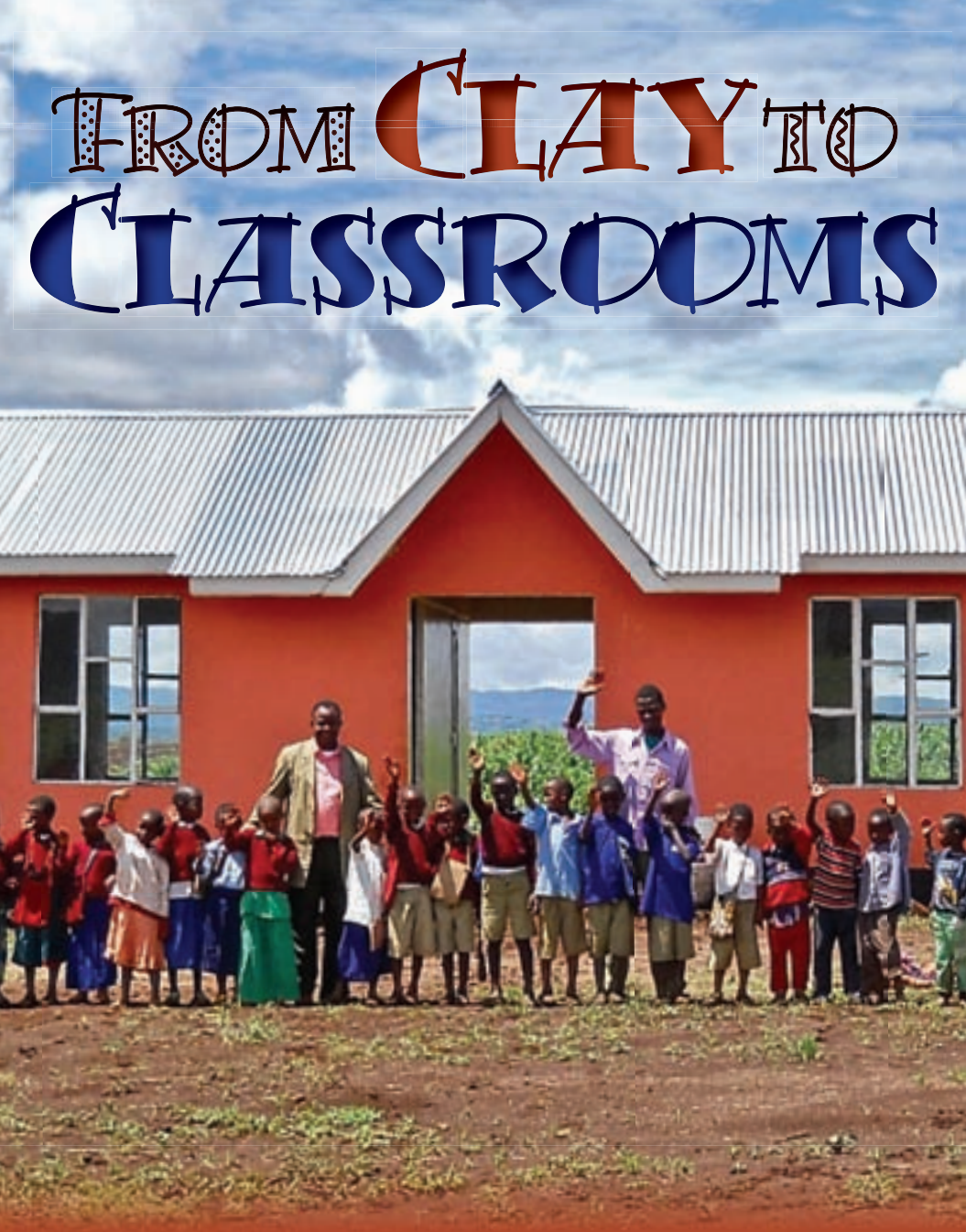
FROM CLAY TO CLASSROOMS



An Architect's Dream to Advance Education in Africa

ALAN R. ROY

PRIMARY SCHOOLS FOR AFRICA SOCIETY

From Clay to Classrooms

151 Howe Street, Victoria BC Canada V8V 4K5

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ALAN R. ROY

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For my lovely wife, Maureen

INTRODUCTION

As a young boy in the early sixties, my awareness of the plight of Africa may have been limited to a paragraph or two in a social studies textbook, or a fleeting UNICEF television image of a gaunt Biafran child's plea for sponsorship. Growing up in the idyllic rural spaces west of Cornwall, Ontario, with seasons blending unnoticeably into each other, my brothers and I had no greater purpose in life than to look forward to the multitude of available local adventures. In the summer, we swam and fished in the warm waters of Lake St. Lawrence; in the winter, we skated on its thin frozen surface and tobogganed down the steep face of its dykes. In the woods on the other side of the creek that meandered through our back yard, we hunted rabbit, built play cabins and picnicked with friends at an abandoned rock quarry, our secret meeting place. We were oblivious to the daily struggles of millions of our counterparts in undeveloped countries.

In 1983, I was fortunate to experience a sampling of humanitarian work when an engineering colleague invited me to work with ex-president Jimmy Carter and his volunteers on a *Habitat For Humanity* project in New York City's Lower East Side, where I redesigned an existing 6-storey tenement building into sweat-equity-constructed apartments for disadvantaged families. That richly rewarding experience gave me the bug for humanitarian work, but it would be another 27 years before I had the opportunity to consider it more as a full-time endeavour.

The middle years of my life were immersed in pursuing the typical material entrapments of our western society but, at the same time, I noticed the work of humanitarian leaders achieving great strides in raising awareness and providing solutions to global disparity. Nelson Mandela stood firm and took South Africa from the extremes of apartheid through to democracy. I was particularly moved by the televised impassioned speeches of Canadian ambassador Stephen Lewis in his plea for help to turn the tide of HIV/AIDS in Africa. I admired the worldwide work of Rosalind and Jimmy Carter advancing democracy, human rights and economic opportunity, preventing diseases, improving mental health care, and teaching farmers to increase crop production. In the past few decades, hundreds of government and non-government organizations [NGOs], as well as private individuals, have rallied to the cause. Adlai E. Stevenson summed it up well:

"On this shrunken globe, men can no longer live as strangers."

Throughout the course of 35 years of architectural work, with 15 in my own private practice, I had often imagined a village school project in Africa as a refreshing complement to (or more likely, an escape from) the demanding western technologies of building design and construction. I pictured a simpler, hands-on, face-to-face relationship with a small community passionately intent on schooling their children as a way of improving the village's social and economic status.

In 2010, I felt it was time to shift gears and "give something back." I could apply my experience, and in the process, embark on an exciting adventure of discovery, not only of the mysteries of other cultures, but of self. The "kick-in-the-pants" moment came

during a holiday with my wife, Maureen, in Mexico in May 2010, lazing by a pool, having just read Greg Mortenson's *Three Cups of Tea*, when I slammed the book down and announced to Maureen, "I'm going to climb Mount Kilimanjaro and build a school." I was a bit surprised at the conviction with which I spoke, but immediately felt a wash of contentment flow over me. My "gut" was applauding – definitely this was what I was meant to do next in life.

In September 2010, I made it to the top of "Kili", and three months later, I had built *two* schools: one in the impoverished district of Majengo, in the city of Arusha; and the other in the village of Gongali, near Karatu, on the road to Serengeti National Park.

So why choose primary schools? And why Africa? Although education is lacking at all levels in underdeveloped countries, it is at the primary level where children first develop the proper attitudes to learning. It is at this level that they can learn the basic social and practical skills needed to play a significant role in a country's economic development. And the choice of sub-Saharan Africa wasn't an arbitrary one; it was personal. I've always had an attraction to the visceral rhythm and beat of its music, the romantic allure of its landscapes that vary from the intensely humid jungles of the Congo to the dry grassy plains of the Serengeti, but I was also moved by the struggle of its people, caught between the digital age and the traditions of mysterious tribal cultures.

From an early age, I knew that education led to societal status and material security; all I had to do was get high grades, and the world was my oyster. But going to school was simply part of the daily routine, taken for granted, and when snowstorms covered roads with snow too deep for the school bus to operate, I was

ecstatic. I didn't perceive education as a privilege. On the other hand, as a guest observer in Tanzanian classrooms, I noticed how differently children felt: they were extremely joyous, bubbling with enthusiasm, happy to be away from home, where they were often tasked at a premature age with household and farmyard chores. They knew that school was a special place that could dramatically change their life, and the lives of their families and community.

The lack of a healthy economy in Tanzania is exacerbated by the lack of the very thing that will promote it: education. Over 600,000 Tanzanian children do not attend primary school. The government simply does not have the funds for school infrastructure; it relies on private donors and non-government organizations. Suffering the most are many rural areas where the absence of water and electricity add to the substandard and struggling local economies. For the village mayors and district councils, a school project is considered one of their top priorities. Fortunately, over recent decades, hundreds of individuals and organizations like World Bank, Plan Canada, CIDA and UNICEF have been rallying to the cause to end poverty, provide health care and education, and stimulate the African economy, with projects ranging from new cross-country electrical power lines and substations to micro-financing loans to village women to strengthen local industry. It is hoped that education will be a strong factor in eventually achieving national self-sufficiency, with less reliance on outside aid. To realize this, hundreds of schools are needed, and the Tanzanian Ministry of Education is more than willing to work in partnership.

My undertaking of these two school projects, in retrospect, may have been somewhat impulsive, with the choice of projects seem-

ingly arbitrary and perhaps irresponsibly devoid of government consultation, but the outcome was positive. We were fortunate that the local district education officers were pleased with the design and quality of construction of the schools, and were now eager to collaborate. At the Gongali school, for example, when it became apparent that it was too difficult and unreliable for teachers to commute to the school from the nearest town, Karatu, we agreed with their post-construction recommendation to build a teacher's residence adjacent to the school to house two teacher families. We provided the funds, utilized the same builder, and two months later, in February 2011, construction was completed. We were also fortunate that the schools were established with community directors and administrators to ensure continuing proper management and financial support. All too often one hears of schools built with good intentions, but years later are found empty.

