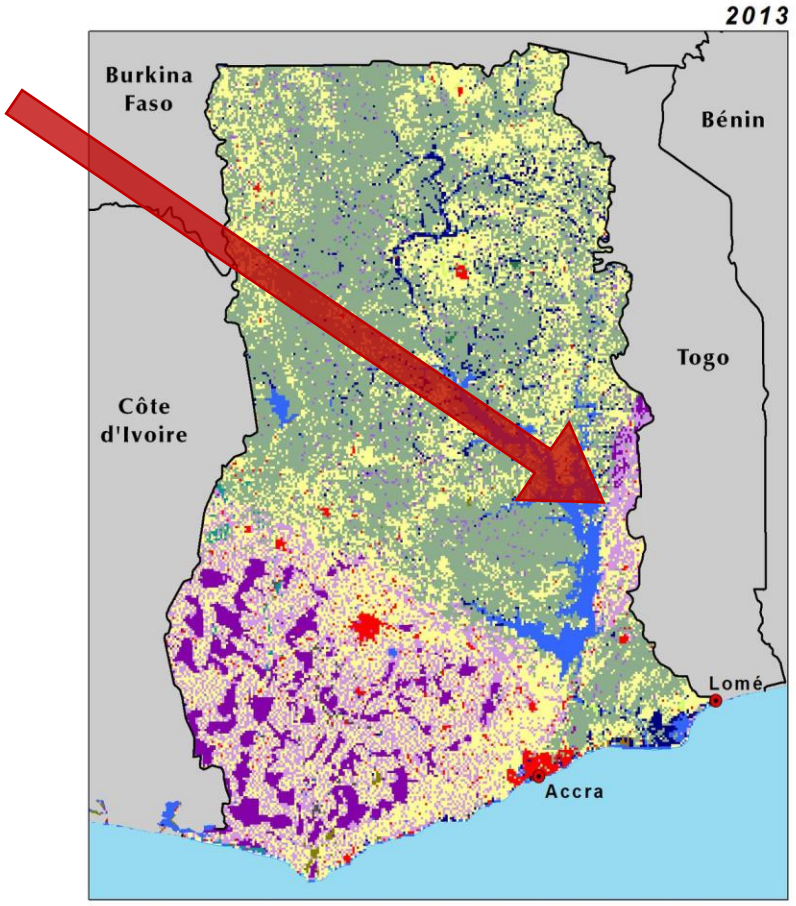
- CREMAs
- Devolved management
- Works to address issues of resource conservation on community lands
- Aims to bridge disconnect between **state** and **customary** management systems

Akwapim-Togo Mountain Range

- Guinean Forests of West Africa identified as a 'Biodiversity Hotspot' by international organizations
- Land management pluralistic and decentralized
- 80% of lands held under trusteeship of customary authorities = chiefs, families, and traditional leaders
- Akosombo Dam, 1965
- Closed canopy forest







