CHAPTER EIGHT – LEARNING FROM LAND AND WITH PEOPLE; VARIED INTERNATIONAL WORK

Introduction. Chapter Four described active touring and passive interaction and descriptions of lands being explored. Other chapters described international work where the land was the key factor, or the subject was designing humane and delightful habitats for residents of zoos and botanical gardens. This chapter includes some previous themes, but the focus is the profound influence unique local landscapes, cultures and colleagues had upon my active participation and resulting work.

US Peace Corps Volunteer adventures -1966-1968.

In 1966 the Vietnam War raged more terribly than ever. I had just graduated and I was again vulnerable to being drafted. I had just spent seven years in university learning how to benefit people and landscapes with hard-earned design and planning skills. I was not going to forsake this and contribute to killing people and destroying urban, rural and wild landscapes. I had three choices: 1) to pursue a PhD degree, but none was offered in landscape architecture, which was then considered a professional degree rather than a research profession; 2) go to work in a professional office and eventually be drafted into the Army or, 3) find employment helping people while also providing continuing military deferment.

In 1961, five years previously, President John F. Kennedy created the US Peace Corps as a Cold War initiative to provide educational and technological support to developing countries through the work of trained, American volunteers (mostly college-aged) for two-year periods. It later expanded into more than sixty countries and continues to exist. The Peace Corps (PC) is part (the lowest part) of the American Foreign Service coordinated through US embassies and consulates but managed by PC administrators in each country. Volunteers work for free for two years but receive cost-of-living allowances about equal to that a native schoolteacher would receive in their community. All medical and dental costs are also covered. Importantly, this allowance is pegged to local inflation, which can become severe. In those days Peace Corps Volunteers (PCV's) completing their tour of duty each received USD$ 2000 to help settle back into civilian life. Most importantly, PCVs received draft deferments. I supported the idea of universal public service, in the military or elsewhere, depending upon individual skills and interests. Susan and I applied for a PCV housing program for which we were professionally qualified in Tanzania opening soon.

We had not heard back from the Peace Corps about our Tanzania public housing program application, so I contacted them, only to learn that our application had been misfiled and the program had closed. The next opening was to organize 4H clubs (rural youth programs) in Brazil, starting in August. While we had doubts about fitting in with this program, we hoped my horticulture background and Susan's experience on her grandparents' California Central Valley farm would suffice, at least compared to compulsory military service. We signed up. Our six-week in-country training began at

the Center for International Studies in rural Brattleboro Vermont. We joined another group preparing for a Brazilian program in urban community development with 8-10 students in each group. Training was managed by returned PCV's who emphasized the physical and cultural difficulties they had faced. We could expect to live among the poor in a developing country. We were frequently challenged to consider if we wished to 'deselect' ourselves from the program if we had any doubts. Immersive Portuguese language training alone was 6 hours a day, 6 days a week with all instructors being native Brazilians with different regional accents. What followed was the most effective language training I have ever experienced. Over fifty years later I can recite dialogues we memorized. The system favored spoken fluency over grammar and spelling, though these were not neglected. My high school Spanish soon came back, and I eventually became conversationally fluent in Brazilian Portuguese with a Spanish, but not an Anglo accent.

One of our surprise weekend exercises was to be individually dropped outside small Vermont communities, find our way into town, meet the right people to understand local politics and personalities, find places to stay for two nights and make our way back to the training site on Monday. We were provided with $10 for expenses. We were allowed to say we were Peace Corps trainees. I was picked up by a farmer hauling slop for his hogs and dropped off at the local farmers association. An association leader invited me to have dinner and spend the night with his large family. The next day he dropped me off at a local labor union chicken barbeque where I learned about the union's concerns with local factory conditions. One of the union leaders invited me to stay with his family that night and arranged for a colleague to drive me back to Brattleboro on his way to another destination. The farmers and union workers supported different politics but were happy for me to hear from both sides and small-town hospitality came above local politics. I spent $5 buying beers for new friends at the union barbeque.

An important part of our travel preparations was receiving an abundance of vaccinations including one big gamma globulin shot in the buttock just before takeoff on our 12-hour flight from New York City to Rio De Janeiro. We arrived in tropical summer and soon learned about the strong, highly sugared Brazilian espresso called 'cafezinho'. We flew north to Belo Horizante in the state of Minas Gerais and then drove on to the Agricultural College in the small town of Viçosa. Our second six-week training program was held during college holidays. The intensive language program continued, mixed with visits to meet government agriculture officials and local farms. Our highlight was an overnight bus trip to the historic town of Ouro Preto which is a legendary example of 18th century Portuguese Baroque architecture and sculpture. This was an expensive tourist town, and we all agreed to save money by sleeping together in our bus seats. I recall there were eight of us in our training group at this point.

After completing our final training, we returned to Rio de Janeiro to transfer to the rural towns we had been assigned. I was disappointed with the town selected for us because it offered none of the horticultural opportunities I was qualified for and because my heart

was set on doing work like low-income housing, where Susan and my design educations and skills could be productively engaged. We wanted to complete our volunteer service in Brazil, but in the most productive way possible. We presented this as an ultimatum to the PCV Country Director. He admitted being disappointed but said he would check with state directors and see if appropriate opportunities could be found. We spent ten days staying at the cut-rate Hotel Florida in Rio, visited the local zoo and wonderful botanical garden and the usual tourist attractions, acclimatizing to the tropical heat, humidity, and food (beans, rice and farofa, a course flour made from mandioc). Eventually we heard that Mr. Ralph Gut, Peace Corps Director for the state of Bahia had a client interested in housing and we were flow up the beautiful city of Salvador, Brazil's colonial capitol.

The favela year. Salvador's vibrancy was mesmerizing. It seemed like we had been transported to a port city in West Africa. We were to live in the favela of São Caetano. Today Brazilian favelas are known as places of danger run by criminal gangs at war with police. In those days' favelas, or squatter settlements of economic migrants, were just forming. These were poor, illiterate rural peasants from the interior escaping drought or simply seeking economic opportunity. They were religious, hospitable, trustworthy, and extremely hard-working. Although they could not understand why wealthy educated foreigners were living among them, we were honored guests. The community saw to our safety. I doubt such work would be possible today.

São Caetano was a forty-five-minute crowded bus ride outside the city. Sr. Alberto Shindler, a Brazilian of mixed German descent, was the patrão or head man. He built and ran the local schools and wanted to learn about building public housing for favela residents. Mr. Gut's last words when we left the PCV office in the city were to make ourselves useful and do not come back to the office until we had progress to show or needed something special. Sr. Shindler suggested a street to look for a house to rent, and we knocked on doors along the dirt street and were guided by surprised and helpful residents to a suitable house. Like the neighborhood, it was built of brightly painted mud plastered on a frame of woven branches with a rough timber frame and a clay tile roof. Importantly, it had water and power, although the power wires extended to serve small huts down the side lane. Our windows were usually open to breezes off the bay and were usually lined with curious, half naked children. Privacy was not valued, or simply not available in favelas. There was a popular barber shop next door where young men gathered, and one could catch up on local gossip.

Figure 93. Left and centre: a beautiful and imposing Mai da Santo, or priestess of Candomblé, the local African animistic faith. She cooked and sold local food outside our door during the day and led neighborhood animistic religious gatherings at night. I can still hear the drums. Right: street scenes in front of our home on Rua Ripaldo Filho in the favela of São Caetano.

We started work by mapping the area as I had done at university, noting hazard areas (flood, mudslide, unstable slopes), community assets (churches, gathering places, local market) and different qualities of housing. Seeing our large maps displayed openly created rumors despite our explanations. Some said we were foreign real estate developers or even American spies planning an invasion by American Marines. Susan worked with a local woman designing patterns for her to embroider and sell as a livelihood. Also, simple housekeeping is slow work without modern appliances and with long bus rides to the main markets. During periods of inactivity (progress can be very slow), I remained active building our furniture. Here are examples of our community work.

I developed plans for very low-cost row housing using a central prefabricated module with water, power, and brick common walls. Owners could extend rooms with mud walls and, eventually replace them with permanent brick walls as opportunity provided. The front room could be for living or used as storefronts, bars, or barbershops, as commonly occurred in every favela. Public housing, when provided, belonged to the government, was located far outside town and employment opportunities and was not valued by renters. Private ownership was the key to success. Owner occupants could invest their own work and materials over time with a feeling of assurance. I showed these drawings to Sr. Schindler, but no action was taken.

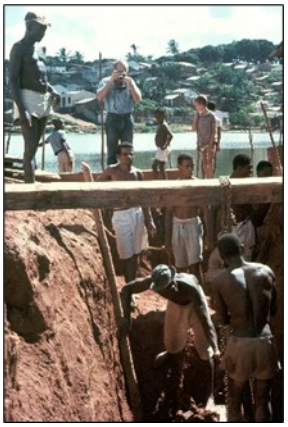


Figure 94. My neighbors in São Caetano hand digging the stormwater outfall pipe system I designed for water overflowing from the pond in the background.

Sr. Shindler told us of a reservoir in the area without a properly engineered overflow and now was surrounded by new illegal housing. If the earthen dam washed out downstream lives could be lost. I walked down to the area on a Sunday afternoon and introduced myself to local community leaders and discussed this problem. I asked if they would provide the labor to resolve the

problem if I designed the engineering structure and the city provided the construction materials. We talked it over and they agreed. I prepared the drawings and arranged to meet the city engineer. In the favela an educated man is considered either a doctor or an engineer, so no one questioned my competence and I had learned enough site engineering for this simple work. A key part of my strategy was to insist that three men from the community join me in meeting the city engineer and present the project themselves, pretending my Portuguese language was too poor for such important meetings. My strategy was for the local leaders to gain credibility with city officials so that, if successful, they would not need my presence in the future. The goal of community development workers is to make themselves eventually unnecessary.

The city's engineer agreed and the needed pipes and mortar arrived. Over six Sunday mornings local men with hoes dig the 30m (100') long ditch, 5m (16') deep where it crossed the top of the dam They placed the pipes and the soul city worker, a mason, supervised and grouted the piper together properly. The local workers filled the excavation and finished the work. The city engineer and a local politician came to the completion party and took credit for everything. Everyone cheered.

During this party I asked my favela colleagues what they wanted to do next. They said a local school was needed, so I suggested we build one. This amazed them. I suggested Sr. Schindler would run the school if we built it and may even provide building materials. When I spoke to him later, he agreed. My colleagues selected a clear area for the school and guarded this area from other home builders looking for an open site. The Peace Corp sent a new volunteer to help us who used my school plans for an application to a private American School to School foundation who organized a fund-raising program in their schools which helped fund our school construction.

By this time Susan and I were active as resource people to PC volunteers throughout the state of Bahia, an area the size of France. We also went camping with the local PCV around the historic diamond mining town of Lencóis and camped near the top of what was then called Glass Falls (or Caeté Açu in the native language) on several occlusions. At 400m (1400 ft) this is the highest waterfall in Brazil, although the flow is small and seasonal. I prepared field observations, photo surveys, and a map of the canyon area around the falls, now called the Fumaça Waterfall. Susan and I explored the base of these falls with a local guide who told us we were the first 'outsiders' he knew of to reach this point. My photos and survey work eventually contributed to the formation of Chapada Diamontina National Park in 1985.
http://www.infochapada.com.br/en/chapadadiamantina-nationalpark/

After our first year in Salvador with a new volunteer taking over the work in São Caetano favela, we next served as planning and project resources for PVCs throughout the Bahia. To be nearer the Peace Corps office and transportation, we moved into an apartment overlooking scenic Bahia do todos os Santos on the edge of the upper level of the historic city of Salvador. We were in the colonial zone with ancient churches near

the famous Ladeira do Pelourinho the Afro heart of the city, and near the elevator leading to vast bayside market district below.

Figure 95. Upper row: my still life oil painting next to a window. Lower left, Colonial Era Street and Ladeira do Pelourinho, a famous open space in the Old City. Lower right: Susan in a garden in scenic Teresópolis in the hills overlooking Rio de Janeiro.

I taught two courses in favela redevelopment to university architecture students from upper class families who were terrified to enter favelas themselves. I led them into a beach front favela, introducing them to local leaders (who insured our safety) and had them survey local living conditions and recommend long-term plans for renewal, collaborating with residents as we had done in San Caetano. Many university students were leftists and suspicious of America. Eventually they told me they trusted me but were sure the CIA would read my reports. I explained I had authored no regular reports, and my final decommissioning report would have no details about them.

We developed a town growth plan for the progressive city of Itapetinga in the south of the state, making three visits there. This required ten hours of dangerous driving along a poorly maintained highway. Burned-out wrecked buses were a common sight. We once stopped to give aid to a car wreck in which all five passengers had died.

