



Minutes – Friday, April 26, 2024
Video Conference
9 am to 11 am

Attending: Aimee Dailey, Marie McRae, Brian Eden, Shelia Out, Alice Green, Tom Hirasuna, Dan Lamb, Terry Carroll, Hailley Delisle, Janelle Bourgeois, Leigh Miller, Dawn Montanye, Ray Burger, Ingrid Zabel, Paul Moore, Aaron Fernando, Dave Bradley, Joe Wilson, Bossombra Kouamé, Hilary Swartwood, Kitty Gifford, Sara Hess, Simon Gruber, Regi Teasley, Margaret McCasland, Peter Bardaglio

The Humphrey Fellows Program – Hyomi Eom & Bossombra Kouamé
Hyomi Eom is a Senior Officer at the Ministry of Environment in South Korea and Bossombra Kouamé is a Professor of Economics at the Université Jean Lorougnon Guédé in Côte d'Ivoire focusing on climate change mitigation through forest conservation. Hyomi and Bossombra shared their experiences in the Humphrey Fellows Program at Cornell and their respective work on environmental and climate issues in South Korea and Côte d'Ivoire.

Hyomi Eom

- The Ministry of the Environment established in 1967
 - Structure: Minister, Vice Minister, 10 Bureaus, and 8 Regional offices
 - Employees: 2,519 people (2022)
 - Budget: \$10.3 billion (2023)
 - Roles: Achieving carbon neutrality, Environmental conservation, Climate change mitigation, Improving air quality for blue sky, Creating a circular economy, etc.
- Humphrey Fellowship
 - Engaging in hands-on work with counterparts in US
 - Enhancing our professional experiences
 - Minimum of six weeks
 - Worked with TCCPI, 02/26/2024 to 04/30/2024 – updated and revamped website
- Ministry of Environment
 - Established in 1967
 - Includes Minister, Vice Minister, 10 Bureaus, and 8 Regional offices
 - 2,519 people employees (2022) & budget of \$10.3 billion (2023)
 - Roles: achieving carbon neutrality, environmental conservation, climate change mitigation, improving air quality for blue sky, creating a circular economy, etc.
- Hyomi focuses on pollution damage relief
 - A hydrofluoric acid leak accident in 2012 led to deaths of 5 people and 18 injuries, long term litigation

- In response, act regarding environmental relief and liability signed into law in 2016
- Key concepts guiding this work
 - Prompt and fair relief for victims from environmental pollution damage
 - Ensuring a sustainable business environment for companies
 - When responsible people for environmental pollution unknown, incapable, or liability limit is exceeded, the government directly assists victims financially and legally
 - Aside from Japan, Korea only country that provides direct compensation to victims of environmental damage
- Example of financial support: Geomuldae-ri Village
 - Due to reckless development caused by deregulation of factory location
 - Heavy metals such as nickel and lead released into the air and soil – led to occurrence of related diseases such as cancer
 - Government launched detailed epidemiological investigation
 - Held deliberation meeting & acknowledged individual damages, financial support
 - As result, 196 victims recognized, 37 types of diseases recognized, and \$500,185 provided in support
 - Virtually impossible to identify factory that caused problem because hundreds of factories had sprung up around village, so government provided direct support
- Legal Support Overview
 - Purpose is to support damage claims lawsuits filed by vulnerable groups who have suffered environmental pollution damage
 - Support provided in form of legal advice, litigation representation by environmental professional lawyers, and legal cost support
 - Focuses on low-income people, the elderly, disabled, women with career breaks, veterans, etc.
- Example of legal support: Morae Village
 - Villagers harmed by iron oxide fugitive dust generated from nearby shipyards
 - Besides health issue, violation of housing rights
 - Lost in the first trial, then applied for litigation support
 - With help of professional environmental lawyer, they won the second trial as well as appeal
 - Carried out field verification, environmental pollution assessment, medical expert advice, etc.
 - First case won by litigation support initiative – very difficult to win environmental lawsuits in Korea
- Climate Change Policies
 - Temperature has risen by 1.8 °C over 106 years (1.4 °C over 30 years)
 - Precipitation has increased by 16.3mm per decade over 106 years
 - Summers getting longer and winters getting shorter over 30 years (summer ↑19 days, winter ↓18 days)

