



## Study Abroad at Udzungwa Mountains National Park, Tanzania

A Student Perspective, 15 May - 25 June, 2011

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## Parks and People: Conservation of Nature and Community

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## Parks and People: Conservation of Nature and Community at Udzungwa Mountains National Park, Tanzania

### About the Program

This interdisciplinary Study Abroad Program, now having completed its second year at Udzungwa Mountains National Park, aims to assist in protecting the park's assets, and hence conserve biodiversity, by focusing on community design and planning to ensure that village life can be independent of the park's resources. The program also involves partners from Tanzanian universities, government agencies, and international non-government organizations, exposing students to inter-disciplinary and inter-organizational expertise. Students gain hands-on experience in the study of environmental design and land use planning. Fields trips into Udzungwa and other parks, as well as to a variety of rural and urban settings, enable students to observe and document land use, biodiversity, and their interrelationships. In the following pages we provide an account of daily activities, speakers, and experiences. In addition, we summarize the academic program and the schedule of program activities, as well as provide an overview of student projects and some preliminary student feedback on the contributions of the program to students' academic development and progress. Student work from the trip will eventually be available via our website: <http://larch.psu.edu/tanzania>.





# DAR ES SALAAM 17-20 May

Dar es Salaam, located along the coast and Tanzania's largest city with a population of 2.5 million, is a bustling mix of people, cars, industry, and business. Upon arrival at Julius Nyerere International Airport, our group was met by Mr. Roy Uronu, who would be our guide and transport until we reached Udzungwa. Accommodation was provided at the European Committee for Training and Agriculture (CEFA) hostel, located on Old Bagamoyo Road in the Mikocheni B section of the city. CEFA is an Italian non-governmental organization that helps to provide basic needs for people in developing countries, such as Kenya, Morocco, Somalia, Guatemala, Albania, Bosnia, and Tanzania. CEFA's hostels, including the one we stayed at in Dar es Salaam, fund their projects in rural areas, and provide employment for many underprivileged people. Nice staff, air-conditioning, and a rooftop terrace with views to the Indian Ocean characterized our stay. Additional accommodation for four of the group members was provided at the Passionist Fathers hostel, a few minutes' walk from CEFA.



## Student Reactions: First Impressions of Tanzania

*"As soon as I stepped off the plane and onto Tanzanian soil I could tell that I was no longer in a familiar place. The airport, customs, and the parking lot were my first views of Africa, yet somehow these ordinary spaces felt different, more like something I had seen in a movie and not a place I had experienced before."*

*"The airport, most people's first impression of a country, was hot, humid, and quite smelly. As we drove along the main road other observations came to mind: how poor the place seemed, how we were the only white people in sight, and how messy the streets were. While these first impressions may seem negative, I could not have been more excited."*

*"The long drive that covered only a short distance was enlightening; it displayed the vast amount of people that congregate within the main population centers of Tanzania. Dar es Salaam is the biggest city in this country and is a whirlwind of people, with most of them intent on selling something. I did not expect merchants to come right up to the window, pressing their goods against the glass and simultaneously dodging the vehicles that passed by."*

*"Ironically, my first real culture shock came in the form of something we are very used to in America, a traffic jam. Little did I know that these first few hours in the country, spent on a highway, would be just a taste of the larger issues of inadequate infrastructure, insufficient systems of laws, and, in a larger sense, the challenge of adopting Western technology in a rapidly growing and developing country."*

*"One of the first things that stuck out to me was the amount of life found along the highway. People who were not driving cars were packed onto crowded buses, riding on motorcycles or bicycles, relaxing and socializing along the road, or trying to sell anything from drinks to coat racks to steering wheel covers."*



## DAR ES SALAAM

### Activities

#### The Airport

Although Julius Nyerere International Airport is Tanzania's largest and most modern airport, all we initially noticed was that it was hot, everything was a dusty brown color, and we wanted to fill out our immigration forms as fast as possible so we could finally get on our way. Roy Uronu, our guide met us at the entrance and led us to the bus that would take us on our last leg of the journey. CEFA was 21 km (13 mi) from the airport, in our minds this journey should have taken thirty minutes. Three hours later we arrived. This was our first experience with Tanzanian traffic. Dar es Salaam's roads were clearly not built to provide for the amount of vehicles in the city; the city's infrastructure had not grown at the same rate as its population. Yet even as we drifted in and out of sleep on the bus, we were vaguely aware, possibly because of the people banging on the windows trying to sell us cashews, that this traffic jam was uniquely Tanzanian.

#### European Committee for Training and Agriculture(CEFA) Hostel

When we finally arrived at the CEFA hostel all of us were ready for a break from travelling – at least for a few days. Finally after hauling our things up to our rooms we had a chance to relax. We bought bottled water for drinking and brushing our teeth. Mosquito nets created a canopy over the four-poster beds, giving the beds a vaguely princess vibe (at least from the females' perspectives). At night these nets were tucked into the mattress to ensure that no mosquitoes or other insects would sneak onto the bed. After unloading our things we explored the hostel. Our rooms were accessed from the second floor balcony so we wandered up the steps to the third and fourth level balconies. From here we could see exquisite views of the surrounding homes, palm trees, and even the Indian Ocean in the distance. We really were in *Africa*.

#### Dining Out in Dar

All that traveling had made us hungry so we climbed back in the bus to go to the Waterfront Restaurant, appropriately named as it is located next to the Indian Ocean. We sat under a thatched roof and watched the sun set over the water. However the real experience came when our fish was served. Most of us, with the exception of the professors, were expecting a fish fillet, as served in a restaurant back home. Instead we got a whole fish; complete with the bones, scales, and eyes. Although we were told that fish cheeks are especially good, most of us were not inclined to remove the fish's head in order to search for the "cheek meat."

Our second night we had a group dinner at *Khana Khazana* (Pizza and Spice), an Indian restaurant. As soon as we walked in, waiters and waitresses hurried to set up tables and chairs, clearly excited about the group of fourteen that had just arrived. We ate *naan* (traditional Indian flat bread) by the basket, and feasted on curry and rice. In Tanzania, Indian food is very common, as contemporary Swahili cuisine is influenced by Indian, Arabic, and European cultures. We were joined at dinner by Baraka DeGraaf, who would be our guide while at the Udzungwa Ecological Monitoring Centre in Mang'ula, and Andrew Marshall, director of the Udzungwa Forest Project, a conservation project of Flamingoland in the United Kingdom..





## DAR ES SALAAM

### The University of Dar es Salaam

During our stay in Dar es Salaam we made two visits to the national university. The University of Dar es Salaam, established in 1966, is the oldest and largest public university in the country. The university has five campuses around the city; we visited the one, Mlimani, located outside the city center. About 16,500 students are enrolled in the university's undergraduate programs. At the university we received several lectures from faculty members, giving us a brief history of Tanzania, as well as informing us about human-wildlife conflicts and current and past conservation practices in the country.

### Mlimani City Mall

We also made two visits to Mlimani City, Tanzania's largest shopping mall, which was located near CEFA. The mall resembled shopping malls found in the United States with a big parking lot and indoor, air-conditioned stores and restaurants, as well as a movie theater and grocery stores. Once inside we used the ATMs; the best, and cheapest way to exchange U.S. dollars for Tanzanian currency. Once we had our Tanzanian shillings (TSh.) we were able to purchase phones and minutes as well as bottled water and snacks.

*"My studies at Penn State constantly have me examining the relationship between America and other countries, ranging from American aid to international media or politics. What I have learned is that our interventions and expansion are not always positive contributions, sometimes there are unfair stipulations attached and even worse, it has the potential to wipe a culture of its personality. This large and wealthy city of Tanzania has certainly deepened my understanding of everything that I have read about back in the states."*



## Speakers at the University of Dar es Salaam

### Dr. Cuthbert Nahonyo

Dr. Nahonyo is the head of the Department of Zoology and Wildlife Conservation at the University of Dar es Salaam. He presented "Human-Wildlife Conflicts in Tanzania," outlining the history, causes, impacts, and mitigation strategies of human-wildlife conflicts in Tanzania. Conflicts occur at the interface where humans and wildlife meet, such as at the boundary of a national park, and can result in economic loss, a lack of food security, and negative attitudes toward conservation. Between 1980 and 2000, an estimated 40% of crops in Africa were lost due to wildlife activities.