Into the Sertão -1967. On another adventure a PC Volunteer asked us to design a storage building for a hamlet he was helping deep in the dry woodland interior of the Sertão arid region. This is an area rich in Bahian folk history of cowboys (vaqueiros),

bandits (bandidos) and religious crusades (religious mystic Antonio Conselheiro). They could build this structure themselves with local materials but to arrange funding from an international charity they needed official drawings I could prepare. We traveled by bus with the volunteer north to the town of Remanso on the São Francisco River (fourth longest in South America), spent the night, took another bus upstream for 4 hours, boarded an ancient woodburning paddle boat (they said it had started on the Mississippi River) for another 4 hours, and reached the riverside village of Pilão Arcado, where we spent the second night.

The next morning, we met an Irish priest who took us into the interior in his jeep as he made his village rounds. We traveled barely defined tracks through the dry forest. Tropical dry forest trees lose their leaves during summer rather than in winter as deciduous trees in temperate forests do. At night, the dry twisted, leafless trees and white sand reminded me of abandoned New England orchards in the snow. The priest instructed us not to arrive in a village at meal or bedtime, because poor families could not afford to feed us or give up their few beds. These were peasants living 17th Century rural lifestyles around the few oases. Late one night the priest was too tired to continue driving and stopped in the middle of the track. Susan slept in the back seat, the priest in the front seat and the other Peace Corps Volunteer, and I crawled under the jeep to sleep on the sand. I asked if we should not at least pull off the track, but the priest said there wouldn't be another vehicle along for at least two weeks.

We shared the priests' life of intentional depravation for four days and nights, with little water, less food and even less sleep. We reached our destination, met the builder, and visited the site. I measured the length of the man's hand and later dimensioned my drawings in meters and spans, knowing he was unlikely to have modern measuring tools. I also built a model of the building out of sticks and cardboard for his use in case he was illiterate and could not read my drawings. The people we met were welcoming, of slight build, and of mixed Portuguese, African and Indian ancestry. They spoke a diminished Portugues with no future tense. Nothing ever changed in their lives.

In 1970 the Sobradinho Dam was built across the Rio San Francisco above Remanso, the reservoir measures approximately 320 km. (200 mi) long and flooded most of the area we traveled through, opening a vast irrigated industrial farmland. Today, Novo Pilão Arcado can be found along the lake shore. Certainly, many of the displaced Sertão residents fled to the favelas of Salvador. During our last Peace Corps months, I wrote a program to recruit city planning graduates and helped in their in-country training.

Taman Safari International - 2005. While attending a joint conference of the then ARASPA (Australian/New Zealand Zoo Association) and SEAZA (Southeast Asian Zoo Association) in Melbourne I was approached by Mr. Jansen Manansang, Managing Partner of Taman Safari International (TSI), and his sons Willem and David, who both had been educated in American Universities. The Manansang family are amazing people with a wonderful family story. They are a Mandarin speaking, Indonesian, Christian, circus family. The patriarch, Pac Hadi Manansang was a circus aerialist and

raised his sons Jansen, Franz, and Tony in this art, beginning in Manila. As the Japanese captured the Philippines in World War Two, he led his family south to Sulawesi Island in Indonesia. After the war they settled in Jakarta and eventually opened the Oriental Circus in 1972, including animal acts. They purchased their Bogor property in the highlands above Jakarta in 1980 as winter quarters for their animals and as a breeding and training facility. A visit to an Australian safari park by Tony convinced them their future was as a public wildlife attraction and endangered species breeding facility. Later they opened a second safari park in Prigen, near Surabaya in eastern Java. They have been generous in supporting sanctuaries for endangered native tigers, elephants, and rhinos in Sumatra. I later visited several of these facilities, managed in coordination with the Indonesian Ministry of Environment and Forestry.

Jansen invited me to help them plan a new safari park on the fabled island of Bali. Their previous parks had evolved without professional planning and, while popular and profitable, had many built-in problems with visitors and service circulation. They were keen to adapt the newest and most progressive ideas in animal display. It was their openness to trying new ideas which first attracted me to them. Here was also the opportunity to work directly with the decision makers themselves.

In June I made my first trip back to Bogor, Java, to visit their home facility, and then flew to Bali. I had visited both locations briefly seventeen years earlier. I met on their new property with Pak Jansen, Willem, and David and with Hans Manansang, son of Jansen's brother Franz. Their site was about forty ha (100 acers) of elevated rice paddies with wonderful sea views across the coast highway in the town of Gianyar. The site was generally level or terraced but divided by two steep forested ravines. Their initial general plans for the site were sound. We then visited several historic Balinese temples, baths, and gardens and jointly took the easy decision to use these wonderful religious and vernacular traditions as central features of the new park. In the early days we all slept in a small cabin on the property and ate at the food stand across the street. I was made to feel like a family member.

Denpasar Airport in Bali had an excellent bookstore. I found several highly illustrated and informative books on Balinese traditional design and architecture which descended for Hindu and Buddhist traditions introduced from Southern India. Every feature has meaning not only in its placement, appearance, and implied references, but also in the methods and sequences of construction required. While we had mimicked vernacular architecture from East Africa and Indonesia in several American zoo exhibits, here was the opportunity to build authentic Balinese architecture using Balinese craftsmen and materials. It was possible to draw from the rich tradition of Balinese storytelling to develop a storyline explaining the park's purported mythical creation and layout, done respectfully within their tradition. Here are two descriptive texts I wrote at the time.

Village by the Sacred Spring. Long ago artesian waters sprang from volcanic cliffs forming cascades and pools attractive to both people and wildlife. Tenth century Buddhist and Hindu missionary priests taught the people to respect and protect all

creatures in this sacred place, which became a pilgrimage centre. A village grew to provide for the pilgrims and later for tourists. Today this village still attracts tourists to see the animals and the courtyards around these cliffs and pools and to see theatrical recreations of great Hindu Sagas.

Traditional Bali comes to life in this realistic recreation of a traditional Balinese market, sacred garden courts, and Ganesha Grotto leading to the Bali Agung Theatre, where ancient Hindu sagas come to life.. A rice temple, formally dedicated to Dewi Sri, built, and used regularly by local inhabitants, forms the park's centre. From this Balinese central focus, explorers take safari journeys to explore wildlife of India and Africa, dine with lions at the Tsavo Lion Restaurant, join the night safari and spend the night in the African Mara River Lodge. The attraction includes a major marine park under construction, with the underwater theatre opening soon.

My plans were developed in my office, but actual conditions varied widely from the survey plans provided, so I located everything including pathways and roads, exhibit features and market areas directly in the field. This was a rediscovery of the methods I had used thirty-two years before with my very first zoo project, Northwest Trek. After studying the area, I set out the centerline of the two-kilometer-long safari road with bamboos poles, assisted by three local helpers carrying more bamboos poles and followed by the three Manansangs. With minor alterations they approved the alignment. The next day I sat behind the bulldozer driver guiding him as he cleared the roadway. Taman Safari had their own experienced construction team and there were no delays for tendering or permitting. From my first visit to the opening day for the entire safari park was only eighteen months. A project this size in the USA would have taken 4-5 years to complete. Of course, several major elements were designed and built by the TSI team and local architects. These include the entry area and arrival pavilion, Ina Restaurant, Fun Zone, Bali Agung Theatre, which can host up to 1200 people, and the non-public animal care facilities.


Veterinary Centre
Lion
African Safari
Hippo
Elephant
Indian Safari
Kandang Gajah
Lion
Tsavo Lion Lodge
Future Hotel
Mara River Bungalows
White Tiger
Sumatran Tiger
Discovery Trail
Bali Theatre
Indonesian Safari
Toraja Terminal
Bali Village
Sacred Courtyards
Market
Uma Restaurant
Temple
Lobby
Fun Zone
Bali Safari and Marine Park
Marine Park
Ticketing
Service
Master Plan
Entry Terminal
Entry
Taman Safari Indonesia
Jon Coe Design P/L
February 2008
100 M GRID

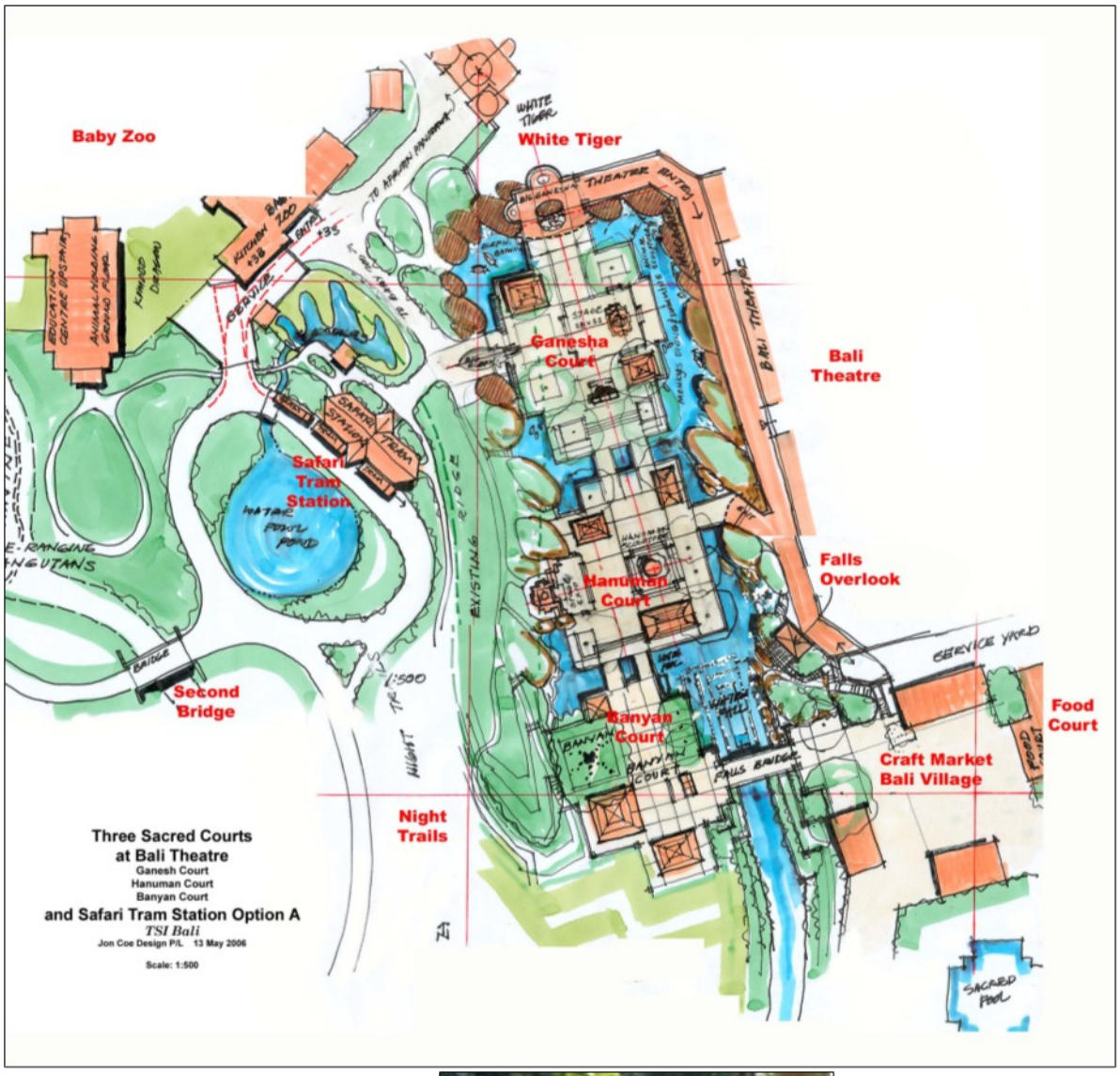

Baby Zoo
White Tiger
Ganesha Court
Bali Theatre
Safari Tram Station
Falls Overlook
Hanuman Court
Second Bridge
Banyan Court
Food Court
Craft Market Bali Village
Night Trails
Three Sacred Courts at Bali Theatre
Ganesh Court
Hanuman Court
Banyan Court
and Safari Tram Station Option A
TSI Bali
Jon Coe Design P/L 13 May 2006
Scale: 1:500

Figure 96. Upper image: master development plan. Second row: early plan of village market and three sacred gardens leading to Ganesha grotto and Bali Agung Theatre. Third row: gateway to sacred gardens

with local religious celebration, sacred baths. Fourth row: central feature, the Dewi Sri Rice Temple. Fifth row: entry to third, highest and most sacred garden after ten years of plant growth.

Figure 97. Upper left: early plan of upper park area showing central Tsavo Lion exhibit and restaurant (labeled Safari Lodge) and Masai Mara Bungalows overlooking African safari area. Upper right: view of safari area from a bungalow. Middle row and lower row left: lion outside the Tsavo Lion Restaurant and views of lions from within the restaurant. There are even views into the lion grotto from behind the bar and from the public restrooms. Lower row right: I was given the honor to award Pak Jansen Manansang special recognition upon his retirement as long-time president of the Southeast Asian Zoo Association (SEAZA).