- Occurrence of record-breaking cold waves and heatwaves
- Act On Carbon Neutrality and Green Growth for Coping with Climate Crisis passed in 2021
 - Goal: Achieve carbon neutrality by 2050
 - Established target of reducing greenhouse gas emissions by 40% by 2030 compared to 2018 levels
- Transition to Electric and Hydrogen Vehicles
 - 4.5 million electric and hydrogen vehicles by 2030 with subsidies and tax reductions
 - Public organizations to introduce new vehicles exclusively as electric or hydrogen cars
 - Establish a fast and convenient charging infrastructure (over 1.23 million units by 2030)
- Promotion of Waste Reduction and Recycling
 - Installation of reduction facilities and process improvements at businesses that produce large amounts of waste
 - Deposit system for disposable cups (Sejong City, Jeju Island)
 - Recycling for used electric vehicle batteries and solar panel waste
 - Technology development for new materials that substitute fossil fuels
- Transition to Clean Energy
 - Abolition of coal power plants designed for operational lifespans of over 30 years
 - Expansion of nuclear power as carbon-free energy source – current administration considers it key to reducing GHG emissions
 - Increase in renewable energy ((2022) 9.2% -> (2030) 21.6%)

Bossombra Kouamé Epse Koffi

- Background
 - Bossombra's home country is Côte d'Ivoire, where she is an economics professor at Université Jean Lorougnon Guédé
 - She was a Humphrey Fellow for the entire 2023-24 academic year
 - Teaches regular students Public Economics and professional students Green Economics
- Research focuses on deforestation and forest conservation in Côte d'Ivoire, located in western Africa – country is covered mainly with tropical forests
- Huge deforestation after 1950s – nation has lost 90% of its forests
- Began a policy of implementing protected forests – 231 since 1960s
 - Challenging to manage these forests due to illegal settlement of people
 - Goal is to preserve these forests, in part because they sequester carbon
 - The dilemma: removal of people threatens human rights while illegal settlement of people poses threat to forest conservation
- Côte d'Ivoire is top cocoa producer in the world – cocoa is raw material of chocolate

- Country has lost 26% of its humid primary forest from 2002 to 2020 – significant portion of deforestation attributable to cocoa farming expansion
- Cocoa farms have moved from eastern to western portion of country both because of deforestation and climate change
- Globally agricultural, forestry, and other land uses responsible for 24% of greenhouse gas emissions – electricity and heat production generates 25 % of emissions and industry 21%
- In Côte d'Ivoire forestry and other land uses are by far largest contributor to GHG emissions – 26 million tons vs. just less than 6 million in agriculture
- New forest code implemented in 2019 – policies promote cocoa agroforestry
- Goal is to restore degraded land and improve forest cover, while at same time promoting sustainable livelihoods and agriculture in classified forests and rural zones
- Effort undertaken to put in place participatory management of protected forests
 - Working to strengthen inclusive management of protected forests to achieve the objective of forest coverage of 20% of the national area by 2030
 - Composition of committee: representatives of local communities residing along classified forests and those living within, youth and women's associations, state technical services, NGOs, and religious groups
 - At least 15 committees have already been established
- Benefits of Participatory Management
 - With move from centralized management to participatory management, conservation effort moved from repression to incentives
- Challenges
 - Land tenure rights on forest lands not well established
 - Participation in decision making should go beyond simple adhesion
- Private Sector Actions to Conserve Forests
 - Public-Private Partnerships (PPP) have been developed in country
 - Cocoa & Forests Initiative (CFI) just one example
 - Involves governments of Cote d'Ivoire and Ghana as well as 35 cocoa & chocolate companies in effort to end deforestation and restore forest
 - Another example: collaboration between CEMOI, a chocolate company and SODEFOR, state farm company in charge of forest protection
 - Working together to raise awareness and train of cooperatives affiliated with the CEMOI Group – facilitated by experts from SODEFOR
- Effects of Climate Change: Heatwaves
 - In 2024, Cote d'Ivoire experienced significant increase in temperature
 - Dangerous heatwave in Southern West Africa, including Cote d'Ivoire – reported to be about 4°C hotter due to climate change
- Consequences for people
 - Dehydration: as the body loses fluids through sweating
 - Respiratory Issues: air pollution, asthma and chronic pulmonary disease.
 - Hot and humid conditions can also strain respiratory system

