



A monkey



A cat

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(one) Ghanaian Community



2008



2013



Before the galamsey [mining] my mother was farming yam, maize, cocoa and other cash crops on that land, but they destroyed it without any compensation. When she complained, they threatened that they will prosecute...you know in Ghana justice is not fair when the case is between the rich and the poor, so she abandoned it...

– Community member

New forms of enclosure and privatization through foreign intervention constitute most recent round of dispossession, intensify primitive accumulation and deepen the integration of African nations in global extractive circuits (e.g. Watts 2006; Obi 2008, 2009; Shivji 2009).

After they [miners] left, food is very scare. There are no fishes or bush meat because everything has been destroyed.... They used to grow vegetables along the Offin River but now the whole place has been destroyed. They don't have any place to even grow maize.

– Community member

Mine tailings block the Subin River in a rural community in western Ghana.



The emergence of a disease in a particular region is associated with multiple macro-level changes such as a shift in political and economic regimes.... rapid conversion of natural habitats, and urbanization. In some cases, variations in climate may act synergistically with these socio-economic changes...

– Lambin et al. 2010





Buruli ulcer, a necrotizing bacterial skin infection associated with aquatic land-uses and extreme rainfall events (e.g. Merritt et al. 2010 and Morris et al. 2014)

Worldwide, Buruli ulcer disproportionately affects women and children, likely due to aged and gendered livelihood practices and complex factors that make these groups immuno-compromised.

Veracruz Coffee Country



ICO composite indicator price (green coffee)
Monthly averages: January 1997 to July 2002



We suffered a lot during the coffee crisis. I didn't hire labor. I applied fewer chemicals...and still I lost money. In 2002, I sold a piece of my land to my cousin from Xico. His son works in the United States so he had some money and gave me a good price.

-- Veracruz coffee producer with 3 hectares (2008)





Seasonal Coffee Laborers Hit Hardest

No one is working in coffee. There is no work... the conditions of our crops are not good. There have been *aguaceros* [downpours] like never before and the *milpas* [maize/bean/squash system] are so humid. A fungus is growing on everything. The maize is almost totally spoiled.....

-- Náhuatl woman in Veracruz (2003)



Two consecutive and historically unusual tropical storms hit Veracruz in September 2013, causing landslides in several locations (including near the Náhuatl community I visited).

Livelihood & Land-use Diversification



coffee



maize



limes

sugarcane



land sales



off-farm labor



Twenty years ago it was all coffee...if it rained heavily the flowers were knocked off the coffee plants and you lost the whole harvest. But these days if we get a down pour, we can count on cane and limes, which like the rain.

--Veracruz producer with 1.5 hectares (2008)





CONCLUSIONS

Vulnerabilities are often multiple and interacting

- Particular individuals—often but not always women, children, poorest of the poor, ethnic minorities—constitute the most vulnerable.
- We must have more comprehensive understandings of site-specific vulnerabilities vis-à-vis socio-ecological change.

Marginalized groups are often not well-prepared to respond to climatic changes due to existing “everyday vulnerabilities” (hunger, illness, etc.); shaped and worsened by political-economic conditions such as trade liberalization, foreign land-grabbing and undermined public health systems.

- Mitigating these everyday vulnerabilities should be a key component of enhancing adaptation to climate change.

Policies and development interventions aimed at enhancing adaptation need to be context-specific, build upon local knowledge, and support practices/strategies marginalized people deem viable (Hausermann 2014; also agro-ecologists: Miguel Altieri, Steven Gleissman, Ivette Perfecto, John Vandermeer).

THANK YOU

Research participants in Ghana and Mexico

Petra Tschakert, Richard Amankwah and other ReBUild team members

Research assistants:

David Ferring, Emmanuel Effah, Jenaro Martinez, Augustus Chang,
Natasha Sastri and Helen Olsen

Funding sources for the two projects:

NSF CNH, NSF DDRI, Fulbright-Hays, Tinker Foundation

Department of Human Ecology, Rutgers University

School of Environmental and Biological Sciences, Rutgers University

What land-uses are converted to gold mining sites?



Garden vegetables



Cassava



Palm nut



Bush
h



Cocoa



Maize



Plantain



What are the environmental and livelihood implications of these transformations?



Land-use change: new livelihood activities, gender and perceptions of decreased petty theft



Compensation for land: investment in new economic activities



New markets: from duck to decor