The authenticity of the Balinese Rice Temple, market architecture, baths, sculptures. and plantings were achieved simply. We had them all built by local artisans. After I suggested building an authentic rice temple as the park's central feature, Pak Jansen Manansang went to the local leaders in the town of Gianyar. They told him anyone could dedicate a temple, but no one could ever take it down. Jansen then asked, if TSI purchased all the materials and paid for the labor, would the community build the temple, consecrate, and manage it? Local leaders visited the site and found my selected location suitable on "clean land," oriented properly and with Holy Mount Agung volcanic peak in view. I had done my homework to ensure these needs had been met and the temple was built by native craftspeople. Park employees provide the required daily cleaning and offerings, and members of the local community have free access on holy days, including the annual reconsecration ceremony. As to the many wonderful sculptures and architectural treatments, I simply traveled around Bali taking photos of wonderful and suitable examples and provided plans locating where I wanted the specific feature I photographed to be located. Local artisans carved the dragon bridge and sculptures from the soft volcanic stone from memory and without drawings.

After opening I continued developing additional areas such as the freshwater River Aquarium, Ranthambore Tiger Fort, and Elephant Theatre. A special later project was the large Marine Park, a special interest of Hans Manansang. For this work I was joined by Mr. Ken Shular of Oceanis International, a specialist in marine animal life support systems, and Active Environments, animal training and marine mammal show specialists. My work was limited to conceptual design and Ken's firm provided technical drawings and engineering services. While we developed innovative ideas such as an underwater dinner show, problems emerged in translating Western technology to local designers and builders. During my last visit in 2017 the Marine Park area was under construction.

The Bali Safari and Marine Park are my favorite projects of the last two decades, both for the people I collaborated with and the results we accomplished. Just as my aesthetic values require artificial recreations of nature to appear accurate to knowledgeable geologists or botanists, I wanted the Bali Safari environment to feel proper and appropriate to Balinese neighbors and cultural leaders. Over a decade after opening Jansen Manansang was showing the Governor of Bali through the park. Jansen later told me the governor was amazed that everything had been designed by a Westerner.

Dongkoucao Giant Panda Project - 2006. Earlier, I introduced Mr. Andrew Scanlon, a multilingual Irish geologist, and geographic information system (GIS) while describing our work in Afghanistan. I first met Andrew when he was a GIS specialist working for Jiuzhaigou National Park Director Zhang Xiăopm in Sichuan, China. Andrew contacted me about designing the world's best giant panda exhibit. National Park Director Zhang, a Tibetan Chinese, was to manage the design and public aspects of the work. Animal management was to be operated by the Wolong Giant Panda Base which, together with the Chengdu Giant Banda Base, were the two major breeding centers in China. Andrew

Scanlon's role was unofficial, but extremely valuable to us. He not only managed our in-country travels and affairs, but with his fluency in Mandarin language and culture, gave us insights into what our Chines co-workers and clients were saying to each other when they didn't realize he could understand them.

> "There are two giant pandas, one that exists in our minds and one that lives in its wilderness home". George B. Schaller

Giant Pandas were nearly extinct in the wild Min Mountains and Crouching Dragon Mountains of Wolong following a massive dieback of their main bamboo food supply plants during 1974-1976. Pioneering wildlife scientist Dr. George Schaller, who had supported our work with naturalistic gorilla exhibit at Woodland Park Zoo in the mid-1970, led giant panda field research in Wolong during 1980-1983, assisted by his Chinese colleagues. In two years of field work, George had only seen pandas in the wild twice. They are extremely reclusive, yet humans insist on making them rock stars, surrounding them with inquisitive and adoring zoo visitors.

The Chinese government planned to profit from this popularity by building a major new giant panda attraction above the small town of Dongkoucao. Their admirable strategy was to create employment opportunities through tourism to replace jobs lost when they phased out logging and large-scale land clearing. The government promised to display thirty baby pandas and forty adults, certainly a compelling tourist magnet. They also proposed a separate non-public breeding center in the area with very large enclosures.

Nelson Byrd Woltz (NBW), an excellent landscape architecture firm based in North Carolina, had been selected as principal design firm based upon their recent design of the giant panda exhibit at the US National Zoo. Mr. Warren T. Byrd, FASLA, headed the project, assisted by Ms. Mary Wolf and Mr. Jeff Afton. We shared the opinion that the many giant panda exhibits around the world including those in China were too much like traditional zoo exhibits and not enough like real giant panda habitat. We were keen to use the large steep site surrounded by mountains to create a convincing natural context for seeing and better understanding these unique animals. We also advocated for the display of other endangered regional species such as takin and lesser panda.

Together we made site visits in February, April-May, and Aug-Sept 2007. Dongkoucao is a potato farming area with small, stoney, terraced fields laboriously built and maintained into steep unstable terrain. During one visit during Chinese New Year's Day, ethnic Tibetan families greeted us with peanut brittle candy and choruses of "Xinnian Kuaile!" "Happy New Year!" Knowing the government would buy their properties, farmers planted hundreds of small fruit trees around their fields to increase resale value. The government asses the value of orchards more than potato fields.

Figure 98. Upper photos: Dongkoucao valley and farm. This steep valley and surrounding hillsides could make a spectacular setting for wildlife of the region. Lower left: Wolong National Reserve, the natural landscape of the giant pandas and site of George Schaller's field work. Lower right: Wolong Giant Panda Station featured popular giant panda displays, most very zoo-like despite the remarkable steep natural setting. This steep valley restricted growth, resulting in the government's desire to develop the much larger Dongkoucao site.

During our formal initial meeting with Director Zhang and associated dignitaries, Warren Byrd and I asked the clients to share their visions for the project. This is a question we usually ask Western clients, believing our role is to help them clarify their goals and visions, resulting in plans meeting both needs and expectations. To our surprise, the question resulted in lengthy internal discussions in Mandarin. Finally, the translator expressed their confusion and concern. "You are the foreign experts. We brought you here to tell us what we should do!" We were now in the Eastern World of "master knows best" and not the Western approach of integrative team-based design. In our local travels we had seen, to our eyes, wonderful examples of sustainable, culturally appropriate, vernacular Tibetan architecture. These images strongly influenced our architectural design recommendations. Again, our Chinese clients were displeased. "We don't need foreign experts to design buildings in local styles. We could do this ourselves!"

There were many other difficulties. We were made subcontractors to a local engineering and construction firm and an architectural firm with their own agendas. The contractors

were mostly interested in getting profitable construction started and the architects in doing as little as possible while getting paid. The contractors provided our translator. Andrew Scanlan, with his knowledge of Mandarin, kept quiet around the contractors and architects and would later tell me what they said. It became clear that our translator, rather than accurately communicating what I said, communicated what she thought the Chinese officials and employer wanted to hear. Commonly, a person will speak several sentences or even a paragraph or more. The translator will try to remember everything and may take notes before translating. There follows a pause while the translation is given in Mandarin followed by the response, which is equally long, translated back in English. This provides ample time for the translator to change meaning if she wishes. To prevent this, I reduced my speech to a single simple sentence and demanded she translate one sentence at a time. Since the translator couldn't tell what was coming next, she couldn't easily alter my meaning. She resisted this approach, but in the end had to comply. Lesson learned: international consultants should provide their own trusted translators unless their clients are already proficient in English.

Another problem was that the Chinese Government department which hired us only built things. An entirely different government department oversaw park management after it was built. I requested permission to work with the veterinarians and senior caregivers at the Wolong Giant Panda Base to understand their service needs, but we had no direct contact with them. Finally, Vet. Dr. Zhang Gui Guan agreed to meet with us unofficially, reviewed our preliminary plans and gave us a general idea of their needs These were like giant panda management programs in North American zoos, except there was much more handling of the animals by staff, especially early removal of young animals for hand rearing. While I opposed this inhumane practice, we had no influence on management practices.

We had relaxed intervals in Chengdu, staying at the Wolong Hotel and spending evenings at Bookworm, a coffee house bookstore and expat hang out. I even gave an evening lecture there. Andrew and I were usually joined by Mary Wolf, and Jeff Afton of NBW (Warren Byrd only came for the first visit). I also met resident expat Bret Sparling, and his wife Yin Chi, a Chinese federal judge. They kindly helped draft a consulting contract which would be reasonably fair according to Chinese legal processes. Fortunately, this was never needed. I visited the Chengdu Giant Banda Base several times and met with a scientist from Zoo Atlanta doing research there. One highlight was visiting the Chengdu Animals Asia Bear sanctuary where bears are rescued for the terrible bear bile trade. I was able to meet with founder Ms. Jil Robinson and her senior staff and observed the best environmental enrichment program I had seen anywhere, an inspiring experience.

Figure 99. This is a region of ethnic Tibetan Chinese whose sustainable vernacular architecture greatly impressed us and had a strong influence on our designs. Upper photos of Zhong Che village with characteristic cedar architecture and prayer flags and my sketch from this visit. I found these structures very similar to the Northwest Native American coastal village architecture of cedar planks. Middle row: my preliminary sketches of the proposed park entry intended to emphasize geology with giant glacial, and stream washed boulders framing the view up the valley. Bottom row: early plan of entry resembling a Tibetan village and cross section showing use of slopes to immerse visitors and hide upcoming exhibits.

Eventually our plans were approved by Director Zhang and the final presentation to the Provincial Secretary (like a state governor) was scheduled. Our group was made up on Director Zhang, his assistant, our translator, the engineer, architect, Andrew Scanlon, and our American design team. We were joined by a prominent giant panda expert

known in China as Mister Panda, representing the Wolong Giant Panda Base (I don't recall his full name, but his family name was also Zhang). The large meeting room was filled with perhaps two hundred people waiting to present their programs to the Secretary, who sat in the center of the head table lined with a dozen or so senior government officials. The Secretary was a younger man and, we were told, new to this elevated position. When our time came Director Zhang and Dr Zhang stood and made brief statements in support of the project, and I presented our plans through our translator. The Secretary seemed satisfied but felt the need to ask some questions. "How large is the new park?" he asked our local architect, who knew very little about the project. This was an unexpected problem. I knew how large the area we planned was, but Director Zhang, at the last minute, instructed us to draw the park boundaries along surrounding ridge lines. This greatly inflated the park's size with undevelopable slopes. This new size hadn't been measured. I didn't want to give the smaller size against Zhang's wishes, and no one knew the full size. This confusion was obvious to the Secretary and his head table, who immediately ganged up and began verbally attacking Director Zhang. Andrew Scanlon whispered urgently in my ear: "Jon, you have to do something now!" As the senior (white bearded) member of the design team I stood up, slid along the wall until I was directly opposite the Secretary and stood silently, an island of calm composure and confidence amid the outcries and chaos. The Secretary immediately called on me and the room fell silent. I affirmed: "I am the world's international expert on giant panda parks brought over for this work. Beside me is Dr. Zhang, Mister Panda, the foremost Chinese giant panda expert, and Zhang Xiăopm, Director of Jiuzhaigou National Park, the premier nature park in China. The three of us support this plan and recommend the Honorable Secretary's approval. Any remaining questions will be promptly answered in full and in writing." This strategy worked. The room returned to quite deliberation and after Director Zhang submitted the park's full size our plan was approved. Sometimes your job as lead communicator is to be a confident, grounded lighthouse in a raging storm.

As often happens in China, Nelson Byrd Woltz and I may have been "trophy international consultants" brought over to show projects had high style, but the actual plans are then developed locally, with no further expensive foreign participation. I expect this to happen with the giant panda park. But the entire undertaking ended with the horrible Sichuan 2008 magnitude 7.9 earthquake. The Wolong Giant Panda Base was also destroyed. Surviving animals were moved to another facility in Yaan and our Dongkoucao Giant Panda Project was abandoned.

"The big idea is simple. Look for conflict. Go there. No one has the answers and the current system is failing." Grant Jones.

