IN 1957, THREE MEN HAD A VISION THAT WOULD REVOLUTIONISE HEALTH CARE IN AFRICA.

What began life as a flying doctor service was to become Africa's largest indigenous health organisation. This book charts the rise of the African Medical and Research Foundation over the past 50 years, and looks at the challenges and solutions to health care in Africa in the future.

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01/HISTORY

OFF TO A FLYING START

It was a routine day at the Flying Doctor Service when the radio room received a call from Kilgoris, an area just to the west of the Maasai Mara Game Reserve. "We have a badly wounded man. He has been shot in the head by an arrow. Can you evacuate him? Over."

Within the hour chief pilot Benoit Wangermez and a flight nurse were airborne in a high-wing Cessna carrying an oxygen cylinder, a drip and other medical equipment.

When Benoit landed on the grass airstrip one hour and ten minutes later, a young man of about 25 walked towards the plane accompanied by a local doctor. The man's head was wrapped with a bandage that bulged over his left eye. There was no evidence of an arrow, and Benoit thought he had been called out on a wild goose chase. Then the doctor pulled an x-ray from a large manila envelope and held it up against the light. "Have a look at this. You'll need to give it to the surgeons when you get to Nairobi," he said to pilot and nurse. Benoit struggled to keep his composure. The x-ray clearly showed an arrowhead, broken off at the shaft, embedded in the area of the man's brain. He was flown to Nairobi and made a full recovery.

It is a story of competence and teamwork that saved a man's life. Yet emergency evacuations, sometimes calling for hair-raising night landings on unlit bush airstrips, are frequent. The Flying Doctor Service is the only privately owned aviation service in the world that does charity evacuations for its citizens. The bravery of its medical staff and aircrew runs as a constant thread through AMREF's annals. They have rescued the wounded and sick from war zones, natural disasters, epidemics, car, train and plane accidents, and not infrequently those who have been gored by an elephant or buffalo.

The Flying Doctors operate non-stop the year round using their own aircraft which can be converted with modern medical equipment into airborne intensive care units. There is even an incubator for premature babies. Its hangar, operations room and offices are at Nairobi's Wilson Airport, which is where everything started 50 years ago with a surgeon called Michael Wood and his four-seater Piper Tripacer.

Since then, AMREF has evolved from what was essentially a one-man operation bringing surgical skills to mission hospitals in the bush into an organisation of international standing. The Outreach Programme that delivers essential health care and training to rural hospitals still thrives, but over the last half century AMREF has switched its emphasis to education, innovation and research. It has a staff of more than 650 – 97 per cent of whom are African – airplanes and an extensive communications

network. However, its core objective remains essentially unchanged. AMREF is committed to better health for Africa because it is the right of every African to have access to good health. It does this by creating vibrant networks of informed communities working within stronger health systems. AMREF runs community-based programmes in Kenya, Ethiopia, Somalia, South Africa, Sudan, Tanzania and Uganda. Its training programmes and courses for health workers and the communities they serve disseminate health knowledge and best practices across the continent and beyond.

The idea of improving the health of Africa's disadvantaged was first raised over sundowners at Ol Orien farm on the slopes of Mt. Kilimanjaro by three men, all reconstructive surgeons, who were destined to become lifelong friends. It was in the days before independence from Britain when millions of people living in remote areas had no access to proper medical treatment. So why not, they suggested, take specialised and essential health care to the small bush hospitals that were isolated by terrain and inadequate means of communication. And why not connect these same hospitals to expert medical advice by setting up a radio network with Nairobi as the hub. It was a daunting challenge, but if anyone could do it, it was these three. They had traits in common: vision, charisma, deep compassion, the courage to explore medical frontiers and the constitution of an ox. Today their names are embedded in AMREF's history. Sir Michael Wood, Dr Thomas Rees and Sir Archibald McIndoe.

Sir Archibald, or Archie as his friends called him, had earned his reputation as one of the world's leading surgeons during World War Two in what was then the fledgling discipline of reconstructive surgery. As Chief Surgeon for the British Royal Air Force, he had performed 4,500 operations on heroic young pilots whose faces and hands had been incinerated when their fuel tanks exploded during aerial battles against the Germans. After the war, Archie bought a farm in Tanzania. Two of the promising young men who trained under him were Michael Wood, an Englishman, and the American Tom Rees.

Mike Wood was an imposing six foot plus in height but had the slightly hunched shoulders of an asthmatic. It was this chronic illness and his wife Lady Susan Wood's roots in Africa that prompted them to sail to Kenya with their children in 1948. Sue's family, the Buxtons, were missionaries. She had been born in what was then known as the Congo and carried in a litter as a small baby on a six-month journey to the Nile.

Tom Rees matched Mike in good looks and has an equally beautiful wife, the indomitable Nan. Of Welsh coal-mining stock, his grandfather emigrated to Utah and staked out a ranch in the shadow of the Rocky Mountains. This is where Tom grew up as a member of the Mormon church, which believes in giving service to others. Half of the 30-odd Rees family of Tom's generation are doctors.

There are two basic requirements for a NGO in its infancy, a belief in what you are doing and money. Tom, who had a practice in Manhattan, and his wife Nan began fundraising in the United States in conjunction with friends Sue Pretzlik in England and later the evergreen, indefatigable Leonora Semler in Germany. While

they were doing this, Mike worked for nothing. Sue supported the family by running the farm they had bought near Archie's Ol Orien on Kilimanjaro.

Sadly, Archibald McIndoe died unexpectedly of a heart attack in 1960. It was the same year as the air fleet tripled in size thanks to the American radio and TV personality Arthur Godfrey, who donated a Piper Aztec and a Piper Cherokee. AMREF had only three permanent staff members but soon they were to be joined by dedicated Kenyans such as Mzee Geoffrey Gathirwa, David Mutava, Daniel Mwangi, and John Sironga, who worked with the organisation in various capacities for more than three decades. Tom, Sue and friends continued to raise money, but expenditure that year was only 11,500 pounds.

The first health services to be delivered by ground transport were started in 1961 by Dr Roy Shaffer, an American doctor born to missionaries, and the Australian nurse Hilary Prendergast. They were accompanied by Danieli Lomoni, a Maasai from Tanzania, who continued to work for AMREF for the next 40 years. Roy spoke fluent Maa. They operated intermittent mobile clinics for nomadic Maasai pastoralists who were widely scattered over southern Kenya and northern Tanzania.

In 1964 they were joined by a Frenchwoman, Dr Anne Spoerry. She had qualified as a doctor in occupied Paris during World War Two and then joined the French resistance. She was caught by the Gestapo and sent to Ravensbruck, a brutal concentration camp where few survived. Anne did. After the war she settled in Kenya on a farm at Subukia. At 45 she took up flying and was pestered by Mike until she agreed to become an official member of the team.

Anne piloted her Piper Cherokee four-seater to conduct what she called “mango-tree clinics” in Kajiado District, Lamu District and northern Kenya in the wild bandit-ridden country bordering Ethiopia, Somalia and Sudan. Single all her life, Anne adopted mannish ways and dress, down to her trademark aviator's cap. Her flying style was equally distinctive. She was known for vertical takeoffs from bush air strips and for her habit of setting the plane to automatic pilot and taking a nap.

Anne passed away at 80. She continued to fly until a week before her death. When her office was packed away, there was money stuffed between papers and in books and drawers, uncashed cheques too. She lived frugally and cared only for the people she served for 35 years. She put many through school, gave many others the chance to learn to fly, and won the devotion of thousands for her courage and generosity.

“Mama Daktari is still with us. Whenever an old woman comes here, the Maasai say it's Anne,” says David Sokoi, a retired clinical officer who used to work with her.

In 1966, nurses Rosemary Sanderson and Winifred “Robbie” Robinson joined Anne's Mobile Medical Unit to do ground mobiles in Kenya's Kajiado and Narok Districts amongst the Maasai. They pitched tents in the shade of thorn trees and visited bomas and schools, curing the sick, immunising children and talking about good hygiene practices. The two nurses and medical assistants such as Ishmael Ngenyiki, Samson Ntore and their driver, Danieli Lomoni, averaged 1,500 patients on each two-week tour. Despite this large caseload, the area they covered was so vast that they were only able to visit each site about three times a year.

Meanwhile, Mike Wood and other doctors he had co-opted were flying to mission hospitals deep in Tanzania and Kenya to perform rounds of surgery on critical cases. Mike had established a good relationship with the Tanzanian authorities and was able to fly direct to destinations without being cleared through customs and immigration, just as the Flying Doctors still do. This saved hours of flying time, but even so the trips were arduous.

The first professional pilot was hired in 1961, but Mike continued to fly his own plane. He routinely flew up to three and a half hours to reach a hospital then operated until just short of midnight. The following day he was in the theatre again until late afternoon before flying on to the next hospital. On the return home, the doctors accompanying him would be asleep before they had reached 10,000 feet while Mike had to navigate across Africa, often through stormy weather. In the interests of safety, it was decided in the 1970s to separate aviation and medicine in the Outreach Programme.

AMREF was now suffering growing pains. Its programmes had expanded in number and were being implemented in more countries. They were underwritten through the hard work of the AMREF fundraising offices. But the Flying Doctor Service was in financial trouble. In 1971 an enterprising widow from California, Maddie De Mott, started The Flying Doctor Society of Africa, which gave its members evacuation cover. Through their subscriptions and by selling Christmas cards and other items branded with the Flying Doctors logo, the Society raised sufficient money to bridge the funding gap. Maddie retired in her late seventies. The Society's chairperson is now Dr Muringo Kiereini, who assumed that position in 1995. She also sits on AMREF's main board.

The Flying Doctor Service continued to expand. The tall and genial Jim Heather-Hayes joined the Flying Doctors soon after school, intending to use the job to build up his flying hours before sitting for his commercial licence. Forty years on, Jim is now the aviation director and the longest serving staff member in AMREF. “What's kept me here is that I believe in what Mike set up,” he says.

Jim is part business executive, accountant and marketing manager and all pilot. The Flying Doctor Service has evolved into an autonomous, profit-based entity with an annual budget of $4.5 million. “We run like an internal charter company. The Director General said he didn't want us coming to him with losses so we've expanded from the little four- and six-seat Cessnas to become a commercial international air ambulance service covering Africa. We transfer patients between medical facilities for the international response centres that work for the insurance companies. Today we're in Paris. Saturday we were in Moshi and Lagos. The air ambulance service makes up 65 per cent of all flights and pays for the aviation infrastructure that supports the Outreach Programme,” he explains.

The 1970s saw AMREF taking a new direction under the aegis of its chairman, Dunstan Omari, newly retired from his

position as Secretary to the East African Community. Until this time, the majority of its work had been service delivery parallel to the Ministry of Health. Roy Shaffer and AMREF's current chairperson, the very personable Prof Miriam Were, had coined the term "community-based health care" when they were lecturers at the Nairobi University Medical School's Department of Community Health. Now it was about to come into its own.

"In the 1970s health care was reaching about 15 per cent of the people. We wanted to make communities an integral part of the health system by giving the 85 per cent who were being neglected the means to look after themselves," says Miriam.

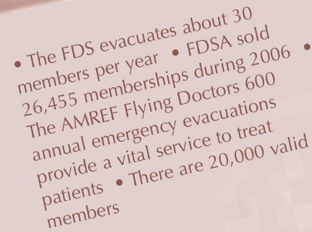
Mike Wood's brother Chris, a doctor who later became one of AMREF's Directors General, was the principle architect of community-based health and training. It remains the cornerstone of AMREF's mission to this day. As AMREF's Director of Training, Chris changed the programme focus to promoting preventive health care through upgrading the qualifications of health workers, training community health workers and educating communities in health and hygienic practices. In 1974 Roy Shaffer developed AMREF's Community-Based Health care Unit. Revi Tuluhungwa, who is now on AMREF in Tanzania's Advisory Council after an illustrious career with UNICEF, was also extensively involved in health education. By this time AMREF was Africanising itself as well, training Africans to staff the organisation so that it no longer relied on foreigners to carry out its work.

Chris also introduced the concept of operating in tandem with Ministries of Health.
"If you are going to train health workers, you must have dialogue with the governments that employ them," explains Miriam.

By the 1980s, mobile clinics, central to the old-type service delivery, were being phased out. Evaluations of the mobile clinics conducted in the 1980s showed that they were not cost-effective. Each safari cost about US$10,000. This averaged out at $5 per patient, a sum that exceeded the government's annual per capita health budget. Mobile clinics, save in areas without health facilities such as Turkana and southern Somalia, had become outdated. The withdrawal of the mobiles sealed the transition from curative to preventive health care.

In 1983 Mike Wood announced he was retiring from AMREF, vowing not to make the mistake of hanging around when he was no longer needed. Soon after his retirement in 1985, Mike fell ill with cancer and died, far too young, in 1987. His wife Sue continued to give AMREF moral support, radiating an inspirational serenity and strength that remained with her until her death in 2006.

By now partnership with communities, grassroots organisation, governments and donors was well established as AMREF's operational credo. Systems that work in the West are often unsuitable for Africa where culture, attitudes, economies, politics and even climate must be taken into account. AMREF concentrated on finding ways to improve health care by initiating projects that addressed Africa's unique problems. This evidence-based learning is supported by research. AMREF wants its programmes to be models for implementation throughout Africa. It influences policy and practice by sharing interventions that have been proven to work with governments and other medical organisations across the continent.



02/KIBOGA
NET GAINS

For centuries Africa has been held hostage to a tiny insect that makes its presence known through its high-pitched whine. It is the Anopheles mosquito, which injects malarial parasites into the human bloodstream with its pinprick bite. Every year half a billion people around the world suffer the sweats and tremors of malaria. One million children under five die of it, 90 per cent of them in sub-Saharan Africa. This figure, shocking as it is, most likely is an underestimate of the true death toll.

Perhaps because it is a disease that primarily affects poor, rural communities in the less developed countries, not enough was done during the past 40 years to tackle this pandemic. It is one of the world's greatest health problems. Until recently it ranked at the bottom of the list of per capita funding for major diseases even though there is new technology for the control of malaria that is relatively affordable and easy to implement.

Small children and pregnant mothers are the most susceptible because they lack any degree of immunity to the disease. An estimated 10,000 African women and up to 200,000 babies die annually during pregnancy and birth. This is equivalent to the population of a small town disappearing every year. Malaria is one of the greatest threats to a child's survival. It is the underlying cause for much chronic illness and anaemia and for the low weights of babies at birth. In Uganda, about half of all the deaths amongst children under five and nearly one third of deaths of women during pregnancy are caused by malaria.

Uganda's National Malaria Programme is in the vanguard of malaria prevention and control. In 2003, AMREF joined with the government's district health services and three other NGOs to launch a three-year Malaria Partnership Programme in the districts of Kiboga, Kanungu and Kumi, funded by GlaxoSmithKline's (GSK) African Malaria Partnership. AMREF took overall responsibility for the project and for activities in Kiboga District. The objective was to reduce the malaria-related illness and mortality rates of pregnant women and children under the age of five using improved home-based case management, insecticide-treated nets and Intermittent Presumptive Treatment of malaria in pregnancy.

The people of Kiboga District in central Uganda know very well about malaria. Most of the land in Kiboga is covered by plantations of dark green matoke (banana) plants and fields of wind-ruffled maize march across the rolling hills beneath a gentian blue sky. It yields subsistence harvests for its farmers. Malaria is endemic to the district. It has had a devastating impact on family welfare, exacting a toll on school attendance and income-earning abilities.

Once malaria strikes, it should be treated with the right drugs within the first 24 hours. If left unchecked, the disease can progress to severe forms of malaria such as cerebral malaria. Cerebral malaria is a killer. To guard against the effects of malaria, it meant having 'embedded' people trained to recognise, diagnose and treat malaria in their own communities.

Malaria can be cured, but only with a regimen of the right drugs taken in the correct dosages and at the right time. It was so rife in Kiboga that people automatically attributed any variety of symptoms - headache, joint pain, fevers, coughing - to the disease. Instead of spending money on consulting a doctor, they bought anti-malarial drugs from roadside kiosks. Often they did not have malaria in the first place. If they did, they frequently bought ineffective drugs which they took in the wrong doses.

Hence, as part of the programme, AMREF trained 1,146 Community Medicine Distributors (CMDs) who promote home-based management of fever amongst children under five in the three districts of Kiboga, Kanungu and Kumi, When treatment is needed, they distribute Homapak, an easy-to-use packet of anti-malarials sealed in individual doses. They also educate communities on the importance and proper usage of insecticide-treated mosquito nets in the prevention of malaria. CMDs have no formal medical background but are chosen by the community for their reliability. They are given refresher training and a bicycle to travel from house to house.

Within a few months of being trained, the CMDs surpassed health facilities in the number of children under five that they treated. By the end of the project period, 80 per cent of the children with malaria were receiving the correct treatment; three out of four of them from CMDs. AMREF also trained clinical officers, nurses and laboratory technicians in correct malaria diagnosis and treatment.

“Indicative trends show that in some areas the referral of malaria cases to health centres has declined, which means the CMDs are doing their job. But referrals are a double-edged indicator. In other areas the number of referrals has risen because there is greater awareness of the dangers of malaria,” says Joshua Kyallo, AMREF's Country Director in Uganda.

Director General Michael Smalley underlines the importance of partnering and training with communities. “Most people who die from malaria will do so at home, having never reached a hospital or clinic. Either the symptoms are not recognised in time, or the wrong drugs are administered, or the hospital will be too far away, or thought too expensive. We have to take health care into the villages, into the homes. Across every AMREF project we train community members right there in the village where it matters. It's about building a health care system that is appropriate, resourced, and actually meets the needs of the people. These community health workers can do this job, and Ministries of Health across Africa are waking up to that.”

Early diagnosis and prompt treatment are fundamental to the World Health Organisation's global strategy for combating malaria. The correct use of an effective anti-malarial drug shortens the duration of the illness and reduces the risk of complications and death. But as a result of incorrect and indiscriminate drug use, parasite resistance to chloroquine - the mainstay of malaria treatment since the 1950s - has increased by a factor of 14 since the early 1990s. AMREF did advocacy at national level to change the Ministry of Health's malaria protocol to make the new artemisin-based combination therapy drugs the first-line drug for treating malaria. Uganda is one of 34 Asian and African countries that have changed their health policy to switch to these drugs.

