Field sites:

The field sites are strategically located: they are along tarmac roads, they cover the stretch of land from the Indian Ocean to the world heritage site at Ngorongoro Crater. This northern Tanzanian landscape where the field sites are located has varying geophysical features, from highlands, mountainous outcrops and lowlands to the endless plain of the Serengeti National Park. Also, the area has a diverse ethnic population including Nilotics, Bantus, Asians and the Hadzabe tribe (which is believed to be the oldest group of human race). Human occupation is also diverse; from subsistence farmers, fishermen, and pastoralists to miners at the Tanzanite mining sites. This geographical, human, and occupational diversity has contributed to different characteristics of the same diseases. This is an important in understanding diseases and their natural course. Along this northern tourist corridor, for instance, the prevalence of tuberculosis and its clinical types varies greatly. In one of our sites we have observed the prevalence of tuberculosis in children that is far higher than the WHO estimates for this region. Malaria endemicity along this stretch varies from very low, low and mesoendemic to holo/hyperendemic state. HIV too has shown unique features; some of the field sites have HIV prevalence of more than five-fold the national prevalence. This region is one of the rare regions in the world where all major HIV-1 subtypes are present in the population. Such diversity of diseases, occupations, and geographical characteristics makes this location an ideal setting for research that can result into generic findings.KCRI has been able to identify and prepare sites for studies. Sites have been established for research in malaria (e.g. lower Moshi, Rift Valley area, Handeni)

Laboratory facility

The range of laboratory equipments available include: equipments for haematology (e.g. Cell Dyn, Beckman Coulter), for biochemistry (Cobas Integra 400plus, Refletron machine), for immunology (ELISA Reader – Bio-Rad, Biotex, BD Facs caliber, Flow Cytometry, ELISPOT Reader, Olympus Inverted microscope, 200-Bio-plex (Luminex)), for bacteriology (Bactec - BACT/ALERT3D, MGIT 960, Fluorescent microscope, p3 safety cabinet, Gen probe loader), and for molecular (HIV RNA sample processor, HIV1 DNA PCR, QIA cube sample processor, Corbett Robotics, Thermocyclers).

Procedures done include Serological tests, HIV testing (ELISA, Rapid tests and Western blot), HIV-1 RNA Viral load – using Abbott M2000RT, HIV1 DNA testing, real time PCR for TB, Peripheral Blood Mononuclear Cells (PBMC) processing, Phenotypic analysis for lymphocytes, Biochemistry, Microbiology, cultures for serial colon counting, Bacterial and Mycobacterial identification and drug susceptibility testing.