## DAR ES SALAAM

### **Dr. George Ambindwile**

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Dr. George Ambindwile, of the Department of History and Archaeology, in his lecture the “History of Tanzania,” summarized the social and political history of Tanzania from the first century A.D. through present. The colonial period began with the Anglo-German treaty of 1890 creating German East Africa. Independence from Britain came in 1961 and a union with the island nation of Zanzibar in 1964 formed Tanzania. The early government adopted many socialist policies, but now the democratic government has a multiparty political system.

### **Dr. Kim Howell**

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Dr. Kim Howell, of the Department of Zoology and Wildlife Conservation, is a biologist who has worked in Tanzania since the late 1960’s, including in Udzungwa Mountains National Park. His lecture addressed biodiversity and its importance to humans and human society. In particular Dr. Howell spoke about his case study on the Kihansi Spray Toad, a toad he discovered while working in the Kihansi Gorge in Tanzania. The toad is now part of a program than has involved removal of the toad from the wild prior to creation of a hydroelectric scheme and maintaining the population in captivity until adequate habitat can be developed to repatriate it to the wild..

## Notable Experiences

### **The Streets**

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One of the first things we noticed immediately upon our arrival in Dar es Salaam was the number of people everywhere. There were walking, sitting, cycling, and selling things to people in idling cars. It seemed like they were moving in every direction, riding on motorcycles, in cars, and in strange, brightly colored, three-wheeled, covered motorized scooters. Whenever the van would stop, it was instantly surrounded by men and boys, knocking on the windows, asking us to buy bananas, cashews, or maps. On first encounter, we were intimidated and unsure how to react to these peddlers.

### **Tuk-tuk Ride**

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As we continued to travel through Dar es Salaam we saw more and more of these strange three-wheeled scooters. Finally we asked our guide, Roy, about this form of transportation that was unusual to us. He explained that the three-wheeled *tuk-tuks* were used like taxis. We were all intrigued by these little vehicles. They wove through the cars or zoomed by in the bike lanes, occasionally going the wrong direction. Later that afternoon Roy surprised us by saying that there were two *tuk-tuks* waiting for us outside CEFA’s gates. Sure enough, red and green *tuk-tuks* were parked outside and six of us climbed in. These auto rickshaws or *tuk-tuks* had colorful metal bodies, an open frame, and a fabric roof overhead. There were two rows of seats; a “cabin” for the driver and a back row which could comfortably seat three adults. These auto rickshaws provide an affordable alternative to a taxi, and although these vehicles do not go fast (maximum speed of about 30 mph) they are able to keep moving through traffic when cars and trucks are at a standstill. They are found predominantly in urban areas, and only in areas





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that are flat, as they do not have enough horsepower to operate in hilly regions. The next forty minutes were an adventure. Riding in a *tuk-tuk* was similar to riding in a roller coaster as we seemed to hit every pot hole and mud puddle as we squeezed down narrow alleys and the occasional pedestrian path. We rode down the highway and along back streets, searching for the Ethiopian Restaurant where we would eat dinner that night, laughing for most of the ride as we enjoyed this unique experience.

### Sun and Mosquitoes

By the third day most of us were now lathering ourselves in SPF 70 and bug spray with at least 25% DEET. Even though our visit occurred while the sun was at its lowest, its intensity during the day was quite evident. And while mosquitoes are not more numerous than we encounter in the United States, knowing about the prevalence of malaria made us especially grateful for our variety of sprays and creams.

*“Although I did not recognize it as such when I first saw it, the state of the roads and ways people deal with them illustrates a lot about how people live. Tanzanians are very adaptable and willing to use every bit of any resource that is accessible. Nothing is wasted, resources are not overlooked.”*



### Rohobot - the Ethiopian Restaurant

Our last night in Dar es Salaam, we experienced another variety of African food, Ethiopian. This was the first time most of us had tried Ethiopian food; we had no idea what to expect. The restaurant itself was hidden away, tucked in the middle of an urban neighborhood, literally in the chef's backyard. We walked down a narrow path between houses, to the backyard. The restaurant was technically outside, but covered by a metal roof. The lighting was green and it cast an eerie tinge of color over everything. We were the only diners at the restaurant, so we cautiously seated ourselves on stools surrounding small, round, wooden tables or *mesobs*. We each ordered a different *wak*, Ethiopian stews or curries; made with chicken, beef, fish, lamb, lentils, or chickpeas and many spices. Shortly before our food arrived our waitress brought out a bowl and a pitcher of water. She brought the bowl to each of us individually, pouring water over our hands, as it is custom in Tanzanian to wash one's hands before and after eating. The food arrived on trays, but when the trays were placed onto the *mesobs* we were surprised to find piles of food heaped onto a spongy piece of flat bread. Expressions of bewilderment crossed our faces until the professors explained that we were to eat the *wak* by ripping pieces of this *injera* and dipping in or scooping up the *wak*, no utensils necessary. Since five meals were served on one *injera* we sampled each other's food. Suddenly one student's eyes widened, she immediately reached for her glass of water and gulped it down. Hot peppers. Seeing her eyes water the rest of us decided that she was most certainly overreacting until a few minutes later someone else ate one. Then it became a challenge – see who could eat the chili pepper without crying.



# MOROGORO 20 - 23 May

Located 120 miles west of Dar es Salaam, the smaller city of Morogoro sits at the foot of the Uluguru Mountains. With a population of just over 200,000 people, a vibrant downtown, and one of the premier universities of its kind in Africa, Sokoine University of Agriculture, the city is both a regional center and internationally recognized. Accommodation was provided at the Hilux Hotel, located on Old Dar es Salaam Road. Double-occupancy rooms with private balconies and views of the mountains characterized the stay.



## Reactions: As Seen From the Bus

*“All throughout Tanzania I have seen this, but I still find it strange that in a city, on a Tuesday afternoon, many people just sit around just watching the traffic. In America it is strange to see people just sitting around during a work day, though I thought it was nice to see. Even when we got to Morogoro...people seemed to just relax and not rush. Life seems to be slower here.”*

*“Overall, from Dar to Morogoro...I was taken aback by the beauty of the country, not just in the national parks that most tourists come to see, but in the mixture of cultures, the simple modest countryside, the lush green agrarian landscape, and the plain fact that much of what I was experiencing was so new and so much more strange and exciting than anything I could see out the window at home.”*

*“With the strange combination of older western technology, clothing, and music mixed with Tanzanian culture and tradition, the towns and villages are exciting, bizarre, and yet strangely comfortable for me to visit. In Morogoro, I got the feeling of an old Wild West frontier town; a town set at the base of a beautiful mountain range, with one main road lined with bars, markets, hotels, and people trading goods, only instead of horses, wagons, cattle, and Native Americans, there were motorcycles, buses, goats, and Maasai tribesmen.”*

## Activities

### **Sokoine University of Agriculture**

On our first day at Sokoine we were given a series of five lectures, organized by Ms. Kuruthumu Mwamende. Ms. Mwamende and the other lecturers spoke about Tanzania’s agricultural history, deforestation and habitat loss, the relationship between people and protected areas, vegetation communities’ related species, and wildlife conservation. Our second day consisted of visits to livestock areas and agricultural fields on the university campus. We



## MOROGORO

observed milking and feeding operations, an innovative biogas system, and crop testing plots where students and faculty conduct research. We then toured the foothills of the Uluguru Mountains, allowing us to see first-hand some of the implications of the deforestation that has happened around Morogoro, threatening vegetation communities and wildlife.

Besides the excellent lectures provided for us, we were struck by the hospitality of the people at Sokoine. After the first lecture, trays filled with donuts, fried bananas, and tea had been set up outside the classroom, just for us. When we had finished the morning lectures we walked to a pavilion on campus where a buffet lunch had been arranged for us. We went back to the classroom for two more lectures, only to return to the pavilion again for peanuts, yams, and tea before leaving. Although the food was delicious, I think we were most impressed by the gesture itself and the warm welcome we had received by the university faculty.

## Speakers at Sokoine University of Agriculture

### **Ms. Kuruthumu A. Mwamende**

Ms. Mwamende is a lecturer in the Department of Wildlife Management at Sokoine University of Agriculture, presented a lecture entitled “Farming and Nature: a Historical Perspective around the Udzungwa Mountains, Tanzania.” Ms. Mwamende’s introduction to agricultural practices in Tanzania outlined the current status of agriculture in the country, the history of agriculture in the country, and implications for the future. Presently, agriculture contributes an estimated 50% to Tanzania’s Gross Domestic Product and nearly 60% of its foreign exchange. In many areas, agriculture is competing with conservation for available land.

