1. Project Objectives & Site selection
2. Air Photo and Geodetic Control
3. Satellite Imagery
4. Training
5. Preliminaries to Demarcation
6. Field Operations
7. Property Identification & Issuing Titles.

Objectives
- Develop Safe Procedures for Land Titling in Mine Affected Areas
- Create and Issue Land Titles in Poor Villages
- Recommendations to Land Policy Council on field operating procedures

Site Selection
- Mine areas in villages
- Active area where mine clearing was being done
- Not in a current W/B LMAP designated area.

Origins of Project
- Follow on to the National Level One Mine Location survey which identified problem areas.
- The W/B funded Land Management Administration Project was approved
- Canadian expertise in defining and working in mine affected areas.

Identification of mine affected areas in consultation with local area residents.

Researching existing maps and using GPS receivers to locate mine boundary locations.
Typical land mines and unexploded ordinance supplied by China, Russia, the USA and others

Mapping control was established at photo-identified points by GPS

Uncovered land mine – very difficult to see

GPS Control Survey - Kva Lech Village
Note the man with one leg
Many of the mines were placed by the roadside.

Existing aerial photography was initially used as a photo base to locate property boundaries. This proved unsuccessful as many roads were relocated due to mines.

What Is QuickBird Imagery?

- Highest Resolution satellite data currently available to the public.
- 60cm/pixel resolution
- Can be used in place of aerial photography at appropriate scales.

Due to cloud cover, new air photo was not economical, therefore satellite image was acquired for the area.

Removing Clouds and Shadows

Image provided maps at 1:2,000 scale with excellent clarity.

Quickbird Images with Village Boundaries overlaid
Satellite image with property boundaries and suspected Mine area overlaid.

A field team of 28 Cambodians were trained. 15% were women.

Training Objectives
1. To develop training materials based on the W/B funded LMAP training manual and other training materials related to this project.
2. To strengthen capacity of project staff, spread out the understanding from provincial level to the district level and community level;
3. To instill techniques and skills for land administration in mine affected areas in Ministries, and
4. To promote land administration and safety access in land mine awareness generally among the local communities and people.

Content of the Course
- Demarcation
- Land Survey
- Adjudication and Public Display
- Mine detection
- First Aid, Victim Evacuation
- Documentation
- Data and Information Management System
- Legal Framework
- Dispute Resolution
- Gender Sensitivity

Mine detection training using electronic locator.
6. Preliminaries to Demarcation

- Work with the local village chiefs to define village and commune boundaries.

7. Field Operations

Field Teams work with locals on property boundary Demarcation
Confirming suspected mine area and parcel boundary with the owner before entering land and clearing.

Detecting mine and UXO
Prodding suspected point activities, the mine detector man is following safety procedures.

Marker is marking the safety lane for Demarcation, Adjudication Officer and land owners.

Safety pathways through properties are marked with red paint.

An alternate method of locating mines was using “sniffer” dogs.

Dogs are trained in Europe. One handler with a dog walks a field.
Mine locations are marked on the base maps.

Halo Trust worked with us to remove the mines.

Preparing to explode a mine

Field Data Collection from People Claiming Land

- A. Identification of Owner(s)
- B. Identification of Parcel

Supporting documents to claim land
- Family book
- Id-card
- Other related documents
Cadastral Index Map prepared showing properties and claimants

Maps and lists of proposed owners are put on a public display for 30 days. Appeals can be made at this time, and resolved by village chiefs, or can go to official dispute resolution committees.

Land Title Certificates Presentation