United Nations Environmental Programme (UNEP), Afghanistan 2009-2016. Forty-three years after completing Peace Corps service I again became immersed in international community service planning and development in difficult poor areas, but this time as an experienced planner. One of the most interesting and challenging areas

of my work, professionally and personally, resulted from the eleven forty-day missions I made to Afghanistan supporting of work of the United Nations Environmental Programme (UNEP, nine of the eleven visits), Wildlife Conservation Society (WCS) and USAID (American foreign aid organization). I was contacted by Mr. Andrew Scanlon, who I had worked with in China, asking for advice about an offer he received to join UNEP in Afghanistan as a project manager. Everyone said he was crazy to go to war-torn Afghanistan. I could tell he was keen. I told him he had already decided to take on this work and just needed to accept intellectually the decision he had already made emotionally. He soon left for Kabul. Not surprisingly, he called me a year later, inviting me to join him there as an environmental planning consultant. I needed to consider the professional and financial cost of working for the UN. They only pay for five eight-hour days per week at one-half my normal rate. Considering I worked at least six 12-hour days each week on forty-day missions, I would be working two free hours for every paid hour. Each trip took over two days of travel time. The UN provided tickets at economic rates, but no allowance was provided for travel time. Why did I decide to go? I saw this as a continuation of my Peace Corps Volunteer service, but at the peak of my career rather than at the beginning. I would again be collaborating with amazing people, Afghans rather than Brazilians, many in real need, yet born to hard work with courage and resilience. I would meet extraordinary expatriates who also chose to work in hardship and conflict zones. They have amazing stories. I would experience challenging yet magnificent high-altitude desert and alpine landscapes. We would all learn by doing and sharing. Such experiences were beyond traditional professional considerations.

I also had to decide how much personal risk I was willing to take for a very worthy cause, developing Afghanistan's second national park in the Central Highlands of Bamiyan Province. At the time the Taliban were a threat everywhere in Afghanistan, including the capital of Kabul. The UN headquarters and other compounds were patrolled by Gurka guards with layers of security. Our study site was in the province and town of Bamiyan, homeland of the Hazar, a Shia minority in the Sunni majority country. The Hazar had long suffered oppression and genocide. Only a decade earlier the mountain villages where we would work were overrun by Taliban Uzbek Sunnis. They burned village mosques with aged Hasara sheltering inside and killed any villagers they could find. For this reason, the Hazar enjoyed the protection of the Western armies holding back the Taliban. We were both welcomed and completely safe under the protection of the Hazar elders in Bamiyan. When you had tea and then shaken the hand of a warlord descendant of Genghis Khan you know promises would be kept. I learned the terms "respected elder", and "warlord" were interchangeable, depending upon which faction one favored.

My work was split between Kabul where the main UN facilities were located and Bamiyan town and province. Bamiyan is ancient. Alexander the Great marched through during his invasion of India 327–325 BC. It became was an important stop on one line of the Silk Road (used for 1,500 years from 130 BCE until 1453) passing through the mountainous Hindu Kush. Buddhist monks developed an important center here. The

famous giant Buddhas were carbon-dated to 591–644 BCE. The tallest was 53 meters (175 feet). The Taliban considered them to be sacrilegious graven images and destroyed them in 2001.

Figure 100. Upper photos from UNEP Bamiyan office roof showing the remaining Giant Buddha grottos with Hindu Kush in the background. Lower left: showing the amazing colors and numinous light of these landscapes. Lower right: old caravansary in Sayalyak Valley.

Figure 101. Left: I am with colleagues Asadullah Asad and Irish land planner Conor Skehan (a former top student of mine at the University of Pennsylvania) at about 3900m (12,800ft) elevation at Sare Ahangaron after a breathless two-hour uphill hike. What a place to hold an alfresco workshop! Right: slate pinnacles

above Chapdara village at about the same elevation (see poem: “Ghost Man of Chapdara in Appendix 3). Andrew Scanlon and Sardar Amiri were climbing the peak in the background when I took this photo.

Figure 102. Bamiyan village elders Amed Hussin, Chapdara village, proud and flamboyant. Abdul Ghani, Jawkar village, quiet and thoughtful, he invited his two young daughters to observe one of our informal meetings in his home…most unusual in Afghanistan. Photo with Hadji Qadir from Chap Qulak, very active in implementing our check dam and forestry projects. Zekria Ahmadi, our translator, and two elders we met in Alibeg village. My long grey beard and senior years were well received among Afghans.

UNEP was requested by Prince Mostapha Zaher, then General Secretary of the Afghanistan National Environmental Protection Agency (NEPA) to develop a master plan for the proposed Shah Foladi National Park in the Koi-e Baba (Grandfather) Mountains above Bamiyan. This would become the nation’s second national park, an International Union for the Conservation of Nature (IUCN) Category Five Protected Landscape, supporting existing villages and livelihoods. We began by developing an understanding of the larger landscape of the Bamiyan River Valley and drainages between the Hindu Kush to the north and Koh-e Baba Mountains to the south. This included learning about the cultural history of the region. While we used Andrew’s and UNEP’s skill with GPS mapping technology, we also drove the narrow roads up each stream valley and visited the highest villages at 3000m (nearly 10,000’) elevation, which we called the “Gateway Villages” to the planned national protected area. There we met with village Shuras, councils of elders. Andrew Scanlon, with our translator Zakria Ahmadi and driver Sardar Amiri and project manager Ernie Wijanco had visited and met with these elders and explained our mission before my arrival.

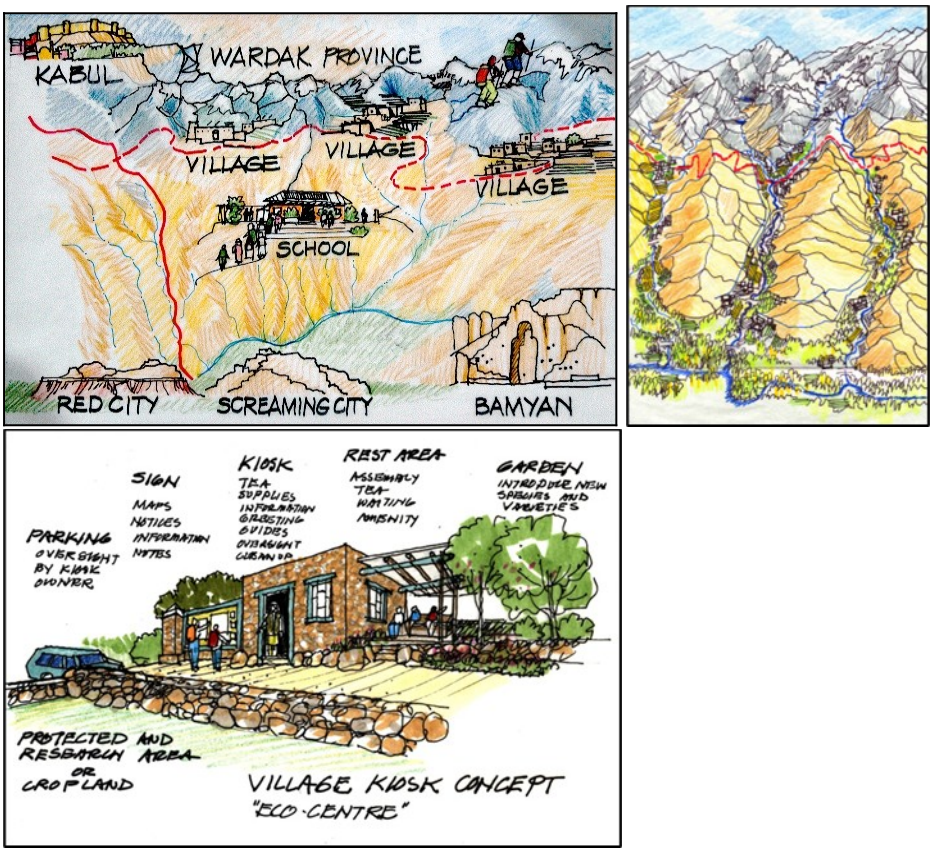


Figure 103. Upper row: sketches showing the stream valleys and farm villages extending up to the Koi-e Baba mountains. The proposed Shah Foladi National Park would include these mountains and the highest “gateway villages.” The upper right drawing also shows the proposed ‘Sky Trail’ (red colour) connecting these villages, sections of which were later built through our programs. Below: sketch of a proposed village eco-centre with provisions, toilets, and primitive accommodation for tourists. Facilities like this were to be built outside each willing village and managed, along with a guide service, by a local operator as an income source.

In order not to overwhelm remote conservative villages with alpine tourists (students and perhaps a few international adventurers) we planned to distribute them among many gateway villages, each with simple accommodations and kiosks just outside the village. Foreigners would not enter villages. Pathways and guides would lead summer alpinists and winter skiers on day trips into nearby mountains to visit alpine lakes or climb local peaks. The next day they would take the new Sky Trail over the ridge to the next village to experience what it had to offer. Some ambitious alpinists may even tour the entire series of villages.

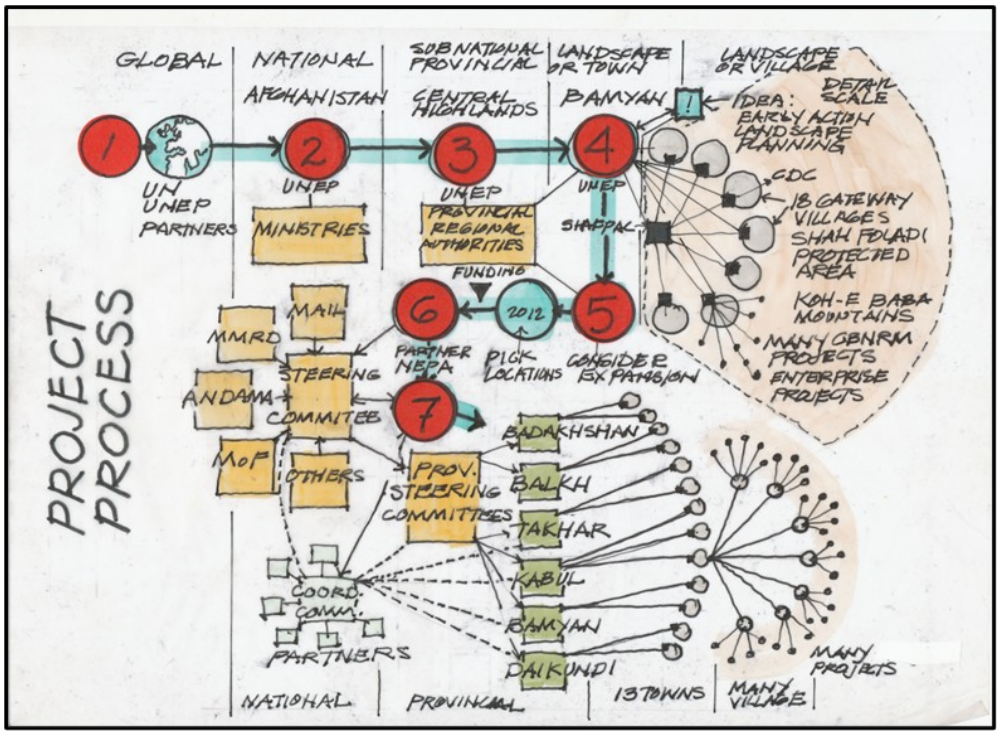
Visiting these subsistence farm and herding villages, with livelihood subject to drought, flood, avalanche, and earthquake, convinced us we must first help them improve their livelihoods and environmental security before there was any hope of forming a national park. This changed and diversified our plans.

I suggested many policy and practice strategies from my own experiences to Andrew, and he added ideas from his background. Then through intense collaboration practical

integrated community and ecologically based programs emerged under Andrew's leadership.

Our team's resulting work can be considered in two stages, 1) strategic and 2) tactical and practical. UNEP is primarily an environmental research, policy making, and national government support organization. For example, under the leadership of Ms. Belinda Bowling, Head of the Afghan office when I arrived, UNEP developed the legal framework to create the Afghan National Environmental Protection Agency (NEPA). UNEP's ongoing role was to partner and support NEPA, who made and policed environmental policies (including national parks) and the National Department of Agriculture, who managed these land areas. UNEP usually did not do detailed village development and livelihood projects. But we saw both strategic and practical areas as inseparable and interactive. Our strategic objectives were to provide both "why to" and "how to" environmental policy documents to related federal and provincial ministries (a normal UNEP activity). In addition, we planned to increase community livelihoods and resilience with useful information, organize community master development plans, design and find funding for local field projects, and assist UNEP field staff in communicating design intent and construction methods to local workers. We proposed to develop these case-by-case projects as a proof-of-concept test, to provide actual projects as sites for training Afghan government and UNEP staff and to provide attractive and result-oriented models to attract international funding.