AMREF also wanted to integrate malaria prevention into the package of antenatal health services. Despite often having to travel long distances, at least two thirds of expectant mothers in Africa visit a clinic at least twice. Both the mother and her unborn child fare much better when malaria treatment is administered at least twice during pregnancy.

Another very effective measure for both mothers and children is to sleep under a net that has been treated with insecticide that kills mosquitoes. Over the last decade as many as 5 million African children might have survived if they had been protected at night.

AMREF’s experience shows that good health starts and ends with communities. Malaria can be controlled through prevention, and an effective malaria campaign is based not only on the delivery of services but by explaining to communities its dangers and by teaching them what to do and when to do it. Persuading people to change their behaviour in the face of well-established patterns and cultural taboos is not easy to achieve. Once again, the CMDs were the right people, with the right information in the right place to achieve this.

In Kyayimba Village, Tito Okwalinga, the AMREF project manager, sits amongst a group of women who have volunteered to pass on the malaria message after having a community meeting with their local CMD. They are known and trusted members of the community who can relay information in their mother tongue. Many of them have lost children to the disease and are well aware of its risks and the sorrow it brings. “Most people don't know how or where mosquitoes breed. There have always been drugs

on sale, but they take them without proper direction. AMREF coordinates malaria awareness, but it's the communities themselves who do the work. It's making a huge difference," says Tito.

AMREF believes in marketing its messages. In all three of the project districts it disseminated information about malaria through radio broadcasts, video shows, posters, competitions, awareness days and live performances. Eva Galiwango, 28, is the lead singer of an all-women's drama and music group. Her shows are colourful and lively and attract crowds of up to 1,000 people. They are staged twice a month at village gatherings, council meetings and in church halls. The entertainment comes across as light-hearted yet the messages contained in the songs and skits are ones of life and death. As he does with other groups, Tito helps Eva and her friends in the production. Together they contrive to weave in a wealth of information concerning the disease's early detection and proper treatment.

"All of us were constantly getting sick. We had no drugs in the village, and we didn't know how to cope. Our children died before we could get them to hospital," Eva recalls, "AMREF has given us new hope. Now we have home treatment packs with all the right drugs to keep us out of danger. We've learned that insecticide-treated nets keep our nasty mosquito friends away. Malaria is still here. Our children are still getting sick. But they're not dying."

It is clear that such performances are effective in bringing about behaviour change. "Theatre is a powerful way of teaching. The people who come to these performances are buying nets. They're getting their children treatment in the crucial first 24 hours. We want to keep this going. The good news is that the community is committed to doing just that," says the local District Director of Health Services, Kiboga, Dr Allan Muruta.
An evaluation of the campaign shows that it has made a deep impact. Attendance at antenatal clinics in the

Kiboga control areas increased noticeably one month after the first broadcast of the radio programmes. By the third year of the project, the number of women receiving malaria treatment in pregnancy had risen by nearly 90 per cent.

There was also a surprise. The malaria awareness campaign coincided with a government expansion of health facilities. An analysis of the timing of promotional activities indicates that the higher attendance rates were a result of publicity and training rather than the increased availability of services.

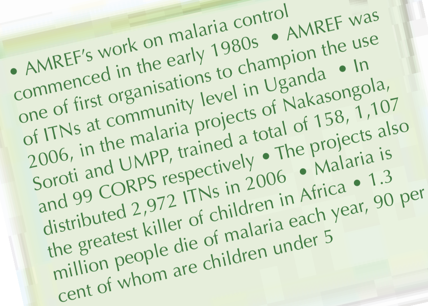
Anne Alimo, the AMREF project assistant working with communities in Kiboga, is upbeat about Kiboga District's growing understanding of the issues surrounding malaria. "The publicity about malaria is everywhere. You see posters and articles about malaria prevention in people's houses, in the shops and schools and churches. If you don't see them, it usually means the wind has blown them away!"

Even so, the project was not without its problems. In Kiboga, insecticide-treated mosquito nets retail at a price equivalent to US$5.00. This is beyond the reach of families with low incomes who already have to make choices between food, clean water and clothing. The traditional substitute for nets is to cover children with bark cloth or to burn the leaves of particular plants to produce smoke that repels mosquitoes. These children were falling ill with malaria every two or three months. By the end of the project period, 64 per cent of children under five years of age were sleeping under insecticide-treated nets in the sub-counties of Kiboga where AMREF had a presence.

To make good its pledge to control malaria, the Ministry of Health plans to distribute free nets nationwide. Meanwhile AMREF has helped women's self-help groups to set up revolving funds to finance the purchase of nets; Population Services International underwrites the distribution of nets on credit to the poorest strata of households.

AMREF has gradually phased out of the project as the Ministry of Health and the district-level authorities take over. The Malaria Partnership Programme's interventions have been mainstreamed into district level planning and budgets. It is the Ministry of Health's intention to replicate the lessons learned in Kiboga, Kumi and Kanungu nationwide. Other partners, including UN agencies, are examining the model for replication elsewhere in Africa.

"It's a good sign," says Joshua, "We've bowed out, and the government is taking over because they recognise the project's value. The project has become sustainable which means we've achieved what we set out to do. We are replicating this approach in other districts while the National Malaria Control Programme has developed a malaria policy and strategy using the community-based models tried by AMREF and other civil society organisations."



03/OUTREACH

A STITCH IN TIME

The Kilimanjaro Christian Medical Centre in Moshi enjoys a breathtaking backdrop, the cloud-tonsured dome of Kilimanjaro, Africa's highest mountain. This is one of the best hospitals in Tanzania, and it is always busy. On this particular morning, however, one of its long corridors is exceptionally crowded. People line the walls all the way to the interior staircase and beyond, ending with a trickle of latecomers who are sitting, squatting and standing near the ward at the far end. When a doctor peers round the consulting room door, scores of faces turn in his direction. They regard him in studied silence as if he is onstage.

It is already ten o'clock, but the queue appears no shorter. Most people arrived before seven that morning and have resigned themselves to waiting all day for the chance to be examined by a visiting team of AMREF reconstructive surgeons. They have come from all parts of the country, travelling long distances by bus over bone-rattling roads or trudging for miles on foot. These are the patients who have been pre-screened by local medical staff and selected as being most in need of corrective surgery. They are all cases in need of immediate attention. Even so, not everyone will be fortunate enough to be operated on.

Dr Asrat Mengiste, an Ethiopian, is AMREF's Leprosy and Reconstructive Project Manager. Always calm, never flustered, Asrat spends every week of the month on surgical outreach missions to rural hospitals where he not only operates but teaches the practice and theory of reconstructive surgery to watching medical students and doctors. His terms of reference are to work himself out of a job.

"Every patient is part of the training process as far as Asrat is concerned. He explains what caused the condition, talks them through the surgery, and discusses aftercare," notes Dr Johnson Musomi, head of the Outreach Programme.

On this particular visit Asrat is accompanied by Bill Adams-Ray, who habitually takes a month-long break each year from his practices in Sweden to help out. Bill is one of Asrat's predecessors and an old hand. During his twelve years with AMREF Bill performed 10,000 operations, including 1,000 on cleft palates. It is a remarkable record.

Asrat and Bill have flown in from Nairobi in one of the Flying Doctor Services' four-seater planes. Today, the first of a five-day working trip, brings with it difficult choices. Every patient waiting to be seen is in desperate need of treatment, but time constraints mean that only two out of three patients can go under the scalpel. Once the selection process has been made,

they will perform ten operations a day over the next four days. A caseload this big would stretch over three weeks in a Western hospital.

However, taxing schedules are routine for Asrat and his colleagues. In 2006, AMREF's three-man reconstructive surgery team performed more than 700 operations during 40 trips. Rural hospitals are visited two to six times a year. They treat as many of the urgent and extreme cases as they can on each trip for it will be several months before someone returns.

The Outreach Programme embodies founder Mike Wood's vision of taking specialised and essential health care to rural and remote hospitals. Its personnel and know-how have extended a vital lifeline to rural health facilities for the last 50 years. Today AMREF provides specialist medical services to 110 rural hospitals in Kenya, Uganda, Tanzania, Ethiopia, Somalia, Rwanda and Southern Sudan. This is an area the size of Western Europe

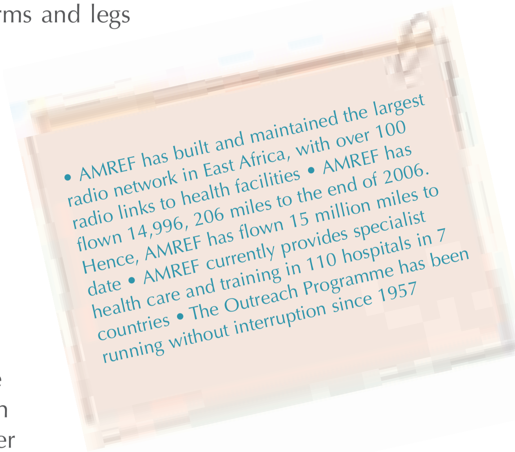
Reconstructive surgery is just one small part of the AMREF Outreach Programme. AMREF provides experts and expert advice on a range of issues, from epidemiology, anaesthesiology and urology to laboratory technologists, medical equipment engineers and dentists. In addition, more than 100 hospitals in eastern Africa are connected to the AMREF radio network. Partnering with governments to strengthen health care systems is AMREF's highest priority, according to its Director General, Michael Smalley.

When help is most urgently needed, a member of the AMREF medical team cannot always be there. To solve this problem, AMREF, with funding and technical support from Vodafone, is testing a simple telemedicine model based on email to put doctors, nurses and clinical officers in remote hospitals in instant contact with expert medical advice. Should a patient present puzzling symptoms, they can scan pictures onto the computer and email them to staff in the AMREF's country office in Kenya or other medical experts and get a second opinion. AMREF is investigating how to use videoconferencing to enable specialists in referral hospitals to participate remotely in complex operations. AMREF implements innovative ideas so that they can be scaled-up and implemented all over the continent. The four pilot telemedicine projects in Tanzania and Kenya have provided the blueprint for replication in twelve hospitals in Tanzania and Kenya.

In the past, health workers relied heavily on the clinical diagnosis of disease through interpreting symptoms and patient histories. The Laboratory Programme, headed by long-time AMREF staff member Dr Jane Carter, strengthens treatment systems by providing a means of accurate diagnosis. The programme reinforces diagnostic services by training laboratory technicians, giving advice on laboratory set-up, maintaining quality assurance standards and being on hand for back-up support. The laboratories also play a crucial role in the surveillance of diseases that pose public health risks in the region such as malaria, tuberculosis and AIDS. The programme partners with government health ministries and with medical facilities in the rural and poor areas of Kenya, Tanzania, Uganda, Southern Sudan and Somalia.

A large proportion of those waiting to see Bill and Asrat are children, infants and small babies. Little girls in their Sunday frilly dresses hold their mothers' hands. The boys are brought by fathers to make sure their sons behave like men and do not cry. The two most common conditions in this age group are cleft palates and contractures from severe burns.

Nearly 99 per cent of Tanzanians cook on open fires or charcoal jikos. All too often when children fall into fires or scald themselves with boiling liquid, they do not receive proper care. As a result, the untended wounds form thick cobwebs of scar tissue that cause crippling deformities. Hands, arms and legs are awkwardly bent into fixed positions. Severe burns on the neck can fuse an infant's head to its chest.



One in 1,000 African babies are born with cleft palates, a defect that is genetically inherited. It is known as "the curse of the forefathers". In Europe the occurrence of cleft palates is one in 600 because the survival rate is higher. Babies with split lips have difficulty taking the breast because there is no means of suction. If not carefully nursed, they become malnourished, weaken and die.

Physical defects touch on cultural attitudes as well as survival. Bill remembers one of the first lips he stitched together into an almost perfect mouth. The mother was overjoyed because her baby daughter's marriage value had risen from two cows to twenty. Mothers still tend to cover their babies' heads under a kikoi. Adults shroud themselves in hats, cloths, long sleeves, makeshift slings to conceal the abnormality.

Out in the corridor a man clamps a dirty gauze dressing to his mouth. Disease has enlarged his lower lip into a dangling appendage the diameter of a cup. His shame and distress is palpable. There is stigma attached to deformity, and those who can hide it do so. This is not possible for the albinos with mottled pink skin and colourless hair. Nor for the nineteen-year-old girl grossly disfigured by Kaposi's sarcoma, a side effect of AIDS. Translucent bubbles of skin hang in unsightly clusters beneath her eyes, over her mouth, on one cheek and behind her right ear. She sits with her hands folded on her lap and eyes downcast, encased in misery.

In comes four-month-old Josephine cradled in Anna's arms. Anna is young and pretty, a single mother who walked six hours across the plains to reach the nearest taxi stop. A cleft lip traces a dark zigzag between Josephine's nostril and mouth. Anna's whispered response to questions sounds like wind rustling the trees. Josephine cannot suckle. She feeds her milk and *uji* porridge drop by drop. Asrat nods to a nurse. "We'll do her tomorrow."

Dr Edward Wayi, a Tanzanian trained by AMREF, has come from Dar es Salaam to join the team. He is Bill's protégée and does surgical missions of his own throughout rural Tanzania. The next patient is a handsome woman with a strangely flat profile. Wayi reads her case notes and laughs, handing them to Bill. "Do you recognise this handwriting?"

• Dulverton Trust and Munitalp Foundation donated the Hangar in 1971, the same year the Flying Doctor Society inaugurated • There are only seven reconstructive surgeons for East Africa's population of 110 million • AMREF's Flying Doctors Training Programme trains on average 1,000 doctors and over 3,000 nurses every year

Bill studies the file and looks up, delighted. "It's mine. She presented with no nose in '85. It was from either TB or syphilis. I reconstructed it with skin from the forehead." The woman gives him a gracious smile as he examines his work of two decades back. "She's lucky. The skin remained the same colour after the graft. You can't see it at all. …… So why are you here?" he asks her.

The woman shapes her mouth into a large O and points to a coin-sized fistula in her palate. Her speech is laboured and the surgeons lean forward, trying to tease meaning out of the strangled aspirations. "When I eat and drink, it gets into my nose. I want the hole in my mouth fixed."

Bill nods. "That's reasonable." She is added to the list.

Next is a boy with a tiny auxiliary finger attached to a webbed thumb. Asrat holds out a pen. It falls to the floor as the boy fumbles to grasp it. "It's bad news in Africa not being able to use both hands. Let's try and release the right thumb. It will help him to dress and eat. That's the important thing," he says.

As the day progresses the team is presented with a spectrum of deformity and disease: keloids, neural fibromas, cancrum oris. Colleagues in America and Europe would be unlikely to see such a variety of illness in their entire careers. "I was constantly studying. I saw cases where I didn't have a clue what to do. I'd go back to the guesthouse and read textbooks," Bill recalls.

Bill once treated a Maasai boy whose hands had been bitten off by a rabid hyena while herding cattle. "I made a sort of forked rip in his right arm. It's called Kruckenburg. It was functional and he had sensation. He could put his hand in his pocket and tell the difference between a five shilling and ten shilling coin. No expensive mechanical arm can do that for you." Then, as now, working in bush hospitals calls for stamina, ingenuity and the ability to improvise with what is to hand.

When Bill was working in Tanzania in the 1980s, basic essentials were in such short supply that soap had to be extracted from a locked cupboard before scrubbing up. In those days AMREF surgeons always travelled with their own stock of sutures, local anaesthetic, adrenalin and antibiotics. There has been a marked improvement in the theatres of rural hospitals. Even so, it is not unusual for an operation to be finished by the light of a torch because the electricity has failed.

"The most important thing we do is to train Africans in Africa - not Europe or America - because this is where we want them to work. Operations are carried out in a less than perfect setting with results that are the best that can be done under the circumstances. They should know how to cope with that. You do what you can," says Asrat.

Every year an average of 1,000 doctors, surgeons and physicians and 3,000 nurses are trained on site. Passing on knowledge through workshops is a key component of the Outreach Programme. AMREF surgeons average more than 6,000 operations a year, but this is just a drop in the bucket of need. It represents less than 5 per cent of the caseload that requires treatment. The gap can only be closed by training up African medical personnel and strengthening the capacity of the hospitals in which they work.

"The two biggest problems we face are the professional brain drain and state health budgets that can't sustain the sort of services that people deserve. AMREF will be around for quite some time," points out Dr Johnson Musomi. "Backup is relevant for rural areas. There are still flying doctor services in Canada and Australia," he adds.

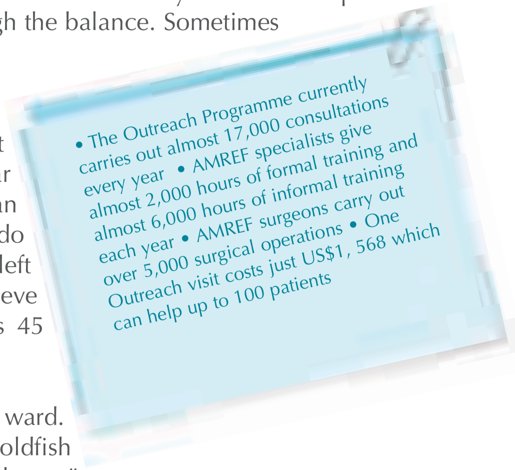
Bill and Asrat decide not to break for lunch. The two confer in low voices and frequently crack jokes. They have a knack for making patients smile and calming tearful babies. Theirs is an easy camaraderie born out of intense effort amidst catastrophe. Decisions are communicated in the shorthand of raised eyebrows and barely perceptible movements of the head. By 4 o'clock, eighteen patients have been put down for surgery.

The sun is low when they examine the girl with Kaposi's sarcoma. "These lesions are impossible to cut off. There are so many blood vessels, she'll bleed like a river in flood," observes Bill. She does not make it onto the list.

It is long after dark by the time the corridor is empty and everyone heads off for supper. They have seen 62 patients. The operating list is complete.