### **Dr. Japhet J. Kashaigili**

Dr. Kashaigili is a professor in the Department of Forest Mensuration and Management. He presented “Deforestation and Habitat Conversion,” outlining the causes of deforestation and the implications of the subsequent habitat conversion. Habitat conversion and fragmentation are among the largest threats to biodiversity and species persistence. This is especially true in developing countries. Due to growing populations, agricultural expansion, harvesting fuel wood, and logging, deforestation in Tanzania is happening at a rapid rate. Dr. Kashaigili’s work has involved using Remote Sensing & GIS techniques to identify deforestation and fragmentation.

*“Now I realize the size of my contribution isn’t the sole indicator of its success. It is merely about doing something, because without trying there will never be any growth or progress.”*







## MOROGORO

### **Dr. Jafari Kideghesho**

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Dr. Kideghesho is part of Sokoine's Department of Wildlife Management. He summarized the history of protected areas in Tanzania, then discussed the relationship between people and protected areas in his lecture "Protected Areas and People." Wildlife laws were first implemented in Tanzania in 1891 under German rule. In the 1920's, the first national parks were established. Currently, an estimated 30% of Tanzania's land area is under some form of protection, and this number is increasing. As protected areas are created, conflicts including eviction, inaccessibility to resources, and illegal poaching ensue. For many, protected areas prevent access to traditionally available resources.

*"The most profound learning experiences came within the communities we visited. The transition from reading about poverty in the region to actually witnessing it first-hand has been an eye opening experience."*



### **Dr. P.K.T. Munishi**

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Dr. Munishi is in the Department of Forest Biology. He lectured on the "Vegetation Communities of Tanzania," defining and describing the seven primary vegetation types characteristic of East Africa: forest, woodland, bushland, grassland, semi-desert, mangrove forest, and afro alpine forest. Tanzania's forests are primarily evergreen, with stratified vegetation throughout. Poaching of exotic species and land use conversion are two of the primary causes of vegetation community change.

### **Dr. S.L. Maganga**

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Dr. Maganga is a professor in the Department of Wildlife Management. In his lecture "Wildlife Ecology and Conservation in Tanzania," he discussed Tanzania's wildlife and the associated habitats of particular species. Many of the species found in Tanzania live in evergreen forests. The Udzungwa Mountains National Park is home to several endemic species, including the Iringa Red Colomus Monkey and the Sanje Crested Mangabey. Primary threats include habitat destruction, over harvesting, fire, pollution, and exotic species, while a variety of forms of protected areas are helping to conserve wildlife.



## MOROGORO

### Notable Experiences

#### Walking in Downtown Morogoro

Downtown there were people everywhere. Water drainage ditches lined the streets and people casually stepped over them to cross the street. Cars seemed to come from all directions, and motorcycles zoomed around corners. As crossing the street proved to be a problem, we stayed close behind a local woman who seemed to have a better understanding of Morogoro's traffic patterns to cross the street, hoping she wouldn't notice. But most of us agreed, we felt more like outsiders here than in Dar es Salaam. In the big city foreigners are common, but here, less so. English was also heard less frequently here. This was also our first time roaming through a Tanzanian city without a guide. We wandered down the streets with some caution, only walking down main roads that seemed to have plenty of people on them. Eventually we broke into small groups, as a herd of twelve Americans aimlessly walking around the town seemed to give us some unwanted attention. One group of students found a local café and sampled the Tanzanian native dish, *chipsi mayai*, a combination of beaten eggs and French fries. The rest of the group headed back to the hotel, opting for more familiar food after the morning's adventure.

*“And now that I am here, I don't think more knowledge would have gotten it right. Words and images cannot adequately describe what it is like to be in a new, unfamiliar place - to experience a culture so different from one's own. Culture is a dynamic, complex, living entity. It doesn't pause to be captured in a picture or to be explained to a friend. Before it can be explained it has already moved on. I knew I was going to see and experience new and different cultures while in Tanzania, but I had no idea the effect they would have on me.”*





# MANG'ULA

23 May - 19 June

Mang'ula is located in Tanzania's Kilombero Valley. It is a rural village bordered by the Udzungwa Mountains National Park (UMNP), part of the Eastern Arc Mountains, and agricultural fields. The region currently has a high population growth rate of about 3.4%, due to the combination of a high birth rate and immigration of people who are attracted by the fertile soil and pleasant climate of the area. The majority of people in Mang'ula and the adjacent Mwaya are farmers, tending to both their *shambas* (kitchen gardens) and fields.

During our stay in Mang'ula we stayed at the Udzungwa Ecological Monitoring Centre (UEMC). Seminar, studio, and colloquium classes were held UEMC's facilities, most often in the seminar room, which could accommodate for large groups. Twelve students shared three bedrooms at the monitoring centre's hostel and breakfast, lunch, and dinner were served daily at UEMC's dining room.



## Reactions: Initial Thoughts on Village Life

*"Life in Mwaya and Mang'ula B is simple to say the least. All of the kids had smiles on their faces, there seemed to be a surplus of food in the markets, and people seemed to be very content with the lives they were living."*

*"I find it interesting the way that I am treated when I go to the villages...Some people are really friendly and want to get to know me...The vast majority of the people that we see say mambo and go about their day, yet this also surprises me because at home when I walk around State College I rarely say hello to people I do not know...Occasionally people will walk right up to me and say "give me money"...I think it is sad that they view all white people as having money to hand out, and that they think it is the only reason we come to Tanzania. When I say that I am here to study most people look really confused; they are not really sure how a person can study here."*

*"Another really important thing I found was how the people in the village were content with their living situations. My standard of living is far different; I find myself to be more shocked at the living conditions than they are."*

*"People walk slower, which I found out while walking with the students from St. Mary's Secondary School. They found it funny that we seemed to always be in a hurry, even though we were just walking our normal pace. However I do find myself slowing down a bit for some things, sometimes eating, working, and walking slower. I feel like when I get back to America I will have a hard time readjusting to our fast-paced lifestyle."*



## MANG'ULA (WEEKS 1-3)

### Activities

#### The First Village Visit

On our first full day at UEMC Baraka DeGraaf took us on a tour of the neighboring villages - Mang'ula A, Mang'ula B, and Mwaya. While we had seen many roadside villages on our drive from Morogoro to UEMC, this was our first time walking along the streets of a rural Tanzanian village. Experiencing the village by foot allowed us to observe some of the land use patterns more closely as well as see how the agricultural land, which is so critical for villagers' livelihoods, is integrated into the community structure. Walking through the village, we learned that most people collect water from stand-pipes. The stand-pipes are located along small residential paths and are shared by many families. Walking along the narrow dirt roads within the village, we saw a large bus trying to make a sharp right hand turn, with little success. These streets were not intended for large vehicles. Men, women, and children rode bicycles, often with piles of grass or bags of food stacked on the back of the bike. One man even rode his bicycle while holding a 20-foot bamboo pole above his head. Baraka took us all around the villages, past a local elementary and secondary school, rice fields, commercial centers, a jail, the train station, and the market.

The homes here were simple, mud or brick, like the ones we had seen on the ride from Morogoro. While a few of the brick homes had iron roofs, wooden front doors, and openings for windows, most of the mud homes simply had thatched grass roofs and a single doorway that led into the homes. While ground-level open doorways are sufficient for homes during the dry season, we wondered how these families keep their homes dry during the heavy rains.

*"Almost everyone is a subsistence farmer, with their sources of food growing haphazardly throughout the villages. The infrastructure also seemed to have no organizational pattern and people seemed to just build their houses wherever it was convenient."*



In the village, many domestic activities take place outside. Some homes had small outdoor kitchens, while others had open fire pits outside of the front door. Many women were outside cooking or tending to *shambas*, small agricultural plots next to their homes where much of the family's food is grown. Animals here live next to the family's home, rather than in an agricultural setting. Occasionally cows or goats were penned up next to homes, but chickens were much more common, as hens and their chicks continuously darted across the road in front of us. Toilets are also located outside, in thatched latrines. These structures are purposefully made to be less permanent than the houses, since they are moved to new locations on the family's property when necessary.





## MANG'ULA (WEEKS 1 - 3)

After passing through one of the commercial districts we saw a community mosque, a simple brick building, with a loudspeaker. The loudspeaker enables the *adhan*, or the call to prayer which is recited five times a day, to be heard by all Muslims in the surrounding area. Just after passing the mosque, we stepped aside to allow a long line of men to go by. Most of men were talking and laughing, clearly in good spirits, so we were surprised to see the men in the middle of the group were carrying a casket. We stopped, and Baraka explained that all of the men in the community are present at a burial, however Islamic custom does not permit women to participate in the funeral procession or attend the burial.