- Cardiovascular Problems: risk of heart attacks and strokes, particularly in vulnerable populations including elderly and people with pre-existing heart conditions
- Adaptation to Heatwaves
 - Hydration: drink water constantly and carry water bottles
 - Cooling Strategies: stay indoors, at shade of trees during the hottest hours, using fans or air conditioning if available, and wearing lightweight and breathable clothing.
 - Awareness and Education: Increasing awareness about heat-related health risks and educating the population on how to recognize and respond to heat-related illnesses can help people in Cote d'Ivoire adapt to heatwaves
- Effects
 - GHG emissions
 - Threat to cocoa farming (cocoa loop shifting)
 - Heatwaves
- Solutions
 - Law enforcement (New forest code, 2019)
 - Participatory policy (committee)
 - PPP (CFI)
 - CSA (Agroforestry)
- Still challenging but conserving forests is mitigating climate change, saving our planet from global destruction
- Humphrey Fellowship Experience
 - Before coming to Cornell, took course at University of Illinois to improve English speaking skills
 - Hosted by CALS, especially Global Development Department
 - Included visiting classes, taking E-Cornell courses, and attending seminars to build her capacity
 - Guest speaker in undergrad course on Planning for Change and on panel for international Earth Day, Verdant Views: Global Climate Stories
 - Served as mentor in undergrad course on climate smart agriculture and on selection committee for New York Youth Institute forum
 - Volunteered in Foreign Language Institute Program (FLIP) at Willow Glen Elementary School teaching French & providing opportunity for cultural exchange
 - Attended workshop on climate change in Ohio and on food security in Iowa
 - Field trips to Niagara Falls, Adirondack Park, Alfred State College, and Cornell Dairy Barn
 - Professional affiliation experience with TCCPI, including steering committee meetings and monthly meetings – also 2030 District meetings
- Take aways from this unique experience
 - Build my capacity
 - Extend my network

- Build relationships
- Improve English
- Serve local community
- Collaboration with US organizations
- Leadership experience

Q&A

- Ingrid Zabel: Now that you've had a chance to observe how we deal with some of our environmental issues, what thoughts do you have about approaches in your home countries that you think are better?
- Hyomi: South Korea does a better job regarding direct compensation to victims for environmental damage and pollution – but US has more resources to protect public lands
- Bossombra: Impressed with how community here reaches out to involve local people and to advance energy transition and reduce GHG emissions
- In Cote d'Ivoire, we don't have same kind of coalitions of local people working on their own to deal with environmental and climate issues
- Private sector and local farmers are involved with forest conservation but they're not at same table working together to plan for future with climate mitigation
- But we are more advanced in our thinking about ecosystem services provided by our forests and working to develop agroforestry in our country

Hudson River Watershed Alliance – Simon Gruber

Simon Gruber is an environmental planner, policy analyst and educator based in Orange County, NY who's been working on a range of environmental and community planning issues in the region since 1990. His work focuses on water resources and watershed planning, energy, land use and health, and he's recently been involved in transportation and transit planning. From 2005 to 2019, he was a cofounder and later chair of the Hudson River Watershed Alliance. He's an appointed Fellow of the Institute for Sustainable Cities at Hunter College, CUNY, and chairs the Moodna Creek Watershed Intermunicipal Council in Orange County. Simon discussed his work on water resource issues, including with the Hudson River Watershed Alliance, as well as potential collaboration with water resource organizations in our region.