"Choosing who to operate on is the hardest part of my job," Asrat explains, "There are so many who need help that I sometimes feel my work is like building with grains of sand. You have to weigh the balance. Sometimes there is too much surgery involved for too little gain."

The next morning, twenty post-graduate medical students in green scrubs peer over their masks at little Josephine, who has been anaesthetised and laid out on the operating table. Asrat sits by her head, contemplating the jagged tear along her upper lip. Using what's to hand, he dips a scalpel in ink and traces an anatomical marking to indicate where he intends to cut. "We are going to do Millard's operation with rotation and advancement," he intones. In Europe cleft palate patients undergo a series of operations plus orthodontistry to achieve perfect features. AMREF surgeons are more pragmatic. The operation takes 45 minutes.



A few hours and several meetings later, the two men reach the paediatric ward. Josephine is cuddled in her mother's arms. Her mouth opens and shuts like a goldfish as she seeks the breast. The stitching from nostril to lip is barely visible. "Thank you," whispers Anna.

Gratitude is expressed in other ways too. There are numerous boys in East Africa called Asrat and Bill.

Open up

04/ANGAZA
POSITIVELY OKAY

Time and humidity have conspired against Kinondoni, one of Dar es Salaam's oldest neighbourhoods. Paint peels. Roofs rust. Walls that mimic the brilliant blues and soft greens of the Indian Ocean have fallen into pockmarked disrepair. This is a place where families have lived for generations, making do and getting by.

Life's daily pace is hostage to the heat. Yet there are pockets of activity in the dirt squares and streets. The growl of an accelerating *piki piki* floats above the squeals and shouts of children absorbed in a game of their own design. Balloons of dust explode beneath their feet as they run. Their elder brothers are nearby hawking coconuts, fish and fruits. When the sun is high these *wachuuzi* cluster on corners. In boastful voices they recount their sexual exploits with the girls next door and with others who demanded payment. Their bragging is punctuated with finger wagging and laughter. "If you went with that one, you'd better go to Angaza!"

For many who live here bread-line incomes and quiet desperation have impoverished the sense of life's wider possibilities. Perhaps it is this perception of narrowed horizons that is partially to blame for risky sexual behaviour and substance abuse. Cocaine is sold and bought in alleys. There are those who smoke ganja regularly. Alcohol is a problem too. All are classic ingredients for fuelling the spread of HIV.

Over the last two decades, HIV and AIDS have spread as relentlessly as a brushfire. Although the transmission rate has slowed, the percentage of infected people, is still high. On the Tanzanian mainland, it is 7 per cent amongst adults aged fifteen to 49. The prevalence in Dar es Salaam, a port city and the hub of business transactions, is 11 per cent.

HIV was first detected in 1983 in three people living near Lake Victoria. Three years later cases had been reported in every region in the country. Since then, the epidemic has lowered life expectancy, dented the economy and destroyed families. At least one out of ten Tanzanian children are orphans.

HIV/AIDS is acknowledged as a national disaster. Slowing its transmission and caring for those who are already suffering from AIDS has become a national priority. Neither objective can be achieved unless Tanzanians know their HIV status, which is key to behaviour change. Yet at the turn of the millennium, less than 10 per cent of the late teen and adult population had been tested.

A typical “testing site” was a small all-purpose room in a hospital. Medical staff were not trained in appropriate counselling techniques. There was little confidentiality. And there was an agonisingly long wait for the results. As far as Tanzanians were concerned, the process increased stigma, caused embarrassment and was futile anyway as, at that stage, antiretrovirals had yet to be introduced into the health system.

Then in 2001, USAID granted AMREF's Tanzania office $15million to put in place a Counselling and Testing (CT) programme in partnership with the government and non-governmental and faith-based organisations. The idea was to create a model for quality counselling and testing that could be replicated nationwide. The key target groups were youth, engaged couples, prospective parents and truck drivers. But how do you sell a product with a tarnished image?

AMREF came up with the same solution as any commercial enterprise would - advertising and marketing. It chose to work with the local advertising agency M&M. The brief was to create an upbeat, user-friendly product image that would appeal to young people. With this in mind, M&M coined the slogan: Come and Let's Talk. The product was named Angaza, Swahili for “shedding light”.

The campaign conveyed the message that testing is “for people like you” through the media of press, radio, TV, billboards and flyers in CT sites. As market confidence in Angaza grew, the ads became increasingly sophisticated. A series of endorsements for Angaza by role models such as a priest and a school coach helped to win over sceptical clerics and parents. Soon Angaza was a household name. In 2006, M&M ran ads featuring a football star and a law student who are negative and a kiosk owner and a student who are positive. Each ad is a personal testimonial to living healthily and planning the future.

“We could never have done that at the start of the campaign. We won product credibility by using real people,” explains the account director, Amina Abubakar. “We are a small society and people would know if we lied to them.”

In its first five years, Angaza tested nearly half a million people. Despite this success, there were cultural obstacles to overcome. Male clients far outnumbered female clients as girls needed parental permission to visit Angaza, And while the majority of Angaza clients were under 30, they said they were uncomfortable being tested at the same place as their elders, says Tanzania Country Director, Paul Waibale. AMREF began to support CT sites for young people. It paid off. Kinondoni's Mwananyamala Youth Centre run by THAO (Tanzania Huruma AIDS Organisation) is so popular that students from all over the country come to be tested during school holidays.

AMREF trained peer educators who publicised neighbourhood Angaza centres and urged female attendance through bongo flavour rap and R&B songs. Youth centres had traditionally provided facilities for male-oriented sport. AMREF paid for netball courts to encourage the girls.

Once the gender mix equalised, a worrying phenomenon came to light. Girls and young women are up to three times more likely to be positive than boys and young men. This trend highlights the distressing fact that girls fall prey to the advances of older men while at the same time cultural prohibitions rob them of the ability to negotiate safe sex.

THAO encourages parents to transcend cultural taboos and talk to their children about how to cope with their sexuality. "If you don't educate parents, it's like washing your clothes and walking back into the dust," says Kassimu Komungoma, who manages Mwananyamala.

"Angaza has done a great job in creating awareness," Elise Jensen, USAID's team leader for HIV/AIDS point out. "The Tanzanian government relies on it to provide advice. There's a real perception that AMREF provides a quality service. And it's true!"

It is a muggy, overcast day and showers of rain chatter on the roof of the AMREF country office in downtown Dar es Salaam. Angaza's main CT site is at the back of the building. A client walks in and catches a momentary whiff of hospital disinfectant which is chased away by the overhead ceiling fan. Hawa Athumaini the receptionist greets her. "Thank you for choosing Angaza. This is free. The results are confidential and verbal." Hawa produces a small patient card with a number on it. The three Cs of testing are consent, counselling and confidentiality. One of the selling points of Angaza is the anonymity it accords its clients. "You don't have to give your real name," she says and gives the woman a dazzling smile.

The woman smiles too. "I'm Amina."

Although it is early, the waiting room is filling up. Amina looks around her and wonders who will be leaving with bad news. That girl staring at her hands looks worried. The soldier doesn't. He's totally at ease, so why is he here? Are they thinking the same thing about me?

A teenage girl in a *buibui* appears clutching cotton wool to her arm. Sensing she is the type who likes to chat, Amina catches her eye. Perhaps she can find out what lies ahead. “The first time, my stomach was doing somersaults,” the girl confides. “When you go into the room to hear the results, you can't tell anything by the expression on their face. But they don't keep you in suspense. They tell you right away. I was negative, thankfully. Now I'm back for the confirmation test. My boyfriend's very angry. He didn't want me to come. I haven't spoken to him for several days. And why apologise? I haven't done anything wrong. You can get tired of sex, you know. Sometimes at the end of the day I just can't face it. I tell him I'm busy and I won't be able to see him tonight. In fact, if I was positive, I'd just stop,” the girl says firmly, referring to the ABC of protection against HIV: abstinence, be faithful and condoms.

Behavioural change is key to slowing HIV prevalence. Although hard to change, studies show that the greatest awareness is amongst the youth. “It's a major challenge even with the educated elite. One would have assumed they would be knowledgeable enough to avoid infection, but it's not the case,” says Dr Joseph Temba, Global Fund Coordinator of the Tanzania Commission for AIDS (TACAIDS).

Agnes Ndyetabula is the centre's counsellor supervisor. A trained nurse and midwife with a diploma in mental health, she joined Angaza at its inception and has seen it expand to over 50 sites nationwide in just five years. “We were very scared,” she says, “We didn't know if people would come, but from the moment we opened our doors, I was seeing about ten people a day. Now we handle more than a thousand a month.”

AMREF trains its own counsellors and others who are working with the Global Fund, non-governmental organisations and missions. All students undergo a rigorous one-month course. AMREF counsellors are then supervised for several months as they gain work experience before returning for a week's refresher course. It is only then that they receive a certificate of competence.

Agnes readily concedes that counselling is a taxing job. “When it's negative, I say to myself, 'Thank God!'. Then you start afresh with the next one, smiling to put them at their ease and asking them how they are. If this one's result is positive ….. okay …. I'm not supposed to be sympathetic even though I'm empathetic. But. I'm a human being and I really feel it. It's like a priest. At four you're at a wedding and at five it's a funeral.”

Good pre-test counselling is like holding up a mirror to the client. It is a process that prepares people mentally and emotionally for the outcome of their tests. First there is a general talk about the ways that HIV can be transmitted. Then the focus becomes personal. Has the client done anything to be at risk? Finally, as probability firms into reality in his or her mind, there is discussion about how to live safely and responsibly in the wake of a positive or negative result. Post-test counselling is far shorter, designed to help clients verbalise their feelings.

Because the caseload is so big, the hour-long sessions before being tested are conducted in groups then each client has shorter one-on-one discussion with a counsellor. The list of issues is long: maintaining immunity levels, opportunistic infections, nutrition, when and where to start a regimen of antiretrovirals, tuberculosis, sexually transmitted infections, preventing the transmission of HIV from mother to baby during birth, infecting others.

HIV PREVALENCE RATES

Country	Rate
Kenya	6.1
South Africa	18.8
Uganda	6.7
Tanzania	6.5
Ethiopia	-
SSA	6.1

Agnes and Amina sit facing each other across a low table. Agnes leans forward, her hands clasped together. Her soothing voice and non-judgmental attitude instils trust. She makes it easy to open up and talk about secret concerns. "So you want to know if you've got HIV? That's great. We're very busy, but you are very special. There's no hurry. I want you to make this decision from your own choice. First I'd like to get to know you a little better. What's your tribe? …. Do you go to church?....Have you been to school? …... Does your husband know you are here? ….. No? What will you say to him after you get the results? It's better if you're counselled and tested together so that we can make a risk reduction plan."

Traditionally, couples do not discuss sex, but nearly half of HIV infection in Tanzania occurs within marriage. Frequently one partner is positive and the other is negative. The proportion of positive women is greater than that of men.

Getting discordant couples to talk openly about their situation is just one of Angaza's challenges. The long term financial sustainability of the Angaza model is a concern for all partners. "The national budget hasn't got the resources to underwrite testing nationwide," says Zebina Msumi, who heads the Counselling and Social Support Unit of the National AIDS Control Programme. In 2005 national CT guidelines were drawn up using the Angaza template. AMREF's role in the future will be advocacy at a global level to urge the need for the Global Fund and other international bodies to continue to scale-up while maintaining Angaza standards.

Jennifer Lyamuya, a qualified clinical officer, works at the Angaza CT site at Kinondoni's government-run Magomeni Health Centre. It consists of three canvas tents discreetly hidden from curious eyes in an open space of ground behind the building. On this blindingly sunny morning Jennifer is standing in front of a row of test tubes. She is a lively and pretty woman in her thirties and wears a white lab coat. On her right hand is a white surgical glove. She is using the Capillus test to detect the presence of HIV antibodies. When blood samples test positive, she routinely does a second test with the Determine strip method for confirmation.

During Angaza's early years, a shortage of laboratory technicians able to carry out such tests, for the growing number of sites posed an obstacle to implementing widescale replication. AMREF lobbied the Ministry of Health to allow it to train its nurses and midwives to conduct rapid HIV tests. This latest practice is now in place though it has yet to be formalised. It is another example of how AMREF's experience on the ground plays a role in formulating policy.

Jennifer picks up a vial and drops blood on a glass slide to mix with a latex reagent coated with HIV antigens. "Watch carefully. See? There's no reaction. This one's negative," she says.

Jennifer selects another vial, the blood sample moves upwards by capillary forces. "Mmm.. It's milky. Not clear like the other one. That means that the sample is specific to the antigens as agglutination is taking place…….. Positive". Jennifer appears unruffled. She has done this many times before and knows that clients' reactions vary. Some shout. A few are silent which can signal they are contemplating suicide. There are those who blame their partners. Most commonly the news is met with stoic acceptance. It is rare for a client to go into denial and protest that a mistake has been made.

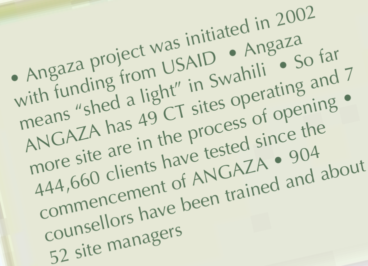
In another tent a girl of 18 sits alone on a chair waiting for her results. In response to the gentle probing of her counsellor Eva Mbilinyi. She has recounted the circumstances of her life. She is an orphan who lives with her sister. They run a small kiosk which brings in just enough money to scrape by. When she was fifteen, she lost her virginity to a boy her own age. They have been having sex together ever since. Recently she asked him to use a condom and he refused. Perhaps he was seeing other girls. She had thought about this for a while and decided to visit Angaza.

They had discussed at length what to do after she knows her status. If she is negative, Eva had said, she must be careful to avoid infection in the future. Eva had then talked about being positive. Proper follow-up care is important if she can stay well and active. Eva's friendly manner had put her at ease and helped her to focus on the conversation. She remembered Eva saying that a positive result means a change in lifestyle, not a death sentence. If her CD-4 count, which measures the strength of the immune system, falls below 200, she should start on life-prolonging antiretroviral medication. That had given her hope. And she felt less alone when Eva had reassured her that she could come back any time to ask questions or simply talk through her worries. Eva also told her about Angaza's post-test clubs where people living positively seek out others like them for emotional support and to share advice on good nutrition, depression, and how to negotiate safe sexual contacts with partners who are HIV negative.

The visitor can see the girl's fright at a glance. Her back is as straight as a plumb line. Her face is blank, like a mask. The time between giving blood and receiving a result is remarkably brief. Even so, those ten to fifteen minutes are by far the scariest part of the experience. It is plain to see she senses she is crossing a threshold where there will be no turning back.

Now the girl turns her head as Eva sits down opposite her. Eva is talking. Tears dampen the girl's cheeks. She seems to be stunned rather than surprised. She produces a large white handkerchief and clamps it to her nose and mouth. When she speaks, it is almost inaudible. "I will abstain from now on."

The girl heads for the gate. In a different setting, one might have thought she was going to buy a packet of tea leaves at the shop. A sudden breeze lifts the hot air and rustles the trees. On the other side of the gate people pass on foot, oblivious to her small drama. Cars rumble over potholes.
Life goes on. As it will for her too.



05/KIBERA

NOT ON YOUR DOORSTEP

Directly across the Langata Road from AMREF headquarters is Wilson Airport where Runway 14 ends just yards from traffic heading out of Nairobi. In a trick of perspective, light aircraft seem to hang motionless in a crystalline sky in the moments before reducing power to land. It is a sight that never ceases to enthral the ever-present handful of pedestrians who stop to gaze with fingers draped through the chain-link fence. Wilson Airport is the symbolic seat of AMREF activity. This is where, for fifty years, planes have ferried doctors to mission hospitals in the bush and where others return from *manyattas* hundreds of miles away with patients strapped to a stretcher, their link to life the nurse by their side and the drip line in their arm.

The view from the rear of the headquarters building is a stark contrast. Squeezed into a narrow valley is a tightly packed maze of shacks veiled in smoke from charcoal cooking fires. They have been cobbled together from mud, sticks, flattened paint tins, discarded polythene sheets, corrugated iron and any other useful material that can be salvaged from garbage dumps. This is Kibera. It is one of Africa's largest slums.

From the window of a Flying Doctor's plane on its approach to the Wilson airfield, the fault line of middle-class wealth and grinding poverty, hope and despair, is clear to see. Kibera spills down to the fetid waters of Nairobi Dam and sprawls up the valley's denuded slopes towards the manicured greens of Nairobi Golf Course and the comfortable suburban houses of Kabarnet Gardens. Its dilapidated corrugated-iron roofs look like a pile of leaves of variegated browns that have been raked into a slapdash pile. The people are insect-small and barely discernible as they pass along alleys as wide as a man is tall. Close to 850,000 live here cheek by jowl on 240 hectares of no-man's land. In the meanest of Kibera's dozen or so villages, the population density is 2,000 per hectare.

If Wilson Airport symbolises the genesis of AMREF, Kibera points towards the future direction of the organisation. When AMREF first started, the locus of poverty was rural. However, the last few decades have seen a steady exodus of people from the countryside in search of jobs and a better way of life. This has dramatically reshaped the distribution of Kenyans. Today two out of five are urban, a trend that is reflected throughout the continent. Sixty per cent of Nairobi's inhabitants are crowded into slums that occupy less than 5 per cent of the land. They are on the frontline of survival, subsisting on about half a dollar a day.

To paraphrase the mantra of real estate agents, location shapes destiny. Place and progress are inextricably intertwined, particularly for Africa's urban poor. The chances of being healthy, educated, employed and physically safe diminish dramatically for those who live on the wrong side of the tracks. Slums are the sum of the deprivation of basic standards of living that most of us take for granted. They are regarded as "temporary" because they have mushroomed on government-owned property. As there

are no title deeds, there is no legal obligation to provide an infrastructure of water, sanitation and health care. The informal delivery of essential services, usually privately owned, always inadequate, invariably over-priced, does not fill the void.