Land cover and land use trends in Ghana from 1975 and 2013, USGS

Land Cover / Occupation des Terres

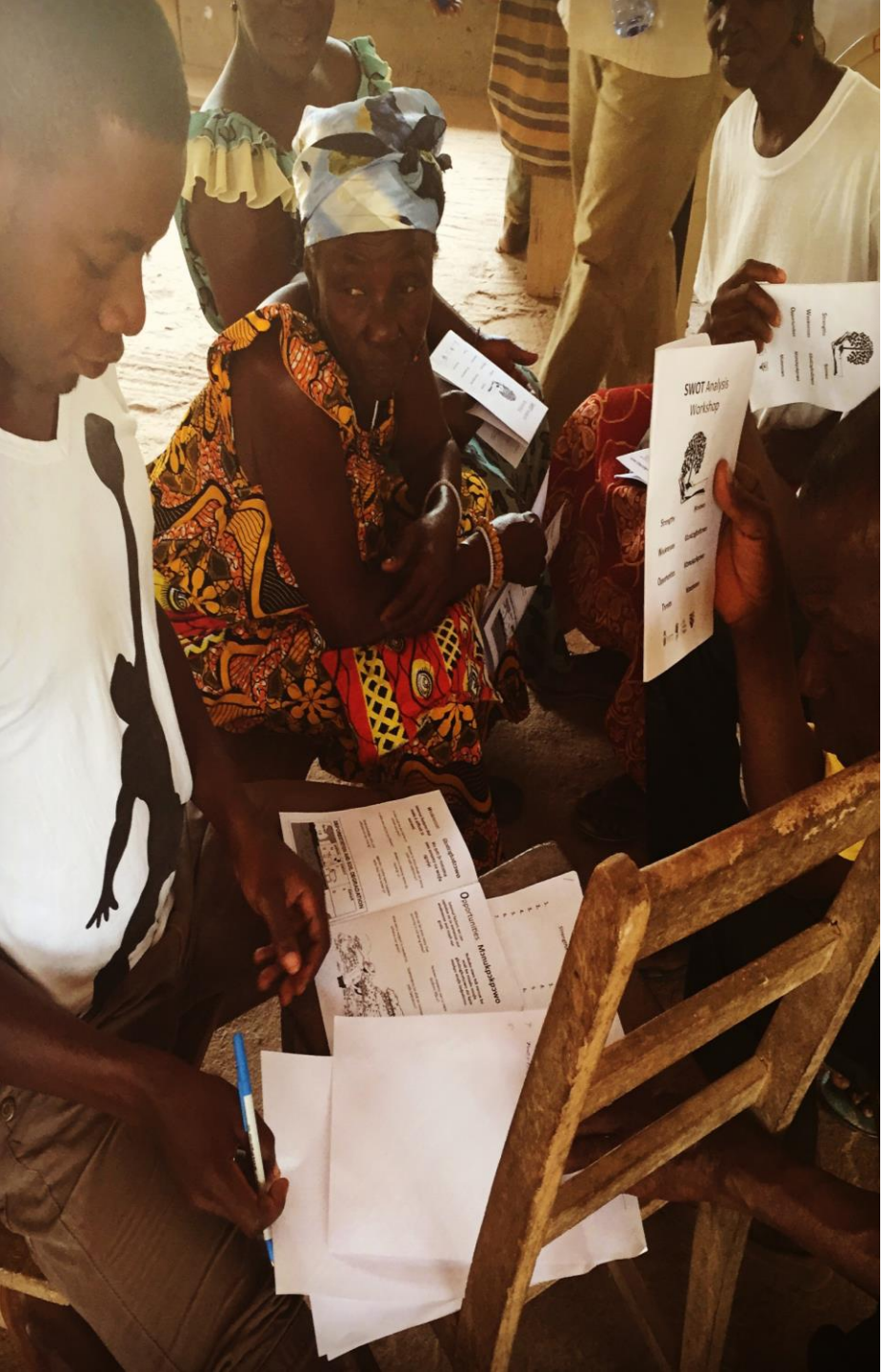
- Herbaceous savanna / Savane herbacée
- Savanna / Savane
- Woodland / Forêt claire
- Gallery forest & riparian forest / Forêt galerie & formation ripicole
- Forest / Forêt
- Degraded forest / Forêt dégradée
- Mangrove / Mangrove
- Agriculture / Zone de culture
- Irrigated agriculture / Cultures irriguées
- Plantation / Plantation
- Settlements / Habitation
- Water bodies / Plans d'eau
- Wetland - floodplain / Prairie marécageuse - vallée inondable
- Rocky land / Terrains rocheux
- Bare soil / Sols dénudés
- Open mine / Carrière
- Cloud / Nuage

Market in Hohoe, Volta region, Ghana

Kyabobo National Park, Volta region, Ghana

Landscape view from Mount Afajado in Volta region, Ghana

The Akwapim-Togo Mountain Range



Research Approach & Methods

Goal & Driving Questions

Goal: To understand community perception and awareness towards natural resource management systems and conservation programming across the Akwapim-Togo Mountain Range

1. What factors promote (or inhibit) implementation and enforcement of conservation programming/policy?

2. How do stakeholders perceive current natural resource management systems and interventions?

Picture: Fire in the riparian corridor of the River Dayi that also serves as a source of drinking water for many downstream communities

Community workshops

- Implementation of 12 community workshops using SWOT framework with priority ranking system
- Total participants: 329

Key informant interviews

- Forestry Commission
- Wildlife Division
- NGOs/CSOs

Round-table discussions involving key stakeholders

- Local communities, government agency, and environment organizations

Transect walks with stakeholders and land managers

- River Dayi
- Kalakpa Resource Reserve
- Kyabobo National Park
- Mount Afajado
- Wli Falls
- Keta Lagoon complex