As we walked children emerged from around each corner, eager to greet us and say “*mambo!*”. While some of the children glanced at us shyly, many more were clearly intrigued by the fourteen strangers wandering through their neighborhood. They followed us and chatted excitedly to us in Swahili. Baraka explained that this was the first time many of the children had seen a *mzungu*, the Swahili term for a white person, and so they were undoubtedly curious.

*“In just one week in Tanzania, I have seen more vehicles stuck in the mud than I have in my entire life. These holdups can take anywhere from a few hours to a few days. I saw a group of four or five guys cheerily unloading an entire truckload of wooden planks last week to reduce the load and free their truck from the mud...It is not that I am a particularly impatient person, but there is an entirely different set of reactions and behaviors in a trying situation when you expect something to go smoothly than when you never had expectations for success in the first place.”*



### The First Hike

At the end of our first week at the UEMC, we took our first hike through the National Park. As we hiked up the trail our guide periodically stopped to point out an endemic butterfly or a distinctive native tree. The trail was steep, and occasionally, when the trail became too vertical to climb, wooden ladders and steps replaced the dirt path. It was a hot day for hiking, even under the shade of the tree canopy, but luckily we were able to cool off and rest at two waterfalls along the trail. We stopped at Prince Bernhard Falls, the medium-sized waterfall at the beginning of the hike, and then again at Njokamoni Falls, which was located at the top of the trail. By the time we reached Njokamoni Falls we all needed a break, so our hiking boots came off and we climbed into the falls for a refreshing shower. In addition to the falls, we stopped at a few overlook points from which we could see great views of the Kilombero Valley (we were even able to spot UEMC using binoculars). As this hike was our first time being immersed in the richness of Tanzania’s forest ecosystem, it helped us to understand better the need for conservation of the Eastern Arc Mountains, a topic which had been emphasized by our lecturers at University of Dar es Salaam and Sokoine University of Agriculture, as well as in our readings.



## MANG'ULA (WEEKS 1-3)

### Tundu

Our first official village visit was to Tundu, a village of about 3,500 people located an hour and twenty minute drive from Mang'ula. In Tundu many of the village men are employed by Ilovo, a sugar cane company in Kilombero Valley. As a result, these people work jobs that pay wages, unlike villagers in Mang'ula or Mwaya who are primarily subsistence farmers. Although many villagers in Tundu are cash poor, working on commercial farms provides them with money to pay for their children's education, as well as to purchase fuel and food.

Upon our arrival in Tundu, we walked to the local primary school, where we were greeted by swarms of children. School teachers directed us to an empty classroom where we were oriented to the village, given instructions for the day's work, and divided into teams to time-effectively cover the village. Each team consisted of four students, a professor (or Baraka), a translator, and a member of the village, and each was equipped with several pieces of the Tundu aerial view map and a GPS unit.

Our objectives in Tundu were to identify on the ground the structures visible on satellite images of Tundu in order to create current community maps. These land use maps would be used to understand better the infrastructure of rural villages in the Kilombero Valley. We took GPS coordinates at specific locations on each map, to verify the geolocation of the satellite imagery and thus ensure that structures would be located accurately. Besides the data collection, immersion into the village allowed us insights into daily life in the community. While examining the maps and recording data, we strolled through the village on winding dirt paths, which doubled as roads. Few cars were seen other than along the main road; some people traveled by bicycle, a few by motorbike, but most simply walked.

*"Looking back, at first, I was very uncomfortable having every single pair of eyes stare at me as I walked throughout the villages; I attempted not to make too much eye contact. Being a minority is something I was not used to, and I have rarely experienced it in my lifetime... Now, every time I go for a run down the dirt roads early in the morning or walk throughout the market place in Mwaya and I hear those unforgettable words being screamed, "Mzungu! Mzungu!", I just smile, wave, and continue on my way... this little social experience brings into context what service learning in another cultural atmosphere is meant to be."*



Development in the village clearly occurred organically, on an as-needed basis. Initially it was hard to discern a legible pattern within the village and we often became disoriented, however by the afternoon we were making significant progress and becoming more familiar with the village structure. We were again greeted by children, who followed us around for the duration of the day. Even the adults were friendly and welcomed us warmly. Initially we were surprised by this welcome, surprised that none of the villagers seemed to find us imposing as we casually walked through their property. We often asked for the location of the kitchen and latrine, or how





## MANG'ULA (WEEKS 1 - 3)

many families lived in the dwelling, or the usage of a building, and people graciously assisted us. By the end of the day we realized that the land tenure system in Tanzania facilitated a different meaning of “personal property”. In most cases it was difficult to tell whose land was whose, as distinct property boundaries formed by hedges or fences were rarely found.

### Following the Sanje Mangabeys

Led by Guillaume Pagès, one of the Sanje Mangabey researchers staying at UEMC, we embarked on a monkey-chasing adventure. We were told to wear long sleeves and long pants since we would, like Guillaume and his wife Emily, be hiking off the trail. We entered the park from a different entrance than the first hike, this time plowing through tall grass and brush. We hiked quickly up the steep trail, following the guides and Guillaume who were on the lookout for the mangabeys. After a while we left the trail and the climb became more treacherous, forcing us to slow down the pace. Finally one of the guides spotted a group of mangabeys. We followed the monkeys, trying to keep pace with them, however we were significantly slower maneuvering through the understory than there were jumping from tree to tree, and within a few minutes they were out of sight. This hike gave new meaning to the term “field work”.

*“Hands down the most enlightening experience I have had here was at the top of Sanje Falls. Sitting on top of the waterfall, looking over the edge at the forest and valley, was so incredible that I hope I never forget that feeling...Being able to see the sugarcane fields go on for miles, while watching the fresh water, which is essential for those fields, rush by me was so strange. It was as if the light finally clicked on, and I truly realized everything in this country was connected: the water, the land, the animals, and the people.”*



### Hike to Sanje Falls

Only 24 hours after following the Sanje Mangabeys, eight of us were hiking back up the Udzungwa Mountains for an overnight camping trip at the top of Sanje Falls. Sanje Falls is the largest waterfall in Tanzania, towering 170 meters (550 feet) above Kilombero Valley. With our backpacks, tents, a pot of lentils, and some uncooked rice, we followed our guide up the mountain. Fortunately this trail, which is hiked more frequently than the trails from other hikes, had switchbacks, making the climb more gradual. We stopped at various points on the trail for our guide to point out some of the unique plants and animals. Once we stopped to find what appeared to be thousands of butterflies just floating upward. Our guide explained that these were not butterflies, but termites, who were shedding their wings after moving to a new location; the site was both eerie and beautiful. Our guide stopped us again, this time instructing us to listen. We heard a vibrating noise, which the guide explained was actually thousands of ants shaking, a method used to dissuade termites from colonizing a particular area. Overall this climb was less difficult than the first two hikes, though the weight of our gear posed an additional challenge. Once we reached the camp site we dropped our things and continued down the trail to find the waterfall where we could swim. We cooled off and then returned to the campsite and pitched the tents. Our guide



## MANG'ULA (WEEKS 1 - 3)

had been joined by an armed forest ranger whose job was to guard the campsite overnight. He directed us to the overlook at the top of the falls, the site's main attraction, so the eight of us climbed onto the rock overlook and watched the colors of the sky change from blue to red, orange, and purple as the sun set over Kilombero Valley. We all concluded that this was the most exquisite view we had seen. We ate a late dinner of lentils and rice cooked over the fire and then climbed into our tents. We woke early the next morning, packed our bags, and headed back down the mountain, just in time for the rain to start.

### Tree Nursery, Woodlots, and Brick-making

Primary schools in Kilombero Valley have been entrusted with much of the responsibility of raising tree seedlings. Many of the schools have established tree nurseries, allowing students to play an active role in nurturing young trees. This involvement is intended to teach students about the ecological value of trees, as well as their essential role as a fuel source. Our group visited a tree nursery at Mgudeni primary school near Mwaya. At the nursery a few children were filling small black tubes with fresh soil, to be used for next year's trees, as Baraka provided us with details about the nursery. He explained that the nursery had to be enclosed by a fence to protect the young trees from animals. The nursery also had to be located beneath tree canopies, to provide the seedlings with protection from the hot sun. The trees in the nursery were a mix of exotic and native species, with some of the exotic species having extremely rapid growth rates.