As a result, families commonly suffer a child mortality rate three times higher than that of their better off neighbours. Whether or not a child can survive the first five years of his or her life is a reliable indicator of progress - or its absence - in human and economic development. Slum children die from diarrhoea, measles and other diseases because they drink polluted water and never get immunised. Studies indicate that the prevalence of these killer diseases is due to bad living conditions rather than income levels.

The belief that slums can be ignored because they are temporary is fallacious. Many Kibera residents are second and third generation. Yet Kibera had been passed over by all but a very few NGOs. Bringing services to its residents would be the first step in formally acknowledging that Kibera is permanent. Despite its large population and reputation for harbouring gangs of criminals, there is not a single police post to be found inside Kibera. And, until six years ago, even though AMREF had been doing outreach activities in the slum, there was no health centre.

From AMREF's point of view, this was untenable. After all, Kibera was on its back doorstep. AMREF made overtures to find out what people felt they needed most. The answer received was a place where they could be treated when they were sick, and water and sanitation. AMREF agreed to build a health centre. The idea was to replicate the model that had been successfully tested amongst the pastoralist Maasai in Magadi Division and see if it worked in an urban slum setting. The health centre would provide the base from which AMREF could implement improvements in the delivery of health-linked services such as water and sanitation. As in Entasopia, the objective was to enter into partnership with the community and the Ministry of Health so that the project would continue to be viable even when AMREF eventually withdrew.

Establishing the entry point for community health care was relatively easy. Creating a foothold turned out to be far more arduous. With land at a premium, convincing people of the benefits of handing over a quarter acre to construct a health centre was a real challenge. “People were suspicious. They said AMREF wanted to take our land and chase us away,” says Queen Wambua, a Kibera businesswoman who supports eight children and a husband through her curio shop. Further, not everyone saw the sense of having a health facility. They had always resorted to curing sickness through traditional healers or by visiting a quack practitioner. Often they simply bought cheap and ineffective drugs over the counter from the same kiosks as where they got their small blue packets of washing powder.

AMREF operates on the premise that no project can run without a strong working relationship with the community. AMREF decided to enlist the support of local leaders, men whose standing was equivalent to that of village elders. This did not work well. Unlike rural communities where family and community structures are still in place, slums are a fusion of cultures drawn from all parts of the country, and a large proportion of those living there are migrants who have left their families behind. That essential spirit of community solidarity was lacking. In its place was mistrust between the different ethnic groups. And because everyone lived in constant proximity to tragedy and death, they tended to take what they could however they could.

Rysper Rajula and later Sakwa Mwangala, Project Managers for the Kibera Community-Based Health Care Project, led the negotiations with the local leaders. It was tough going. Most said that they did not want to work with AMREF unless they were paid. "When you kill a cow to eat you are the one who must be satisfied first. Then you give the tail and ears to the others," they explained. Sakwa had many sleepless nights.

The breakthrough came in 1998 when AMREF hooked into Kibera's nascent movement of grassroots activism. Tired of being left to fend for themselves, a group of dissatisfied residents had formed a community-based organisation (CBO) to improve their living conditions. It was named *Mradi ya Afya Msingi na Maendeleo* (MRAMMA) which translates as Grassroots Health and Development Project. Next came training in leadership, financial management and group dynamics. The ones who were most receptive to this idea were young adults under 30 years old. They saw the benefit to upgrading their neighbourhood and were willing to work on a volunteer basis.

AMREF's Kibera initiative has spawned health, water, publicity, welfare and finance committees which in turn has generated a better understanding of good governance amongst the generation who will be tomorrow's leaders. Today, armed with a newfound sense of community participation, they lead in activities such as clean-up campaigns, and AIDS awareness amongst their peers.

In 2000, the health centre opened for business in the Laini Saba section of Kibera. It was once a shooting range (*shaba*) for the Nubian King's African Rifle soldiers who were settled there after World War II and whose descendants live there to this day. For a small fee, AMREF's medical staff provided mother and child health care, immunisation, pre- and post-natal care, health education and routine curative medicine.

From the onset AMREF followed standard government health centre procedures and kept officials informed at every stage of the project. It hoped to eventually hand over the health centre to the Ministry of Health just as had been done with rural models. The tipping point came when the then Minister for Health, Dr Sam Ongeri, officially inaugurated the health centre in 2002. Not only was his attendance a tacit signal of support, the minister took note of the publicity the opening generated and the large numbers of people who flocked through the doors as patients. That same year the Ministry of Health agreed to staff the health centre. Drugs continued to be supplied by AMREF and with money raised from patient fees. Then in late 2006, the ministry agreed to provide drug kits. AMREF's continuous dialogue had paid off.

With the health centre in place, AMREF asked MRAMMA to be its partner in the construction of latrines and ablution blocks. The response was enthusiastic. In Kibera, hundreds of people are compelled to share the same toilet, commonly a rickety and

• 88 per cent of diarrhoeal disease is attributed to unsafe water supply, and inadequate sanitation and hygiene • Improved sanitation reduces diarrhoea morbidity by 32 per cent • Hygiene education and promotion of hand washing can lead to a reduction of diarrhoeal cases by up to 45 per cent

- WHO, 2004

excrement-caked pit latrine that discharges its effluent down the banks of the Nairobi River, which flows into the Nairobi Dam. Pedestrians take zigzag courses along the alleys that separate shacks to avoid faeces on the path. This indiscriminate waste disposal contaminates water sources, which in turn comes full circle to the prevalence of water-borne disease such as cholera and diahorrea.

"If you needed to go in the night, you crossed yourself and hoped for the best. Or you did it in a piece of paper and took it out in the morning," explains Evanson Gitonga.

People disposed of their foul parcels of night soil by flinging them onto their neighbours' roofs. AMREF dubbed their latrine construction project "Stop Flying Toilets". By promoting it through the media and staging events such as a 20-kilometre race led by some of Kenya's legendary track stars, the campaign captured the public imagination. Companies and private individuals contributed generously to the construction of the cement-block latrines and ablution rooms. And ranking Kenyan athletes such as Geoffrey Kiprotich donated their overseas winnings. Kibera residents contributed 30 per cent of the cost through their labour. At first there were objections that new latrines take up valuable space that could be used for a bedroom. Now AMREF has more requests for latrine construction than it can handle. Kibera residents are proud of their achievement. The latrines are kept spotlessly clean.

At the same time AMREF and MRAMMA launched a water project. Everyone should have at least 20 litres of clean water a day, but in Kibera water is rationed out at about 5 litres per family member because the cost is so high. Landlords sell water for a price five times that of water in New York where 50 litres goes down the drain each time a toilet is flushed.

AMREF negotiated with Nairobi City Council to connect with the water supply that circumvents the slum. Then it installed water tanks regulated by two main metres. These water points are managed by MRAMMA committees who are responsible for management, maintenance and payment of City Council bills. On occasion, managers have run off with the funds. When this happens, AMREF does not intervene but leaves it to the committees to recoup the money. They invariably do.

In 2003, AMREF started an ARV (antiretroviral) programme in collaboration with the Ministry of Health and the US-based Centres for Disease Control and Prevention (CDC). In Africa, national health guidelines usually require ARVs to be dispensed and monitored by medical personnel. This was not possible in Kibera where there are no doctors and few nurses. AMREF decided to look for another way. In consultation with the Ministry of Health, it taught volunteer community health workers from the slum how to monitor and care for people living with AIDS and their families. While the health centre nurses distribute ARVs, the volunteers provide counselling and home-based care and monitor the health of those on the drug regimen. The programme's services also include counselling and testing for HIV/AIDS and free treatment for tuberculosis and other opportunistic infections related to AIDS.

Patients were slow in coming forward for treatment because of stigma. Women feared rejection by their husbands if they discovered they were positive. Mothers ignored advice not to breastfeed their babies for fear that people would comment. Men feared that neighbours would point an accusing finger at them and question their morality. However, discrimination towards

people living with HIV is gradually being replaced by open dialogue on the subject, largely due to the efforts of the volunteer community health workers.

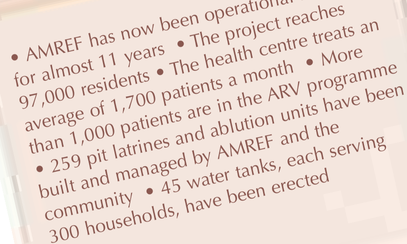
One of the programme's longest serving community health workers is George Olali, who has been living positively for ten years. "When they told me I was positive, I was shocked. In those days you automatically assumed your life had come to an end. I told myself, this is a problem that can't be cured and I couldn't afford the drugs as then they cost about $100 a month. I was very depressed….. just waiting for death," he says. Then George heard about the AMREF programme and became a client. "I weigh 75 kilos and my viral load is undetectable. I've been given a second life. I'm energetic, strong and healthy. Peace of mind makes a big difference."

George visits each of "his" neighbourhood families once a week. He also trains families how to look after a family member who has AIDS and, all too often, tuberculosis. Community health workers such as George net the general public too at meetings in churches and mosques where they talk about water, sanitation, hygiene and how to prevent HIV infection. They attract audiences of up to 1,000 people.

Emily, 19, and Enos, 39, a charcoal seller, are one of George's families. Both tested positive in 2006 and are on antiretrovirals. Neither was surprised by their results. Enos had lost his wife to AIDS the previous year. Emily, who had drifted away from her home in Kisii after the death of her mother, had already tested positive but was in denial. When Emily fell pregnant by Enos, they decided to get tested at the health centre. "Some people said that AMREF's testing wasn't all that good because even if you were negative, they told you that you were positive just so they can put you on drugs. But we went. We were counselled for one and a half hours before the test. Without the counsellors, I don't think I'd be existing now. They've given me knowledge on how to live well. The guys at the health centre are great. They make me feel secure," says Enos.

Thanks to the caring of people like George, there is an unusually high level of adherence to treatment - 90 per cent - which exceeds the rate in some more developed countries. However, the dynamics of a population where people migrate back to the countryside or other slums makes it difficult to monitor adherence. This also holds true for community health workers. Training is a continuous process to replace those who have drifted to somewhere else.

AMREF's partnership with local communities to create a better life for Africans is central to its activities. AMREF hopes the Kibera experience of working with slum residents will foreshadow a policy shift towards the eradication of poverty in Africa's cities and towns. "We would like to see the government take over our work in Kibera at some stage and use the model in other slums such as Mathare Valley. There's great potential for replication of this model throughout Africa," says Mette Kjaer, Kenya Country Director for AMREF.



06/PHASE

KEEP IT CLEAN . . . KEEP IT HEALTHY

The Magadi Division of Kenya's Kajiado District is only a few hours'-drive south from Nairobi yet it is another world. Here, on the floor of the Rift Valley, ancient geological turmoil has thrust up volcanoes and scattered ridges of lava rock across the arid plains. The vastness of this sparsely populated landscape imbues it with a sense of freedom. It is an illusion. Rainfall is sparse and water sources few and far between. For the 28,000 pastoralist Maasai who live here, life has always been hard.

When nurses Rosemary Sanderson and Winifred "Robbie" Robinson brought mobile clinics to the woefully neglected Magadi Division in 1966, the Maasai lifestyle had changed little over the past century. It was not conducive to good health. Women travelled 30 kilometres or more to fetch water from contaminated sources that were shared with their livestock and wild animals. This was eked out sparingly for cooking and drinking. Water use did not include washing. In fact, it was in such short supply that children washed their hands in cow's urine before going to school.

The nearest doctor was to be found at the hospital at Lake Magadi. It was common to see a pregnant woman setting off on foot at dawn with a sick child strapped to her back. As the sun sailed high, her child's vomit and diarrhoea mixed with the sweat trickling down her spine. If all went well, she reached the hospital as the lake's silver and pink expanse refracted prisms of evening light. But sometimes children died by the roadside.

The traditional Maasai *boma*, a circle of loaf-shaped huts contained within an impenetrable thorn-branch fence, is designed to accommodate their polygamous culture. Each wife shares her one-room home with her children and new-born kids and calves. This is where she prepares meals on an open hearth sandwiched between two wide beds made of woven boughs. The cooking and sleeping arrangements make for a smoke-filled hut with germ-ridden earthen floors.

Maasai enjoy an almost spiritual bonding with their animals, and their cattle, goats and sheep and live amongst them. The livestock sleep inside the *boma* in between the huts to keep them safe from prowling lions and leopards. Their dung provides a perfect breeding ground for flies as does the Maasai habit of defecating in the open.

The geographic profile of disease reflected the lack of knowledge about health prevention. On the parched plains, where there was little water and perpetual swarms of flies, trachoma was common. While fifteen kilometres away at Entasopia, trachoma was absent but malaria was endemic. This village of farmers nestles at the foot of the Rift Valley's western edge, pincered between rivers rising at the top of the Nguruman Escarpment, ideal breeding grounds for mosquitoes. Villagers believed that malaria was

caused by eating the mangoes and paw paws that grow there in abundance. Their flesh is the colour of the diarrhoea that frequently accompanies malaria. “You know, medical people come. They do something. They say nothing. They go, and we are left in ignorance,” complained one of the mobile clinic patients.

Rosemary and Robbie believed strongly in preventive health education and emphasised the importance of hygiene wherever they went, particularly in schools. Children were frequently absent from class because of ailments such as diarrhoea and intestinal worms that were directly related to unsanitary habits. They started a School Health Programme in nine primary schools. However, their visits were fleeting and the communities were not actively involved.

By the early 1980s it was clear there should be a policy change from community-targeted education to community-based education. At the same time, it was recognised that mobile clinics were not cost-effective. AMREF needed a static base so that it could deliver health services efficiently and, even more important, work closely with local communities to demonstrate and teach good health practices.

There was much competition from the various Maasai clans to claim the honour of the location for this base. Entasopia was chosen for its extreme isolation from services and its high rate of disease, particularly cholera and malaria. In 1985 AMREF built a three-room dispensary consisting of a consulting room, a treatment room and a laboratory.

Conditions were spartan. Until an overseas visitor called Linda Robb donated the money to buy a small diesel generator, the dispensary had no power. Midnight deliveries of babies were performed by the light of a flickering string wick stuck into an old cooking-fat tin filled with kerosene. If the husband was not present, the night watchman put his arm round the door and adjusted the angle of the beam according to the midwife's murmured instructions.

The health centre was handed over to the Ministry of Health at its opening, but in 1992 it was returned to AMREF. Over the next twelve years AMREF built an airstrip, an operating theatre, a large laboratory, an HIV/AIDS Counselling and Testing (CT) centre and an out-patient department. It is now back under the leadership of the Ministry of Health and run with AMREF support. It is the hub for health activities in the area.

AMREF co-opted an advisory committee from amongst the villagers in 1992 and conferred with it on matters such as land provision and user fees. This was formalised into a registered NGO called the Entasopia Community Development Group. A decade later, the NGO was divorced from the health centre management to concentrate on wider development issues in Magadi Division. A new health centre management committee took its place. Its members meet quarterly to discuss finances and how to underwrite the salaries of the community-funded clinic staff. These staff members, who come from the area, include a laboratory technician, a pharmacist assistant, nightwatchmen and cleaners.

“We know to use nets to keep mosquitoes away and to use toilets instead of going into the bush. We have learned about AIDS and how to cut the umbilical cord with a special knife instead of the one we use for chopping vegetables. When you train mothers, you train the nation,” says committee member Rehema Abu Reker.

AMREF partners with the Ministries of Health, Education and Water Development and other NGOs working in the area for a holistic promotion of community-based health. However, the key to sustainability lies in grassroots participation. No progress occurs without winning over the minds and hearts of the people. If the project is going to work, the people who are going to benefit from it need to be fully involved in the problems and their solutions. By 2000, AMREF was training Maasai as volunteer community health workers who in turn could educate their families and neighbours.

“Unless people understand what we are doing and buy into innovation, we won't get anywhere. There has to be a sense of ownership or new ideas won't take hold,” says Charles Leshore, the school health coordinator.

One of the ways AMREF does this is to help villagers form health and water committees to ensure that when old habits are replaced by new ones, they are perpetuated. There is another agenda here too. In an important break with tradition, a large proportion of volunteer community health workers and water committee members are women. Historically women played no part in deciding what benefited their community.

One of Magadi Division's biggest problems is access to water. Pipelines laid years back had fallen into disrepair as there was the perception amongst the Maasai that the pipes belonged "to someone else". Warriors were some of the prime culprits. They stabbed holes in the pipes with their spears when they were thirsty.

In due course, communities approached AMREF with a written proposal for a water supply. They would volunteer the labour and maintain the pipes and storage tanks, they said, if AMREF supplied the expertise and the materials. Today Magadi District villages and *bomas* are linked to a system of gravity-fed water piped from rivers that rise at the top of the Nguruman Escarpment. Whenever a tap is opened for the first time and water trickles out, it brings tears to the assembled onlookers' eyes.

"AMREF visitors are not like other people who take photographs and ask questions and go away. They do what they promise. We used to suffer extreme hardship. Now we can do our farming and look after our cattle without being sick," says Lemanyi Lemunge, a member of the Entasopia water committee.

One of the biggest killers of African children aged five and under is diarrhoea. The incidence of this can be greatly reduced when there is access to safe water and personal cleanliness becomes possible. In 1995, the World Health Organisation launched a global campaign to improve the health of communities by educating school children and their teachers in good hygiene. AMREF recognised the potential of this initiative and joined in partnership with GlaxoSmithKline and the ministries of health and education to introduce PHASE to Kenya. Personal Hygiene and Sanitation Education is based on three basic principles to keep germs and infection at bay. Wash your hands. Use safe, uncontaminated water. Go to the toilet in a clean latrine.

PHASE targets primary schools as the pre-teen years are when children are most receptive to developing good habits. Schools participating in PHASE create health clubs where pupils give expression to their imagination through art. They compose songs and poems and choreograph dances which are staged at community level and at national health club competitions. Classroom walls and latrine blocks are emblazoned with graphics, witty wall art illustrating safe hygiene practices. Children at open-air schools draw on trees and stones.

"We use coherent, simple messages and repeat them often. The reason they stick is because the children are totally involved," says Charles Leshore.