- How did the Hudson River Watershed Alliance come into being and how does it work with local organizations?
- Hudson River is tidal up to Troy – considered to be estuary south of the dam there
- Hudson River Estuary Program evolved over time – headed up by Fran Dunwell who served for many years as coordinator of the program in the DEC
- Folks working with the DEC program decided it would be good to have a nonprofit that would work with government as partner – could bring in more people and energy

- Conferences convened at Mohawk Mountain House in Ulster County – at 2005 gathering idea of Hudson River Watershed Alliance developed and steering committee formed – incubated by Pete Seeger’s organization Clearwater
- Operated by consensus – didn’t even have chair for a while – started spinning off from Clearwater and became 501c3 years later
- Simon stepped down as chair and left board in 2019
- Over last two decades at least 30 local watershed organizations formed – many are still operating
- Simon has been most involved with the watershed group associated with Moodna Creek in Orange County – 15 municipalities plus county water authority have entered into formal intermunicipal agreement – every watershed group is different
- Peter pointed out that as a tidal river Hudson not only affected by extreme precipitation events like the terrible flooding that took place last July but also rising sea level – climate change is clearly affecting watershed itself
- Simon noted that change in rainfall has been very dramatic over last seventy years
- Watershed is whole land area that drains to certain point along stream – each has their own identity and are separated from adjacent subbasin
- We looked at map of Cayuga Lake watershed and the dozens of streams that flow into it on both east and west sides of lake
- Simon said he’d be happy to be a resource for Cayuga Lake watershed organization and would like to stay in touch
- Peter noted that southern part of county is in Chesapeake Bay watershed because of Susquehanna River – watersheds connect us all together – kind of connective tissue
- Simon: Indigenous people thought it terms of watersheds they lived in, where they would hunt and fish
- We haven’t set up our municipal and state governance lines in terms of watersheds – if you want to work on watershed scale as part of managing water, you need to go outside those boundaries
- One of reasons why watershed groups have important part to play – thinking in terms of watershed provides important perspective
- Climate change unfolding much quicker than even scientists predicted
- Regi Teasley: Concerned about general public’s lack of preparedness for flooding – need to raise awareness about this threat and what to do about it
- Need to put together our own network of nonprofits that would plan for the rapid climate changes already taking place
- Simon: A lot going on here directly relevant to this concern – Scenic Hudson biggest environmental organization in based in Hudson Valley
- Started years ago doing charettes in towns along Hudson on sea level rise issue – now turning to flooding
- Peter: Sawmill Parkway runs right along river and will need to be raised – will cost something like \$70 million per mile to do this – also rail line that runs next to it

- We're going to have to spend hundreds of millions of dollars on projects like these
- Ithaca itself is at risk given the hills around downtown – like a ski area – rain bomb could wipe out downtown much like what happened to Penn Yan several years ago
- We've got to learn how to collaborate across these different regions
- Brian Eden: Have any of these watershed alliances formed formal watershed districts? Talked about this ten years ago because Ithaca flatlands subject to waters rushing out of hills around city
- We need to have all of upstream and downstream working together to figure out how to reduce pace of water and maximize ecosystems services of each stream – need to keep sediment upstream as much as possible
- Other issues with Cayuga Lake involve farm runoff into lake and salt mine under lake – both affecting water quality of lake
- Simon: We should consider starting regular dialogue, with Zoom meetings every two or three months to talk about how we can collaborate – lots of lessons learned that could be shared
- Peter: Exactly the kind of thing we were hoping would come out of this meeting – maybe we could promote this kind of exchange to share information, knowledge, and insights -- need to figure out how this could unfold
- Simon: Climate mitigation, which was main focus of 2019 CLCPA, obviously important – at local level, however, we need to focus on impacts of storms and extreme heat
- Organizations in Great Lakes have been working together for years and have attracted significant financial resources
- Peter: Hilary Swartwood, sustainability planner of Town of Ithaca, points out in chat that Finger Lakes Regional Watershed Alliance terrific resource
- Simon: Let's plan another conversation relatively soon – Simon, Peter, Hilary, Regi, and Brian
- Brian: We're all aware that we need to work together more closely – conversation that has been going on for long time
- Bossombra: Thinking about ways climate and weather information could be more widely shared
- Peter: State just released in February its report on climate impacts – study more focused on adaptation and resiliency than state's previous reports – lot of research and reporting at state level on what climate impacts are
- Simon: Also lot of climate work going on with faith groups
- Regi: One of missing pieces in all of this is ordinary resident – great that this research and reporting is going on but are they getting to ordinary residents who are really on front line? Are residents being involved in planning and conversation about how to respond and prepare?
- Peter pointed out that Cornell Cooperative Extension doing a lot of this work while helping residents make their homes more energy efficient and resilient