While we developed and tested this strategy first in the Bamiyan area, we later expanded "Flagship" programs to Daikundi, Badakhshan, Balk, and Nangarhar Provinces. We also organized training programs for colleagues in related Afghan government departments at the federal, and provincial levels. Later these strategies were expanded, and collaborations organized with several international aid groups to carry on development stages. But implementation of these programs, other than in Bamiyan and Daikundi Provinces, was limited during my period of involvement.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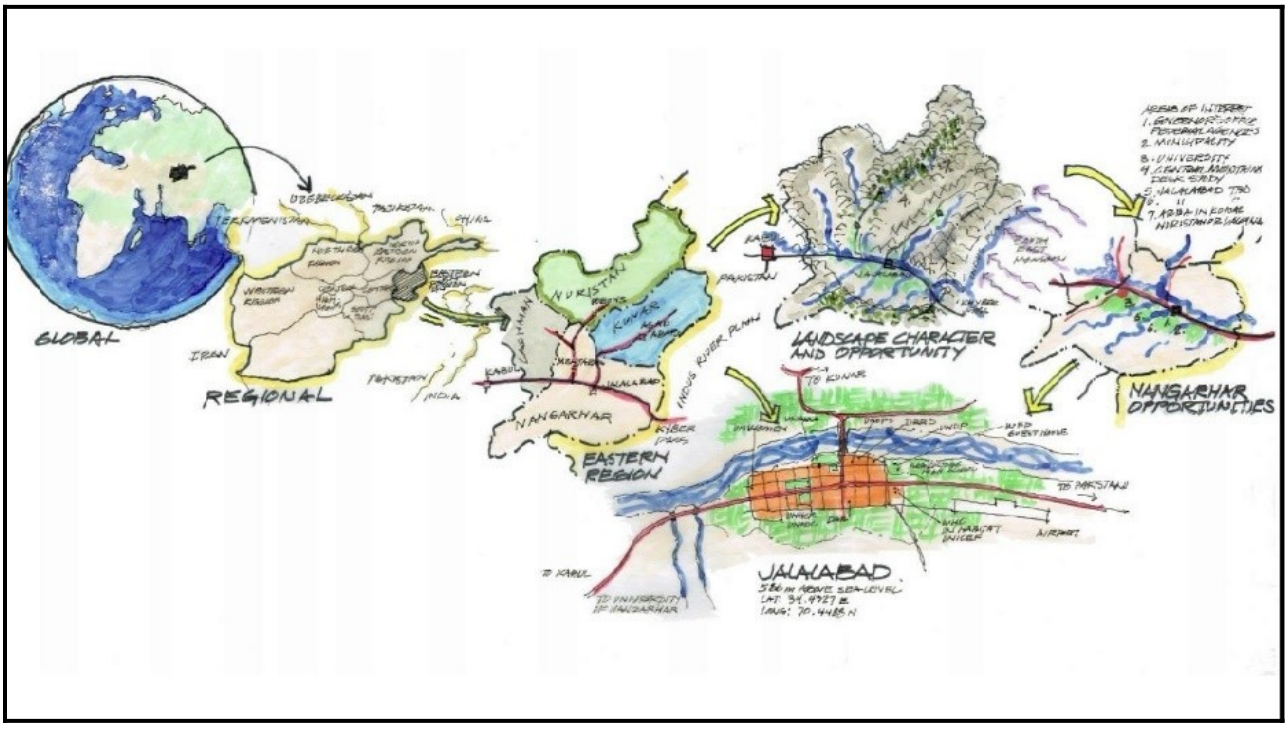
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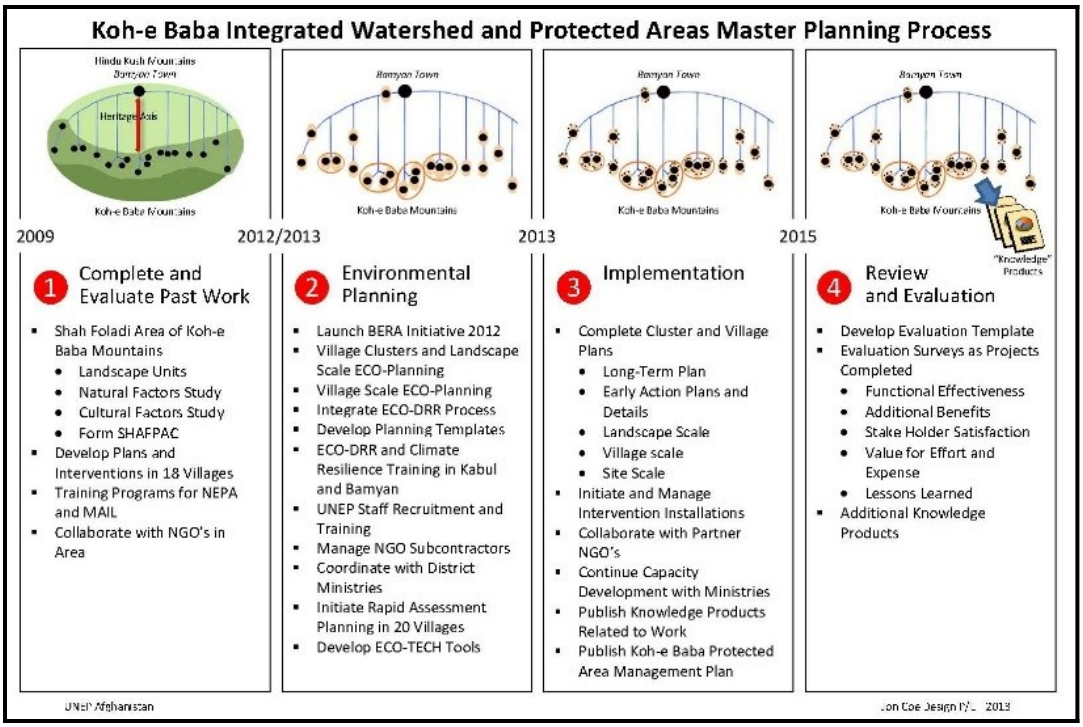


Figure 104. Upper left: my diagram showing the policy planning process from global to local scale for proof of concept (steps 1 to 5), coordinated with overlapping national agencies (steps 6 and 7) then expanding to five other Afghan provinces down to local community levels. This diagram does not show the essential lessons-learned reporting back to the UN and global scale. Upper right: my drawing illustrates the planning process from global to local in Nangahar Provence and the city of Jalalabad. Lower level: graphic recommending step-by-step watershed and protected area (including villages) planning for Bamyan Province.

Eco-based planning strategy begins at the global level, interacting with national laws, policies, and priorities, as well as natural, cultural, economic, and environmental resource and security conditions. National policies are often implemented through provincial ministries and governor's offices and on to city governments, Community Development Councils (CDC's) and shuras (elder's councils). This flow is then reversed with knowledge learned through monitoring and evaluation at each level affecting policy and programs at higher levels. Simply stated, our planning process was to develop a flexible chain of communication and understanding connecting all levels of stakeholders from international donors and support groups down to elders at the community level and back again.

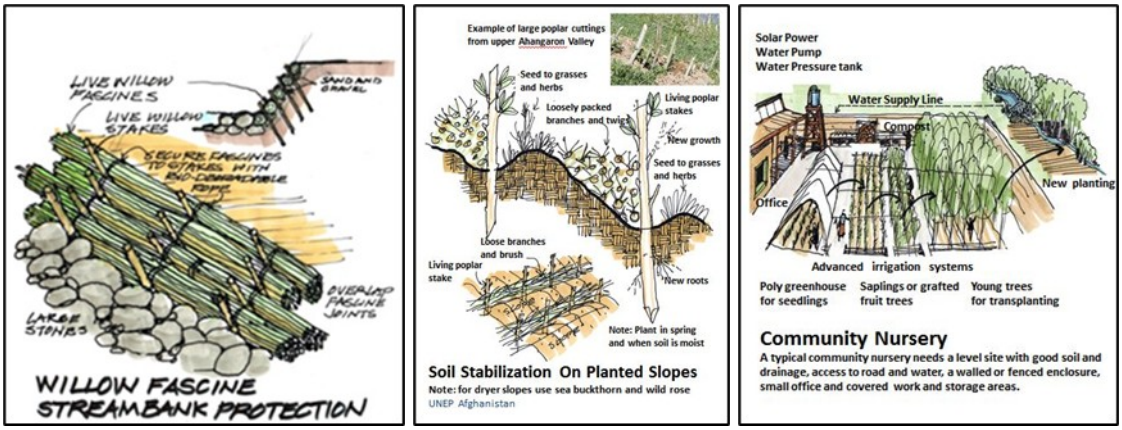
Traditional foreign aid was top-down. Experts came to your town, built something you may have needed but you did not understand how to maintain it, and then they left. There was also an international bias for mega projects. We developed the opposite strategy. UNEP went to your area and stayed as long as possible. We helped you to build what you said you needed yourself with materials at hand. Since you have built it with local materials you can maintain and repair it indefinitely. We also focused on the power of decentralized diversity. Rather than building one big expensive downstream

dam, we suggested creating a thousand small check dams along upstream water courses, each returning erosive surface water to replenish more dependable groundwater.

Another connection to my earlier US Peace Corps experience in Brazil was the realization that many people living at subsistence levels think of the future as something that happens to them, rather than something they can to some extent control themselves. Working with the Koh-i Baba villages, we assured them we would help with appropriate development projects, but first they must prepare a community development plan. Participatory community planning was a tool to empower them to act in shaping their future. Their plans provided a decision-making framework for integrating and prioritizing actions and a foundation for seeking funding from a wide variety of government and private aid organizations.

Walking around their land with them we asked them to identify natural hazards. “How high had flood waters risen in your grandfather’s memory? Where did the avalanche extend the farthest? Where were the trails to high pastures, where was the cemetery and the mosque on the map?” They developed their own community maps based upon deep knowledge. Then we asked what they needed most, where on their land (and their map) should it be built and at what priority? They were creating their own future. In some cases, proceedings were dominated by a few elders, others were more openly participatory. We also held training workshops in Bamiyan on market days when most village leaders would be in town, with elders from many communities learning and sharing ideas.. Having led countless similar planning workshops in the West, it was wonderful seeing people living a semi-medieval lifestyle fully able to participate in modern planning activities. The only problem was limiting long speeches. Afghan elders are great orators! Our successful planning strategy framework was to empower them to be their own planners, skills they could carry into the future, rather than planning for them and developing a dependent relationship. Nobody loves crutches.

Figure 105. Upper row, I'm leading a community meeting in Ahangaran explaining our suggested planning approach. Zakria Ahmadi, well known and trusted among the villages, is my translator (white hat) and Laurie Ashley, a sociologist and an international ski tour developer in her red scarf joined us. Photos: S. Amiri. Second row left and centre: two community plans drawn by local elders. Central photo of Sadjadi, elder from Borghasun with his hand-drawn community map. He was an eloquent orator we worked with planning an alpine tourist guest house. Second row right: community planning training workshop in Bamiyan town. Third row: left and centre, officials from the National Departments of Agriculture and Environmental Protection participating in a field training exercise we organized. Lower right: Earth Day celebration outside the UNEP Bamiyan office. Andrew hosted local peace and eco-sustainability meetings.



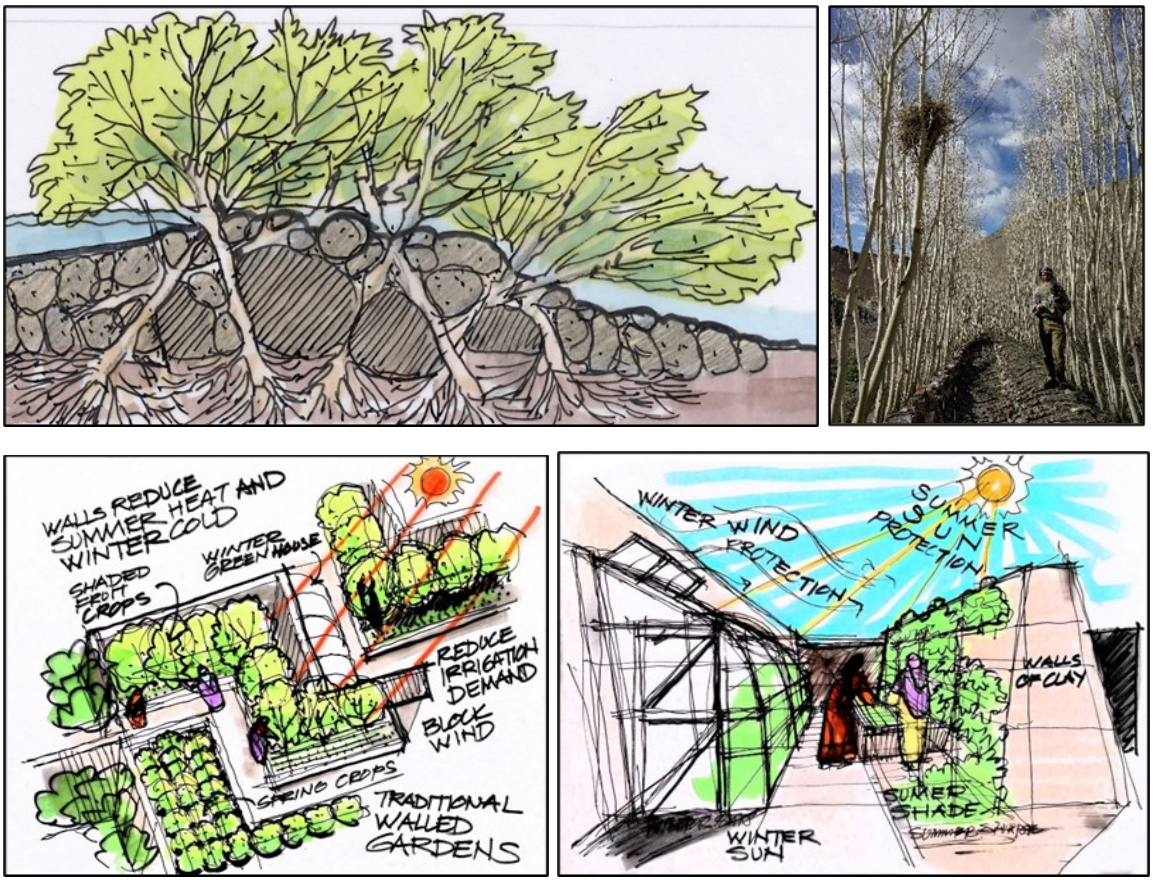


Figure 106. Typical examples of my ecotech construction systems. Upper left: one of three systems using native willow to stabilize riverbanks during heavy spring snowmelt runoff. Upper centre: using native poplar cuttings to stabilize slopes. Upper right: typical community plant nursery layout. Middle left: cross section of a stone check dam reinforced with native willow branches taking root. These willows will eventually seed downstream banks beginning riparian revegetation. Middle right: poplar cuttings planted by Hadji Qadir along an irrigation channel in Chap Qulak. Note raven nest showing wildlife returning to the area. Bottom row: plans I developed for a new NEPA office in hot arid Balk Province using traditional walled gardens. Traditional mud walls provide shade in summer and act like radiators in winter.

