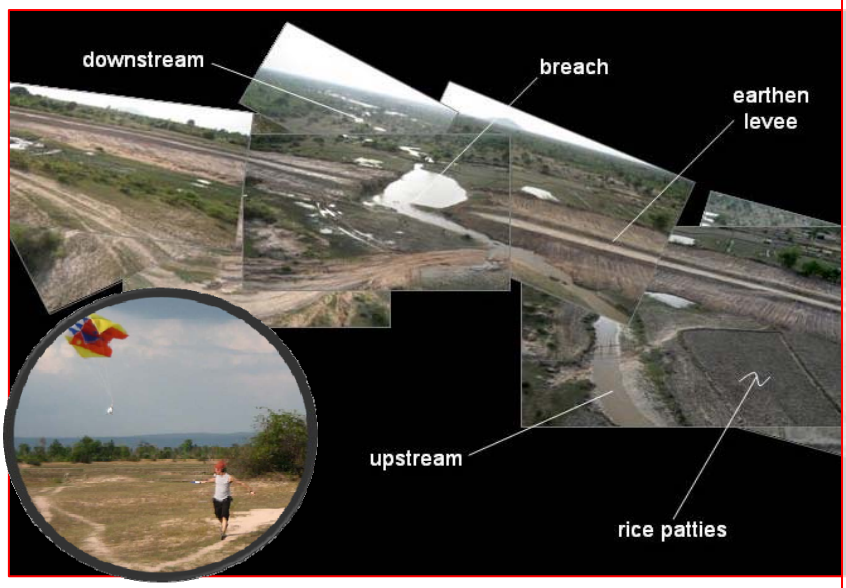
AERIAL KITE PHOTOGRAPHY

CHALLENGE

For successful infrastructure development, site visuals are crucial if maps are not available.

How does it work: Kite aerial photography (KAP), uses a camera attached to a kite. Its three major components are the kite, the camera rig, and the camera itself. Proper selection of the type and size of the kite depends on the availability and speed of wind, and the weight of the KAP unit to be lifted. For the site assessment in Cambodia, a 4ft span parafoil kite type was selected. A camera rig attaches the camera to the kite, and can simply hold the camera for a fixed view, or rotate to allow for panning options. The lightweight aluminum camera rig is designed to have two axis of rotation, namely, panning and tilting. The panning axis allowed for 360 ° of viewing, while tilting allows the camera to rotate 90 °up and down. All rotations and shutter release controls employ servos connected to a receiver, and are controlled remotely by a transmitter sent from the operator on the ground.

Designers:	Engineers Without Borders – NY Cambodia Team
Sector:	GIS
When:	2007-2009
Where:	Balang, Cambodia
Cost:	$300 USD
FYI :	http://balang.ewbny.org/



Our Story: EWB-NY was working in the under-served commune of Balang Cambodia to alleviate the severe food shortage they were experiencing after an earthen levee was destroyed during the 2000 rainy season. This community needed the construction of a new water gate and embankment to provide irrigation water, and therefore food, to the commune. The EWB-NY team needed to capture an overall image of the site to determine project scope, solution alternatives site planning. For a successful engineering project of this type, site visuals were imperative. At the time, legible satellite images and detailed maps of the area were not available due to the remote location of the site. This is often the case when working with under-resourced communities in the developing world. Aerial photography via helicopter or other purchasing means were expensive options, and photos taken from the ground were limited in capturing the full perspective of the vast site. A rather inexpensive option to capture aerial photography, however, was using kite aerial photography (KAP), which uses a camera attached to a kite.

KAP has been used by many hobbyists to capture soaring bird's-eye-view photographs of everything from coastlines, parks, cityscapes, forests, archeological digs and more. For the EWB-NY team, KAP was used to capture overall views of the earthen embankment, the stream path, the reservoir's basin, and the rice patties. Although not scientifically precise, stitching together a series of aerial photos will sufficiently offer an overall perspective view of the project site for preliminary assessment and planning.