Our work continues in Tanzania with more schools planned for construction in 2011. We have formed a non-profit organization, *Primary Schools For Africa*, complete with a board of directors, and at the time of this writing in May 2011, we had just received official charity status. We are now busy campaigning for donations to fund this year's projects. From the lessons we learned from the first two schools, we are properly researching new school projects, in full collaboration with the Tanzanian Ministry of Education, with local administration and management structured to ensure the successful operation of the school continuing in perpetuity, and with cost controls in place, so that donor funds are invested in well-constructed schools located where the need is most urgent.

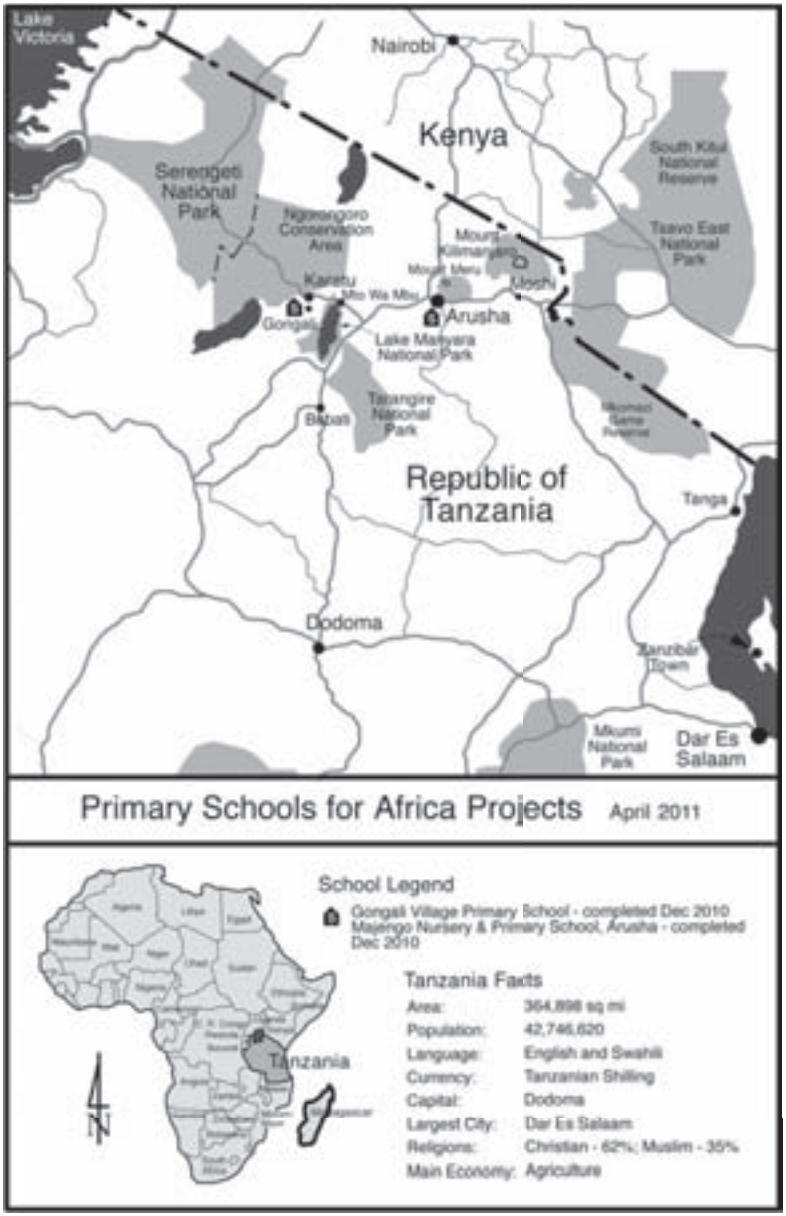
This book tells the story of my amazing adventure – in the

hope that others will also be inspired, to become donors to *Primary Schools For Africa Society*, or form new fellow organizations building schools, since we have shown it to be a relatively simple and straightforward process. This book then, can serve as a practical guide; how to organize new school projects as well as how to build them using local construction materials and techniques.

The greatest reward for me has been the enjoyable relationships I have developed working with the people of Africa: the project managers, Jacob Slaa and Mathew Sulle, with whom I now have a close friendship, the staff at the Outpost Lodge base in Arusha, the taxi drivers, the interesting individuals I met who have potential school projects in their back pockets, the school teachers, the projects' local and district administrators, the builders and construction workers, and the villagers who celebrated with me and adopted me as a member of their community. A quote a colleague shared with me seems all too appropriate:

"*Life everlasting is not in the hereafter;*
it is the lasting memories in the hearts and souls
of the people we have met along the way."

Alan R. Roy, Victoria, BC, Canada
May 2011


Lake Victoria
Nairobi
Kenya
Serengeti National Park
Ngorongoro Conservation Area
Mount Kilimanjaro
South Kitui National Reserve
Tsavo East National Park
Karatu
Mto Wa Mbu
Moshi
Arusha
Gongali
Lake Manyara National Park
Tarangire National Park
Babati
Mkomazi Game Reserve
Republic of Tanzania
Tanga
Dodoma
Zanzibar Town
Mkumi National Park
Dar Es Salaam
Primary Schools for Africa Projects April 2011
Tanzania
School Legend
Gongali Village Primary School - completed Dec 2010
Majengo Nursery & Primary School, Arusha - completed Dec 2010
Tanzania Facts
Area: 364,898 sq mi
Population: 42,746,620
Language: English and Swahili
Currency: Tanzanian Shilling
Capital: Dodoma
Largest City: Dar Es Salaam
Religions: Christian - 62%; Muslim - 35%
Main Economy: Agriculture

CHAPTER 1

KILIMANJARO

"Mountaintops inspire leaders
but valleys mature them."

– WINSTON CHURCHILL

Mount Kilimanjaro: "kilima" = mountain, "njaro" = sparkling.

On the sixth day of the climb, Suranga and I were on the final leg of the ascent of Mount Kilimanjaro, well into the much-anticipated, eight-hour grunt. A few hours earlier, at 11:00PM, our head guide Jacob Slaa had woken our four-person tourist group. We were 15,500 feet above sea level at the School Hut Base Camp site. Although Jacob had instructed us to get as much sleep as we could the afternoon and evening before, we didn't sleep well, perhaps because of the thin air and the cold, but more likely because of our anxiety level. We left at midnight, bleary-eyed, each with our own guide, to trek up the steep slopes of glacial scree and rock. The nighttime ascent was the most reliable way to achieve a clear view from the top during the 8:00AM and 10:00AM window: after that, the clouds always rolled in.

The previous five days had been, at least for me, "a walk in the park." The terrain had been well traveled by thousands of tourists before us. But there were always lingering doubts for all of us; a successful summit was not guaranteed. The main concern of the Kilimanjaro climb is altitude sickness which, if not handled properly, could be fatal. Jacob, however, had us follow the principle of "climb high, sleep low." We ascended about 3,500 feet each day, but climbed back down 1,000 feet to sleep – a process that apparently acclimatizes the body by pre-stressing it. Another concern was the dropping temperature as we gained altitude. We had started off at a balmy 77°F and were now at a frigid 14°F.

Our anticipation built day by day as we approached the final ascent. The first two days through dense forest and alpine

meadow were comfortably paced. But our excitement peaked on the third morning when we awoke and witnessed for the first time the "snows of Kilimanjaro" that Hemingway had romanticized seventy-five years earlier. The flat-topped volcanic peak, streaked with its remaining slabs of glacier, loomed proudly in the distance. Each day, it grew closer, beckoning us forward, challenging us. We were above the tree line and marveled at the expansive panoramic views of the rock and gravel plains ahead of us, like an apron below and around the steep slopes of the peak. We could see lines of hikers miles ahead, like threads of small barely-moving specks. After two days of traversing the desert-like terrain, we arrived at the School Hut Base Camp site, eager but also anxious about the upcoming challenge.

There were 20 in our party: four tourists and a support team of local Tanzanians – 37-year old Jacob Slaa, his second-in-command Rama Kundi and a small army of 14 porters. We tourists carried only small day packs; the porters carried our gear, food, water and tents. Jacob was an amazing physical specimen with over 400 climbs in the last 10 years. A few years earlier, he had gone for the world record for the fastest ascent – just over 9 hours, held by a local Tanzanian, Simon Mtuy. Jacob's time of 10.5 hours, although nowhere near the record, still bordered on "superhuman" as far as I was concerned.

The porters were remarkably hardy. Their slender physiques belied an incredible toughness: they carried 45 pounds in their backpacks *and* thirty pounds of gear balanced (with no hands)

on their heads. Despite minimal salaries, they were good-natured and enjoyed their daily routine setting up camp and preparing our hearty meals. While we worried about ankle sprains in our three-hundred-dollar hiking boots, they quickly traversed rough terrain wearing only sandals. And they traveled at twice our speed. They would break camp after we left each morning, and after loading up, catch up to us and pass us along the route, and then be at the next campsite with our tents set up and our meals ready, awaiting our arrival.

This was the first major physical adventure for my 25-year-old tent-mate, Suranga Suraweera. He was a New York scientist of Sri Lankan descent, who worked for a company that had developed a cure for prostate cancer by a process of blood sample radiation. I was enjoying our relationship, the 63-year-old mentor with the excited young novice who had never camped outdoors before. My jumping around and climbing atop large boulders along the way with child-like enthusiasm had earned from him my nickname of "Mountain Goat". I kept beckoning for him to join me in my antics, but he wouldn't. Eventually, he admitted he had a debilitating fear of heights. I couldn't believe it; here he was, on a mountain climb, with a fear of heights!