As village planning and early project designs progressed Andrew began investigating international funding sources. Two prominent categories of funding, Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR) fit our work perfectly. Because our strategies were based upon working with local ecology and vernacular technology, we referred to projects as Eco-CAA and Eco-DRR. This approach won strong support from donor countries included the European Union, Estonia, and Japan.

The practical stage of our work was development, teaching, and application of what we called eco-technologies, or “ecotech” (also called bioengineering). Some of the systems I used were imported from timeless vernacular practices among Navaho, Peruvian, and African traditions and of course successful uses we had observed in similar Afghan villages.

I organized these ecotech suggestions in the following subjects. Note overlaps, for example, native poplar and willow planted for flood and slope control also can be sold as lumber, generating income, fuel wood, livestock fodder, afforestation and return of native wildlife.

- Water management: upland runoff, erosion and resulting downstream flooding could be reduced by diminishing need for native shrub fuelwood harvesting through village afforestation. Flood reduction through construction of many native living willow and poplar reinforced checkdams, resulting in groundwater recharge. Living willow stream bank stabilization. Poplar and willow seeds carried downstream would reforest stream valleys, creating wildlife habitat.
- Slope management (terracing, retaining walls, erosion protection planting). Once established, these afforested slopes would help stabilize loose boulders and act as snow fencing.
- Planting: (nursery development, orchard management and pruning, afforestation). Villagers found that plants grown in Bamiyan valley were not cold hardy at village elevations. We supported villages to build their own nurseries and grow their own plantations and orchard trees such as apples and apricots.
- Trail building.
- Pit privies. Improved designs for harvesting human waste as fertilizer.

My sketches were then translated and used in training programs for government agency staff and village work teams. I eventually compiled them into an unpublished draft I called the Ecotech Handbook and Andrew called The Big Green Book.. Our hope and expectation was that these small but frequently applied landscape investments would prove inexpensive, practical, and effective and be copied by neighboring villages and thus spread organically through the area. We would no longer be needed. My Afghan colleague Sardar Amiri recently sent photos of continuing ecotech applications nine years after I left and several years after the Taliban takeover.

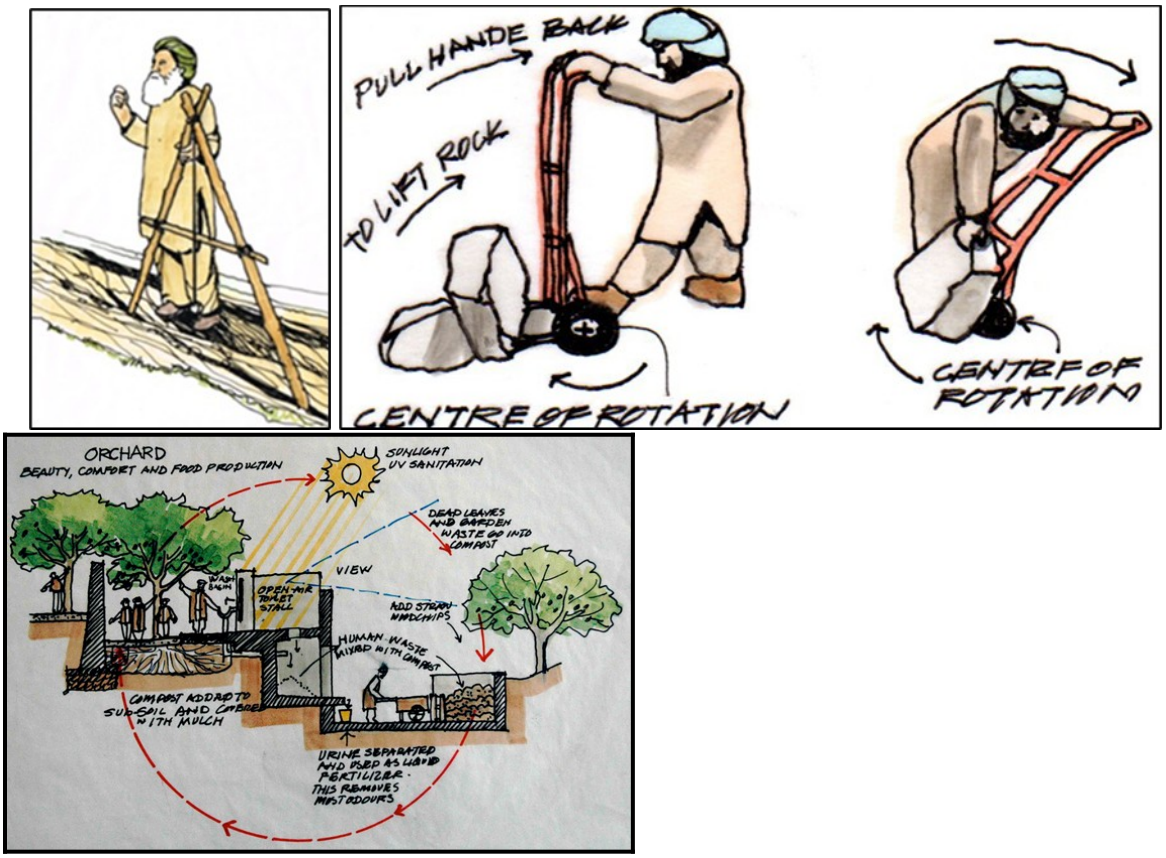


Figure 107. Sketches showing use of traditional A-frame plumb-bob level for locating contour lines on hillside and methods for moving boulders using a sturdy furniture trolley large boulders into place. I made these sketches by first having photographs of myself taken while doing this work and then tracing these photos to resemble sturdy Afghan workers. Below: diagram showing human waste from easily cleaned pit privies in an orchard being composted for use as valuable fertilizer and demonstrating a renewable circular nutrient path. Open-topped privies benefit from solar sanitizing.

Figure 108. My typical office work environment. On my last visit in 2016 Andrew had me assemble all the worksheets I had prepared with and for him while making more to record our thinking. While my work as an illustrator was useful, these sheets recorded our most important strategic collaborations.

“Just what is it you do here?” I was asked this several times, but this time the questioner was Mr. Amiri Ashrif Zaidi, the head of the UNEP office in Geneva in charge of UNEP operations in Afghanistan. He was on a review visit to the Kabul office and had meetings with then Head of Mission Andrew Scanlon and all expat and Afghan office staff. Ashrif was from Pakistan and spoke Afghan Dari fluently. He, along with Belinda Bowling, had established this UNEP Afghanistan program in 2003. The most visible aspect of my work was the two hundred or so illustrations I had generated and perhaps Ashrif assumed I was hired to illustrate Andrew’s ideas, but he suspected there was more to it. I took this opportunity to describe my role in brainstorming with Andrew many of the planning and development strategies Andrew adapted to local needs and implemented with the help of my illustrations.

Andrew invented the concept of an “Information Galaxy”. Working with information management and graphic designer Ms. Mareile Paley, we prepared a flexible text and drawing system used to publish everything from UNEP policy white papers to translated posters, educational materials and technical glossaries. The idea was eventually to have a foundational “Mother Document” establishing and documenting overall ethos, policy and process. This document remained aspirational, but the idea guided all our publication activities. Documents which were published include policy documents such as “Climate Change Threats and Vulnerabilities in Afghanistan,” “Afghanistan’s National Biodiversity Strategy” and Action Plan” as well as practical guides such as the “Little Green Phrase Book of Ecological Development,” Anthony Fitzherbert’s “Guide to traditional Afghan Fodder and Forage,” and many “how-to” posters and pamphlets, in English and Farsi. I also drafted the “Big Green Book” (Ecotech Handbook) mentioned earlier.

Here follows a selection of my drawings and illustrations from my consultations with UNEP.

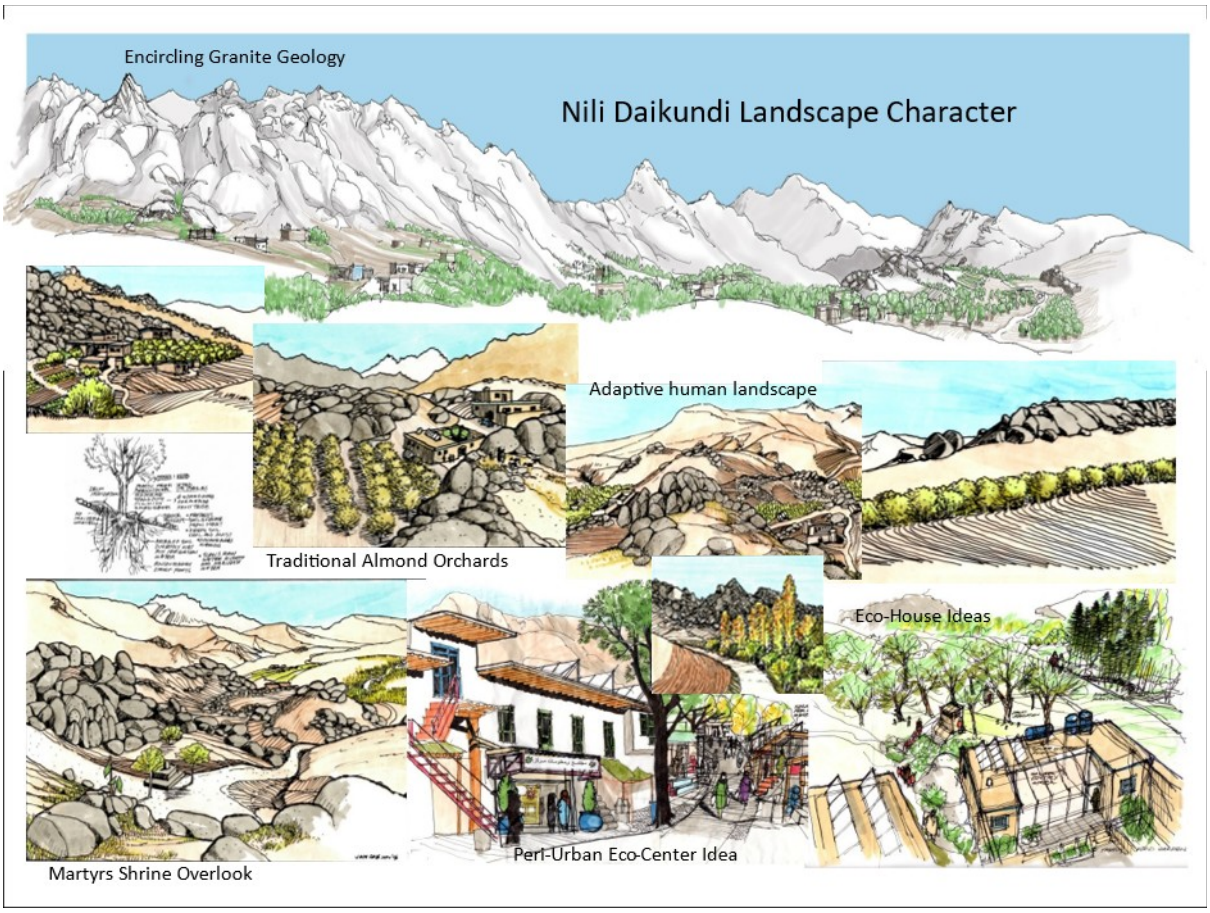


Figure 109. Sketches from my two visits to Nili in Daikundi Province in 2015.

