

PLANNING FOR THE TOWN OF KANGLUNG, BHUTAN: AN INTENSE AND REWARDING ADVENTURE

BUZZ KALKOWSKI

"Buzz" Kenneth Kalkowski, AICP, received his MCRP from Cal Poly's CRP in 1995. He has worked as planner for the cities of San Luis Obispo and Dublin, and with the Napa Valley. He is now retired and lives in San Luis Obispo.



In 2006, Buzz Kalkowski, a CRP alumnus, and his wife volunteered to help plan Kanglung, a town of about 4,800 people in Bhutan, a small kingdom in the Himalayas stuck between China and India. Buzz writes about his experience and how he and his local team overcame the lack of tradition in planning and the inexistence of a data base, and engaged in a planning process that included innovative methods and community participation.

Friday Morning, June 23, 2006, came too early. During the previous two days my wife and I, both Cal Poly graduates, Donna in Landscape Architecture, 1996; and myself, with a 1995 Master of City and Regional Planning, missed Wednesday June 21st altogether. We left our home in San Luis Obispo on Tuesday, the 20th, for Los Angeles and LAX. That evening, due to aircraft changes, we were unexpectedly rushed through the LAX Airport and, fortunately, without additional payment, put on a Cathay Pacific business class flight to Hong Kong, and a connecting flight to Bangkok. Crossing the International Date Line without recognition of time and the lost Wednesday, we arrived in Bangkok on Thursday afternoon, with enough time to attempt a night's rest in a hotel.

At 2 AM, Friday, we were in a cab waiting a Druk Airlines flight to Calcutta, India, continuing on to our destination in Paro, Bhutan. As the flight left Calcutta, the plane crossed the flat plains of eastern India. Without announcement, the flight entered the mountainous canyons of the lower Himalayas. Within a quarter hour our plane's wings dipped to avoid centuries-old, three story Bhutanese farmhouses, as we glanced at the faces of the occupants.

It was a surreal dream; a graceful dance in the air swirling around mountains, forests, and ancient untouched history. We landed in Paro, the country's only operating airport, facing a two-hour, 40 mile drive to the Bhutanese capital of Thimphu, where our Bhutanese assignment was scheduled to begin at 4 PM. Our mission: as independent volunteers, create a town plan for the eastern Bhutan community of Kanglung, the home of Bhutan's first college offering a degree. Here is our story of town planning in Bhutan.

Background

Let's begin with Bhutan. Bhutan is a Kingdom, changed from an absolute monarchy to a constitutional monarchy in 2008. Like being caught in a vise, Bhutan is sandwiched between China (Tibet) on the northern sides and India (once the Kingdoms of Sikkim and Assam) on the southern side. The kingdom's elevation runs from just under 500 feet along the edge of the Indian plains to just under 25,000 feet above sea level along its border with Tibet. An estimated 750,000 people reside within the kingdom.

Back in the early 1960's, Bhutan's lands were occupied by its people but never surveyed or registered for ownership; it was a land without roads, cities or towns, education and medical systems. Things have changed. The capital Thimphu had 15,000 people in 1985. Today, it has nearly 90,000 residents. Thimphu and Paro –where the airport is located– are within the western third of Bhutan.

The town of Kanglung is located in eastern Bhutan's Tashigang Dzongkhag (district – similar to a state or county), about 340 miles east of Thimphu and two 16-hour days of driving in each direction. The

2005 census for the Kanglung Geog (similar to a township) was 4,749 people. The town is located at about 6,500 feet above sea level, high on a ridge side overlooking deep Himalayan river valleys, rice paddies and villages below. The kingdom's eastern north-south highway, National Highway Two, often one lane wide, snakes through Kanglung, and is for the most part, the town's only road.

Besides the main airport at Paro, the kingdom's only other airstrip is on a ridge top ten kilometers above Kanglung. Built by India in the late 1960s, its use was short lived as the 1.3-kilometer runway is often hidden in clouds; one end of the runway has a portion of the mountain rising above it, and a major air crash occurred shortly after it was built. However, it does have some limited use for Indian military helicopter landings in eastern Bhutan.

The 1.4 square kilometers area designated for the proposed town plan contains 2,283 people and 375 households. The town has no public water system, sewer treatment facility or solid waste collection or disposal program. Several private untreated water collection systems exist. Streams running from the higher ridge areas above the town have collection devices from which PVC pipes carry the water to participating homeowners.