*"These places don't need perfection; they need ideas. They need people's concentrated efforts, even if for a short time... We can look at the issues from an outside perspective and pick out small steps that could make a big difference. Planners and designers are systems thinkers, we can see the big picture, and often all these people need is a goal to shoot for and a push out the door."*



Next we traveled to a local woodlot where the trees from the primary school's nursery were planted. This woodlot was located between a rubber tree farm and agricultural fields, away from the villages. Unfortunately the woodlot's remote location made it easy for people to steal wood, decreasing the future fuel supply of the village. We ended the morning by visiting a brick-making establishment. Brick making is one of the major consumers of firewood in the village. Bricks are made by scooping mud into rectangular wooden forms and then allowing the mud to be dried by the sun. Once the bricks harden they are fired using wood from UMNP, as wood fires supposedly produce the most durable bricks.





## MANG'ULA (WEEKS 1 - 3)

### Speakers at UEMC

#### Guillaume Pagès and Emily Lloyd

Guillaume Pagès and his wife, Emily Lloyd, Ph.D. students from the University of Texas at San Antonio, spoke to our group about their research on the rare Sanje Mangabey monkeys (*Cercocebus sanjei*), which are endemic to the Udzungwa Mountains. Guillaume and Emily are staying in the researcher housing at UEMC. Guillaume has been living at UEMC since April of 2010 and his research will continue until December 2011. His work focuses on the diets of the mangabeys; in particular he studies the role of seeds in their diets. Emily studies the interaction between the mangabeys, including their group dynamics and competition for food. Guillaume and Emily spoke about some of the challenges of their work; the less glamorous side of wildlife research. Since they

*“Over the past three to five weeks I have developed a deeper understanding and appreciation for daily life in rural Tanzanians. Villagers spend their days ensuring that their families have food, fuel, and water, something that is easily accessible in my own life. They are trying to “get by,” not “get ahead,” and this ensures concentration on the needs of today - food for dinner and fuel to cook that food; they have no energy to waste worrying about next year.”*



often work twelve hour days, following the monkeys through UMNP, they have their own small campsite on the mountain. The rainy season poses additional challenges for research. Following the monkeys necessitates off-trail hiking up and down the steep mountainside. This is especially difficult during the rainy season since the slopes become extremely muddy, making it harder to track the monkeys and record data.

#### Baraka DeGraaf

One evening before seminar class, Baraka spoke to us about his safari company, Tanzania on Foot. His safaris are geared toward an audience who wants a more active safari experience, rather than the conventional jeep ride through a national park. Instead focusing on observation and photography of the animals and of the landscape, Baraka's tours focus on traversing the animals' habitats by foot, by bicycle, and by canoe, in order to better understand the landscape and provide visitors with a unique experience. Baraka explained that observing an elephant from the window of a jeep is very different than standing on the ground looking up at one; a person gets a whole new perspective of the size and power of these animals. Baraka acknowledged that his safari tours may not be suitable for everybody; however, they appeal to a particular audience, especially adventure-seekers.



## MANG'ULA (WEEKS 1 - 3)

### Mr. Murundo

Mr. Murundo, the agricultural extension officer for the Mang'ula region, spoke to us regarding the specific agricultural character of the Kilombero Valley. The agricultural extension service organizes forums for group discussion among farmers, as well as makes homes and farm plot visits to instruct people on fertilizer application, perform soil tests, and provide updates to farmers on the latest planting methods.

Mr. Murundo emphasized the intrinsic relationship between the success of agriculture and the wellbeing of the villagers, as agriculture is the primary means of employment in the Kilombero Valley. In this region rice, maize, cassava, and bananas are the main food crops, while sugar cane and rice are the dominant cash crops. Rice is the staple crop, as over forty varieties of rice are native to the region. Mr. Murundo provided us with numbers that helped us to understand what equates to a good yield of rice from a paddy.

Prime farm land and employment for the sugar cane companies attracts people from other regions to the Kilombero Valley, one of the reasons for the high population growth rate. Mr. Murundo emphasized the impor-

*"In my experience, the main focus of undergraduate projects in landscape architecture has been creativity, not realism... Service learning provides exactly the opposite by focusing on realism and the production of something tangibly useful. I have found that placing myself in unfamiliar situations without the full complement of studio resources forces a creative response and broadens my design vocabulary."*



tance of the two rainy seasons and explained how a shorter, or an extended rainy period, can have severe consequences for farmers in terms of food production. Mr. Murundo stressed that as agriculture in the region is predominantly rain-fed, droughts are the biggest threat to most farmers' crops. Pests, in particular white flies, and diseases are also a danger to crops. Mr. Murundo discussed other challenges as well, including the lack of adequate storage facilities for crops, the inefficiency of rice huskers, and the use of pesticides in the region.

All crops produced in excess of the village's needs are transported to Dar es Salaam. While it would seem that crops could be taken somewhere closer than the city, the region between Mang'ula and Dar es Salaam provides sufficient amounts of crops to sustain Morogoro and the small villages, making the urban center the only place where there is a high demand. However transporting these crops to Dar es Salaam does impose a significant cost on the farmers, and therefore decreases their profits.





## MANG'ULA (WEEKS 1-3)

### Notable Experiences

#### Visits to the Village

After our first visit to the village with Baraka we periodically made additional excursions to the local villages in small groups. Common objectives for village visits included buying cell phone vouchers, stopping to get a TSh. 100 donut (100 Tanzanian shillings is less than 10 cents) from the donut lady, searching the general stores for peanut butter, and sampling the different varieties of Tanzania cookies (more similar to our crackers). Some of the female students also purchased traditional African garments called *kangas*, which were used as skirts, dresses, and wall hangings. Each time we visited the village we met new people and became more comfortable in the village setting.

#### Meeting the St. Mary's Students

A few days after we arrived at UEMC we were greeted by students from two local secondary schools, including students from St. Mary's which is the primary and secondary school closest to UEMC. The students spoke to us in English and we sat together in the monitoring centre and discussed the ecological importance of the Udzungwa Mountains. The students talked enthusiastically about their goals for spreading ecological awareness among the in the local villagers. Afterward we were invited to visit their school. As we walked with the students we took turns asking questions about their families, their studies, and aspirations for the future, they in turn were curious about life in the United States. Many of them mentioned a desire to continue their education at a university, as well as a hope to one day visit the United States.

*"Throughout this trip everyone has had encounters with children...It surprised me how the behavior of a child is universal, regardless of race or language. When we first went into the villages of Mang'ula I thought it was odd that children would follow us and ask us to take a picture, but now I love it when kids follow our group while we work because now we play with them...It is reassuring to see that no matter where you travel, there are some parts of human life that never change."*



# MIKUMI NATIONAL PARK 10-12 June

When the safari weekend finally arrived we were all in need of a break from school work, it was perfect timing. On Friday morning three Toyota Land Cruisers were parked in the UEMC parking waiting to take us to Mikumi National Park. After about three hours of traveling, our drivers suddenly turned off the main, paved road and onto a narrow dirt road. We were driving right through the woodland, with shrubs and tall grasses enclosing the road on either side, when thatched roofs emerged from the grass; we had arrived at Angalia Tented Camp. We were promptly greeted by people offering us glasses of mango juice and two Maasai men who carried our bags to the “tents”. These were no ordinary tents; they were tents sitting on concrete platforms and covered by thatched roofs. We unzipped the front of the tent to find a bed and table. Unzipping the back of the tent we found a bathroom, complete with a toilet and hot water. After settling in, we ate lunch and then left for our first Safari. Upon reaching the entrance to Mikumi, we popped the roofs of the land cruisers and climbed up onto the seat, armed with cameras and eyes searching for signs of wildlife. Each of the four safari trips was a new adventure. Giraffes crossed the road right in front of us, a leopard was spotted in a tree, a lion cub was seen with his mother, the sunset turned the sky purple and all the grass to a bright gold – there was always something new to see.