PHASE started in 1998 with a pilot study in four schools in Western Kenya. It worked so well that it was scaled up over the next two years to cover 247 schools in the Rift Valley, Nyanza and Western Provinces. The PHASE model has since been adopted by the Ministry of Health and replicated across all schools in the country. Today, 100,000 Kenyan children between the ages of six to thirteen learn about hygiene through PHASE. The project has made a noticeable difference to the overall health of not only students but their families. And the children's exam performance has improved remarkably now that they no longer fall sick.

Integral to PHASE is the "leaky tin" method for washing faces and hands. It is not a new idea. AMREF has been promoting it since the 1960s. It consists of a small container hanging from a tree which can be filled with water that trickles out of a hole in the bottom when a stopper is removed. It costs nothing, conserves water and is made from recycled material. With the introduction of PHASE, this ingenious invention came into its own. Children were shown how to make and use a leaky tin and told to "install" one at home. Today, *bomas* across the plains have a used plastic cooking-fat container hanging from a tree, next to water tanks and by the door of toilets. There is a pinprick hole at the base plugged with an acacia thorn. Take out the thorn and water comes out drop by precious drop. Just a 500-gram containerful of water can provide a family of six with clean, safe water for a day, preventing diseases such as diarrhoea and trachoma.

PHASE has been replicated by GlaxoSmithKline and other partners in Peru, Tajikistan, Mexico, Nicaragua and Bangladesh. The success of PHASE in Kenya led AMREF to replicate the PHASE approach in Uganda, again in partnership with GlaxoSmithKline in collaboration with the ministries of education, sports and health. The pilot project is being implemented in Soroti District in all sub-counties. It reaches 300,000 people through schools and radio.

• Only 62 per cent of Africans have access to safe water and 60 per cent have access to adequate sanitation • 1.7 million deaths could also be avoided each year by providing access to safe drinking water, sanitation and hygiene • In 2002, diarrhoeal diseases and malaria accounted for 1.8 and 1.3 million deaths respectively. These were almost entirely children under 5 years of age • Diarrhoea remains the leading cause of death from water-related diseases in children. In developing countries it accounts for 21 per cent of all deaths in children under 5 • Malaria causes illness in about 400 million people every year

- WSP

07/TRACHOMA

CLEAR-SIGHTED COMMUNITIES

As recently as ten years ago, more than a quarter of the population of Magadi Division was suffering from trachoma, a disease that is caused by a highly contagious bacteria that inflames the inner upper eyelid and turns it inward. It is the world's second leading cause of blindness after cataracts. The eyelashes scratch the cornea. If left untreated, this leads to scarring and blindness. A simple fifteen-minute surgical procedure can reverse blinding trachoma.

Flies are the main means of transmission but trachoma can also be contracted from unwashed hands, dirty pieces of clothing that are used to wipe faces and by sharing unclean water. The highest incidence of trachoma occurs amongst four-to-six-year-olds and the mothers who care for them.

Even though trachoma was a public health problem that affected eighteen districts in Kenya, it had always been relegated to being just another of the many components of primary health care. AMREF recognised a specific integrated programme was called for if it was to be brought under control. In 1997 AMREF initiated the Trachoma Control Project in Magadi Division using the World Health Organisation's SAFE protocol. Surgery for advanced cases at risk of going blind. Antibiotics to treat infection. Face-washing to stop contamination. And Environmental improvement of homesteads.

The project would never have succeeded without its volunteer trachoma monitors and community health motivators. To date, AMREF has trained sixteen local Maasai as monitors and 500 health motivators in the prevention, diagnosis and treatment of trachoma. They also know when to refer advanced cases to the Entasopia Health Centre for surgery. Four out of five health motivators are women while most monitors are men. The monitors are paid a basic stipend to bicycle round the villages and homesteads of Magadi Division and to keep a record of their findings. Initially, there found many surgical cases. Now they are rare.

Jeremiah Sankaire was one of the first monitors to be trained. He is in charge of training other monitors and is acknowledged as the trachoma guru of Magadi. Before setting off on his rounds, Jeremiah sheds his trousers and shirt and dons an orange and white *lesso* knotted toga fashion at the shoulder. Jeremiah calls it “putting on the orange”. Thus transformed, he is ready to evangelise SAFE.

Jeremiah's first stop is an impressive *boma* situated not far from a grove of acacia thorn trees. Its size and the sleek herds of cattle grazing in the distance speak of wealth. So does the low hut halfway between the boma entrance and the trees. It is where the

mzee holds court during the day. Jeremiah refers to it as "State House". *Mzee*, a term of respect for an elder, lives here with his three wives, his son, his son's two wives and their many children.

It is clear that the family has been busy making improvements to their homestead. There is a tank with a spigot that can be opened and shut to draw rainwater for cooking, drinking and washing faces and hands. The huts are ventilated with glassless windows. The kitchens are in separate buildings. The hearths are covered with hoods of hammered tin attached to chimney pipes to allow the smoke to escape through the roof. There is no chainsaw buzz of flies.

Jeremiah bypasses State House and enters the *boma*. The wives gather round. They are lissome and ablaze with beaded jewelry. The eldest woman, *Mzee*'s first wife, is the boma's community health motivator. Her other role is to teach family, friends and neighbours about good hygiene practices. A necklace of red, white and blue beads hangs from her neck. This is her register that enables her to keep track of her work.

Many of the elder generation, particularly the women, have not gone to school. With this in mind, AMREF gives the community health motivators beads to record numbers. The red beads symbolise trachoma patients. The blue beads represent those who have been checked for trachoma and are healthy. The white are for absentee family members who have not yet been examined because they are at school or have taken the cattle to distant pastures.

Similarly, educational messages are visual. Jeremiah's *lesso* is a storyboard of pictures illustrating the mantra of trachoma prevention. S for surgery depicts a child guiding a woman by a stick towards a doctor. A seated woman squeezing ointment into a child's eye is A for antibiotic. Two women stand beneath a leaky tin hanging from a tree. F for face washing. And finally, E for environmental improvement - a rain tank, toilet and separate enclosure for the livestock. *Maibooi emodoki enkoe*. Let's prevent blindness caused by trachoma. The *lesso* was designed by Maasai women.

Many Maasai are still semi-nomadic. AMREF's long experience has shown that sensitivity to attitudes and circumstances must be taken into account to achieve objectives. For instance, AMREF provides families with plastic 1,000-litre tanks that can be easily transported on the back of a donkey. Today these black tanks are so popular that they are included in dowries. Cultural assimilation has taken place.

Persuading people to use toilets continues to be a challenge. As an incentive for their construction, AMREF pays for the hardware materials and asks families to provide local materials and the labour. But a sense of ownership has yet to be instilled. They are referred to as Ministry of Health toilets and are abandoned when families migrate.

The path to preventive health care is strewn with pitfalls as Jeremiah is about to discover.

Jeremiah sits on a wooden stool and another is placed in front of him. Silence falls on the open-air consulting room. A 22-year-old woman, the youngest of the wives, and her three sons are the first to be examined. Her eldest son is four or perhaps five. She casually touches his shoulder and he steps forward. Jeremiah tilts the boy's head towards the sky and with expert hands inverts his eyelid to check for ingrown eyelash follicles. There are more than five, which signals trachoma. Jeremiah produces a tube of tetracycline and gives a demonstration of how to administer the drug by squeezing the ointment into the boy's eye.

The next boy, a toddler of two, is prodded forward. His eyes are pus-filled and there is a tell-tale swelling and inflammation of the upper eyelids. He has stage two trachoma infection. Jeremiah examines the third boy, who is still young enough to be carried on his mother's back, and finally the mother. They too have trachoma. The woman must have had the disease for several years as her cornea bear the white scarring of stage four. She will have to go to the Entasopia Health Centre for surgery.

"What's the problem?" Jeremiah enquires, "There's no reason why your children should go blind. When you don't wash, it attracts the flies. That's how you get the disease." The boys' mother stares at him and says nothing. It is forbidden for a young woman to engage in conversation with a strange man.

Emboldened by the calamity of four diagnosed trachoma cases, the first wife launches into an explanation laden with excuses. "I ask them if they are washing, and they say yes. But in fact, they don't bother. They're hard headed and don't listen."

"Why should we listen to her?" harrumphs another wife, "We should have been sent for training too."

"You are privileged that at least someone from your home was sent. There are homes where no one was sent," says Jeremiah as he rises to his feet. Using his *lesso* as a textbook, he launches into an explanation of how to prevent and treat infection. Then, the lecture over, Jeremiah asks why there is no toilet.

The first wife shrugs. "*Mzee* has already supported me with these improvements for our houses. Now he's building a house for himself. I can't ask him for more money to build a toilet."

Her reasoning exposes a flaw. Wives are in charge of their family's health, but their husbands make the decisions. Women health motivators are in the invidious position of being charged with responsibility without the authority to back up their actions.

"Men must give the okay before anything happens. The younger generation in their twenties is changing this. They have had exposure to other social systems through school and at the cattle markets in towns," says Francis Dikir, who runs the Kajiado Trachoma Project, "We use a consultative process to introduce new ideas. First we ask people what they think they need most. Then we do an analysis and assessment of the problems. After establishing the methodology of the trachoma project, we informed the community leaders about it through the Magadi Stakeholders' Forum. Then we educated the men - and the women too - at chiefs' meetings."

Mette Kjaer, the head of AMREF's Kenya country office, feels that despite this, there is a gender disparity. "We haven't taken the gender analysis seriously enough. We've focused too much on the women. Unless we get the men interested in preventive health measures, we won't see any meaningful changes."

Jeremiah decides to pay a visit to *Mzee* in 'State House'. The conversation opens slowly and with ritual courtesy then Jeremiah gets down to business. "I have just been in your house. It's very beautiful with its windows and chimney," he says, "But I see you have no toilet. It's important for everyone's health. Did you know you have trachoma here?"

Mzee dismisses this information with a shrug. “Well, there's a leaky tin and water nearby. It's the women's fault for not teaching their children to wash. Anyway, I can't afford it.”

“It doesn't cost a lot to build. We provide the cement and the weld mesh for the slab. You just have to dig the hole. It's not a bad offer!” says Jeremiah, taking up the challenge.

Mzee contemplates this proposition. “Well, why not? I'll put some effort into it.” He underlines his decision with a nod of the head and adds, “This has been a good discussion.” It looks as if a deal has been struck.

Jeremiah retraces his footsteps to find the first wife. “I've spoken to *Mzee*. He's agreed to build a toilet.”

There is a long pause. Then she says firmly, “I don't want a toilet. If the children see me walking out to that little building, they'll know what I'm going to do inside it.”

The sun is at its zenith. It has been a long and hot morning nuanced with cultural prohibition and reticence. Jeremiah decides to call it a day. “I'll come and see you again in a few weeks. Meanwhile, think about it.”

Despite this setback, Jeremiah is not discouraged. Statistics speaks for themselves.

Since the project's inception, the prevalence rate of active and blinding trachoma has fallen to under 10 per cent and 1 per cent respectively in the project area. This means that trachoma in Magadi Division has been brought under control as per the recommended WHO guidelines.

However, trachoma still poses a major public health problem for the rest of Kajiado District. Over the next four years AMREF will scale up its trachoma programme to cover the district's entire population of nearly half a million. This time round the target is the eradication of blinding trachoma, thanks to the multinational drug company Pfizer, a long-time supporter of AMREF activities.

Working in conjunction with the New York-based International Trachoma Initiative, an NGO mandated by WHO to regulate trachoma activities globally, AMREF plans to administer Pfizer's trachoma drug Azithromycin to everyone in the district from the age of six months upwards. By treating everybody, irrespective of whether or not they are infected, AMREF and its partners will bring trachoma under control. Using the Kajiado blueprint as a template, AMREF plans to scale up its trachoma activities into Samburu and Laikipia Districts as well. And the lessons learned in Kajiado District will have relevance for other countries battling to control trachoma.

"AMREF is like a good pupil," says Charles Leshore, a nurse who works at the Entasopia Health Centre, "It learns as it goes."

• Trachoma Is the number one infectious cause of blindness, afflicting 5.9 million people every year • AMREF has run a trachoma control programme since 1985 • It only costs $10 per person per year to prevent and treat • 800 Community Health Workers have been trained in Magadi, Kenya

08/KNOWLEDGE

RAISING THE GAME THROUGH TRAINING

Every working day starts for Mary Wambui Mucheru in the grey light of dawn as she prepares breakfast for her four children and her husband, who is unemployed. Once the family is fed, she makes her way to the side of the road to join a queue of others waiting for a matatu taxi. Her commute takes her through green coffee plantations and meadows of rich grass punctuated by the occasional red blaze of a flame tree. This gently rolling land lies beyond the northern reaches of Nairobi off the two-lane highway that leads to Mt Kenya. It was the home of Kenya's founding president Jomo Kenyatta, and his house is not far from Gatundu Hospital where Mary works.

Mary will soon be 50 and has been nursing for 21 years. Nearly 90 per cent of Kenya's nurses are people like Mary, who is an enrolled nurse. In hospitals such as Gatundu they carry out the hands-on patient care of giving injections, administering drugs, dressing wounds and emptying bedpans. They are the vital staff without whom a hospital cannot function.

Gatundu Hospital has the well-worn air of a place rooted in its surroundings. It needs a lick of paint here and there. The signs in Kikuyu and English are foxed with age. Roofed walkways connect recent and less recent annexes to its core structure of wards and offices. A drip line rattles against its metal stand as a nurse adjusts the saline bottle. Relatives stand round a metal-frame bed and talk to each other in muted voices over the skeletal frame of the man who lies on the thin mattress. An orderly pushes an empty patient trolley in front of him and it rattles as it passes over an uneven section of the floor. With an almost full occupancy rate for its 107 beds, Gatundu is always busy. It accepts surgical, medical, paediatric and maternity cases, but for some years now half the patients who are admitted come with AIDS-related illnesses. It is a typical hospital save for one feature. Twenty-five of Kenya's first intake of e-learning nursing students are here. Mary is one of them.

Today finds Mary isolated from the hustle and bustle in a small room in one of the annexes. She sits before a computer that bears the stamp “donated by AMREF/NCK/Accenture” on its monitor. It is one of several lined up in a row on a long wooden table. Her concentration is fierce as she transcribes from the screen into a black ledger-type notebook. Mary has done certificate-level basic nursing. She is taking advantage of the free time afforded by her annual leave to study for the diploma that will upgrade her qualifications to that of registered nurse.

New technology, mould-breaking research and emerging diseases make for constantly changing dynamics in the medical world. Nurses' close relationship with patients gives them a pivotal role in changing the context of health care. When Mary graduates at the end of the course, she may still be working in the wards, but she will be up to date on the latest medical developments and well placed to incorporate them into her working day.

The expansion of Mary's education is a result of a major reform in Kenya's health sector policy. In 2001 the Ministry of Health committed to upgrading its 22,000-strong body of enrolled nurses to registered nurses. This job fell to the Nursing Council of Kenya, the institution responsible for ensuring that training conforms to prevailing international standards. It was a daunting task with no precedent that could be used as a blueprint. The existing medical training schools and hospitals fell far short of the capacity to absorb such a large body of students. If the Nursing Council resorted to sending everyone back to school in the traditional sense, it would take a century before the qualifications of Kenya's nurses met the international benchmark.

There was another problem too. Less than 10 per cent of Kenya's health workers are doctors. Nurses are the backbone of the health system. With the exception of the most complicated cases, they do most things a GP would do in Europe or the United States - and more. Nurses are the first - and often only - medical professional a patient sees. They run dispensaries and clinics in the remote villages, down-at-heel urban neighbourhoods and market towns, often single-handedly. Their daily routine covers the gamut of health service delivery from the curative - diagnosis and treatment - to preventive-health education on water, environment and safe sexual behaviour. A day can start with a jab in the arm for anaemia and end with an emergency caesarean-section that night. In short, nurses are indispensable. Even if educational facilities had the capacity to receive them en masse for training, doing so would bring the health services to a standstill. There had to be another way.

The Nursing Council arrived at a solution that is a departure from the conventional residential format for education. It decided to send the curriculum to the students instead of ferrying the nurses to seats of learning. Long-distance learning is ideal as it is not tied to schedules and geography. It can be done anywhere at any time, which leaves nurses free to stay in their workplace and study in their spare time at their own pace. The concept required an organisation that had experience in developing distance-learning curricula and the expertise to implement it. When the Nursing Council asked AMREF for assistance, they had come to the right place. Training and education, particularly for those who work in remote areas, is one of the cornerstones of the AMREF mission.

AMREF's involvement with health education is almost as old as the organisation. The Health Education Unit started in 1962 with what was an innovative concept at the time: training villagers to talk to their neighbours on health education. By the early 1970s, AMREF was training health workers on-site in rural areas as well.

In 1987 AMREF started a one-year Diploma in Community Health Course to upgrade the skills of clinical officers, public health officers and nurses. The course also attracts doctors and NGO staff. The course is designed in consultation with health personnel from community level up in order to deal with African problems in an African context. Topics include understanding real community based health care, management of disease, sanitation and the importance of training and managing initiatives like water committees. It is a highly practical course. 455 students from 35 African countries have graduated over the past twenty years.

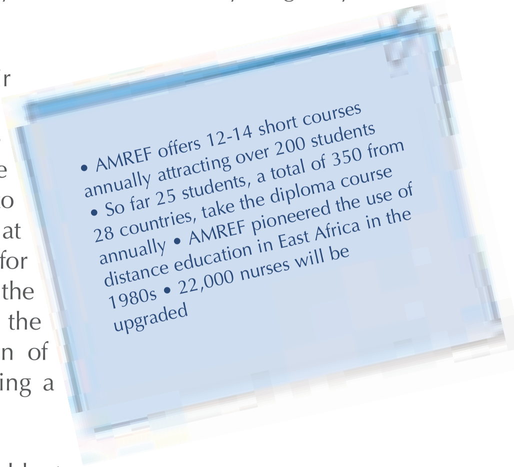
"Once they get back to the workplace, they are an example for others. We believe the health service has improved wherever our graduates are to be found," says Josephat Nyagero, Research Coordinator in the Directorate of Learning Systems.