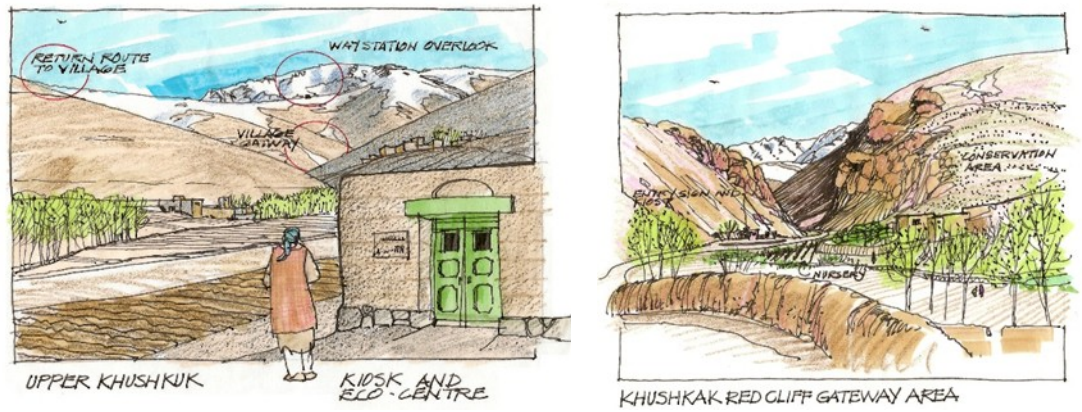


Figure 110. Upper drawing of an aspirational, prosperous rural ecotech landscape with high pastures draining snow melt to lower forestry areas which add nutrients to runoff and ground water supply for lower orchards and crop terraces. Lower drawings left: an abandoned house converted into a village eco-centre, meeting room, guest accommodation and storage area for emergency supplies. Right: drawing of the geological formation we called the “Red Gate” creating the scenic entry to upper Khushkak Valley

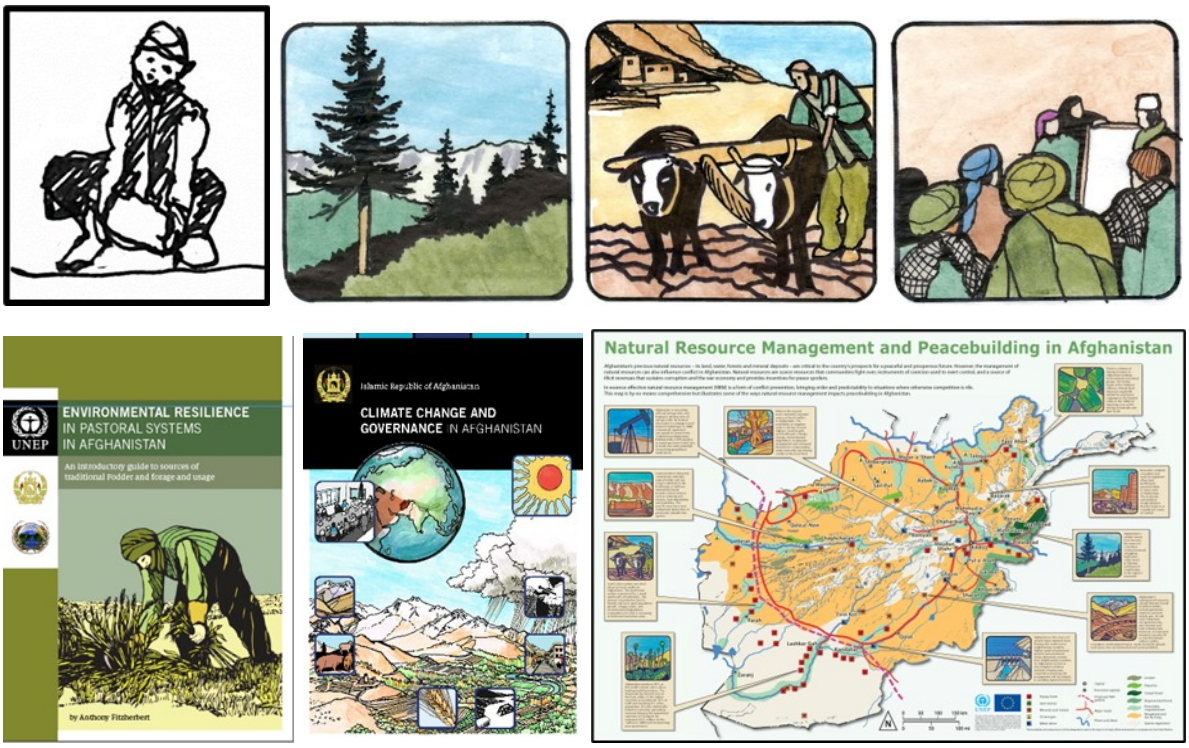


Figure 111. Upper row: I developed dozens of symbolic icons which we used on many posters and reports. I found the standard UN report graphics too mechanical and lacking in character and introduced a more handcrafted “woodcut” style for our work, which Andrew supported. Second row: examples of my illustrations used in UNEP policy documents originating in the Kabul office. Third row: examples of illustrations I made for other organizations or uses. Left: my poster for the Afghan Sustainable Land Management Institute the UNEP was assisting. Middle: a sketch used in several UNEP education projects. Right: one of many native wildlife sketches I shared with UNEP and the Wildlife Conservation Society.

As I mentioned previously, one of the wonders of working in conflict zone is the amazing people, both locals and expats you have as professional colleagues and friends. I can fit in only a few outstanding examples. Certainly, the most influential was Andrew Scanlon with his energy, challenging intellect, remarkable memory, and deep friendship.

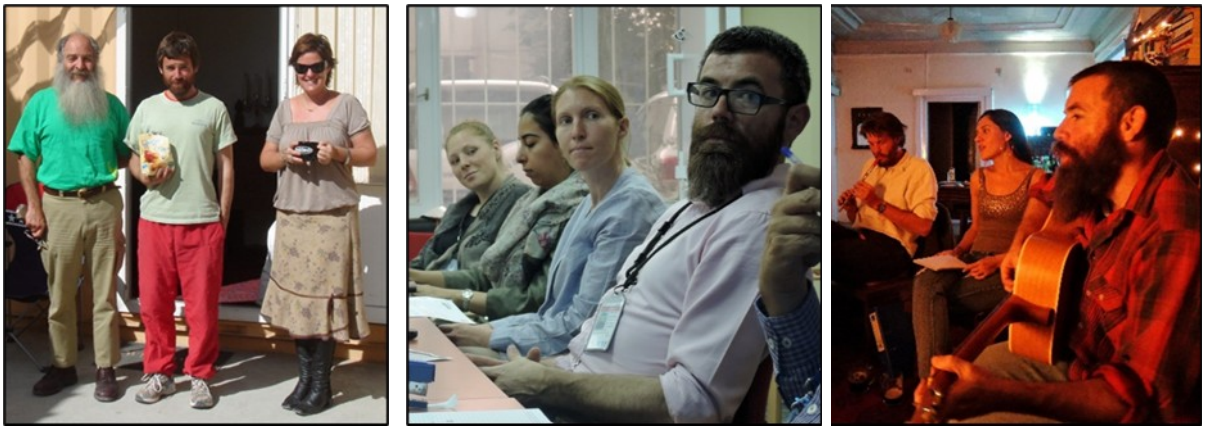


Figure 112. Left: early in my missions I am standing outside one of the shipping container accommodations in the UNEP compound with Andrew Scanlon and then Head of Office Belinda Bowlen. Centre: an office meeting on my last mission with (left to right) Aoife Franklyn, Safira Lakhani, Kelly Franklin, and Andrew Scanlon. Right: while we worked long hours during the week, Andrew usually hosted Friday night singalongs for expat visitors and residents. Many brought their own instruments. Shown here are Jon Rider, adventure film maker and Leila (sorry, do not recall her last name) I really enjoyed these sessions.

Figure 113. Upper left: photo with National Environmental Protection Agency (NEPA) Director General His Highness Prince Mustafa Zahir, grandson of Afghanistan's last King. Centre and right: Wali Modaqiq had worked for UNEP when I first joined them and later served as Head of office before becoming second-in-command at NEPA. Right: Angeraq village elder Said Hodshim drawing a village map in the sand for Wali Modaqiq. Wali was an important federal government official visiting a poor farm village yet was comfortable to kneel and draw in the sand with the local leader. Planning does not get any more basic or effective than this. Lower row: our Bamiyan office cleaner Fatima, a widow with three children, lived in an extremely poor area partly carved out of the cliffs near the Bamiyan giant Buddha grottos. Lower right: my photo of Milou, Andrew and Sardar (far right) having dinner with Fatima and her family in their semi-dugout home. We brought the food which Fatima served.

During my last two visits in 2015-16 While we expanded our work to other provinces, I focused on completing the Koh-e Baba Mountains Protected Area Management Plan we had started in 2009 with assistance of our expanded staff. Ms. Kelly Franklin was especially helpful in finalizing and publishing this extensive document after I departed. This area became Shah Foladi National Park, Afghanistan's second national park.

While my work in Afghanistan was rewarding. It was not without risk. I received excellent UN security training and briefing updates each time I arrived. A key suggestion was to avoid habitual schedules kidnappers or insurgents could use to predict your movements. We were admonished to select hotel rooms on the second floor, preferably away from the street. These were safer from break-in than on the ground floor but not too high to jump out of in case of attack or fire. Wherever we went we should plan two

escape routes and always maintain situational awareness. On my first visit I was staying with Andrew Scanlon at a guest house serving international visitors including aid workers and UN staff. We got up at 4am to prepare for an early meeting. At 6am we heard an explosion followed by automatic gunfire. Military helicopters were soon circling nearby. A similar guest house a kilometer away was attacked by Taliban insurgents. Several UN and USAID workers were killed. We were on lockdown for the day with our emergency “grab bags” at hand. That night we experienced an earthquake sending us both running out of our building.

During one visit sponsored by USAID I stayed at the Green Village, a highly fortified enclave used primarily by private international security specialists and international civilian police training Afghan police forces. To travel to meetings, I was provided with a trained Afghan driver and a guard, both armed. We traveled in a massive, armored Toyota Land Cruiser. At a major road intersection we were caught in a massive traffic jam, a common occurrence. I checked to confirm all car doors were locked. A car behind bumped solidly into us. Suddenly my highly trained guards forgot their training, rushed out to angerly confront the other driver leaving both doors wide open. Having one car cause a minor accident while kidnappers in a second car carry out the obduction is a very common ploy my guards had forgotten. I quickly closed and locked the care doors and phoned the security office, who sent out a relief car for me. Fortunately, this had been a common accident and nothing more serious, but it is an example that personal safety is always a personal responsibility. Two years later Green Village suffered a major Taliban suicide attack it successfully resisted at the cost of the lives of several Afghan guards.

During my many visits two “security approved” restaurants and the Park Palace Hotel I had enjoyed using were attacked with many fatalities. Fortunately for me none of us were present at those times. During my last visit Andrew and I were working upstairs at our UNEP intown office next to a UN compound when at 4pm an explosion blew out the windows next to us. Blast film had been applied to all windows to keep them from splintering, but we now had our desks covered in glass as automatic gunfire sounded from across the street about one hundred meters away. Taliban were attacking an office they suspected of housing CIA staff. Stray bullets and ricochets buzzed past but were not aimed at us. Gurka guards on the adjacent UN walls returned fire and Afghan forces arrived in numbers. The battle next door continued with increasingly heavy weapons until 6am. We were on lockdown and could not leave. Some of us slept on the floor in our safe room that night while Andrew continued to work at his desk next to his blown-out window.

On another occasion we visited Chapdara village in the Koh-e Baba Mountains. On the drive up with Zekria Ahmadi, our translator, we had given a ride to one of the village elders and our visit was pre-arranged and approved. After the meeting I took a hike up into the mountains above the village I settled myself on a slate outcrop and had been drawing when I noticed a fellow rapidly and agilely descending the boulders above me

wearing a head cloth across his face, not a good sign. He ran up to me yelling aggressively in his own language. I only understood his anger but knew better than to reflect it back on him. I simply kept sketching as if completely unconcerned. This gradually quieted him, and he sat beside me to watch me draw. I then noticed he had a large knife pointed at my ribs. He gestured with his hand across his throat. I responded pointing to myself, “Me?” He nodded “yes.” I kept drawing. Eventually he left and, not seeing him in the distance I assumed he was hiding nearby. I keep drawing. After additional time I casually packed up my materials and headed back down toward the village, meeting Zekria and Amed Hussin, the local Hazara war lord. I explained what had happened and we found the fellow hiding in the rock above. His explanation was that he had his knife out to protect me from wolves, which had been extinct in these mountains for decades. Now faced by the village chief he seemed terrified of the consequences of his actions. I assured everyone that I was there as a friend and had no ill will for anyone, including this fellow. We shook hands and I left his management to the village chief. I later gathered from Zakria that he had a history as a local troublemaker. I speculated he was suffering from post-traumatic stress attack seeing an unexpected stranger high in the mountains where only a decade earlier enemies had attacked their village and killed many of their families.