I couldn't sleep that afternoon at the School Hut site before the final ascent so, with nothing better to do, I decided to climb a precipitous rock outcrop overlooking the campsite, about a hundred feet up. I invited Suranga to join me, and he surprised me by tentatively agreeing. Twenty minutes later, at the top ledge, hold-

ing his outstretched arm firmly, I inched him forward to within a few feet from the edge. Although shaking with nervousness, he was excited and eager for success.

"OK, one more step. Don't look down," I firmly instructed.

We got within two feet of the edge and I said, "Now, look down."

His wide-eyed smile and exclamation of delight at his accomplishment said it all, "Hooooo-weeeee!"

Our grouping of eight for the final ascent included the four tourists: Suranga, an American couple (Debbie and Gary) and myself; as well as the guides, Jacob, Rama, Frank and Phillipo. The rest of the porters descended from the last campsite.

This last leg of the climb was every bit as daunting as the stories we had heard from other trekkers and from the tour company's website. We were on steep slopes of loose gravel scree and the next six hours were spent taking two steps forward and one step back. It was pitch black and eerily quiet. We were daisy-chained in line, our headlamps barely lighting our way, and hundreds of yards ahead the lights of several other parties zigzagged up the switch-backed trail. With the added weight of our winter clothing and backpacks, our thigh muscles were burning from the lactic acid buildup, forcing us to rest every fifteen or twenty minutes. I was also feeling a little lightheaded from the lack of oxygen. At the halfway point, the American couple was clearly suffering from the physical exertion and subzero temperatures and had decided to end it. There were only four of us now, Suranga and me, and

our two Tanzanian guides, Rama and Frank. Jacob decided he and Phillipo would accompany Debbie and Gary to ensure their safe descent, but felt enough confidence in Rama and Frank to allow us to carry on without him.

We angled up the switchbacks as efficiently as we could, chopping into the gravel with the sides of our boots. My mind was becoming numb with the boredom of concentrating on one step at a time. But eventually it became comfortably zen-like, until about a couple of hours before daybreak, when Suranga interrupted my reverie.

"I don't know if I can make it," he said. "My legs feel like lead weights."

We tried to ignore the casualties along the way: "downed" climbers lying in stretchers with oxygen bottles strapped to their faces, their guide/porters kneeling alongside, waiting for them to recover enough to make their own descent. Several climbers passed us on their way down, each with their arms over the shoulders of a porter. And there were the desperate ones. We noticed off to the side of the trail, under cover of darkness, the shadowy figure of a middle-aged women behind her guide, her arms draped over his shoulders and her feet barely touching the ground as he dragged her up; she was determined to peak any way she could, unashamed.

"You're almost there, Suranga. Gilman's Point is only about a half hour away."

I remembered reading the psychological tactics used by guides

in similar situations: break the task into small parts. If the climber can do five more minutes, he can do another five more minutes, etc.

"Just count the next hundred steps…."

Along with a little bit of tough talk, that seemed to work for Suranga.

At about 5:30AM, the sky was beginning to lighten, and a few moments later, when the sun crept over the angled mountainside, it brightened both of our spirits. We could see the first important milestone silhouetted against the sky about a half-mile ahead. Step after agonizing step, six hours after our start, we managed to reach it – Gilman's Point, 18,750 feet above sea level.

Gilman's Point is the common entry point to the rim of the dormant volcano. Most other routes to the top converge here. Dozens of trekkers crowded the top. Some were spent; this was the pinnacle of their efforts. Even though the summit at Uhuru Peak was only a short distance away, they were psychologically defeated and after resting, would descend.

The view from the rim to the centre of the volcano was spectacular. The crater drops steeply from the rim into a deep valley and rises to a large hill at the centre. Large chunks of glacier are scattered about several locations, the remnants of the massive ice covering of only a few decades earlier. The views outward from the rim are even more spectacular; we could see the gravel slopes falling steeply away below us, extending towards a panorama of

verdurous forested landscape, its olive green eventually fading to a misty blue-grey at the horizon.

We traversed through remnants of snowfield and glacier around the rim for another two hours and earned another 590 feet of elevation gain. Then, at 8:40AM, September 9th, 2010, we reached Uhuru Peak. At 19,340 feet above sea level, this is the top of Africa. After seven days of trekking through virtually every ecosystem on Earth – tropical jungle, savannah, alpine moorland, deserts, rock, scree, snowfield and finally glacier – we had made it. From the summit, we were treated to an amazing panorama of 10-storey high "chunks" of glacier still managing to cling to the peak; massive crumbling walls of ice which, by some predictions, will no longer exist in as few as 10 years. The "njaro" (sparkling) in Kilimanjaro would be lost. What would become of the name?

The spiritual and somewhat giddy elation we felt was soon surpassed by the reality that we still had to descend to the Kibo Huts Base Camp and then trek another seven miles to our sleeping site at Horombo Camp. Suranga was spent and had to stop often to rest. Not surprisingly, his energy level picked up going down the steep scree slopes. We were literally "skiing" through the gravel, 10 feet with every step. After an 18-hour day covering over 12 miles of climbing, we eventually made it to Kibo, and then Horombo, by 6:00PM, where Jacob and the American couple enthusiastically greeted and congratulated us. I'd never been so exhausted. It was truly one of the most difficult and yet most exciting days of my life.

After 12 continuous hours of climbing, the top of Mount Kilimanjaro.

Keeping with tradition, after a cold, almost-sleepless night at 12,000 foot elevation, we awoke to a quick breakfast and were treated to the ritual of the 16 porters singing the Kilimanjaro song, addressing each of us in turn. The final line to me – "Babu Mkubwa, hakuna matata" – translated as "Grandfather Senior, no worries." It brought tears….

I turned to Jacob afterwards and queried everyone's title from the porters. Suranga was "Mjomba" [uncle]. The American Gary was "Babu Mdogo" and his wife was "Mama". I was perplexed by the difference between Gary's title and mine, since we seemed to look the same age. Jacob explained that it was important for the

porters to differentiate us, so they asked us how old we were, and since Gary was a few years younger, he was "Grandfather Junior".

During a casual conversation with Jacob and Suranga on Day 7, the final leg of the descent, I revealed my ambition and dream for building schools. I had always wanted to be involved in an African village project from the early days of my career as an architect. The tangibility and the simplicity attracted me: the immediate rewards of hands-on construction alongside an appreciative community would be a welcome break from the technologically complex world of my Canadian projects.

"This is a difficult life for my family," Jacob said. "I'm away for seven days at a time, with only a two-day break in between." He spoke English well enough to communicate clearly with us.

"What other work could you do?" I asked.

"Head guide is the best for income. For a few years I was a teacher. The classes were overcrowded because of the lack of schools. I was frustrated with the lack of government support and low pay, so I quit."

An idea was gelling in my mind. A little later, I asked Jacob, "How easy is it to build a school here?"

"Hakuna matata [no worries]. Many villages and even city districts do not have enough schools. There is no government funding program for new schools, but the government welcomes foreign NGOs and local private donors to assist us."

"There you go, Alan," Suranga intervened jokingly. "Come back and build a school. Call it Babu Alan's School of Motivation for Young Climbers."

"Good one, Suranga," I quipped back. "Maybe we should call it Mjomba Suranga's Academy of Mountain Fitness."

We all laughed.

I turned to Jacob and continued, "Seriously now, do you have contacts? Can you help me find a school project?"

I wasn't prepared for such a positive response: "I will help you find a project," Jacob said, "and I will help you build it."

"I will be serious too," Suranga offered. "Keep in touch, because if you come up with a project here, you can count on me for a donation to help fund it."

"Wow! Thanks, guys. This is amazing. But, Jacob, what about your guiding job?"

"I'll work out something."

We shook hands, but both soon became a little bit reflective, and we spent the rest of the descent lost in our own thoughts. After a 3-hour hike down to a waiting bus, we left the mountain, stopping at the town of Moshi for the tour operator's typical cheeseburger-and-beer lunch before being driven to our hotels in Arusha. The goodbye was very emotional for Suranga and me. We had bonded well during this trip, and had shared some wonderful conversations.

I woke up on Saturday morning, the day after returning from the mountain, to a phone call from Jacob.

"I have a school project."

"What? Where?"

"I'll tell you all about it… What are you doing for breakfast?"

After I hung up, I took less than a second to convince myself that this was indeed an opportunity for a new life's focus. *Carpe diem*. I was close to retiring from my thirty-five-year architectural career and welcomed the idea of a complete change of pace to do humanitarian work: it was time to give something back. My wife Maureen and I would have a lot to discuss when I returned home.

At the hotel's brunch, Jacob described in an animated conversation his idea for a project in his impoverished district of Majengo at the west outskirts of Arusha. He knew of a female school principal, Teddy Cosmas, who had a 4-classroom nursery school that was in need of expansion.

"Let's go and have a look," I said.

"I've already arranged for you to meet her on Sunday morning. But today, I would like to continue as your guide, and show you around Arusha."

With a population of close to one and a half million, Arusha is the third largest city in Tanzania. We spent the afternoon touring around, looking at markets and shops, with Jacob generally giving me a taste of the local culture. Although there is an obvious sadness in most vendors' daily struggle to sell produce and wares,

a colourful, friendly and cheerful outlook balances it out. Lots of "Jambo, Jambo." [Hello, how are you?]

Jacob offered good information about his knowledge of the local building process; construction methods and materials, approval processes, local government structure, etc. We visited a local "building centre" located near the downtown Central Market area to price materials. What an incredible experience! North Americans would be amazed at the contrast with our big box stores back home (think Home Depot). Building materials – from sheet metal roofing to rebar to toilets – are crammed into a small shop the size of a tiny house, with excess products stored on the sidewalks and in the surrounding alleyways. The most amazing display was the large collection of roofing sheets, gutters and pipes assembled at the entrance, extending high above the roof, creating a sculptural work of art to rival that of any modern artist.