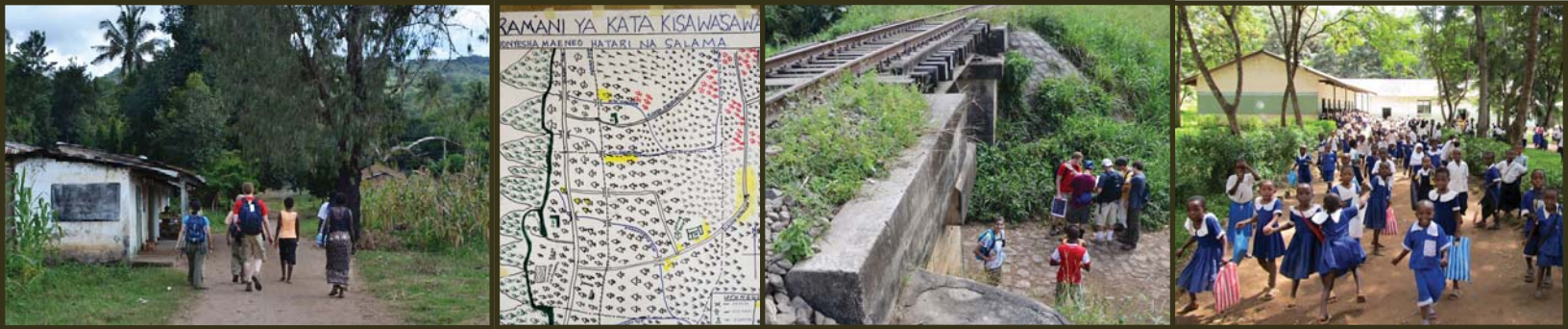


Embedded in this spectacular safari experience were two important lessons. First, that Udzungwa Mountains National Park is just one of several important ecosystems in Tanzania-and Mikumi is representative of the savanna landscapes that are our usual image of East Africa. Second, it was an opportunity to experience tourism in the context of a savanna national park-as a passenger in a Land Cruiser seeking out close encounters with big game animals.

*“People’s relationship with nature has been a dilemma, issue, and opportunity since the beginning of time. With community design, ideas and priorities can be proposed to help get everyone working on this cause, and with any luck, maybe one new idea will be generated that makes a huge difference.”*







## MANG'ULA (WEEK 4)

### Activities

#### Kisawasawa

The village of Kisawasawa is about a twenty minute drive from Mang'ula. It has about 2,500 residents, a much smaller village than Tundu. Most villagers are subsistence farmers, with rice paddy farming being the main source of employment and cash income. After meeting members of the village at the village council office (a tiny one-room building with only two benches, two tables, and two chairs) we split into teams again to commence ground truthing in Kisawasawa. Similar to our experience in Tundu, children followed us around the village. When we walked by one of the primary schools a group of kindergartners ran toward us and began singing a counting song to us in English. They grabbed our hands and followed us until we reached the edge of the school yard.

The village layout in Kisawasawa is distinctly different from that of Tundu. Like Tundu, the commercial area is centered along the main road bisecting the village, but the rest of village is arranged around two roads which run perpendicular to this main access route. As the village was organized on an informal grid pattern, navigating the dirt pathways was much easier here than in Tundu. Bordered by UMNP on one side and rice fields on the other, the responsible expansion of residential areas, which is inevitable due to the rapid population growth rate, is of particular importance for Kisawasawa, especially since UMNP's border cannot be altered and expansion onto rice fields will shrink the village's main supply of food and income.

*"Student-led service-learning allows a lot of ideas to be generated in a short amount of time. Maybe most are thrown out, but there are bound to be a few that stick. I used to think I couldn't make a contribution here, but that's because I was thinking about contribution in the wrong way."*



#### Student presentations at the Monitoring Center

At 10 AM on Saturday morning we all gathered in UEMC's seminar room. We were joined by members of the UEMC staff, as well as researchers living at UEMC, and some of the students from St. Mary's Secondary School. Using a projector, we presented slide shows of our work to the audience. Each presentation lasted about twenty minutes, and afterward members of the audience asked questions or made remarks about our findings.



## MANG'ULA (WEEK 4)

### Student presentation to Kisawasawa Village Council

After the presentations at UEMC, the four students whose projects were based in Kisawasawa traveled with Baraka DeGraaf and the professors to Kisawasawa to meet with members of the village council. The village chairman met us at the village council office. The professors explained the objectives of our projects and emphasized our desire to work with the village to help them find solutions to their resource problems. We set up a laptop on the wooden table and each of us took a turn explaining the aerial maps and the focus of our project. When the aerial map was shown the villagers crowded around the laptop, trying to find the location of their homes and town landmarks; most of them had never seen a map like this before. They watched closely as we showed them images from our projects and then waited for Baraka and the village chairman to translate our words into Swahili. At the end of our presentations the village chairman thanked us and confirmed our fears that currently the village has no plan for coping with closure of UMNP's borders to fuelwood gatherers.

*"This is why student-led service-learning is a viable and needed approach to community design. Even if only for a short time, we are able to dedicate our skills, efforts, and resources to solving the problems a group of people hasn't been able to solve entirely on their own. We may not be experts in our fields, or be able to work out every issue, or make the contribution we would like- but those are not necessary to make a difference."*



### Hondo Hondo

After the presentations were complete, we headed to the nearby campsite, Hondo Hondo, to celebrate on our last night in Mang'ula. We sat around the bonfire before dinner, relaxing and reflecting on a great four weeks at UEMC. The dinner of pepper steak, duck, potatoes, and vegetables was outstanding. It was even followed by a delicious chocolate-banana dessert. By the time dinner was finished the sun had set and we gathered around the bonfire again, accompanied by a group of local dancers. They played traditional music, dominated by drumming, and danced next to the fire; it was a fantastic showcase of an important aspect of Tanzanian culture. After trying, and failing, to mimic their dance style we resorted to our own dance moves, which the locals found amusing. These festivities were a perfect conclusion to our stay at UEMC.





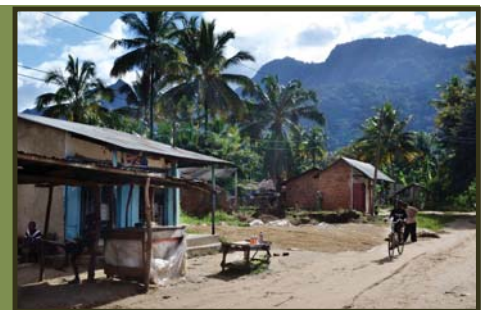
## MANG'ULA (WEEK 4)

### Notable Experiences

#### Measuring Firewood

In search of the most accurate data available for fuelwood collection, a few students went out to find a typical bundle of wood that would be carried by a woman from UMNP back to one of the villages. Armed with a tape measure, a luggage scale, and a bucket, we went in search of a bundle. After finding nothing at the WWF office, we stopped at a local store to ask for *kuni*, wood. The shop owners knew only a little English and so we searched the Swahili translation book to find words to describe “firewood” and “measure”. Finally one woman, who introduced herself as Margaret, smiled with comprehension and led us to her home, adjacent to the shop. She showed us a large wood pile and helped us measure the length, diameter, and mass of a half dozen pieces of wood. Seeing that the pieces were too large to be weighed in the bucket, Margaret found a rope, wrapped the rope around the wood, and then took the hook of the scale under the rope to weigh the wood. This bundle of wood, which

*“I finally experienced the ‘it’s not weird anymore’ sensation. All of a sudden, as I looked out the open window, nothing seemed quite as strange as it had previously seemed. Something clicked, and everything began to make sense. No longer was I looking at things as an outsider. At the end of week four, my understanding of Tanzania finally came together.”*



would either be tied to the back of a bicycle or carried on top of her head, weighed about 110 lbs. Her willingness to help us was astounding. After we found the measurements we were heading back to UEMC when we saw a complete bundle of wood sitting along the side of the road. Seeing this as a great opportunity to measure a full bundle, we sent one student back to UEMC to find another rope, hoping to employ Margaret’s innovative method of weighing. However in the time it took him to find the rope, two men stopped to talk to us. They asked us if we needed assistance and were curious about our work at UEMC. When we showed them the scale and told them we were measuring the wood the men called to Margaret and she hurried over again to help us, equipped with more rope. We were all amazed, she was unsure about why we were measuring the *kuni* or why we were wandering around the village, but she did not hesitate to help us. This was true Tanzanian hospitality.

# DAR ES SALAAM (AGAIN) 19 - 21 June

While our second visit to Dar es Salaam was brief we felt significantly different than the first time we stayed at CEFA, and it was not just a greater appreciation for toilets and warm showers. Our first stay at CEFA was the beginning our adventure and we were looking forward to discovering life in rural Tanzania. Now CEFA seemed more like a five-star hotel to us than a hostel. Riding through Dar es Salaam after visiting the countryside, we suddenly saw the city as “technologically advanced”, words we would not have chosen on our first visit. This time we were more aware of the beautiful homes, gated in, with palm trees lining the lawn, as nothing like this was found in Kilombero Valley. Here the rich lived in their mansions right up the street from the poor; in the rural villages this disparity was not present. The observation we made during our second stay in Dar es Salaam were ones that could only be made after seeing urban, town, and rural life in Tanzania.