The community has electricity, as do most towns and farmhouses in the southern two-thirds of Bhutan, even when they are miles from the nearest road. During the summer monsoon precipitation and glacial melt, Bhutan's major export revenue is from hydroelectric generation – using only diversion dams. India is the sole importer of Bhutan's electricity. During the winter months, Bhutan imports electricity from India.

Kanglung is the home of Sherubtse College, the country's first. In 2006 it had an enrollment of 1,058 students, with an estimated increase to 2,000 students by 2013. In 2006 the town's primary school had enrollment of 554 students, a secondary school enrollment of 275 students, and a shedra (Buddhist monastery-college) enrollment of 107 monks, with an expected increase to 500. Nearly 30% of the Sherubtse College students live off campus, often in substandard housing at high rent costs.

The town has 31 licensed businesses; the country's only eastern Bhutan newspaper office and printing facility (Kuensel, government owned); the country's only eastern television news and broadcasting facility (Bhutan Broadcast Service, government owned); a Bhutan Food Corporation warehouse for the six eastern Dzongkags (government facility for both retail and emergency use food); and a major electricity power substation. The town also has a basic health unit with an authorized staff of eighteen (which was under staffed by seven while we did the plan, including the doctor) and ten beds.

About 15 kilometers and a 40-minute drive down the mountainside is located the town of Tashigang, the government center for the Tashigang Dzongkag. There have been proposals to move the government from the historical center to Kanglung, but the proposals remain highly speculative. Tashigang Town has limited mountainside buildable space, but it is the location of the centuries-old, traditional Dzong (a

Figure 1
Thimphu, the capital city.





Figure 2
*Wangdi Town Businesses
& Highway One.*

new parcels too small to be buildable or serviceable. The forthcoming town plan helped to push the speculative land sales as new owners of diminutive parcels anticipated land area gains necessary for developable plots (parcels).

To overcome the issue of town planning where little or no public land exists for road development, utilities, parks and public facilities, common in Himalayan countries, the concept of land pooling was developed. Utilizing the land pooling method, most or all of the land parcels within the plan development area are transferred into one single holding with the ownership temporarily held by the government agency creating the plan. Through the planning process, parcels are redesigned, reconfigured, with a portion of the land made available for public use such as streets, parks, utility and public facilities. The reconfigured parcels are then distributed back to the original owners. Most owners lose land area, a few might gain, but all property owners gain new roads, road access, utilities, parks, etc.

In some land-pooling plan making, additional parcels exceeding the original land ownership parcels are created and sold to pay the cost of the new infrastructure development. In Bhutan, most of the infrastructure resulting through town planning is paid by obtaining long-term, low interest loans from the World Bank and, or, the Asian Development Bank. Given that Kanglung is high on the ridge, without significant water storage, adequate water supply were a concern in the plan making process.

Figure 3
*Traditional Bhutanese
Farmhouse.*



building complex, housing the regional government center, monastery and defense facilities-fortress).

Problems Faced

Critical to the making of the plan for Kanglung was the need for an accurate and up-to-date cadastral map (a parcel map with ownership documented), which did not become available during our stay. As mentioned that up through the early 1960s, land was neither surveyed or ownership registered. Currently, occupied and registered land does not always coincide, and land is seldom held in reserve for public use such as roads, parks, utilities and other public facilities.

Adding to the quandary, was rampant land speculation through unregistered subdividing and land sales, often with

To provide sufficient water, a number of stream sources would be necessary. Land would be required for sufficient storage and treatment. Except for the three largest cities in the country, the typical wastewater treatment facilities were multiple community-serving septic tanks, or nothing at all. Septic tanks release the treated water into the ground and not into the streams flowing to areas below. Between Kanglung and the river far below, villages, rice paddies and other farm produce are dependent upon the water coming off the ridge too. To develop a wastewater treatment facility land would be required. Level land within Kanglung, with gravity flow and away from any substantial development is limited.

Plan in the Making

Our first month in Bhutan was spent gathering information. In late July, we made our first visit to Kanglung. The purpose for the visit was to learn first hand the setting, to meet the key stakeholders, and to hold a community meeting.

Our first event was a half-day-long meeting with 22 Tashigang Dzonghag sector leaders (regional government leaders) in Tashigang Town. Prior to the meeting, individual questionnaires were faxed to each of the 22 sector leaders. During the meeting, we gathered the information that had been reported and then analyzed the results to complete the town plan.