It was fun dealing with the shopkeepers to get prices on all the materials. By the time we left, we had a price for almost every building component, from rebar to toilet elbow pipes, a list that would definitely be very useful in establishing school project budgets as well as verifying builder quotations. It was an exhilarating, and exhausting, day.

On Sunday, we visited Jacob's neighbourhood to meet Teddy Cosmas, the female principal of the local nursery school that catered to over 150 pupils. Majengo is an impoverished district

of approximately fifty thousand people, crowded into Arusha's western outskirts: rough bumpy dirt roads, litter everywhere, home construction varying from mud/stick walls with thatched roof to concrete block walls with sheet metal roofing.

We met Teddy at her church entrance at the end of morning service. A "traditionally" built woman with a warm smile, she reminded me of a slightly older (perhaps mid-fifties) version of Mma Precious Ramotswe, the heroine from the Alexander McCall Smith novel, *The No. 1 Ladies' Detective Agency*.

She spoke no English, but Jacob translated her softly-spoken greeting words: "I was praying this morning for help for my long-time suffering pupils who have little resources to study, where the classes are overcrowded and mothers are single parents with no income. Are you the angel with wings who is descending to answer my prayers?"

I was overcome by emotion and had difficulty holding back tears. My smile in answer confirmed in my own mind, as well, that there was no question: This will be a project.

We went back to her school office and discussed her overall building program options; either a new school on an available local property for sale – for 50 million Tanzanian shillings (TSh) or Cdn$35,000 – or a second-storey expansion of her existing four-classroom school, or a new school on her own 4,500-square-foot property with classes for orphans and a craft room for destitute single parents to develop marketable skills. I offered to help with the latter option since the others were too expensive and

Teddy Cosmas, principal and teacher, at her desk.

complex and, considering the difficulties of managing the project from thousands of miles away, my goal was to keep the project simple.

After the meeting with Teddy, Jacob insisted I meet his family for lunch. Jacob's family is a little better off than most in the neighbourhood; his home, along with those of other renters, is part of a rectangular building with a centre courtyard adorned by flowering trees, flower beds and grassed areas, an oasis in the surrounding blandness of poverty. A wealthy landlord who occupied an attractively-designed corner building owned the complex. I met Jacob's wife Birgitta, their nanny, and his three children, Anna, Febu and

Muchu. They were very friendly and playful, laughing easily at my prodding and tickling. The kids were curious about me, and innocently stroked the fine hair on my arms, and played with the hair on my head, that stood in such contrast to their hairless arms and coarse curls. I was treated to a hearty, typical family meal: beef stew, potatoes, cucumber and tomatoes.

The next step was logical: visit Teddy and her husband's property to determine the project's feasibility. The couple own and live on a typical 65-foot x 65-foot lot in an L-shaped building that includes a space for several single parents and their children. At one corner of the property is a chicken coop housing a dozen or so chickens. In the remaining space, there are beds of sugar cane and maize. Fortunately, the L-building is situated at the corner of the property providing a construction space that made further building a possibility. Teddy, Jacob and Cosmas (Teddy's husband) watched with keen interest as I paced out the dimensions of the existing structures, sending chickens scurrying out of my way. I quickly concluded that a new 1-storey, 3-classroom building would fit. This greatly pleased Teddy, shocked at the speed of the events unraveling before her eyes. She kept repeating "*Karibu sana, karibu sana, karibu sana* [(you are) very welcome, very welcome, very welcome]."

When I was finished, she directed us inside her living room where she said a prayer of thanks and hope for our success. We hugged warmly and left.

On the way back to the hotel, Jacob beamed with excitement;

he agreed to manage the project, and would somehow juggle his mountain guiding with his new commitments. In a quiet moment of thought as we traversed the bustling city through traffic jams and close calls with adroit jaywalkers, a few doubts crept into mind. *Am I going to be able to pull this off?*

Back at the hotel, I reflected on my original goal; to build primary schools in villages. Teddy's project, a nursery school in a big city, although honorable, was a variation on the theme.

As I lay in bed that night, cocooned within the mosquito netting around the bed, my thoughts drifted to the interesting conversation I would have with Maureen when I returned. We have been so wrapped up in our individual careers that we had spent little time discussing "retirement" plans. Certainly, we could hope to look forward to grandparenting, gardening, more world travels, the idea of buying a cottage on the lake, book clubs, etc, but we often spoke of somehow giving back in a way that reflected our professional skills and experience. My sudden decision may be a shock to our present routine, but it could also lead to new adventures. I considered myself blessed to have Maureen as my wife, a woman with whom I negotiated many challenges in our nine-year marriage. I felt confident that she would embrace my Africa idea.

On Monday, I still had five days before flying home to Canada – enough time to call the local government education offices for information, if such places existed. I tried to contact the Ministry

of Education to no avail. During my evening meal at the hotel, I queried the location from a waiter named Steve. His eyes lit up when I told him of my intentions to build a school, and he quickly suggested I should meet his brother Mathew, the hotel's restaurant manager.

After dinner, Steve took me his brother's office, an alcove in the restaurant, and introduced me to 35-year-old Mathew Gabriel Sulle. He had a short, compact build, and was intense, very bright, and articulate. Judging by the efficiency of his staff as he barked out orders while we talked, he was also very adept as a manager. His English was passable.

Mathew and I enjoyed a long conversation about the village of Gongali where he grew up, and how the majority of children there do not have access to education. A new primary school was badly needed for about 40 to 50 children. The prospect of education for his impoverished village more than thrilled him; he offered to volunteer his time to personally manage the project. I immediately liked him, and sensed that we could easily become good friends.

The pace of the events that were to follow was incredible. On Tuesday morning we were heading to Mathew's small village, a three-hour drive west of Arusha. While we were driving, Mathew was on his cell, phoning ahead to arrange a meeting with local officials to discuss ideas for a project. I thought, *I may have my long-held dream of a village project after all.*

The village of Gongali is in the district of Karatu Town, near Lake Manyara National Park, and it's on the main route

to two large, popular safari regions: the Ngorongoro Crater and the Serengeti Plains. The trip was interesting, with us traveling through Maasai country, witnessing cattle-herding young men dressed in the famous colourful Maasai blankets, and later, near Lake Manyara, encountering a troop of baboons feasting on grass near the roadway.

"Stop the car," I shouted to the driver. "I want some photos."

I ran over to them.

"Don't get too close, you could be attacked," Mathew warned.

I quickly snapped a few shots and retreated. What excitement! *I'm in Africa – experiencing the wildlife!*

Arriving at the village around noon, we were greeted by Mathew's brother Pascal and his 68-year-old ailing mother who appeared quietly fragile and withdrawn. I asked about her health; Mathew confided that she was in desperate need of a serious operation but was awaiting the balance of required funds. Considering our previous discussion, during which time Mathew had been reluctant to receive any payment whatsoever for his potential involvement in the project, I thought the least I could do was offer him the operation payment, which was small in comparison to Canadian hospital costs, as a gift for his efforts. In return, he gave me a warm hug. He explained the event to his mother, and for a moment, I detected a glimmer of happiness in her sad face.

On the way to the meeting, we passed a group of villagers lined up at a watering station, a tap on a pipe sticking out of the ground. They would each wait a long time for their turn since the water

was barely a trickle. Gongali and the two sister villages of Quuru and Bashay were lucky to have water at all, thanks to the brainchild of a resident named Claude Goi (as it turned out, he was Mathew's best man), who had organized the construction of a pipe distribution system from a mountain stream some distance away from the village.

The design was ingenious, considering Claude had no engineering background. But he did know that water flowed downhill, and that it was downhill all the way from the mountain stream to the village. Pipes that were installed in the stream carried water by gravity to a nearby large concrete tank from which it flowed though pipes to smaller tanks near the villages. From there, an array of pipes fanned out to various taps around the village. The low flow rates did not bother anyone. The close availability of water had been a godsend, considering that children had to fetch it before. They had gotten up each morning at 3:00AM, then hiked (or run) 10 miles to the stream, returned balancing a 45-pound plastic container filled with water on their head, had breakfast, and *arrived at school by 7:30*!

The meeting was held at the Gongali Village mayor's office, a small plain unlit building no bigger than a one-car garage.

Seated around a small table were Peter Hayshi, the district vice-chairman for the three villages; Philemon Baran, the mayor of Gongali; and several of his administrative staff, all appearing a little on the serious side. Peter, a man of strong stature who exuded a quiet importance, was obviously the head honcho, and responsible for major decisions. After proper introductions, Mathew

The village water tap and waiting transportation at Gongali. The water comes via pipe from a mountain stream many miles away.

presented my intentions in Swahili while I anxiously sat alongside, curious about the shy fleeting glances I received. When Mathew was finished, Peter nodded his head. Philemon said a few words, and everyone got up to leave. They were smiling, except Peter, who, maintaining his solemn appearance, shook my hand and told me I was now a member of the village. With other apparent business to take care of, he quickly drove off down the dry dirt road, his truck swallowed by its dusty entrails. I guessed the meeting was a success. Mathew, smiling, explained Philemon's few words: "We will donate 10 acres of property for the school."

Philemon then took us for a drive to the donated property where a group of villagers were already assembled. Word about us had spread quickly. Adjacent to one of the main dirt roads leading from the village, the site was a large open flat field containing a

shoulder-high pigeon pea crop that, amusingly, obscured all but the heads and shoulders of the villagers. This was to be, in effect, the village briefing. We gathered atop a pile of loose rubble and Mathew and Philemon presented the plans, this time with vigor and emphatic gesturing, while the two dozen or so men, women and children listened intently. Not being one to stand on ceremony, I still felt I should say a few words. I nudged Mathew and silently pleaded with raised eyebrow. Embarrassed at forgetting to formally introduce me, he gestured for me to begin.