AMREF has published more than 50 health learning materials and manuals. They are used in training schools all over Africa and public health schools in Europe and the United States as well. The manuals are used as textbooks for many of AMREF's Continuous Professional Development courses, which are designed to expand and refresh health workers' knowledge in different fields of medicine. The courses cover about twelve topics which range from communicable diseases, child health and immunisation to mental health and obstetrics.

These courses can be done by correspondence as well as at AMREF's Nairobi headquarters. Paperwork used to be delivered and returned by mail or, if the postal system was intermittent or non-existent, by vehicles that clattered over dusty roads. Email is now commonly used where possible. More than 9,000 students have enrolled over the past 26 years. Many of them save for years in order to do so. Others are sponsored by organisations such as AMREF. Last year only one third of the students who took short courses were government-sponsored.

"Training is one of AMREF's major thrusts. We recognised a long time ago that you can have all the immunisation doses and essential drugs you need, but unless you have people qualified to handle them, you won't achieve anything," says Peter Ngatia, Director of Learning Systems.

In 2004 AMREF began developing a curriculum to upgrade nurses using their paper-based distance-learning model. Then in the following year, help came from a generous donor that was to change the concept of the programme radically. Accenture is a global management consulting and technology service company. It pledged nearly $3 million in funds and technical assistance to convert the printed course materials into an electronic version. This meant that students would be able to study on computers and access the internet for additional research material. AMREF and the Nursing Council are happy with the way programme works. Thanks to the learning flexibility afforded by computers, the course can be accomplished in one year instead of two. And the provision of computers that can be shared by several nurses is much cheaper than printing a textbook for every student.



"It's making a real difference to an important cause. We're proud to be able to contribute such a powerful combination of technology, expertise and financial support," says Jill Huntley, Accenture's Director of Corporate Citizenship.

The course is broken down into four modules containing text amply illustrated with graphics and photographs. These visual demonstrations of how to put method into practice are not available in the old textbooks. The programme team is considering adding video-based procedures and audio-visual tutorials as well. Students can gauge their comprehension as they proceed by

doing the quizzes that are embedded throughout. The software is designed in such a way that students cannot continue to the next course unit until they have successfully completed the exams set during, in the middle and at the completion of each module. Mentors say that the benefits can already be seen. The nurses' work ethic and the way they care for patients visibly improves while they are taking the course.

E-learning is yielding a subtle bonus as well. It is changing the learning culture in Africa. Starting in primary school, students copy verbatim into their notebooks whatever the teachers write on the blackboard. The e-students still tend to copy directly from the screen, but they are gradually discarding the old-school style of learning by rote. Their newfound ability to switch back and forth from one topic to another with the click of a mouse has improved their cognitive functions and encouraged independent thinking. And, of course, e-learning is introducing the nurses, most of whom had never used a computer before, into the exciting domain of information technology.

“At first I thought I would never learn to use a computer, but I told myself I must push and try for a better way of life,” says Mary, “I've discovered that learning this way is more convenient and much easier to understand. I'm going to buy a computer for my children.”

Nurses share computers during their lunch hours or before and after work. Concurrent with this they do a clinical attachment at an approved hospital under the tutelage of a mentor, who supervises their studies as well as their practical experience. They sit written exams at one of the 22 training schools that have incorporated the e-learning programme into their syllabuses.

“E-learning is one of those breakthrough innovations that AMREF has always used. We look beyond the accepted to see what can work better in terms of training health workers,” says Peter Ngatia. “AMREF has set it up with a view to sustainability. All the student fees go directly to the schools. In three or four years the training schools will be self-financing.”

So far computers, software and printers have been installed across Kenya in 75 hospital and school-based training centres such as Gatundu Hospital. In the wake of a successful pilot project, more than 140 nurses enrolled for the first diploma course in March 2006. This number grew to more than 1,200 students a year later. The project will continue to expand until every enrolled nurse has become a registered one.

"Nurses work really hard. We want their worth to be recognised. Upgrading them opens up opportunities to advance their careers. The sky's the limit for us. The next step is to take diploma nurses to degree level. I know we can do it - together with AMREF - because we have met the challenges of setting up this course and made it work. I can see us going very far," says Elizabeth Oywer, Registrar for the Nursing Council of Kenya.

The e-learning programme has created a template for future replication in other geographic areas and other fields. For instance, it could be applied to the training of community health workers in remote areas. Computer-based learning could also be incorporated into the three-year course for clinical officers at the Maridi National Health Training Institute in Southern Sudan.

AMREF believes in developing health systems regardless of whether there is war or peace which is why it chose to get involved in training Southern Sudanese health personnel at the height of a civil war. Hostilities between the Khartoum-based government army and southern militias, the largest of which was the Sudanese People's Liberation Army (SPLA), had been ongoing since Sudan's independence in 1956. The fighting had dismantled social and civil structures. There was widespread illiteracy and extreme poverty. Hunger and disease were rife. Health facilities and schools had been destroyed.

Southern Sudan, a region the size of Kenya, Tanania, Uganda, Rwanda and Burundi combined, had no piped water, no tarmac roads, not a single telephone. In those days, with no drugs available either, health workers washed and bandaged soldiers' bullet wounds and sent them on their way. In 2004 the Comprehensive Peace Agreement created an opportunity to rebuild Southern Sudan.

The Maridi National Health Institute was started with funding from AMREF in 1998 when the fighting still raged. AMREF and its partner NGOs chose Maridi for three reasons. It was relatively safe. The Maridi County Hospital was there where students could do their practical training. There was also a standing building which could house the school - the dilapidated former Institute of Intermediate Education.

Clinical officers, formerly known as medical assistants, have been described as the 'doctors' of Africa. They diagnose and treat illness, perform surgery, and educate communities. The three-year course in public health care, nursing care and surgical procedures covers everything from anatomy, orthopaedics and pathology to pharmacology, gynaecology and psychiatry.
As a result, the number of people who are correctly diagnosed and treated successfully has increased.

As a result of the war, most of the first intake of students had not been able to complete secondary school. Despite this setback, to date 130 students have graduated from the Maridi Institute. They comprise almost 60 per cent of all the clinical officers working in Southern Sudan. This feat has been achieved under enormous constraints such as the acute shortage of human resources and the almost non-existent infrastructure. Training health personnel remains key to rehabilitating the health sector. There are only 39 doctors and 170 clinical officers for a population of 9.7 million.

MARIDI The school accommodates 96 students at any one time • Maridi is the only institution for clinical officers in Southern Sudan • In 2001 the school saw its first 17 diploma students graduate • By 2006, 130 students had graduated, accounting for over half of all the clinical officers in Southern Sudan

09/SANGOMAS
WHEN NORTH MET SOUTH

Loud, spirited singing fills the Mtubatuba Municipal Council Hall in Umkhanyakude District, KwaZulu Natal Province. A group of 25 traditional healers have just finished eating breakfast. Before any other business is conducted, they must pray and sing in praise of their ancestors. They clap and stamp their feet. Someone drums on a table; another blows a whistle. Most are barefoot, their colourful garments adorned with beads, feathers, gourds and bones. An electric energy fills the room as they dance and sing - vigorously and loudly. When it ends, they sit and turn their attention to Tryphina Ngwenya, AMREF's project manager in KwaZulu Natal.

The traditional healers are here for a lesson on tuberculosis control. They are part of a group of 80 *sangomas* taking part in a project run by AMREF in South Africa to equip traditional healers with counselling skills and a wide range of expertise related to HIV/AIDS, STIs and TB prevention and care. This revolutionary project is integrating indigenous healing systems with Western medical approaches.

This is a replication of a project involving traditional healers that was initiated in Standerton, Mpumalanga Province, which lies north of KwaZulu Natal. In 1997 a group of traditional healers in Mpumalanga had approached Standerton Hospital for training in HIV/AIDS as they felt they were not able to treat the illnesses that clients presented them with. The hospital itself was struggling to address the needs of patients who were HIV positive. A home-based care group based at the hospital was formed, incorporating the traditional healers, who proved to be the most dedicated members of the group. Trained traditional healers were stationed at the hospital, local clinics and work-based clinics where they provided counselling and support services.

This joint initiative between the traditional healers, the hospital and the Provincial Department of Primary Health Care received strong support from both the private and public sectors and is running successfully. The decision to replicate it in KwaZulu Natal was made after AMREF received funding from Ireland Aid to develop an inventory of successful HIV/AIDS interventions that could be replicated or scaled up.

Partnering with traditional healers and bringing them into the formal system is without doubt groundbreaking. Previously, these men and women had been seen by the formal medical system as quacks, and were not taken seriously. But their potential as a resource and an embedded point-of-contact with both rural and urban communities could not be ignored: it is estimated that over 60 per cent of people go to see a traditional healer before a medical doctor, and although many people seek western medicine, they usually continue to see a traditional healer too.

“We are the first port of call for anyone who is sick in the community,” says healer Phumelela Madlala, “But we were seeing new illnesses come up, and had heard of new western remedies. So, we felt that with education and training, we would be able to help our clients more.”

However, the traditional healers are a closed group of people who eye newcomers suspiciously, based on years of being ostracised by professionals - often being treated as witches. “Plenty of organisations came and went,” remembers Phumelela. “They did research, they studied us, they did surveys…then they went away. We felt like specimens! Even when AMREF approached us, we were still nervous that we had nothing to gain, and were very suspicious. But they explained their goal: to train us, to help us protect ourselves and our clients through better cleanliness, wearing rubber gloves and not sharing razors. They explained that we would learn more about the western health system, and direct our clients there when needed. We saw straight away that this was beneficial to all parties.”

When the project manager Tryphinah eventually met with all the other traditional healers in Mtubatuba to discuss the project, they were then very open to the idea. They realised it would increase their knowledge and improve their skills. However, they made it clear that they did not want to operate from the clinics as had happened in the initial project in Standerton. Instead they wanted to continue to work at their own clinics, counselling clients there and caring for 'in-patients' at their practices. The healers also asked that a testing centre be put up in a non-medical environment where they could refer clients who were reluctant to go health facilities.

The project trains the healers on basic HIV counselling, home-based care, prevention of mother-to-child transmission, and anti-retroviral therapy. They are taught how to recognise symptoms of HIV, TB and STI infections, and how to refer patients for testing. The training also includes childhood diseases and orphans and vulnerable children - which includes checking whether children have been immunised, preparation of oral rehydration salts and how to identify children who qualify for social grants. Crucially, as TB is so widespread in South Africa, they were taught to monitor clients on TB treatment and ensure they adhere to their course. This also helped to combat the resistance to TB drugs that is common amongst those that do not finish the course of treatment.

People who show symptoms and signs of TB or HIV are referred to a testing centre funded by the European Union. Those who test positive are referred back to the healers for immune boosters and other herbal remedies, counselling, and information on ART.

So far, there are 80 healers being trained, while a similar number are on the waiting list. It is a learning process as no specific manual has been developed to train them, taking into account their unique needs and circumstances. One of the issues that has come up is a lack of toilets in the community, including at some of the traditional healers' homes. AMREF has offered to provide the technical assistance to help build toilets. The healers will provide the labour.

Another challenge that has emerged is increased difficulty for the healers to get access to government-owned national parks to collect herbs. “AMREF is helping them to set up a communal herbal garden where they can get herbs safely and conveniently at a minimal fee,” says Tryphena.

Besides medical skills, the *sangomas* also receive some technical training. This includes project management to improve the business of traditional healing which includes financial management and leadership.

Plans exist to inspect practices to appropriate safety measures such as a clean environment for their patients. Similarly the traditional healers must make sure they are not putting themselves and their families at risk of infection.

The Department of Health is supporting the project by providing home-based care kits to the traditional healers, including gloves, disinfectant, bleach, bandages, sanitary sheets and condoms for their clients. The department facilitates training for the sangomas on TB, anti-retroviral therapy and PMTCT. The project receives support from the local municipality, which prints all training manuals and has provided a site for CT. It has also provided AMREF with an office.

One of the greatest concerns for the Department of Health has been improper health precautions at the traditional clinics. In fact, it is believed that many of the traditional healers may have been infected with HIV through the incorrect handling of blood and other body fluids.

"We were worried about infection at the herbal clinics," says Vusi Ntuli, Communicable Diseases Coordinator in Umkhanyakude District. We were concerned about preventable diseases which might not be treated, because of lack of knowledge on the part of the traditional healers. We were also worried that unsafe practices were spreading diseases, rather than curing them. That was our biggest worry."

The Ministry of Health need not worry any more. *Sangomas* now treat patients by inserting their medicines into cuts they make with clean razor blades which they use only once. They also wear gloves when rubbing in the medication, and divide the medication into individual portions to avoid contaminating the contents of the larger containers. They are also taught to use bleach and methylated spirits to sterilise porcupine quills, which they use for acupuncture, to prevent cross-infecting their patients.

For a client with symptoms characteristic of TB, the *sangoma* will ask the patient to take his or her sputum to the clinic for testing, or to ask someone else to take it for them if they are reluctant to go themselves. The healers are also trained to be DOTS (Direct Observed Therapy System) supporters of TB patients, checking on them to make sure they take the treatment correctly and on time, and ensuring that they are eating correctly and live in hygienic conditions.

"This is yet another area where we can say that being African, and being accepted and understood at grassroots level has given us space to talk, and partner, and make a long lasting difference," says Blanche Pitt, Country Director for South Africa. "African communities will define their own health care and we have to be aware of that and deal with the situation pragmatically. If such a huge percentage of the population go to traditional healers, we will work with the traditional healers. Giving the first line of defence in community health the skills and training to deal with the commonest diseases is a no-brainer. And now that the Ministry of Health are so involved, it is a model for replication, not just here in South Africa, but all over the continent, as traditional healers are to be found in huge numbers across Africa," adds Pitt.

Most importantly, the *sangomas* are playing a crucial role in ongoing counselling, encouraging people to go for CT and tests like CD4 cell counts, and monitoring the progress of those who are on ARVs. The healers are themselves encouraged to get tested, so that the advice they give to patients is based on experience.

As a result of AMREF's advocacy, the Ministry of Health has changed its policy to accept traditional healers as part of the formal health system. This means that they can now refer complex and severe cases to hospitals and clinics. And thanks to the *sangomas,* participation in health services related to HIV/AIDS and TB as well as compliance to drug regimens has increased significantly.

In October 2006, the British Ambassador to South Africa, Sir Paul Boateng, hosted a reception for the AMREF board at his home. Three of the assembled guests chose to talk about the organisation's groundbreaking work in Sakhisizwe. The first was AMREF chairperson, Prof Miriam Were, an acknowledged champion of community-based health. Next came a senior executive from AstraZeneca, the company that supports AMREF TB projects in South Africa. He spoke of his conviction that working amongst communities is crucial to solving Africa's health problems. They were then joined by a *sangoma* adorned with leopard skin and beads. He talked with enthusiasm about the *sangomas*' partnership with AMREF, a large pharmaceutical company and the Ministry of Health in helping to bring HIV/AIDS and TB under control.

"For me, those three people standing side by side on the garden steps symbolised the AMREF ethos. It was a very powerful image. They were all talking the same language. Improved health can only happen when it takes place within a cultural context," says Director General Michael Smalley, "We have recently refined how we look at creating the right environment for good health. Individual interventions can improve the way HIV is managed or water is used, but those health gains won't necessarily stick. AMREF would argue that communities are a crucial part of the health system. Listening to people articulate their needs is the starting point from which to find solutions."

• There are over 690 traditional healers in Umkhanyakude District alone • 60 per cent of South Africans consult traditional healers • SA ranks 7th (from 9th in 2001) among the 22 high burden countries accounting for 80 per cent of all new cases of tuberculosis, worldwide • The total numbers of cases is estimated to increase by 2005 because of the impact of HIV

10/KECHENE
GIVING CREDIT WHERE IT IS DUE

Until a few years back, life in Addis Ababa's Kechene District was just about bearable. Like many urban slums across Africa, residents would rise early to roast barley, bake bread, or travel outside the city to collect firewood for sale in the morning markets. If you had an idea, and were prepared to work hard for it, you could always make ends meet.

Then HIV/AIDS arrived. Today, an estimated 16 per cent of Kechene's 46,000 residents are HIV-positive - the highest prevalence in a city with one of the fastest growing infection rates in Africa. "The hand-to-mouth existence here was just about manageable until HIV came along," says Nemme Negassa, AMREF's project manager in Kechene. "Now the most common situation is widows looking after several children, or, worse, orphan-headed families. There is a community spirit within the *kebele* (district), and families take in orphans where they can, but now they are really stretched to their limit."

With so little money, the children of Kechene have no option but to go out into the world and earn a living. With the average family in the *kebele* comprising eight children, it is common to see boys of five or six carrying their brothers on their backs as they sell *kolo* (roasted barley) on the street, or bent double under loads of firewood. Tiny boys hustle passersby for a shoe shine, for which they will earn about half an American cent. "The children here have no childhood, and very little idea of play or fun," says Nemme. "They are only concerned about making a little money for their family to eat."

Conditions are austere. Clumps of joined dwellings made from mud and corrugated iron house several large families, most of whom curl up on a mud floor to sleep in the evening, and share communal areas to relieve themselves when nature calls. Meals of *injera* and spicy tomato sauce are cooked on small gas burners inside the house. Despite this, most houses are swept clean and carry pots with flowers and faded posters or calendars on the walls. Thousands still call Kechene home, however austere, and they live with dignity.

A buzz of activity takes place behind closed doors: like poor neighbourhoods the world over, people do not sit around, complaining and waiting for handouts. Kechene used to be well known as an area where poor weavers lived, making the *gabis* for wealthier folk to wear. *Gabis* are beautiful white, patterned pieces of beautifully weaved material that is thrown about the body for style and warmth, and is also made into dresses. The material is much in demand still, and many of the women living here in the slum are weavers. Others make the traditional Ethiopian coffee pots, or run cottage industries selling the Ethiopian staple food, *injera*. But still, poverty levels here are frighteningly high.