The next day we met with the Kanglung Geog (local government) and business leaders, to review the expectations and making of the plan, and to seek their concerns, advice and assistance. This was followed by tours of the town and surrounding areas where we had meetings with the college, schools, monastery, newspaper, broadcast station, and health unit, etc. The geography students from the college were enlisted to do a census, specific to the designated town plan area.

During the third day, a day-long community meeting-workshop was conducted. The planning and land pooling processes were described, followed by the participation of all in defining the community's current strengths and weaknesses, future opportunities and constraints, and their priorities for future development. In addition to the government leaders present, more than a hundred community residents attended and participated. The meeting was conducted in three languages: Sharchop, the predominate language of the area, and Dzongkha and English, the government languages. A large percentage of the participants were illiterate.

Following the first Kanglung visit, the information gathered was categorized and evaluated. A comprehensive plan was drafted and a concept physical plan was developed (not knowing the underlying property ownership and the exact number of land parcels, a detailed physical plan was impractical). Without the knowledge of actual plots and plot ownership, the plan focused on development policies, guidelines and regulations. The plan somewhat followed the California method of a general plan making.¹

Existing environmental maps, slope maps, and existing and proposed land use and infrastructure maps were generated and incorporated into the plan. An effort was made to have the plan report to the community development concepts, including economic development. Liberal use of photographs, to visually suggest design and concepts to the community, were incorporated into the plan.

An evening meeting involving approximately one hundred Sherubtse College and lecturers was held on October 13, 2006, a dry run for the community meeting the following day. At this meeting, we presented the findings from the first community meeting, and presented the draft plan to seek the community's priorities for infrastructure development with consideration of costs. In addition, the student meeting was also conducted to test the methods that Donna designed to bring out the community's priorities. This was important because the feedback in English was possible and all participants were literate.

The actual community meeting was held in the large

¹ A CD copy of the plan is available at the Cal Poly City and Regional Planning Department

Figure 4
Kanglung town center.



college auditorium, was attended by more than 120 people, and lasted from 8:30 AM to well past 4:30 PM. The Director of Urban Development and Engineering Services Department, Ministry of Works and Human Settlement, facilitated the meeting. The Tashigang Dzongdag (the dzongdag is similar to a governor), the Kanglung Gup (the gup is similar to being the mayor of the geog), and the principal of the college participated in conducting the meeting.

The workshop to test the community's priorities divided the participants into five groups. The emphasis was placed upon the realities of limited financial resources, the costs of infrastructure and making choices. Photo cards with a set amount of points each were used to help the group participants choose what infrastructures they valued the most, as the groups were to stay within a total of 50 points. A lot of negotiating within the groups occurred. At the end of the session and into the group presentations, some groups achieved limited infrastructures, staying within the 50-point limitation. Several groups were above the 50-point limitation and were negotiating, with all group members participating, up to the time of their group presentation. Participants suggested and incorporated creative cost control ideas, including the use of water meters, self-help construction, recycling solid waste and etc.

Following the workshop, community participants offered feedback to the draft plan, including suggestions on relocating the national highway above the town and other road realignments, as well as requests for additional playgrounds.

Final Remarks

Following the second Kanglung meetings, the majority of our time in Bhutan was spent on refining the plan, incorporating the community's suggestions and goals. By late December 2006, we were at the end of our personal time commitment in Bhutan. During the last week of December, we concluded the plan and made a presentation to the Ministry of Works and Human Settlement.

We left Bhutan in early January 2007. For the two of us, it was an opportunity to learn more about town plan making, the people of Bhutan, their culture and history, and to experience many adventures. Donna was able to participate in several multiple-day treks over passes often exceeding 16,000 feet in height. I was able to enjoy some great photograph taking. We enjoyed meeting and working the people of Bhutan, and we deeply enjoyed the very young school children practicing their English as we walked to and from work each day: "What is your name? Where are you going?"

Though our town plan did not provide the final physical design, it is our hope that it will provide the people of Kanglung added value and policy direction in their community development.

In conclusion, my wife and I wish to encourage planners with available time to consider volunteering time to do a town plan in Bhutan. The need exists at this time. The Bhutanese may pay for housing, but cannot pay for travel or other expenses. Food is inexpensive and rather healthy in Bhutan. Planners with available time, funds and desire to work in Bhutan will gain interesting Himalayan kingdom knowledge, experience and friends.

Figure 5
Lhuntsi Dzong.



Figure 6
Tashigang Town.



Figure 7
Taktsang Monastery.