"Mjambo, my name is Alan Roy, and I am pleased to meet you. I hope we can work together to build a new school for the village

Gongali mayor Philemon Baran, left; district vice-chairman Peter Hayshi, second from left; Mathew Sulle, right.

so that your children, through education, may bring hope and prosperity to your community."

The villagers solemnly listened, not understanding a word I said, their reaction a humorous mixture of confusion and respect.

Then, through Mathew's translations, we discussed the size of the school. Philemon's ideal was a minimum four-classroom building at forty-five students per classroom. Four classrooms were beyond my budget, but I suggested that we could start with two now and allow for future expansion to four, or six. We then discussed the location factors for the school; it should be as high as possible to avoid the low, swampy (during rainy season) area

Alan and Mathew briefing workers at the new Gongali school site.

adjacent the road, but not higher than the gravity-fed water supply system. I pointed out that a site plan showing the dimensions of the property lines would be very helpful, at which the mayor promptly ordered a villager to pace off the boundaries. He returned with "220 long steps x 240 long steps." (I wasn't about to question the legal accuracy.)

"Thank you. I can now produce a site plan for you," I said.

They also added a desire for spaces for gardens, sports fields and tree planting.

"OK!"

When the meeting ended, Philemon shouted at the villagers. They ran off.

"What was that all about?" I asked.

"Philemon ordered everyone to immediately start collecting stones for the building foundations."

I was both thrilled and amazed by their sudden enthusiasm. It was as if they didn't start immediately, the project might disappear.

Mathew, Philemon and I then had lunch at a local restaurant in nearby Karatu, followed by a visit to the local "building centre" to price materials. It was a repeat of the previous enlightening experience in Arusha; but as expected, the prices here were about 10% higher than in Arusha, so we contemplated ways of trucking in the material to save money.

The dusty ride back to Arusha seemed long and tedious, and again, in reflection, the doubts crept in, only doubly so now – two

projects in 3 days. Yikes! What was I in for? Whatever happened now, it was definitely going to be an interesting ride. Many questions still remained, and I had so much to learn about the process of building in a foreign country.

The remaining few days in Arusha were spent obtaining a resident permit, setting up a bank account for the financial transactions with the builders, and writing instructions to Mathew and Jacob for administrating the tender and construction of the projects. Now I just had to go back to Canada, draw up the plans, get them to an architectural firm in Dar Es Salaam for review and translation into Swahili, if necessary, and forward them to Arusha. We were all set to go!

CHAPTER 2

The Cultural Gap

"The man who goes out alone can start today;
but he who travels with another must wait till that other is ready."

– HENRY DAVID THOREAU

Typical building centre in Arusha with hardware hanging from the trees.

After a 30-hour journey by plane, bus and ferry, I arrived back in Victoria in the evening of September 18 to drizzling rain and windy weather, but the discomfort was easily overcome by the wonderfully sunny smile of my Maureen. She was as eager to hear about all the details of my adventures as I was to tell her. Due to the spotty Internet and telephone connections from Arusha, she was totally unaware of what had transpired in the last week.

The 30-minute drive home from the ferry terminal felt like 10 minutes.

"You won't believe what I've been up to," I said.

"Uh oh," she nervously laughed. "Do I really want to know?"

"Remember when I finished reading Greg Mortenson's *Three Cups of Tea* last spring and I announced I would start building schools in Africa? You didn't take me seriously. Well, guess what?" I asked.

"Hmmmm…" she mused, "judging from you being wide-eyed and hyperventilating…."

"Yup! I've lined up two school projects in Tanzania!" I blurted.

I paused for a moment, and then said, "Well, at least I think I did. I'll have to continue talks with my new friends there to see what's possible. The language barrier may be a big issue. I have no idea what costs are involved. And I'm not sure about dealings with their Ministry of Education; I've had little luck in the short time there to find contacts, let alone have discussions with them."

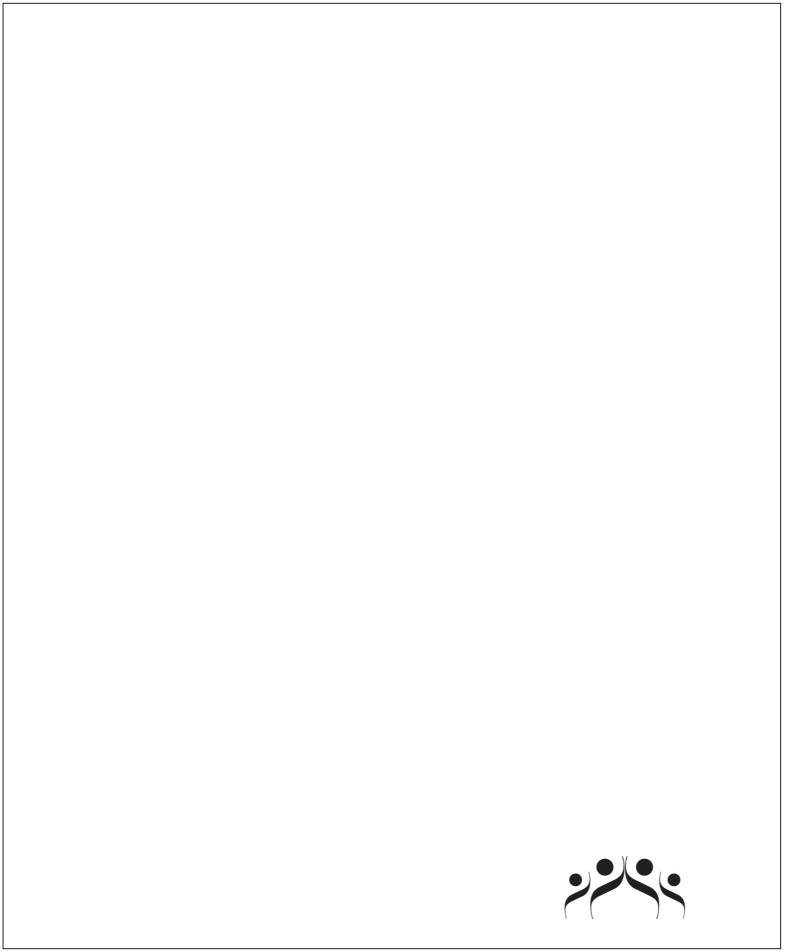
It felt good to be back, but before I could recuperate from the jet lag, I was treated to a wonderful surprise. Friends and family

had been keeping track of my Kilimanjaro ascent through an Internet link set up by the tour company, and therefore Maureen thought that hosting a surprise party the following evening would be a good opportunity for them to congratulate me. I was thankful to have such a supportive community. The energy in the room was exciting and stimulating. We talked about the climb, the school projects, the wonderful Tanzanian people, their politics, the children… until my adrenaline petered out, and fatigue finally forced me to pack it in.

In my first week back from Tanzania, I managed to design both projects. It seemed like back to the drawing board as usual, except that my clients were not the usual sophisticated corporate executives or government middle managers with complex architectural programs. In contrast, I was designing structures no more complicated than a detached garage. But I had never felt more excited about a project.

The designs were finalized: for Majengo, a simple 840-square-foot rectangular building with two 24-children nursery classrooms and a crafts room; for Gongali, 1150-square-feet with two 45-student classrooms. Each building would have something that was not typical in most Tanzanian schools: indoor washrooms. This lack was probably due to the additional construction cost, and the scarcity of water in most regions.

The Majengo site had "city" water supply, but Gongali didn't. Drilling at the Gongali site was possible, but expensive, and successfully finding water was not guaranteed. I opted for the design



of an elevated water tank structure that could be hand filled with water transported from the village "tap" and, during the wet season, with roof water.

Waste water design for both projects would consist of a single- or two-stage septic system that was the best local standard:

underground concrete tanks that would be pumped out every ten years or so.

The technical detailing and specifications were based on what I had gathered from observing local buildings under construction in the Arusha region. The challenge was to marry the technologies of

Tanzania with that of Canada. Mud brick and thatched roof construction, traditionally used in the rural areas (due to economic necessity) was out of the question. These buildings deteriorated very quickly in the rains, often lasting not more than ten to fifteen years. I elected to use typical Tanzanian new construction for simple one-storey buildings consisting of concrete floors, concrete block walls and wood framed roofs clad with sheet metal. What I hoped with my designs, through good detailing and thorough specifications, was to build a structure that would last at least 50 years. That meant, for example, properly compacted foundations and footings and sufficient steel reinforcement in the concrete. I considered this an important aspect of the process of building schools, to ensure that the money from donors resulted in a solid investment. What remained to be seen, of course, was how the builders of the project would react to some of the plans. This would no doubt be a learning process for both sides. I was looking forward to it.

I sent plans to Jacob and Mathew and anxiously awaited their replies.

My communication with the school project managers was a little stilted. Mathew had been phoning every other day since my return to Canada; he was chomping at the bit to get the Gongali school started. But the conversations were constantly broken up by a poor phone connection, so I concluded that everything would have to be done using e-mail. The good news was that many Google sites translated languages, so I was able to enter English into

the program and get Swahili. Then I would copy the translation into my e-mail. Perfect! He would get both English and Swahili. The bad news was the translations were often poor. I entered the Swahili translation back into the translation program to verify it, and I was surprised at the results. For example, I queried, "We need to design the removal of the toilet waste." The Swahili translation was, "We need the model to remove the filthy toilets."