## Notable Experiences

### Shopping at the Local Market

On our only full day in Dar es Salaam (and during our stay in Zanzibar) we visited markets where wood carvings, paintings, *kangas*, baskets, and jewelry were sold. These were great places to accomplish some souvenir shopping, but it was not without its challenges. In Tanzania most markets have no fixed prices; all prices were negotiated prices with the shopkeepers. Needless to say it was the most stressful shopping many of us had ever experienced, as the store owners often tried to charge us double what the items were worth. However by the end of our stay we were experienced bargainers.

### Fish on the Beach

Our first night back in Dar es Salaam we went to a restaurant at an old colonial club, Kawe Club, established in 1952. Kawe Club is located literally *on the beach*. You do not find this in State College. Plastic tables and chairs were set up on the sand. There were no menus, as there options were limited - fish with lemon or fish with salsa. However the restaurant did not need to offer anything else, the fish was so good that even the students who did not like fish thought it was excellent (and the fish eyes no longer bothered us). Every meal came with chips, and there were no utensils and limited napkins to be found, truly a Tanzanian experience.



# ZANZIBAR 21 - 24 June

Unguja is the main island of the Zanzibar Archipelago and the one commonly called “Zanzibar”. It is located 25–50 kilometers (approximately 20 to 30 miles) from the African coast. Zanzibar is considered to be one of the Spice Islands, and is famous for producing cloves. Formally controlled by the Omani sultans, Zanzibar has a much higher Arab population than the Tanzanian mainland as well as a higher number of Muslim residents. To reach Zanzibar we took a two hour ferry ride from Dar es Salaam to Stone Town, Zanzibar’s historic port city. We were greeted at the gates by the Dutch manager of the Clove Hotel, Lisenka Beetstra, who guided us through Zanzibar’s winding side streets to the hotel. After settling in we were free to explore Stone Town.



## Activities

### Spice Tour

On our first full day in Zanzibar we left Stone Town and headed out into the countryside for a Spice Tour. We followed a guide through fields of plants and fruit trees, stopping to taste fruits and spices while our guide explained the cultural, culinary, and medicinal uses for the plants. We saw peppercorn, vanilla, coconut, nutmeg, star fruit, ginger, lemon grass, and cloves, among others. After the tour we were allowed to sample a variety of fruits, grown on the island. While we ate familiar fruits such as grapefruit, oranges, and pineapple we also sampled unusual fruits such as jackfruit and custard apples, both of which were delicious. We were then taken to a local village where lunch was provided for us. We sat on rugs on the floor and ate rice, seasoned with many of the spices we had just seen on the tour. After lunch we stopped at a sultan’s palace, which served as his residence during the spice-growing season. We also visited an underground cave next to a beach which was used as place for holding slaves illegally after the slave trade had officially ended. Our final stop was at a beach where we spent an hour relaxing by the water before heading back to Stone Town.

### Prison Island

Although Stone Town is located along the ocean there are no beaches which permit swimming in the town. Determined to swim in the Indian Ocean, we took a small motorized wooden boat 3.5 miles to Prison Island. On Prison Island we were able to enjoy the sandy beaches as well as swim and snorkel in the clear, blue water. In addition to relaxing on the beaches, we fed the Giant Tortoises (one tortoise was 150 years old) which live on the island and explored the prison (the prison was actually used only as a place for isolating yellow fever victims, not for housing criminals).



## ZANZIBAR

### Notable Experiences

#### **Pizza! & the Dessert Fest**

As our arrival in Stone Town marked the end of our formal class meetings, we had more free time to explore town and learn about its unique culture. Zanzibar is a popular tourist destination for many people, and so we encountered more restaurants and shops geared for tourists. While we stuck to the traditional small shops with price negotiating (we had become experts at this by now) we were tempted by the sight of familiar foods, in particular, pizza and ice cream.

We satisfied both our cravings our first day in Zanzibar seeking out Amore Mia, an Italian restaurant by the ocean. Not only did this restaurant have a beautiful view but the service was quick (fast service is uncommon in Tanzania) and the pineapple pizza was delicious. However once we had our fill of pizza we were ready to return to Tanzanian cuisine, especially the freshly caught fish, though we continued to hunt for good dessert spots. Over the course of the next few days we tried nutella and cashew crepes, passion fruit tarts, date pudding, and many more flavors of ice cream.

*“In these few weeks I have mapped two villages, seen endemic monkeys by climbing a mountain, hiked and camped by the tallest waterfall in Tanzania, and experienced a real safari. It has been among the best two weeks of my life. Looking back on all the things we have done makes me realize how fast this trip is going and I am sad that it is only six weeks.”*



#### **Forodhani Gardens Seafood Market**

Every evening an open air seafood market is set up in Forodhani Gardens, a park located along Stone Town’s waterfront. It is a bustling place lined with tables full of coconut bread, crab legs, and kebobs of every variety of fish (including octopus and shark). In addition to exotic fish, we sampled the banana and nutella “pizzas” which were the market’s staple dessert. This lively public space was filled with both tourists and locals every night of the week, and we made sure to stop by at least once every evening.



# ACADEMIC PROGRAM

Three integrated courses provide students an understanding of community design and biodiversity conservation issues facing rural villages near UMNP. The courses address the challenges of designing communities that meet their own demands without compromising the national park and its many natural resources. Landscape Architecture (LARCH) 499E, People and Protected Areas, is a three-credit seminar, introducing key issues such as land tenure, biodiversity conservation, and the pressures of human development and resource use. LARCH 499F, Community Design in the Vicinity of Udzungwa Mountains National Park, is a five-credit studio/workshop, focused on designing solutions for communities along the eastern boundary of UMNP. LARCH 499G, The Contribution of Service-Learning to Students and Community, is a colloquium for reflection on experiences, exchange of ideas, and discussion of emerging understanding of Tanzania and the important issues faced by developing countries.



## May - June 2011 Schedule

Sunday, 15 May:	Depart New York via Doha, Qatar, arriving Dar es Salaam Tuesday May 17
17-20 May:	Orientation at University of Dar es Salaam, staying at CEFA hostel, Dar es Salaam
20-23 May:	Orientation at Sokoine University of Agriculture, staying at Hilux Hotel, Morogoro
Monday, 23 May:	Travel to Udzungwa Ecological Monitoring Centre
23 May-19 June:	Orientation and study program at Udzungwa Mountains National Park
19-21 June:	CEFA hostel, Dar es Salaam
21-24 June:	Clove Hotel, Zanzibar
Friday, 24 June:	Depart Dar es Salaam, arriving New York Saturday, June 25

*“The issue of conservation and trying to survive is a problem we do not really understand in America...They [The people of Tanzania] have a beautiful country, full of endemic species, lush vegetation, and fresh water, yet they need to utilize all these precious resources to survive.”*



# PROJECT OUTCOMES

Students chose a variety of topics for their final projects. Some of the projects were built off the work done by students on the 2010 Parks and People trip, while other projects were inspired by students' own assessment of the region's immediate needs.



## Planning Guideline Analysis & Development Strategies for the Village of Tundu

Two students concentrated on analyzing the existing infrastructure in the village of Tundu and making suggestions for potential land uses. As students from 2010 Parks and People trip had also focused their projects on Tundu, these two students were able to extend the work that had been done last year. The team also analyzed the possible consequence of using the existing Town and Country Planning Guidelines for future development. The students made recommendations for infrastructure development which they argued could help promote the installation of public facilities, something the village is currently lacking. They also suggested design solutions for residential development which, while inspired by the existing character of the village, may help to promote organized expansion of the village boundaries.

## Community Design & Sustainable Housing, Kisawasawa, Tanzania

One student created a design model for the village of Kisawasawa that maximized the production of each individual home and plot by efficiently using space and analyzing the best materials for home construction. She proposed home designs for low income families as well as a design for a “host home”. This design ensured that a family living in a host home would have enough room to house guests, providing the family with another source of income (a different variety of ecotourism), in addition to farming. All home designs were intended to be both low maintenance and energy efficient.