Figure 114. Left photo shows where I was sitting and sketching, looking up the valley between the jagged pinnacles to the more distant central peak, as shown on my sketch on the right. I was pleased my pen lines remained sure even was I was being threatened.

What has become of our work after the conservative Taliban took over in August 2021? The UNEP office remains closed, and all international staff and some Afghan staff have escaped. Wali Modaqiq, previously Assistant Director of The Afghan Environmental Protection Agency is now in Wisconsin working for the International Crane Foundation. Kelly Franklin, who now lives in Colorado, helped several UNEP Afghan staff apply for admittance to the USA as refugees and at her request I personally applied to the Australian government for a UNEP staff worker and former World Food Program employee Ali Rahimi and his family to be admitted to Australia as humanitarian refugees. After a year-and-one-half processing period their application was denied.

I stay in contact with Haji Sardar Amiri, who began as our driver and emerged as a most effective project manager and Bamiyan eco-entrepreneur. He tells me that the national park program we developed is dead but in gateway villages our eco-tech projects are both flourishing and spreading organically, just as we planned. Sardar confided that things are sometimes bad in Bamiyan in terms of anti-Hazara persecutions and he has moved his family to the northern Afghanistan city of Mazar Al Sharif and even briefly relocated his family to Pakistan with his sister so his girls could get an education (Taliban don't allow girls to receive a high school education). This stay was short. Pakistan authorities forced all Afghan refugees back to their country. Sardar Amiri founded Ecology and Conservation Organization for Afghanistan (ECO-A) to carry on our collaborative work.

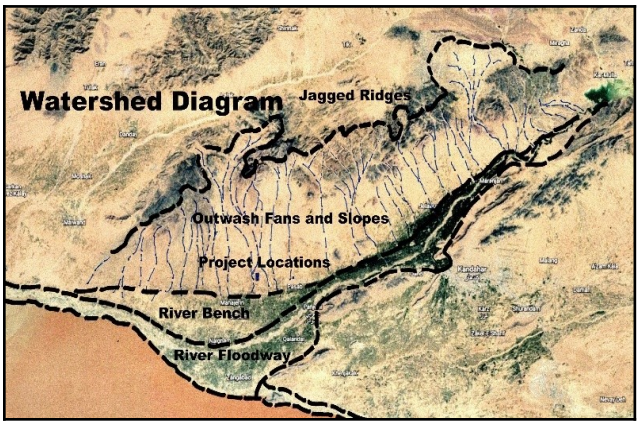
Today the magnificent people and landscapes of Afghanistan face an uncertain future, both immediate and longer-term. Their political and financial situation, massive internal and external refugee situation, drought and food shortages combine to challenge even to most resilient of people. Yet Afghans and their desert and mountain neighbors have been defined by their resilience for millennia. Compared to industrialized populations, most Afghans live rural and community-based, self-sufficient lives. They can teach the overdeveloped world lessons in sustainable lifestyles.

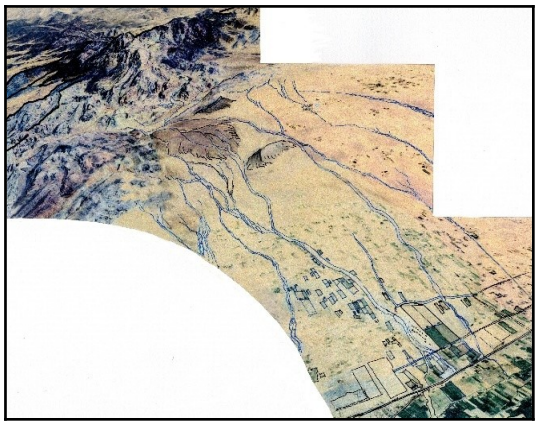
Afghanistan update - 2024. Andrew Scanlon returned to Ireland and has worked on refuge settlement sanitation for the Gates Foundation in Palestine, Jorden and Iraq and with the HALO Trust, a Global military explosive and mine clearing organization in Cambodia, Congo, and elsewhere. He is now a freelance advisor on ecological planning in post-conflict areas around the world and heavily engaged in Ukraine monitoring war related pollution for the UNDP Environmental Damage Assessment Project. Andrew invited me to join him and several other colleagues in the formation of a non-profit group provisionally called the BraveEarth Alliance which will focus on environmental planning and restoration, including restoring sustainable livelihoods working with local communities in difficult and fragile areas around the world, building on our work with UNEP in Afghanistan and Andrew's subsequent work.

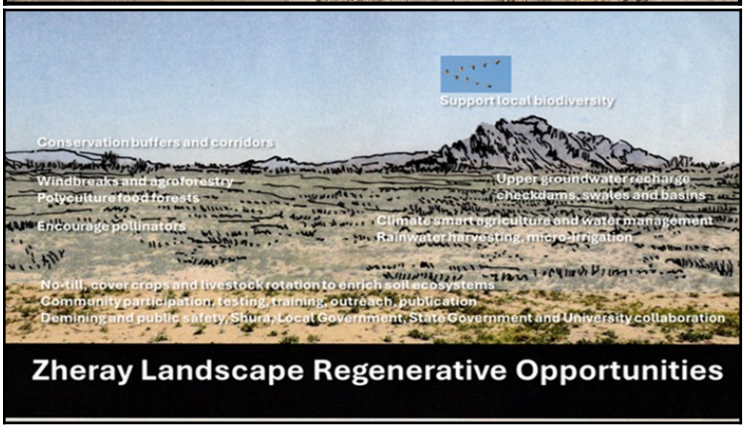
Zheray, Kandahar. Our first pro bono project together was working remotely advising and supporting our colleague Hadji Sardar Amiri and his Ecology and Conservation Organization for Afghanistan (ECO-A) in planning and delivering a project for installation of micro-irrigation systems and teaching mined land safety and regenerative agriculture in the southern Kandahar Province area of Zheray. The contract was administered by the Halo Trust with a grant from the Kraus Foundation. This required Sardar and his ECO-A staff to travel from Bamyan (Hazar Shia religious and ethnic homeland, speaking Dari-Persian) south to Kandahar, (heartland of the Suni Pashtun ethnic group speaking Pashto) and Taliban home ground. The dominant Pashtun have long persecuted the minority Hazar. The Kandahar area suffered some of the worst fighting in the recent war. Yet Sardar's collaborative approach and the Taliban government's openness to international assistance allowed eventual signatures of approval from the

District Authorities, and support from the local university. Professor M. A. Faiz was especially helpful, both as local expert and with his agricultural construction team who built the facilities we designed. The people of two poor villages, Hawz-e-Madad and Hadji Shah Mohammod, and five surrounding communities of this study area were the beneficiaries of the two pilot project demonstration sites.

Our practical-minded HALO Trust managers focused on project specifics, delivery of working micro-irrigation systems. We, on the other hand, were determined to use the project as a teaching guide to environmental planning leading to practical actions, such as the training programs and built facilities require by the project. Andrew and I insisted on doing landscape scale environmental analysis to understand the complex and active regional geology and soils, arid climate, sparse and degraded vegetation and, especially important, watershed and seasonal drainage patterns and ground water conditions. Traditional and emerging agricultural practices, processing opportunities and markets were also considered. And of course, it was essential to meet, understand and gain the trust of the local population, largely composed of poor, postwar, resettled internal immigrants. This work informed the design of the two pilot sites. Moreover, we combined these findings into the “Zhari Micro-Irrigation and Mine Action Initiative (MIMI) in Kandahar Afghanistan: An Operating Guide.” We intended this document to be both a detailed project report with recommendations for ongoing maintenance and additional opportunities, and a study guide on how to properly undertake such projects for local government officials, university students and other NGO’s.






Support local biodiversity
Conservation buffers and corridors
Windbreaks and agroforestry
Polyculture food forests
Encourage pollinators
Upper groundwater recharge
Checkdams, swales and basins
Climate smart agriculture and water management
Rainwater harvesting, micro-irrigation
No-till, cover crops and livestock rotation to enrich soil ecosystems
Community participation, testing, training, outreach, publication
Demining and public safety, Shura, Local Government, State Government and University collaboration
Zheray Landscape Regenerative Opportunities

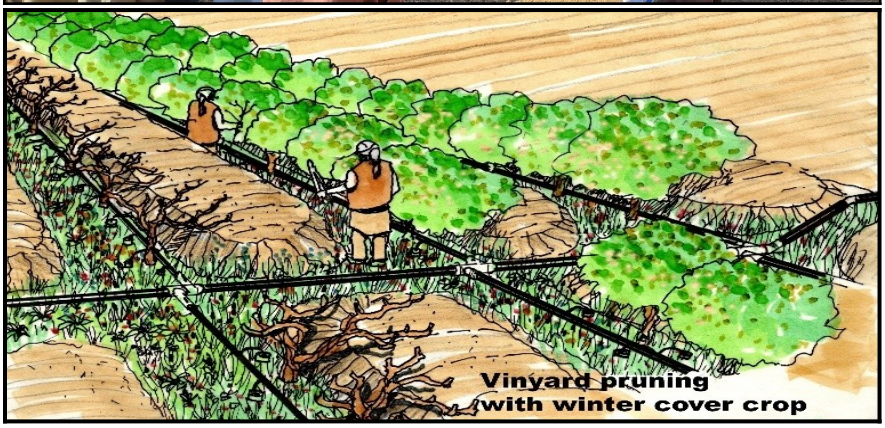

Vinyard pruning
with winter cover crop

Figure 115 Upper row: my drawings over Google Maps showing regional geology and watersheds in Zheray project area. Second row: Hadji Sardar Amiri with local residences surveying upper areas of the project site and showing present aridity. Third row: my graph illustrates landscape opportunities for the area. Forth row left: Haji Sardar Amiri with Jamshed Alizi from ECO-A explaining our plans to village residents. Fifth row: my sketch illustrating use of micro-irrigation and regenerative agriculture using poly culture and beneficial cover crops in a vineyard. Sixth row: finished reservoir filled with a deep well powered by solar energy after completion. Seventh row: Jamshed Alizi with Hawz-e-Madad owner and local leader after installation of micro-irrigation to a field where orchard seedlings will be grown.

For poor desert farmers struggling for every drop of water, sight of the newly built and filled reservoir shown above must have seemed like a vision of paradise. However, such facilities, built to required government standards, are not ideal. They are shallow and exposed to extreme surface evaporation, algae growth and pollution. The black exposed waterproof membrane will deteriorate from sun exposure. A better solution would be to have a much deeper reservoir with a cover membrane, but these opportunities were not available. Typically, existing reservoirs are surrounded by windbreak trees which reduce evaporation but add leaf fall, eventually blocking pipes. A global problem is that wells such as these draw out more water than declining rainfall and mountain snow melt supply, further lowering water tables. Wealthier farmers can afford deeper wells while poor farmers lose access to water.

Further work we suggested included development of enclosed kitchen gardens supporting women and girls and improving home nutrition, and upper catchment improvements such as we helped to develop in Bamyan Provance to increase

groundwater infiltration and reduce downstream flooding. We were joined by a student group from the Massachusetts Institute of Technology (MIT), who used our project to develop a practical and low-cost system for monitoring soil moisture in micro-irrigated crop areas which will be made available to the communities we worked with.

BraveEarth Alliance opportunities - Ukraine and Ireland. Andrew Scanlon and a group of colleagues have come together as the “BraveEarth alliance” to pursue regenerative opportunities for practical action, science and communication, on environment and livelihoods near his home in Wicklow, and Wicklow Mountains National Park, Ireland and near Lviv and within the Carpathian Mountains in the west of Ukraine and two other areas in this war-torn country, as well as building on previous and ongoing work in Afghanistan. I have been involved in many preliminary discussions and expect to contribute as a remote environmental planning and design advisor. BraveEarth also has longer-term opportunities in the Mekong region, the Democratic Republic of the Congo and elsewhere. Our approach is to propose and lead “flagship” opportunities, demonstration projects developing proof of method and concept, repeatable elsewhere by others, and “lighthouse” projects with which we support organizations, local leaders and experts without fulltime commitment. At present, local organizations work in difficult areas and experts, working for large organizations and universities, have limited field experience or physical access to sites. Our point of difference will be a combination of our and colleague’s “boots on the ground” experience, field participation and our proven integrative and participatory planning processes. We will focus on multiple small, strong inputs, as well as ensuring a whole systems approach is taken, and that “access to tools” is available. Need is great and opportunities abound.