I needed to get a good translator on board to ensure the nuances of our communications were totally understood. I called the Victoria Refugee and Immigration Centre (VIRC). They said they'd contact several available Swahili-speaking candidates and would get back to me. I also e-mailed the University of Arusha to establish an academic connection perhaps with an educator that spoke English well. I didn't know how useful it would be, but it could lead to other "connections".

I instructed Mathew and Jacob to get competitive pricing from local builders and to use their judgment to select trustworthy and experienced ones. My instructions for the bidding process were to have builders list all materials and labour costs. Within a week, I had received multiple quotes for both projects and was looking forward to the lowest bid. But two problems surfaced – the quotations were crudely hand-written, and they were in Swahili, making them impossible to review properly. I pleaded with Jacob and Mathew to appeal to the builders' patience and have them resend the quotations, only this time typed and in English. I was quite surprised when they complied.

The quotations' material list pricing was generally in line with the information I had previously collected. The Gongali school quote from a Mr. Fabian Amma was roughly on budget, but after an exhaustive review of Teddy's project, I discovered the lowest bid had missed too many items. That made us a little nervous, so we went with the number two bid of a Mr. Hemedi Iddi.

The cost for each project was approximately the same, around Cdn$15,000, with the cost per classroom between Cdn$5,000 and 7,000, a small fraction compared to our western construction, for the same education value it would provide.

The next step was to format some kind of contract that we would all sign to formalize the process. It should be in both English and Swahili, but what to do for a translator? I'd also been having trouble understanding Jacob and Mathew's e-mails. Because of their limited English vocabulary, the answers didn't always make sense. I awaited a call from VIRC.

My stepson Gavin, in the nursing program at Vancouver Island University, mentioned he had a female African classmate that spoke at least six Swahili dialects. Six dialects?! Which ones was I dealing with? As it turned out, she wasn't available, however, success was soon mine when VIRC called to say a possible candidate named James Wanjohi would be phoning.

When 48-year-old James and I met, we liked each other instantly. He had a wonderful smile, a deep resonant voice and an infectious sense of humour. I could sense his excitement and pride

to have this opportunity to help his fellow Africans. He would turn out to be the ideal African consultant.

James grew up in a very poor family in Nairobi, Kenya, and from an early age had realized that only through education could he achieve a proper standard of living and be of help to his impoverished community. After graduating from the University of Nairobi, he lived for some years working in Tanzania as a middle management level government bureaucrat. His experience proved extremely useful for my school building efforts, and not only in matters of translation. In the future, he could help to establish the charity as an official NGO in Tanzania.

His first tasks were to interpret the "official" letters that I requested for my records from Teddy Cosmas and the mayor of Gongali, letters that officially stated their education needs, as well as the formal permission to build the schools on their properties. His second task was to translate the documents that would be used for administering the construction: contracts, progress claims and material receipts.

Sometimes things just fall in place. I couldn't believe my luck in finding him.

James has been in Canada since 1985. He invited me to meet his family; his wife Jennifer works as a mental-health nursing aide; his three children are doing well, one is in university and the other two are in high school.

We soon became very good friends. One evening we attended a slide show presented by a Victoria couple, Bill German and his wife

Joan, whose charity provides financial support for young Kenyan teens to attend high school. Slides of their recent visit were both informative and entertaining. Several slides really excited James. He nudged me and whispered.

"Look, that was my school district."

"See that road, I walked down it for many miles every day to go to school."

"And there's that sign in the village saying this is the line of the equator that the tourists always stop to take pictures of, but I don't believe the location is very accurate."

After the slide show, the presenter asked a member of the audience to come up and say a few words. Much to James' surprise it turned out to be his close Kenyan friend, Mr. Ngongo, a tall, elegant handsome man wearing a colourful African shirt. He presented his personal story with quiet but strong resolve. After his talk, much to our surprise, Bill pointed to James and asked him to also come up and say a few words. Even more to my surprise, James agreed. Both speeches were unbelievably moving. Ten-year veterans of Toastmasters International had nothing on these guys. Many of the audience, including myself, were tamping the tears from their eyes.

I joked with James afterwards. "Where did you guys learn to speak like that?"

"Simple… we just say what our heart tells us."

The message from the evening clearly reinforced my resolve for action to work to help advance education in impoverished areas.

Both James and Mr. Ngongo, by managing to educate themselves through to university level despite their impoverished beginnings, were excellent examples of a dogged determination to succeed.

I also started thinking about formalizing my commitment to this new career in the form of a charitable organization. I was willing to personally finance these first two schools, but if I were to build more, as much as I dislike bureaucracy I would need to form a charitable organization in order to get donations from others. I spent every spare hour researching the structure and running of a charity, how to apply, and how to get approval of charity status in the shortest time.

My research led me to a Vancouver lawyer, Margaret Mason, who specializes in charity applications, and typically can get approval in four to five months – half of the usual time. Through her office, we completed the required steps; first, the registration of our name, then the incorporation as a society, *Primary Schools For Africa Society*, and then the application to Revenue Canada for charity status. It would be a nervous wait, but I felt confident of success. Meanwhile, I would focus all my energy on these two school projects. They would have to be successful; the credibility of the future charity hinged on it.

James and I finalized the construction documents; I sent them to

Jacob and Mathew for review, and then made a few subsequent revisions to everyone's satisfaction. The process of starting construction was coming together reasonably well. I could monitor the first few stages of construction from Victoria. Mathew and Jacob would inspect the quality of work and send photos for verification, and I would then forward progress payments. My plan was to go there for only the final two to three weeks of the projects.

However, with the construction start date looming, I began to feel anxious about the reliability of money transfers from Canada to Arusha. I had forwarded Cdn$15,000 to be used as progress payments, but after four days, with no confirmation of its arrival into my new Arusha account, I decided this would have to be a hands-on project, from start to finish. Within two days, I had my flight booked. I stuffed the remaining amount needed for the schools, Cdn$24,000, in the pockets of my cargo pants and was on my way to Africa.

CHAPTER 3

Clay, Stones, Concrete

"Teamwork divides the task and multiplies the success."

— AUTHOR UNKNOWN

Concrete for post footing. Note the hand-broken rock sub-base.

At 10:00PM on November 7, Mathew picked me up at Kilimanjaro Airport. Despite my exhaustion from the 22-hour flight, I enjoyed our lively friendly discussion in the back of an old run-down taxicab on the one-hour ride to my rustic accommodations in Arusha, the Outpost Lodge. Mathew was relieved to see me, as our construction schedule was a key issue: the rainy season usually begins around mid-November. It was Sunday November 7th, so things had to move quickly or we'd be pouring concrete floors in the rain.

First thing Monday morning, Mathew phoned. He suggested accompanying me and insisted on taking a taxi to the bank, where we were both relieved to unload the cash. After withdrawing start-up bundles of Tanzanian shillings for both projects, we quickly strolled the streets, looking for a good coffee shop, as excited as a couple of kids leaving a candy shop with pockets full of sweet treats, anxious to discuss the details of our new adventure.

It was a pleasantly warm day. The weather had cooled a little since my September visit, but this region, at 4,000 to 5,000 feet above sea level, never really gets too hot, with year-round temperatures varying between 77 to 86°F. The colourful hustle and bustle of Arusha's city centre matched my mood; after a good night's sleep, I was energized and anxious to met the builders and discuss the projects. Mathew ushered me into a seat in a popular and crowded coffee shop, and returned a little later, proudly smiling, with a couple of steaming mugs of excellent local java, grown locally on the slopes of Kilimanjaro. As I was laying out the

drawings, ready to discuss the school design, his mood darkened a little.

"I am sad today," he said.

I was perplexed by his unexpected change of mood. "Uh-oh, bad news about the project?"

"No, no," he reassured. "I am sorry… it is still fresh in our minds; our national election on October 31 last week was unsuccessful for our candidate, Dr. Willibrod Peter Slaa, the leader of our *Chama Cha Demokrasia* (Party For Democracy). President Jakaya Kikwete was re-elected, but the people are not happy. We believe the counting of the ballots was false. We should have received more than 27 per cent of the vote."

I remembered the election fever back in September, when posters of Kikwete were plastered on every spare building wall space, and pickup trucks cruised the streets, with their roof-mounted loudspeakers blaring political slogans, and their cargo areas housing makeshift trumpet bands deliriously blasting out brass cacophonies. I noticed how indifferent the public appeared; it belied the blatant attempt at showing support and confidence in the incumbent.

"What makes you believe the ballot count was rigged?" I asked.

"Simple – the existing government offices controlled the ballot counting. We have no way of verifying the real numbers."

Sighing, and then with a fierce look, he said, "But let's forget about that; now we have a school to build. We will leave for Gongali tomorrow. Philemon, the village mayor, has already arranged to have a ceremony to officially start construction."

Mathew's eyes lit up. "And there is great news; Lazarus Titus will also be there," he continued. "Fortunately for us, he was re-elected as chairman of our Manyara district in the election last week. Both Dr. Slaa and Mr. Titus believe that education is important for the growth of our region and our country. Mr. Titus had been made aware of our school project and wishes to show his appreciation by personally meeting you to offer the full support of his office."

"Wonderful," I said. "We need as much government awareness as possible to make our future projects easier."

I thought to myself that there might be an opportunity with Mr. Titus as someone who could help us register our charity as an official NGO [non-government organization].

We were huddling over the design drawings when Mathew interrupted. "We have something to admit, Alan. Fabian and I did not understand some of your drawing. Can you explain what that is?" he said, pointing to the building section, and some connection details.

I realized then that, though these drawings were only a fraction of the complexity I was used to in western construction documentation, they could overwhelm a village contractor who would normally rely on nothing more than a hand-drawn sketch, or an image scratched out on a piece of wood, or simply a memorized conversation.

"I hope Fabian's price is reliable," I said nervously. "His material list seemed complete enough." I paused. "Mathew, what do you think? Is he going to work out?"