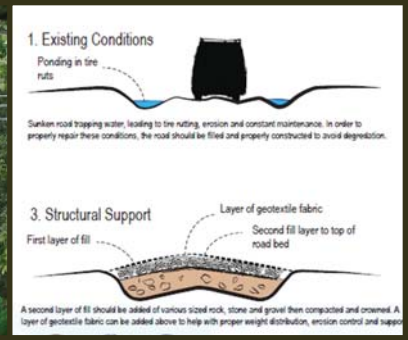
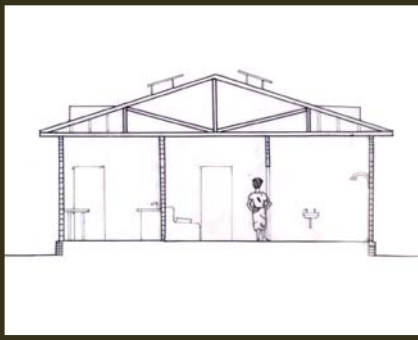
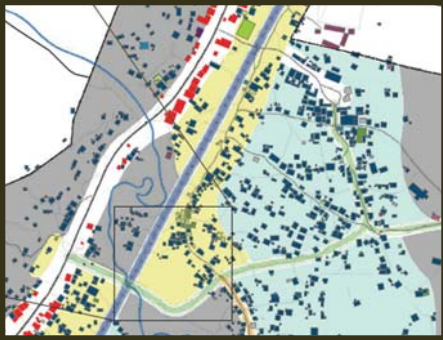
*“Ideally, my work in planning for Tundu and the work of other students, addressing ecotourism, fuel consumption, reforestation and other pressing issues, will at the very least provide scenarios and opportunities that will allow the villagers to see the implications of smarter management practices or the repercussions of continuing without them.”*



## Conservation in the Classroom

Two students created a set of educational materials to be used in the local primary schools. These teaching materials, which are severely lacking in Tanzanian classrooms, focused on the plants and animals of the Udzungwa Mountains. While students are taught about the flora and fauna found in this rare forest ecosystem, they lack access to books or even photographs which could help them to further their knowledge and appreciation of the





## PROJECT OUTCOMES

forest. Responding to this need, the pair of students created posters for primary school classrooms that provide facts and photographs of native plants and animals.

### Prioritizing Future Development & Growth:

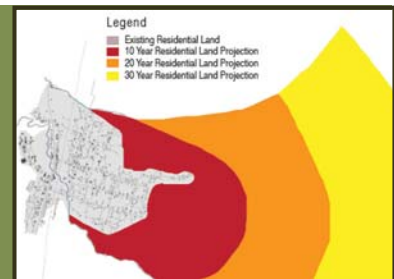
#### Addressing Food, Fuel, Water & Infrastructure in Kisawasawa, Tanzania

A group of three students assessed the food, fuel, and water security of the village of Kisawasawa in order to create a development model that could be used when inevitable expansion of the village occurs. The development model serves as a guide for the village, with the food, fuel, water, and infrastructure assessment intending to help the villagers understand the consequences that could result from uninformed decisions regarding residential and agricultural expansion. The project also provides suggestions for the village as to how they could best preserve their existing assets and plan for the future.

#### Udzungwa Mountain National Park Canopy Walk

Two students who were particularly interested in the potential role of ecotourism in the park, created a design for a canopy walk within the Udzungwa Mountains National Park. The canopy walk was designed to increase the number of visitors to the National Park. By creating opportunities for people to participate in other activities besides hiking and camping, visitors would have a reason to stay at UMNP for a few days, generating more revenue for the surrounding communities.

*“Now that I have comprehended the scope of each project I realize the impact we can have on this small corner of the world. Encouragement, knowledge, and the ingenuity to figure out new ways to apply it are benefitting our projects and helping these student-led service learning design projects formulate into something that can be used to help the people of rural Tanzania.”*



### Tundu: Accepting Fate or Taking Action

#### Utilizing Scenario Planning to Analyze Spatial Distribution & Availability of Fuel

Two students used scenario planning to illustrate how different spatial patterns would affect the future availability of fuel in the village of Tundu. They examined different combinations of fuel sources to determine which combinations would be able to sustain the fuel needs of the current population of Tundu. In addition, they created land use plans for the forest that corresponded to the village’s need for fuelwood, which varied in character for each scenario.

# STUDENT REFLECTIONS



*“Not many people I know would chose their first overseas experience to be in a developing country 9,000 miles away, on the coast of East Africa. I had always figured that first I would stay one or two weeks somewhere in Europe, touring ancient ruins or castles, exploring museums of fine art, and staying in a comfortable hotel with all the typical Europe cuisines, as most of my friends and extended family have done.”*

*“There is also the issue of just being plain overwhelmed with the sheer volume of problems these people seem to have. With this comes the question of, “Where do I start?”. Where some may see boundless opportunities for improvement, others may flounder in a sea of a hopeless end. When you come from a place such as America, more specifically State College, where “going green” has really caught on, issues can also arise when trying to see the villagers attitude toward the park. We see so many benefits from the park, the animals, the plant life and the thriving ecosystems, so why wouldn’t these people be more supportive of such a wonderful endeavor?”*

*“For me, the first step in a design project is to understand the people who will be affected by my design decisions. The easiest way for me to do this is to find similarities between their experiences and my own. At home, it isn’t too difficult to do, as I often have had similar experiences to the people affected. But in Tanzania I do not have that background...But now, after two weeks, I am just beginning to do just that. When we talk to people, such as the secondary school students, I see how they are actually a lot like people I know at home. When we go to the villages, I see how families interact, and they remind me of my own family...I know I cannot understand an entire way of life in only six weeks, but it becomes a lot easier to start understanding village life when I can see similarities between people rather than differences.”*

*“It is now time to apply the knowledge I have acquired throughout my first three years of education to a real situation, one that has an impact on biodiversity and the lives of people. While I have begun an education in design and have information that could be applied to the situations in Tanzania, it is also important that I continue to learn while I am here. Since this country has a different set of issues associated with design, it is important to learn about those issues and fully understand them. In any project it is essential to gather background information and analysis to make fully informed decisions. Learning while I am here forces that to happen.”*

*“Of the many things I have learned while in Tanzania, and probably one of the most important skills I have realized, is the ability to understand the viewpoints of the people whom I intend to help in order to successfully better the community.”*

*I am not sure if I will ever be fully prepared to go to a new African country, and I honestly think this is a good thing.*





## STUDENT REFLECTIONS

*“At many times throughout my two week stay in Tanzania I asked myself, how I, a Penn State geography student, could even begin to tackle the many problems I see before me. After some initial thought about this essential question I began to realize that I was approaching the situation of solving Tanzania’s problems from the wrong perspective. I kept thinking that the American way of designing, organizing, and living life is the right way, and the Tanzanians have it backwards. But who am I to say which way to live is right and which way is wrong? Some ways of living are healthier and more sustainable than others, but the customs of the Tanzanian people (such as going to the bathroom in an outdoor latrine) work for them.”*

*“My impressions of the Tanzanian people have been very positive. People here are incredibly hospitable, modest and friendly. I am becoming accustomed to the confused and surprised stares of the children, who often treat us like celebrities. Except for the buses speeding down the A7 highway, everything here runs at a slower pace. Even though an overwhelming amount of people deal with problems much greater than my own, the atmosphere is relaxed and people seem satisfied with their own way of life. People seem proud of their country and they have made us feel welcome wherever we go.”*

*“Pedestrian and bicycle pathways weave in and around all the houses, creating a web of access to each residence. I may not have known where I was going, but it was plainly obvious that the council member knew the pathways that led to each residence...This difference in understanding made me realize that people here do not need to conform to western ways of planning and town organization, because what they have developed is understandable to them. Design should accommodate the current pattern of development, not force the current composition to conform to western ideals.”*

*“I am used to working hard but I am also used to seeing my results. However, an ecosystem does not have the ability to recognize you for helping it. All individuals here are equal and all are entitled to the same benefits. The world will not care if you conserve something and your neighbor does not; you both will reap the same benefits or detriments of the action. It is a hard concept to wrap your head around, only working on a small piece of the puzzle.”*

*The situation here presents real-world challenges and a need for intervention, unlike anything I have experienced in previous studio work. With a firewood ban just weeks away, population growth showing no signs of stopping, tensions between the park service and people rising, and a shortage of resources for addressing these issues, our work here is driven by necessity. People here work very hard just for shelter and for food to sustain their families; they make a living on a day to day basis. These people have bigger issues to worry about than things like land use planning and the future welfare of the village and the forest.*

*After seeing both the urban and rural ways of life, I understand that things which to me, a person with a Western perspective, seem chaotic are legible to people who have lived here all their lives. People in Tanzania have ways of life than I am not accustomed to, but their needs are the same.*