In such a dire situation, small-scale poverty alleviation projects seem merely to scratch at the surface of all this suffering. But crucially, focusing on poverty provided AMREF with an entry point with which to engage the women of Kechene on health issues. AMREF's strong connections in and understanding of Kechene enabled them to design a project that would provide both long-term economic support to some of the area's poorest households, while giving them the knowledge and power to protect their families' health. Initially targeting 50 women, the project provided small loans for business start-ups and formal business and marketing training, alongside lifesaving lessons on HIV prevention and care and support for families affected by AIDS.

The project has come a long way in a short time and the loan scheme now involves over 300 women. Since AMREF began negotiations with the district administration and community leaders in early 2004, a project 'core' has grown up comprising the Kechene HIV/AIDS Council, the Ministry of Health, the Iddir (local welfare association), AIDS clubs, and youth and women's associations - all of which are involved, to some extent, in the selection of beneficiaries and volunteer educators, the design of public awareness campaigns on HIV prevention and support, and the monitoring and review of project activities.

A savings and credit association set up to provide the beneficiaries with start-up loans is already self-sustaining, using loan repayments as a revolving fund for new recipients. “Various beneficiaries have been assigned responsibilities and we are currently training five community members to take over the long-term management of the association,” says Nemme. “It is not long before the association will be able to be operated as an independent community based organisation, providing assistance to any resident who has a sound business idea.”

The broad range of stakeholders has ensured that a significant cross-section of the community is represented at neighbourhood meetings, which bring HIV-positive residents and AIDS widows and orphans face to face with their neighbours. “We hope that the more people that meet and become involved in supporting orphans affected or infected with HIV, the more it will help to reduce the huge stigma and discrimination that still surround this disease,” says Nemme. “What has been most heartening to me is the large number of volunteers that have signed up as community educators - people who want to become teachers and carers for their positive neighbours, without being paid anything - which suggests that there is already a strong core of people who can guide others out of the trap of stigmatisation.”

That is a huge step. The stigma associated with the disease was huge, with those suffering from any kind of disease hiding behind closed doors and being ostracized by their neighbours.

“We didn't know what caused HIV, or how you caught it,” says Ayelech Ayenachew, a widow with five children who is a project beneficiary. “So we thought the best thing to do was to just to avoid those people. AMREF has taught me not to fear them, but help them. Now I am great friends with my neighbour who is HIV positive, and we sit together to eat often.”

Sitting and eating and chatting over a traditional Ethiopian coffee ceremony is a common ritual here. As the coffee takes hours to brew, groups can catch up over the latest gossip, and exchange important news and information. This bright sunny afternoon in Kechene, Ayelech is hosting a coffee ceremony, but gossip is not on the agenda.

“AMREF encourages us in the programme to have frequent meetings and discuss the things that are affecting us most. With our new business skills and healthy lifestyles we can support and help others who are still struggling. We discuss HIV openly now, and try to encourage each other to go for testing.”

Ayelech is a success story in Kechene. Now in her early forties, she ran away from a forced early marriage at 12 to the slum, and lived with an aunty. Thirty years later, she has been married three times and has 5 children to look after, all alone.

“Life was a continuous winter,” she sighs, her face bearing the scars and troubles of the past years. “I was constantly struggling to get by selling pots here and there, with so many mouths to feed. I used to hide at mealtimes because I couldn't face my children with no food to give them,” she remembers.

She heard about the AMREF project through a neighbour who told her that they were looking for people to qualify for training and support. “I sent my son to the AMREF office, all ragged and dirty as he'd been working all day moving rubbish. I couldn't miss the opportunity, because I was past breaking point. He banged on the door and begged them to come and see us, which they did a few days later. Spring arrived that day.”

Ayelech's life has improved on every level since she joined the programme: “AMREF taught me how to live healthily, eat healthier food, visit their clinic, and go for tests for TB and HIV… they helped all of us maintain and clean our houses better, told us about the importance of boiling water, of cooking food properly, and keeping your hands clean. My children have all been tested for HIV and thank God they are negative, and now they also know how they can stay that way. The whole family is healthy now. We have the strength to run the business better.”

AMREF runs a small health centre walking distance from Kechene that comprises a small laboratory so diseases can be diagnosed quickly. As part of the wider AMREF laboratory strengthening programme, headed by Dr Jane Carter in Nairobi, the lab here is run by a trained officer and the quality of the laboratory and its findings are assured. The health centre has a doctor, a counsellor and a lab technician and offers HIV tests as well as general health check ups. All the HIV results go back to the Ministry of Health so that they can plan better health programmes for the people here and understand their needs given the scale of the problem.

Andale Asmare is the lab technician. “We are always busy here,” he says, “especially after we have run promotional campaigns in the slum, either with posters or using microphones mounted on trucks that travel through the villages here. We can have up to 16 people a day just for HIV testing. It's hard to describe how much of a change that is. Let me just say that is a huge and positive change!”

Through training and a financial loan, Ayelech has managed to enhance her businesses making pots and weaving *gabis*. “The younger children go to school now and the older girls help me with my business.”

Perhaps the hardest thing for the project was the initial selection of the women who would receive direct support. “We've had to restrict ourselves to the most vulnerable women we've met,” says Nemme. “They're mostly widows with large numbers of children, or older orphans responsible for looking after their siblings.”

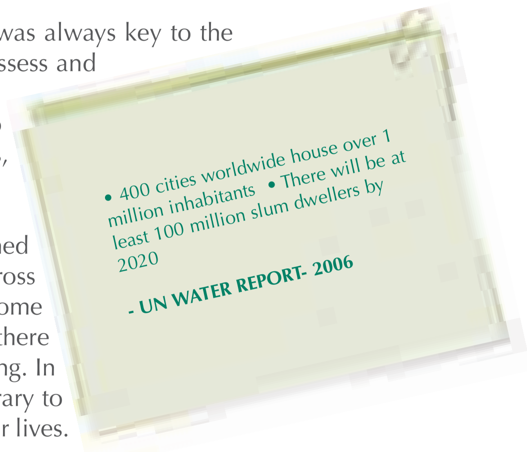
Almaz Alemu also fits the bill. Since her husband died 10 years ago, she has continuously struggled to feed her seven children. Almaz and her children live in a single cramped room, which is muddy underfoot and attracts swarms of flies. Her eldest daughter is 17 and lies on a mattress, her listlessness and fever indicative of typhoid. Almaz glances at her and breaks down. “She is just so sad,” says Nemme, “So tired of this daily relentless struggle, which never bears any fruit.”

She makes clay coffee pots in a small dark room, where she sits all day, moulding up to 10 pots before hardening them in a fire outside. Almaz sells the coffee pots for 1 birr and 25cents (less than US$0.15) in the large market in Addis Ababa. So far so good - until Nemme hears that the fuel for the fire costs 10 birr, and the clay costs 5 birr for every 30 pots. The figures just don't add up.

"She hadn't been factoring in her costs, and she can't put her prices up because the market dealers won't buy them," says Nemme. "The traders who buy from her don't give her the money she deserves. But she lacked the negotiating skills to change her situation. The project teaches good practices in pricing and marketing, which should enable people like Almaz at least to make money from all their hard work."

But despite the apparent hopelessness of so many of these people's lives, the boundless generosity of the human spirit prevails. "I've seen people taking in orphans when they have no income and have 11 or 12 children of their own," says Ayelech. "I've seen a woman who took in an abandoned newborn baby while she was working as a casual labourer to feed her own children. Our community plays a role in supporting the needy, even when it has virtually nothing itself."

Dr John Nduba, Country Director for Ethiopia, says the community involvement was always key to the success of the project. "When planning a project like this, it's very important to assess and build upon what people are already doing, because even the poorest people are always doing something for those worse off than themselves. The crucial thing is to see what the structures are within the community and work with local traditions, sensitivities and of course, local people.



I had worked previously on the Kibera project in Kenya, where we had already learned many lessons about starting projects in a low resource setting. Whilst every slum across the world has its unique challenges, customs and opportunities, they also have some similarities. One similarity is that they are often hard to penetrate, as the people there often keep themselves to themselves and don't like people coming in and interfering. In Kibera a major challenge was trying to get people who felt their home was temporary to care enough to make major changes to the infrastructure and the way they lived their lives.

In Kechene, it was looking for an entry point with the most vulnerable people here to get them to start thinking about health, and understanding the crucial issue of HIV, which was decimating the little resources people had. To get their attention, of course we had to tackle the poverty issue at the same time, as people were far too busy just surviving to listen to talk about health or visiting a clinic. As with so many of our projects, the fact that we are an African organisation with local Ethiopian staff really helped us penetrate and make a difference in quite a closed society."

Amref has trained over 700 community health workers in Ethiopia.

11/CONFLICT

SEEING THE WOOD THROUGH THE TREES

It is hard to believe that such a beautiful place could hold the memories of so many years of terror and violence. The only thing that makes you feel remotely uncomfortable, upon first arriving in Kitgum town, Northern Uganda, is the heat and dust. Apart from that, your eyes feast upon lush green surroundings, the rolling distant hills of Orom, and a quiet people going about their business; a little building work here, a small café there, people washing their clothes and everywhere, people sweeping up. Kitgum town is dusty. The dust gets everywhere. It tickles up your nose and it dries your eyes out. It makes you cough and gets right into your shoes and socks. But people in Kitgum town have learned to live with the dust. What they cannot live with is abduction, violence, starvation, fear. Their feet have done the talking, and now 90 per cent of people from Kitgum District are living in camps dotted around the surrounding areas.

The war between government troops and the LRA has had these people on the move for 20 years now. Most will tell you that their lives are in tatters, living from hand to mouth, many 100 per cent reliant on the goodwill of aid agencies, with little dignity or hope left. The younger generation does not know a life free from war. Nothing is unaffected, from food production, to education, to health, to community structures, to the psycho-social status of the people. Most villages lie uninhabited and fear of being abducted into rebel forces means that people prefer to remain in the camps they have moved to, and many children still commute to sleep overnight in 'night commuter' centres where they feel safe. This has led to violence in many of the camps, caused by an understandable boredom and sense of hopelessness.

There are no paying jobs to be found; to work here is to survive The residents of Kitgum's IDP camps cannot tend the land they left due to insecurity, or the land they currently reside on as it belongs to other people. There are several NGOs, the UN and missionaries working in the area to better people's daily circumstances. Programmes are extremely well coordinated with quarterly meetings for each discipline, for example, health, education, water and protection. AMREF's focus is on long-term rehabilitation for the people of Northern Uganda, optimistic that one day the fighting will cease and people can get back to building their futures.

This long term nature of AMREF's projects is at first hard to grasp. For people who have nothing, and no hope, it is a shock to hear AMREF's Health Promotion Officer, Cissy Amony, say that one of original objectives for AMREF's girls' education project was to encourage girls to study sciences. It seemed a little like fiddling whilst Rome burnt.

"There is one female doctor trained in the entire region," explains Cissy, "and five male doctors. It's a long shot and a long-term vision, but we have to get girls here back into education, gaining skills that will benefit the community and meet their most acute needs in the future, which will undoubtedly be health-related."

Most organisations in the area are dealing with the immediate issue of paying schools fees, or buying uniforms, almost exclusively with primary schools. The issue of supporting secondary schools, and keeping pupils in the schools was hardly looked at until AMREF started the schools project in October 2004.

Here in Kitgum town, there is only one girl's boarding school; YY Okot Memorial College. It has an overwhelming 700 pupils, and each class heaves with between 80-100 pupils. But the teachers are dedicated, optimistic, and determined to see the girls succeed.

Once Cissy started the programme, she realised that to achieve the ultimate goal of getting girls to study science, first she needed to address many other issues. This society does not encourage girls to stay in school at all. "I asked one man, a father of a girl and a boy, who was ironically a teacher, which one of his children he would put in school if he could choose only one. He looked at me in disbelief. He said the boy of course, as the girl would only go off and get pregnant and her education would be of use to no one."

This attitude means that there is an alarming rate of girls dropping out of school. And as Cissy puts it, "If you're not in school, you're pregnant."

Added to the attitude towards girls education is the very serious issue of abduction. Most of the girls in YY Okot Memorial College have spent time as a bush wife with the rebels. This could be anything from a month up to five years. Even those that have been 'fortunate' enough to spend just a month in the bush are left scarred for life. It is common practice for those children abducted into the LRA to become carriers for the army, slogging through bush carrying resources, becoming cooks or even worse - bush wives or being forced to kill.

"It was obvious immediately that we had many issues to tackle regarding girls education," explains Cissy. "Many of them were just hopeless, and had lost their childhood, or worse, their humanity."

AMREF started a life skills project targeting all of the schools in Kitgum. Both as part of the curriculum and taking place in after-school clubs, the life skills project aims at helping girls feel strong, in control, and able to see a future.

"We work with other NGOs and the government to get in 'experts' to talk to the girls. We discuss personal hygiene, health, HIV, human rights and we counsel those who are traumatised. This is an extremely hostile environment so we give the girls tools for survival. The sessions help bring so many issues out into the open. Many returned 'bush wives' are ostracised by the community here and by their peers. These groups now understand one another's traumas and help each other to overcome their experiences. The amazing thing is that now, many of the pupils themselves are peer educators."

One such pupil-cum-peer-educator is Monica Amono, 17, who attends YY Okot School. She recently went to give a talk to girls who had dropped out of school and were living in an IDP camp nearby. Monica is a founder member of the Life Skills Club at YY Okot School.

"The behaviour of the girls who have undergone life skills training is so different to those who haven't attended it. They are open, informed, and are in control. We live in a world full of trouble and full of AIDS. All the information I now have will help me, and others, fight against that."

Monica recently went to a local IDP camp and fearlessly gave a speech to a group of over 100 people. "I told them about living a clean and healthy life. How to look after themselves, protect themselves. I gave them information about sanitation, and a balanced diet. People here don't have much, so they need to look after themselves with the little they do have. Everyone listened. And I wasn't afraid. I knew what I had to say was of use to them."

At least once a term, the girls go on visits. They recently visited a hospital where they spent time visiting HIV/AIDS patients. Not only did they teach there but they also learned a lot.

"HIV is taboo here," says Monica. "But seeing people sick and looking at their wounds and their isolation showed us that these people are just humans like us. Often here, if someone is sick, especially from AIDS, the family often say 'she's dying, let's just leave her'. They are not cared for and are outcasts. We now encourage our community to care for their sick, and to value them. We also tell them that through wearing gloves and being careful there is no risk in caring for those living with HIV. And we tell people to bring it out into the open. It's all around us here, just like this war."

Dorothy Akech is an English teacher at the school. She is just 24, so identifies with several of the older girls as peers. She is from Mbale, a peaceful town in Eastern Uganda. Why come here? “I just felt I had to do something. It's not an easy place to live - even apart from the insecurity and the basics, like electricity; it's expensive as products are hard to get in and out.”

Dorothy is dedicated because she sees the long term benefits of the school, and the Life Skills classes in particular.

“The situation here is so dire. Hygiene, due to lack of water, and information, is at a very low level. We have to educate about good hygiene practices. Most girls here have lost a parent, or both, and their remaining families are living in the IDP camps. Sometimes there are seven people to one tiny hut. Often girls are told to leave or given away to reduce the family burden, and cholera outbreaks are far too common. We have no choice but to educate about cleanliness, about the importance of school, and being able and empowered to say no to sex. This is not just vital for the growth of this community, but for a long term peace. We need to have an educated, healthy community to move on once peace has come.”

William Oloya is the Programme Manager here in Kitgum. He explains that there are many different strands to the programme, all of which are geared towards creating long-term stability and better health. Apart from girls education, the project here covers the establishment and maintenance of water points and hygiene promotion, home-based care for the elderly and sick, a lab strengthening programme supported by the main laboratory in Nairobi, a maternal health initiative, which trains midwives and equips them with medical kits, and a holistic programme aimed at strengthening the health information systems, health care centre and personnel in the district.

Dr Harry Jeene, Director for Programme Development at AMREF, explains the policy of carrying out long-term health development in conflict situations. “It is what we know, what we do best at AMREF. Our goal is to link the community with the health system so they 'talk' to one another, understand each other. The community, in time of war or peace, will have health needs. We identify those needs with the community. Then, the next step is to enable and resource the health system to meet those needs. It is important for the psyche of the community that they don't just live on hand outs. Doing long-term work, like maintaining wells, or improving education sends clear message that one day there will be peace, that someone believes they have a future. It is a similar strategy to the clinical officers' training school we set up during the conflict in Southern Sudan.”

The clinical officers' training school in Maridi, Southern Sudan, was opened in 1998, even as gunfire erupted around the school. It remains in 2007 as the only medical training school in the country, and is responsible for training over a third of the current health personnel in the largest country in Africa.

“Once peace comes to a country, the most important thing the population need is good health. It is the foundation of any development.” adds Jeene.

With that in mind, the Northern Uganda, project also focuses on immunisation, and through the Ministry of Health, AMREF is rolling out a large programme in the three war affected districts of Kitgum, Pader and Gulu. Measles, whooping cough and TB were all rampant here and immunisation coverage was very low. The challenge was to get people living in this type of insecurity to come to vaccination days.

"Setting up stations was very hard," says Sister Zura who runs the immunisation programme, "Health units were either closed or far away and of course everyone is too scared to travel cross country. So we had to assemble several, accessible centres, and use local people to let everyone know where the sessions would take place, why, and what diseases we would be able to prevent. It's a lengthy process, but it was successful."

Coverage is now impressively high in the area, and Gulu is even seen as a model district compared with the rest of Uganda, which enjoys peace. Nearly every child is immunised, which is better than other parts of Uganda which enjoy peace.

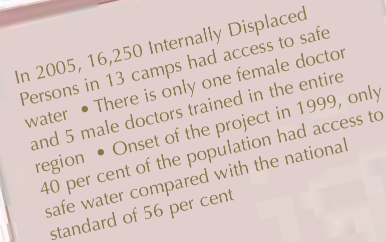
Nevertheless, running vaccine days in this context is hard. Once demand and understanding is created, the numbers turning up at vaccination days can be overwhelming, and they require everything from natal care to basic child care to requiring information on common diseases such as malaria and skin diseases caused by bad hygiene and malnutrition.