"Hakuna matata, Alan. He has built several buildings in our village, and he has friends to do the carpentry and the concrete work who are very experienced. They have worked on another school project in our region."

"Good. Well, when we meet with him, we'll go over the plans in detail. I'm looking forward to a good relationship where we can learn from each other."

Later that afternoon, back at the lodge, I contacted an enthusiastic Jacob who insisted on bringing Hemedi Iddi, our Majengo builder, to the lodge to meet me. I was introduced to a middle-aged man, quiet and soft-spoken, and even a little shy at first, but who later confirmed in my mind, a confidence drawn from many years of experience.

Since Hemedi spoke no English, Jacob translated our conversation.

"Are you OK with the design and the drawings?" I asked.

Hemedi simply nodded his head.

That was my cue to hand over the first payment. "Then when can we start?"

"Tomorrow," he replied.

Tuesday's visit to the Gongali site was very eventful. Mathew had arranged for his friend George to drive us there in his road-weary

Hemedi (left), Jacob, Alan – getting to know each other at first meeting.

1978 Toyota. It seemed to be on its last legs; the electric windows didn't work, the tires were balding, and the incessant car-rattling was nerve-rattling. The ride consisted of the usual bumps on the stretch of paved road from Arusha to the Lake Manyara junction. From that junction to Karatu, and onwards to the Serengeti Plains, runs a comfortable, newly-paved highway, built with funds donated by the Japanese government, complete with "modern" roadside washroom facilities. For future reference I took note of the construction, in particular, the concrete septic tank design. Interestingly, on this trip, we were not treated to any roadside wildlife.

When we arrived at the village we went directly to the site.

Two dozen or so villagers formed a semi-circle around several important individuals who stood in the middle of a cleared section of the pigeon pea crop field. On the way to the site, I had been looking forward to some lively discussions regarding where on the large treeless 10-acre field we would locate the building. As it turned out, I didn't have too much say in the matter; Philemon, the mayor, and Fabian, the builder, had previously instructed villagers to clear the crops in an area they felt was suitable. It seemed a little arbitrary, but I trusted that their decision was probably based on local knowledge of wind and sun factors.

I recognized Peter Hayshi, the district vice-chairman, but not the tall elegant well-dressed man in the centre. Mathew's excitement to introduce me reflected his respect for this man. He grabbed my hand and led me to Lazarus Titus, the district chairman, who was more than happy to dignify the official groundbreaking ceremony. He greeted me warmly and I immediately sensed the generous and compassionate nature that made him so well respected in the district, qualities that had led to his recent re-election.

Mathew then introduced me to Fabian and a few of his smiling workers. To my surprise, he was only about 25 to 27 years old, thin but muscular. Like Hemedi, Fabian was soft-spoken and could speak no English. His youthful enthusiasm and broad gleaming smile, however, made me feel optimistic about our working together successfully.

To the loud cheers and clapping of the villagers, Lazarus and I struck the dusty red clay soil with crude hoes.

Fabian then proceeded to lay out the building perimeter with string lines in the approximate centre of the clearing. He placed a peg at the starting corner and connected a home-made measuring tape to it, then proceeded tentatively to the next corner.

Piles of stone for the foundations were already placed off to the side of the building. Many villagers from nearby farms had scoured their fields to collect the large rocks. As we pegged out the lines, a truck drove up filled with more workers than stones.

The atmosphere was filled with joyous activity, with strapping young workmen laughing and joking with each other and forming groups that took turns off-loading the large boulders.

This was an unusual event for the dignitaries, who seemed a little at a loss with what to do at the site. Excitement underlined the behavior of Mathew, Peter and Lazarus, as they followed Fabian's every move. They wanted to be involved (*client participation – a builder's worst nightmare*, I thought).

As they discussed the dimensions needed for the classrooms, my first thought was, "Where are the plans?"

Nowhere in sight. In fact, not even on site. I asked Mathew to question Fabian. I wasn't surprised with Fabian's response, which was that he had memorized the dimensions – easy enough with such a simple building. Or was it?

The discussions became more animated; there was some confusion about the length of the building. I had been busy videotaping the events with my camera, but was called over to the group to settle the "argument."

"Babu Alan," Mathew asked, "what is the width of the breezeway, and where is it located?"

We were gathered around Fabian's homemade tape measure and I noticed that it was marked out in one-foot increments. Just then it dawned on me that the probable reason for the "mislaid" plans was that I had shown the dimensions in metric. I couldn't transpose exactly to imperial quickly enough so I rounded off the dimensions: "You come thirty feet this way for the first classroom, then five feet for the breezeway, then another thirty feet for the second classroom."

We then pegged out the length of the building, with the breezeway positioned at the halfway point between the classrooms.

This event spurred an important realization; the communication of the design had to be simplest in the utmost. It soon became evident that the plan details were probably quite foreign to Fabian; he had never seen a proper set of working drawings, and given the simplicity of the structure, perhaps felt they were not necessary.

The site visit lasted only a few hours. I wanted to roll up my sleeves and work with Fabian on the layout, but it was important to have project discussions with Lazarus Titus and his associates while I had the opportunity. In any case, Mayor Philemon had other plans for me, and suggested we leave. But before I left, Mathew and I met with Fabian and went over the layout using a folded drawing I had in my back pocket.

My impression of Fabian was one of quiet intelligence; he was soft spoken, in fact he spoke only rarely, and I wondered whether

it was because of a total understanding, or an inherent shyness. Mathew assured me that he fully understood the information, but I was not convinced. I would later have my doubts confirmed.

The "dignitaries" and I proceeded to a lunch arranged by Mayor Philemon at the home of one of the villagers. It was located in the middle of a rectangular compound surrounded by tightly spaced *minyaa* trees. It reminded me of Maureen's family farm in Manitoba, where for the same reason, lines of trees planted by farmers provided windbreak protection from the harsh winter winds that could quickly build up snow against farm buildings and homes. Here, it was to keep down the wind-driven fine red dust.

The home was one of the better-built structures in the village, but sadly, the only opening admitting daylight to the main room where we ate was the entranceway, which had no actual door. It was interesting to experience the gradual appearances of everyone in the room as our eyes acclimatized to the dark interior. As we feasted on chicken stew with copious amounts of rice, Peter Hayshi confirmed the total co-operation of his office. School registration, teachers, school supplies and all post-construction issues would be well taken care of.

Our driver, George, drove Mathew and me through the maze of car-rattling, bumpy and dusty village trails back to Karatu where Mathew had decided to stay overnight so he could help his sister support their convalescing mother who was recovering from her recent operation.

George and I then left for Arusha around 5:00PM. I was ex-

hausted from the day's activities, so I tilted the passenger seat as far back as it would go and instantly fell asleep.

An explosion woke me up, catapulting me forward into the dashboard, and causing the car to swerve quickly into the shoulder of the road.

"George, what the hell was that?" I shouted.

"We hit pothole. Couldn't avoid. There was truck in other lane."

We hobbled to a stop, got out and assessed the damage. It was pitch black.

"Where are we?" I asked. "How far from Arusha?"

"Maybe 10 or 15 miles," George said.

I must have been asleep for at least an hour and a half; I didn't realize how close we were to Arusha.

"This is not good place to stop," George continued. "Many bad people who rob you on this part of road."

As George explained, the west side of Arusha is rampant with cruising young criminally-minded opportunists. Needless to say, I got a little anxious.

The rear tire was shredded and the shock absorber (a piston rod that slides up and down inside a fluid-filled cylinder surrounded by a coil ring) was broken. The piston rod, under the force of the impact, had broken in half. The freely hinged lower part had then jammed itself into the tire, causing the explosion.

I abandoned any notion of trying to fix what seemed to be an insurmountable problem.

"Let's phone a tow truck," I suggested.

I didn't quite understand his rationale, but his body language convinced me that would be too difficult.

"I will fix," he said. After looking into the wheel well cavity for a few minutes, he announced he had a plan. But he did look a little worried.

Thank God for cell phones which can be used as flashlights. With them stuck in our mouths, we scoured the flat Maasai fields for large rocks of various thicknesses and piled them up alongside the car. The rear side of the car had to be jacked up beyond the range of the jack, not only to remove the tire but to remove the coil ring and somehow jam the lower piston into a (conveniently-located) slotted groove in the car's underbody. We would raise the car to the full extent of the jack, then insert rocks under the rocker panel, lower the car to settle on the rocks, insert a smaller flat rock under the jack to be able to raise the car even further, and so on until we reached the desired height. The car collapsed and crashed to the ground at the first attempt. We were so tired we forgot to chock the wheels with stones to prevent the car from rolling.

Just then, a car pulled over and stopped behind us. The radio was cranked up. Three young men got out and slowly walked over to us. Much to my relief, they were not even interested in our plight. They had problems of their own; a flat tire; and could they borrow our jack? ("Yes, but you have to wait your turn," I mused.)

At the second attempt, the car was high enough to jam the piston rod into the slot. George replaced the tire with his very bald

spare. Then we very carefully maneuvered ourselves to Arusha no faster than a bicycle, with the vehicle's rear end amusingly tilted high above the rest of the car. It was working, but with no rear shock we felt every little bump in the road. Two hours later, totally exhausted, we made it to the Outpost Lodge.

"Thanks, George, you were amazing."

"Hakuna matata. Good night and sleep well."

While undressing for bed, I noticed my reading glasses were missing from my shirt pocket; probably somewhere out on that vast Maasai landscape.

On Wednesday afternoon I met Jacob Slaa and Hemedi the builder at the Majengo site. I was surprised to see all of the trenching dug out for the foundations stones. Labour here is incredibly cheap; a few dollars a day for an unskilled worker. Teddy and Cosmas were anxiously awaiting my arrival and greeted me with such warmth.

"Karibu sana [very welcome], Babu Alan, karibu sana."