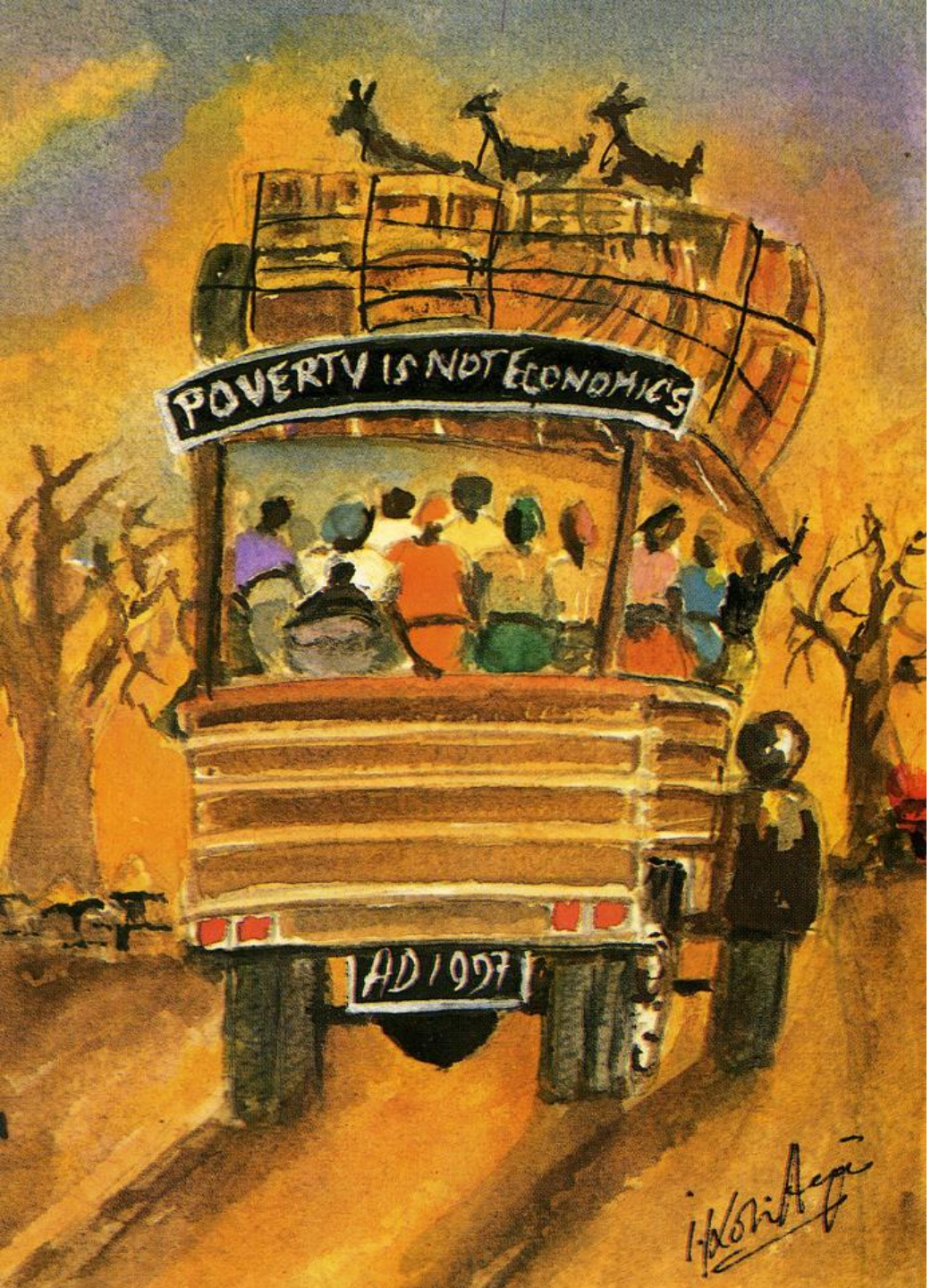
Key Results

- 2012 process started to implement CREMAs across the mountains
- Multimillion dollar project backed by international donors
- Programming focused on alternative livelihoods and new governance arrangements
- People are acutely aware of their changing landscape
- Fire widely perceived in ALL communities to be greatest threat to individual and collective livelihoods
- Deforestation, from illegal chainsaw operators, ID as a top threat in 11 out of the 12 participating communities
- Widespread resistance to conservation programming

Top: Park ranger bottle feeding antelope found in snare **Bottom**: cooking bushmeat for dinner

Discussion

- Highlights attempts to promote new linkages between actors
- Land and resource tenure central issue
- Clear disconnect between state and customary management systems
- Conservation interventions did not directly focus on tenure or current management systems



Baker, D. M., G. Murray, and A. Agyare. 2018. Governance and the making and breaking of social-ecological traps. *Ecology and Society* 23(1):38.

Dana M. Baker, MESc
PhD Student in Marine Science & Conservation

Dana.M.Baker@duke.edu

Duke NICHOLAS SCHOOL OF THE ENVIRONMENT
DUKE UNIVERSITY MARINE LAB

Paintings by John Kofi Aryee