Special mobilisers knew which areas were currently safe to set up camp in. These special mobilisers were selected by the community themselves, providing an excellent source of information both to the community and to the AMREF staff. "They must be able to read and write, be educated to a good standard, and fluent in the local language. We have anything up to 1000 in the area now - and we are always overwhelmed by this community's desire to help and change things. It's very inspiring."

Sister Zura is also an inspiring woman. She has worked in health for many years and endures a lot of hardship living here in this hot dusty town. But she is determined, and takes her work very seriously. She starts to speak, but is interrupted by her small pink mobile phone which bleeps out a tinny hymn. It's the local UNICEF representative, looking for local records and statistics, and importantly, AMREF's plans so that we can all coordinate well.

"Coordination is key. Many NGOs come and go, and others like UNICEF and Care are here for longer. It is vital we all know what each other are doing, so that we enhance each others efforts. For example, Care provides all the fridges for drugs around here. UNICEF manage the overall coordination, and we hold all the health and immunisation records, which of course we will hand over to the MoH once the fighting is over."

Joshua Kyallo, Country Director for Uganda agrees. "Our goal here is the same goal for all the projects that AMREF run in conflict situations: to have health systems and informed communities ready to take control of their own lives and their own health: once the fighting is over."



11/CONCLUSION

FROM GRASSROOTS TO GOVERNMENT

Looking to the future, AMREF's five-year strategy for 2006 to 2011 will focus much more on strengthening health systems. "It is the only way to achieve long term sustainability. If health systems are robust, then everything else works," says Director General Michael Smalley. "The donor tendency has been to fund a vertical programme centred on a specific disease. Unfortunately this often weakens the wider health system because it sucks in time and resources from an already fragile system. Strengthening health systems is now in the spotlight. I would like to think that AMREF has played a part in this. The implementation of our new strategy will support the re-engagement of communities with health systems and help breathe new life into African primary health care. We intend to provide the evidence that will make the case for keeping these issues at the top of the global health agenda. Strengthening health systems is not a quick fix. It will take at least 25 years."

As Professor Omswara, Regional Director for Africa at the WHO once said of Africa, 80 per cent of health is made in households and communities and 20 per cent is repaired in hospitals and clinics. Health systems have focused on this 20 per cent for too long; we must redress the balance and give attention and resources to the other 80 per cent. Good health happens by empowering communities through prevention, support, care and treatment. Educating community members, including school children, in preventive health practices so that these messages are absorbed into the mindset of families and neighbours has long been at the core of AMREF's mission.

"We Africans specialise in ignoring our strengths. In Africa the community structure is still intact, and we should use it for promoting good health. We can only inculcate the concept of living healthily by teaching preventive measures in a way that can be understood. So many people live at subsistence level and have been denied a good education. We can't presume that they are aware of the germ theory because they aren't," says AMREF chairperson Prof Miriam Were.

If an organisation's vitality is defined by its ability to identify and address problems through a continuous evolution of approaches, then AMREF can be judged to be successful. It has consistently used the tools of the time to narrow the gap between health systems and communities. It began with the delivery of health care using planes and mobile units. The earliest education materials included posters depicting enlarged images of an eye and a mosquito to explain the dangers of trachoma and malaria to illiterate audiences. Today AMREF is introducing e-learning and telemedicine as channels for disseminating knowledge to doctors, nurses, health workers and technicians. The next step is to take programmes, particularly training, to a regional level to ensure that AMREF is a truly African medical and research foundation.

AMREF programmes' success is down to the fact that the staff work through and with communities. Models are specifically designed to function within the context of culture and circumstances. This goes for education as well. Messages to grassroots communities are pitched at a level of comprehension that can be internalised by the audience. This is why school students learn about hygiene, life skills and safe sexual practices through drama, dancing and art. Workshops and training programmes at community level are a constant work in progress influenced and driven by feedback from their target audiences.

It has been a 50 year learning curve. The posters illustrating an outsize mosquito and an eye were dropped soon after they were introduced as a teaching tool. "This is not for us," the elders had said. "We do not have mosquitoes that big and we have never seen anyone with such enormous eyes." Today AMREF delivers the same messages, and many more, through videos, posters, drama or books depicting people who are just like the people they are talking to.

One of AMREF's unique selling points is the appropriateness of its interventions. In Nairobi's Kibera slum the adherence to antiretrovirals - an exceptional 92 per cent - outperforms adherence rates in many economically more advantaged areas, thanks to the volunteer community health workers, trained by AMREF, who make home visits to people living with AIDS. But this would never have happened if AMREF had not opened a health centre in Kibera and trained community heath workers to bridge the gap between the health centres and households. Patients are only a short walk away from the health facility that dispenses their free drugs. In another Nairobi slum where free antiretrovirals are on offer, adherence is poor because people cannot afford the $1 bus fare to the hospital that provides them.

Similarly, in Ethiopia AMREF is turning around the lives of thousands of factory workers in Addis Ababa's industrial area. Despite the availability of antiretrovirals through the Global Fund, very few knew their HIV status. The testing site was at a hospital in the city centre twenty miles away. It was too far for them to go. In 2005 AMREF, in partnership with Ethiopia's Organisation for Social Services for AIDS, took mobile CTs to the workers.

"It was an amazing experience. Nearly 3,000 people came for testing in the first month," says John Nduba, the Ethiopia Country Director.

There is a lesson to be learned here. If service providers do not fully understand the community ethos and how people lead their daily lives, and what makes beneficiary communities tick, they are destined for failure.

AMREF does not believe in re-inventing the wheel. Its projects test innovative methods for overcoming old and new problems and shares the lessons learned with governments and other health organisations. The Uganda Malaria Partnership Programme supported by GlaxoSmithKline's African Malaria Partnership using Homapak and Community Drug Distributors has been proven to have an impact and has been mainstreamed into district-level planning and budgets for replication nationwide. The World Health Organisation (WHO) is interested in using the model in other African countries too.

Mema kwa Vijana (Good Things for Young People) disseminates sexual and reproductive health knowledge and life skills to schoolgoing teenagers in Tanzania's Mwanza Region. An evaluation showed that HIV infections and sexually transmitted diseases had dropped noticeably amongst the trial cohort. These teenagers had become the guardians of their wellbeing. As yet another successful intervention, sexual and reproductive health will be added to the curriculum in classrooms across the country.

"AMREF's role is changing from one of facilitator to that of informing the world about what should be happening in places similar to the ones where we have confirmed best practices. We use our experience to establish workable methods for good health in Africa. It has great potential," says AMREF's Dr Mores Loolpapit, who was a leading instigator of the Entasopia Health Centre in the early Nineties.

The latest five-year strategy places operational and applied research high on the agenda. Michael Smalley defines it as development- driven research because AMREF's objective is to improve the quality of health delivery.

"AMREF can't indulge in polemics. In the past we just assumed that people would see how passionate and experienced we were and follow. Now we know it takes hard-nosed science to persuade others. It's really very good that we have reached a point where we are beginning to produce the evidence to influence policymakers," says Prof Miriam Were, who points out that a research question is embedded in all proposals submitted to donors.

Although Michael Smalley admits that the research component of the African Medical and Research Foundation has oscillated over the decades between "r" and "R", it has always been there. For the past twenty years, the Laboratory Programme has collaborated with WHO as a regional centre for testing new techniques and equipment. In the early 1990s AMREF and the London School of Hygiene and Tropical Medicine established a link between sexually transmitted infections and the transmission of HIV. The findings, which changed WHO guidelines for the prevention and management of STIs were a key discovery in the battle against AIDS. Now they are conducting clinical trials on the use of microbicides as a means of preventing the transmission of the herpes simplex virus, which they had earlier established as a major risk factor for contracting HIV.

From this research comes policymaking. Over the past five decades the outcomes of several projects have influenced national health guidelines.

"AMREF is the vital interface between the reality on the ground and policy. Historically, guidelines have been handed from the top level down to the bottom, but they don't necessarily reflect how people feel, or what will work. We want to organise communities to voice their concerns not only to the government but to their own grassroots leadership so that there is genuine action on health issues," adds Dr Daraus Bukenya, programme leader for AMREF's extensive HIV programme.

In Kenya this is already beginning to happen. The latest Ministry of Health development plan refers to communities as the first level of health care. This means that communities are now formally recognised as part of the health system structure.

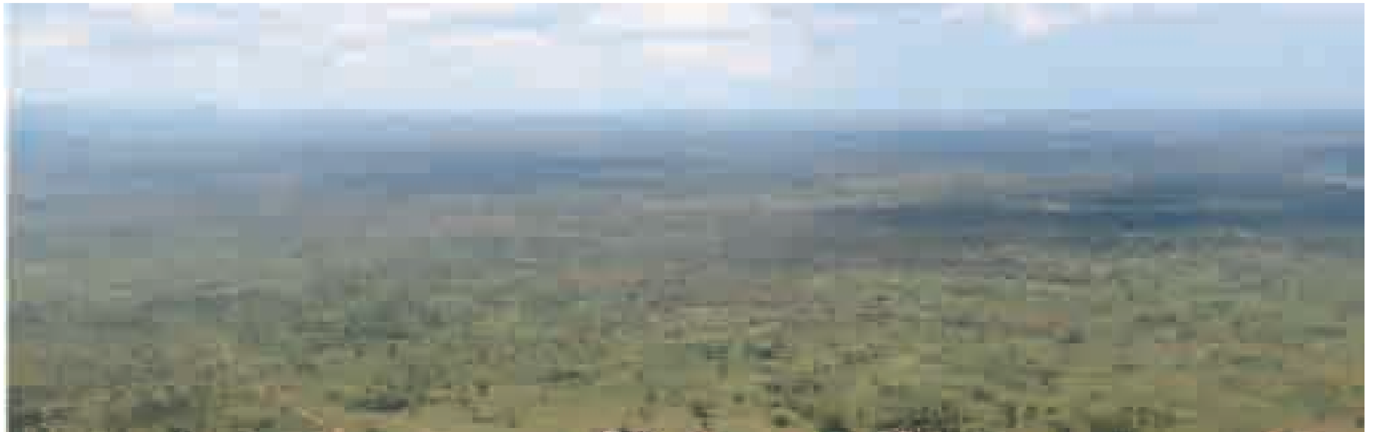
"Policy and research don't stand in isolation. They are part of the continuum of our work. Our data is a gold mine and the fulcrum for everything. The next step is to analyse it and disseminate this knowledge in continental and global forums - the African Union, Geneva, the UN's Interagency Standing Committees, the UK Government's Commission for Africa. We must ensure that AMREF truly influences policy and practice. That's the only way we can make progress," Daraus Bukenya adds. AMREF is already a global player in health with a voice that is respected and heard. In 2006 it was the only African health development organisation represented at the World Economic Forum in Davos, Switzerland, the year after it was the first African organisation to win the prestigious Gates Award for Global Health. AMREF's Michael Smalley is on the board of its Global Health Initiative.

One of the major thrusts is to strengthen health systems in Africa. AMREF is the only African non-governmental organization represented at these discussions and has been deeply involved in every stage of the planning. Dr Jane Carter, who heads the Laboratory Programme, sits on the WHO Steering Committee on Laboratory Partnerships and is a technical advisor for WHO on laboratory issues. She and Sadiki Materu also worked with four ministries of health to develop a model for the East Africa Regional External Quality Assessment Scheme which was launched in 2007.

Says Michael Smalley: “The commitment of AMREF's staff to making the lives of people better is quite overwhelming and very humbling. Capturing that energy and channelling it upwards to the people who make decisions has a big impact on what's happening on the ground. It's hugely exciting. We are concerned because people are not as well as they ought to be. It's their right to be healthy. If we can contribute to that, it's about as good as it gets.”

/NATIONAL OFFICES

AMREF would not have come into existence without its National Offices in Europe and North America, their remarkable Chairmen, and the hundreds of volunteer helpers who have worked tirelessly to support AMREF's activities in Africa.



Getting established in difficult circumstances during the late Fifties and early Sixties required charismatic personalities, a belief in Utopia, and the confidence and courage to achieve the impossible. It required a vision. All this was reflected in the founders of AMREF, and many of those who followed and set up the National Offices.

The initial hub of support for the organisation was in the USA where Tom Rees and his wife Nan, quickly involved all the 'good and great' people in their passion to improve the health situation for the most vulnerable in East Africa. This set an example for other National Offices. Dr Anne Spoerry, a French/Swiss citizen and Africa's first woman flying doctor, set up branches in Switzerland and France in the Sixties and Seventies respectively. UK follwed shortly afterwards and with its rich history and links to East Africa, managed to set up a solid network under the guidance of Sue Pretzlik and Dr Christopher Wood.

Several others were to follow, particularly AMREF in Germany, still under the continuous leadership of its founder, Leonore Semler - who almost single-handedly has raised over $30 million for AMREF's work in Africa.

The world was very different in the early 1960s. Post-war difficulties and communication problems meant that Europe and North America were struggling to their feet: 'development aid' was still an unknown concept. However, early on, the visionary Michael Wood realised that there was a need for a far bigger organisation than just the flying doctors and the African Medical and Research Foundation was born.

As well as the support for the project work Michael Wood realised the importance of having substantive core support for AMREF. Together with his friends in Toronto and Stockholm back in the early Seventies he was instrumental in starting the partnership with the Canadian and Swedish Development agencies CIDA and SIDA, which remains so important to AMREF today.

By the early 1980s National Offices were established in ten countries worldwide, mainly based on great friendships that existed between Michael Wood, Tom Rees and well known personalities and philanthropists. This was the beginning of a real family whose custom it was to meet twice a year in Africa or Europe. The AMREF family still meets twice a year in Africa.

Over the next 20 years the National Offices grew as they struggled to engage the world in Africa and its health problems. Undefeated, they continued to raise crucial funds and support for the work of AMREF as the financial base and activities continued to grow in Africa. For example in 1957 the budget was $12,000 and by 2003 $20 million.

At that time AMREF was still dependent on the income generated by the National Offices. For a period of some 40 years, the National Offices had contributed up to 85 per cent of each annual budget for AMREF in Africa.

Around 1992 it became time for a change in the organisational structure. AMREF's expansion in Africa was increasing and the Governance structure needed to be amended to serve this expansion better. The National Offices were encouraged to think about how they fundraised, worked and communicated with one another to gain more strength, as well as streamline their relationship with the activities in Africa. A Memorandum of Co-operation was drawn up for this purpose, and the Board Structure changed so that instead of all the National Offices' representatives attending the Board, selected individuals would represent the National Offices' interest.

To consolidate their experience, the National Offices joined together in 1999 to form the International Forum, a group of mutually supportive offices from across Europe and Northern America that shared skills, successes, resources and sometimes even staff, increasing once again the sense of family that AMREF had been founded on. Meeting with the African Board, Senior Management Team and African staff twice a year, the International Forum contributes and brainstorms on policy, projects, communication and fundraising issues, and remains an accountable link between Africa and their donors. The elected Chairman of the International Forum is an appointed member of the main Board of AMREF, ensuring that the National Offices remain involved in the governance and policy of the organisation.

The growth and success of AMREF over the past 50 years owes an indescribable amount to the National Offices. Without the engagement, understanding and support of people outside of the continent, AMREF would not have grown to be the influential organisation it is today, nor would it be able to look ahead to the next 50 years with confidence and hope.

There are currently offices in Austria, Canada, Denmark, France, Germany, Italy, Monaco, Netherlands, Spain, Sweden, UK and the USA.

/AMREF'S BOARD

The Board of Directors is AMREF's main governing body, its primary role being to oversee that the Foundation is run in a way that encompasses its mission, its financial and human resources and the global framework in which it operates. It oversees the effective presence of AMREF, endorses its strategies and policies, and recruits and guides the Director General, who is responsible for leading the organisation's strategic development and managing AMREF headquarters and Country Offices.

Due to the wide geographical nature of the organisation, the role of the chair is particularly critical to the Board's effective functioning. Members of the board are selected on the basis of their ability to provide experienced and professional guidance for AMREF in matters of medicine and health, development, finance, organisation, fundraising and other appropriate disciplines. At least a third of the seats are reserved for people connected with the national offices, including the chairperson of the International Forum, while at least a third must be African nationals.

The Board normally meets twice a year, and has several committees to ensure that operations of the Foundation are professionally run. The Board Development and Nominations Committee advises on matters relating to governance of the Board; the Health Programme Committee advises on strategic issues and policies with regard to health development; the Audit and Finance Committee advises the Board on matters of

accounting, and ensures that AMREF uses effective operational and financial controls; the Human Resource Committee deals with strategic issues and policies with regard to the management of AMREF's human resources; and the Fundraising and Communications Committee supports the development and implementation of a global marketing plan for the organisation.

The Board's International Forum, made up of board members from the National Offices, provides AMREF with experience and insights derived from its members in fundraising and creating awareness in the donor market of the world and from their understanding of the health development environment.

AMREF has been governed by its Board since it was set up in 1957 and started operations officially on August 7 that year. The first Chairman was Lord Twining, who was succeeded in 1969 by Musa Amalemba. John Story, AMREF's Finance Director, took over the chair in 1971 as interim and handed over to Dunstan Omari, just then retired as Secretary to the East African Community. Mr Omari chaired AMREF over 20 years and during his Chairmanship steered AMREF through some major developments, both in AMREF's activities in the field and its support system in Europe and North America. In 1993, Ambassador Bethuel Kiplagat took over as Chair, and guided AMREF's major governance restructuring, which set up an Executive Committee, together with other support committees for the Board. He was succeeded by Prof Miriam Were in 2003.

In recognition of their contribution to AMREF over the years, Lady Wood, Mrs. Leonore Semler and Dr Thomas Rees were made Honorary Directors of the Board, a nominal position with no voting rights.

AMREF had two Patrons since its founding: Former Kenyan President Daniel Arap Moi and the late Prince Bernhard of the Netherlands.

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VISION

Better health for Africa

MISSION

AMREF is committed to Africa and African health. In creating vibrant networks of informed communities that work with empowered health workers in stronger health systems, we aim to ensure every African has access to the good health which is theirs by right.

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