"Babu Mkubwa [Grandfather Senior] Alan," I jokingly corrected (referring to my Kilimanjaro climb title bestowed by the porters). We laughed.

Jacob's translation of Teddy continued, "Welcome back to Tanzania and to our Majengo village. We did not know if you would return until Jacob told us that we now have a builder for the school. That made everyone in the village excited and very happy.

Since then, everyone, especially the excited orphan children, have been asking me every day; when will the school be finished?"

"I plan to be here only five weeks. My hope is that it will be complete by then." An ambitious hope, I thought. It would really depend on how committed the workers felt.

So far, I was suitably impressed. I waved to the builder Hemedi, who was expertly orchestrating the frenzied work of a half-dozen or so young men. He looked like he had everything under control. It confirmed my confidence in his ability. We discussed a few details and procedures and then retired into Teddy's small living room to formally sign the contract.

On the way back to the lodge, I mused how all this was all happening so quickly, and so smoothly. But as it happened, thanks to "Mr. Murphy", there would be a few serious wrinkles.

Thursday, the 11th of November, was a day of rest and reflection. It was Remembrance Day back home; I thought about my uncle "Mac" who was killed in Italy during World War II trying to break through the famed Nazi Gustav line between Rome and Cortona. He was a young, 27-year-old infantryman, serving under the command of an even younger Lieutenant named Farley Mowat, the now renowned writer and poet. I felt an interesting connection; Mac and I were the only ones in our recent family generations to have been that far away from home; his battle was tyranny, mine was illiteracy.

I also reflected on the lifelong humanitarian work in Africa accomplished by my Victoria friends Don Hatfield and his wife Sylvia over a period of 35 years, for which they received the Order of Canada. Don is a former military chaplain who was stationed in North Africa. He is also the presiding chaplain for one of the Remembrance Day ceremonies held every year in Victoria. Always elegant and thoughtful, his service on that Thursday was the first one I had missed in 14 years. Sylvia is an extraordinary woman with boundless energy who founded a charity, *Canada Comforts*, that employs an army of volunteer women all across Canada who craft fabric toys and clothing for African children.

On Friday, I met with a lawyer, Mr. Marcellino Mwamnyange, at the Arusha office of the Attorney General Department. He was the same lawyer who had provided a letter of reference for me that was needed to open a bank account. I had known him for less than five minutes, but for forty dollars, he verified my "vertical" status: "I have known him for a while having introduced himself as a volunteer and I believe he is an upright person".

I was now anxious to register in Tanzania as an NGO. As Mathew later explained, this lawyer happened to be the son of the famous General Mwamnyange of the Tanzanian Army. Marcellino was a very small man, well-dressed, and with a shy but friendly nature. After explaining to him my intentions, he gave me the list of needed documentation. I would need to forward it to him when I returned to Canada. He would then walk the application

through the various levels of government bureaucracy, including a personal visit to the capital city of Dar Es Salaam. His fees?

"Maybe you could arrange to send me a good American computer?"

I didn't know what to make of it.

"New or used, it doesn't matter," he continued. "I am a very busy prosecutor. I go to court every afternoon and must carry many reference books of law."

He described his frustration with the lack of speedy reference material during trials.

"When I must prove my point, I waste a lot of time leafing through my many books. A laptop computer would be most helpful, but I cannot afford one on my modest salary."

I agreed to get him one.

Later that morning, George drove Mathew and me to Gongali for site visit number two. He had wasted little time repairing the car with a new shock absorber.

On the way, George pointed out the spot where we had broken down three nights before.

"Stop here for a minute," I quickly blurted. "I think I dropped my glasses here the other night."

We couldn't find them. George explained that the Maasai children walk many miles along the road every day to go to school. Hopefully, the glasses are now being well used by some other Babu.

I enjoyed the now familiar drive – starting with the flat plains,

treeless, except for the few small surviving bonsai-like shrubs and thorn bushes, populated sparsely with Maasai men who seemed to aimlessly herd their cattle, searching for what little grass was available on the barren gravelled landscape; and after reaching Lake Manyara, the tight S-turns climb through the more densely shrubbed hills overlooking the lake; and finally, through the upper plateau region of the Karatu district through the Maasai tourist village of Mto Wa Mbu (Mosquito Creek), where the bright colours of the Maasai paintings that endlessly lined up along both sides of the road were outdone only by the magnificence of the occasional bright red *delonix regia* "Flaming Tree".

The wildlife treat of the day: passing through a herd of fifteen to twenty elephants strolling along both sides of the road near Mosquito Creek. I also noticed that "stray baboons," who were looking for easy food, similar to our "citified" deer and bear in British Columbia towns, seemed to be an integral part of the local population.

As we passed the village and neared the school site, George's car broke down. This time it was the fuel pump. We abandoned the car and hiked the last few miles.

At the site, builder Fabian and his crew of about fifteen villagers were making good progress with the foundations. Shallow trenches had been dug from the stiff red clay soil along string lines that formed the rectangular perimeter of the building. The trenches had been filled with stones broken into irregular shaped pieces, except at the corners and at wall junctions, where four

vertical steel rebar rods would be set in the concrete. The rods would rigidly reinforce the concrete columns to the floor.

My heart sank. I noticed that the building looked a little "out of square". We checked the diagonal dimensions, and sure enough, they didn't match; not even close. His rectangle was actually a parallelogram. Through Mathew's translation, Fabian explained that he had basically just "eyeballed" it with the help of a little 6-inch x 8-inch square placed at each corner. Fabian looked sad and did not seem to have a solution. At first I have to admit I was a little disappointed with the apparent lack of expertise. When I was in Canada, I had asked Mathew to find a good builder, and in all

Determining the layout error of the foundation at the Gongali site.

fairness to him, he did comply. Fabian was considered one of the best local builders (in the village), but his experience was limited to a few small houses. This incident was fully understandable; our technologies were worlds apart, and as I had anticipated, it would be a process of continual learning from each other.

However, the distorted layout was a major issue that could create problems with the installation of ceiling and roof sheeting, so it had to be fixed. The workers stopped when they sensed something was amiss and watched quietly as I stood staring at the corner of the string lines, contemplating the next move. I was saddened by the thought of the extra work it would take for them to re-excavate the trenches and move the stones over.

How were we going to fix this? I finally broke the silence: "Fabian, Mathew, please find me two 6- or 8-feet-long pieces of lumber."

I instructed them to bring them to one corner. I nailed the corners of the two six foot lengths of lumber to create a hinged joint and marked out 48 inches along each piece. Fortunately, I had brought my calculator and, using Pythagoras' Theorem – which is simple geometry for calculating the unknown dimension of a right-angled triangle, that Canadian kids learn in Grade 8 – I calculated the diagonal's dimension to be 68 inches. We then constructed the large set-square and placed it at the corner. Three villagers held it firmly in place while others realigned and re-pegged the string lines parallel to the edges of the lumber. This process was repeated at each corner until we arrived at a perfect rectangle. The diagonal

measurements of the rectangle should then be the same. We measured and they checked out within an inch – good enough!

Fabian looked at me, and with a huge smile, thanked me with a few Swahili words. Mathew explained that he was extremely pleased to have learned a new "trick." I imagined him now happily lugging around as a part of his standard tool kit, this large 48-inch x 48-inch x 68-inch set-square.

I asked Mathew if he or the villagers were disappointed with having to do most of the work all over again.

"On the contrary, they are very pleased to have a better school now."

Layout error correction with the new "set-square".

The villagers went back to work with seemingly renewed vigor. Thank God for that.

Fabian and Philemon had prepared a list of materials and their cost for the next batch of supplies. I reviewed it and after discussing it and agreeing on some details of the next phase of work, Mathew and I agreed it was late and we should head back to Arusha now to avoid night-time travel.

George was successful in replacing the fuel pump. He managed to get a ride back to Karatu where he picked up a used one, and got back to the vehicle to do the repairs. But getting into the old Toyota, I happened to notice that although the shock absorber was new, the replacement tire on the rear wheel was very bald. I was worrying about a blowout any minute on the rough stretches of road, which made for an uneasy ride back. However this time we made it without incident.

It was another long Gongali project day; I slept well that night.

Saturday, November 13, was a day of rest and writing.

At the Majengo school site on Sunday afternoon, I was pleasantly surprised to see how much progress had been made since the first visit. Jacob, builder Hemedi, Teddy and Cosmas greeted me with their usual cheery, "Karibu sana, karibu sana."

The foundation walls built out of two rows of block were done up to the underside of the floor level. Several workers were

In September, 2010, Canadian architect Alan R. Roy left for Tanzania to realize two long-held dreams – climb Mount Kilimanjaro, and build a school. He accomplished both, and ended up building *two* schools, in five weeks! One school is in the impoverished district of Majengo in Arusha, and the other in the village of Gongali, on the doorstep of Tanzania's world-renowned safari country.

This is the story of his amazing adventure, a journey of discovery, full of colourful insights and amusing incidents that expose the charm and friendliness of a struggling people determined to educate their children. Roy balances the serious business of construction with an open-minded willingness to learn and celebrate the local culture, and takes from this experience a renewed determination to make a significant improvement to the lives of a growing number of African children.

Building the Gongali Village School foundation using hand broken rocks.

A traditional "ugali" lunch cooks on the basic fire.

A truss ready for hoisting.

ALAN R. ROY grew up in Cornwall, Ontario. After graduating from Royal Military College, he spent four years in various Canadian and overseas postings. His architectural degrees from the University of New South Wales and RAIC Syllabus preceded 35 years in the architectural profession, the last 15 with his own firm. His previous memorable humanitarian experience was working with ex-president Jimmy Carter in the Lower East Side *Habitat For Humanity* project in New York City. He lives with his wife Maureen, a nurse clinician, in Victoria, B.C., where he has established the office for the new charity, *Primary Schools For Africa Society*.

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