



# The Tunnels of Cu Chi

Ramon W. Almodovar

J. David Rogers

*“No one has ever demonstrated more ability to hide his installations than the Viet Cong; they were human moles.”*

*General William Westmoreland*





# Purpose



To provide the class with an overview of the Cu Chi Tunnels and how they impacted the Vietnam War.





# References



- The Tunnels of Cu Chi by Tom Mangold and John Penycate
- <http://images.google.com>
- [www.25thida.com/photos.html](http://www.25thida.com/photos.html)
- [www.users.qwest.net/~huffpapa/CuChiMap.html](http://www.users.qwest.net/~huffpapa/CuChiMap.html)
- [www.rjsmith.com/cu-chi-taor-nf.html](http://www.rjsmith.com/cu-chi-taor-nf.html)
- [cybersarges.tripod.com/cuchi.html](http://cybersarges.tripod.com/cuchi.html)
- [www.pbs.org/wgbh/amex/vietnam/refer/map1/indexjs.html](http://www.pbs.org/wgbh/amex/vietnam/refer/map1/indexjs.html)





# Outline

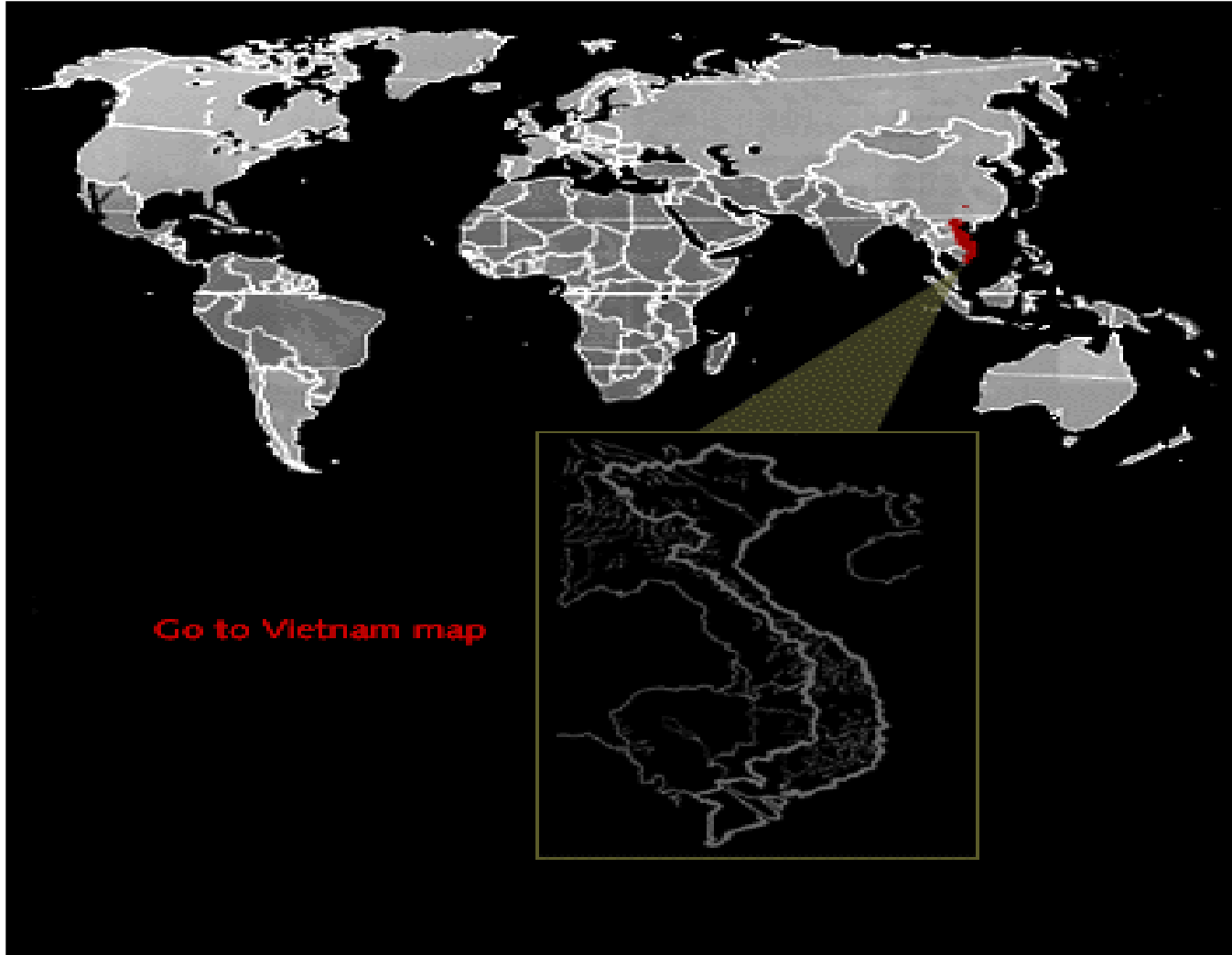


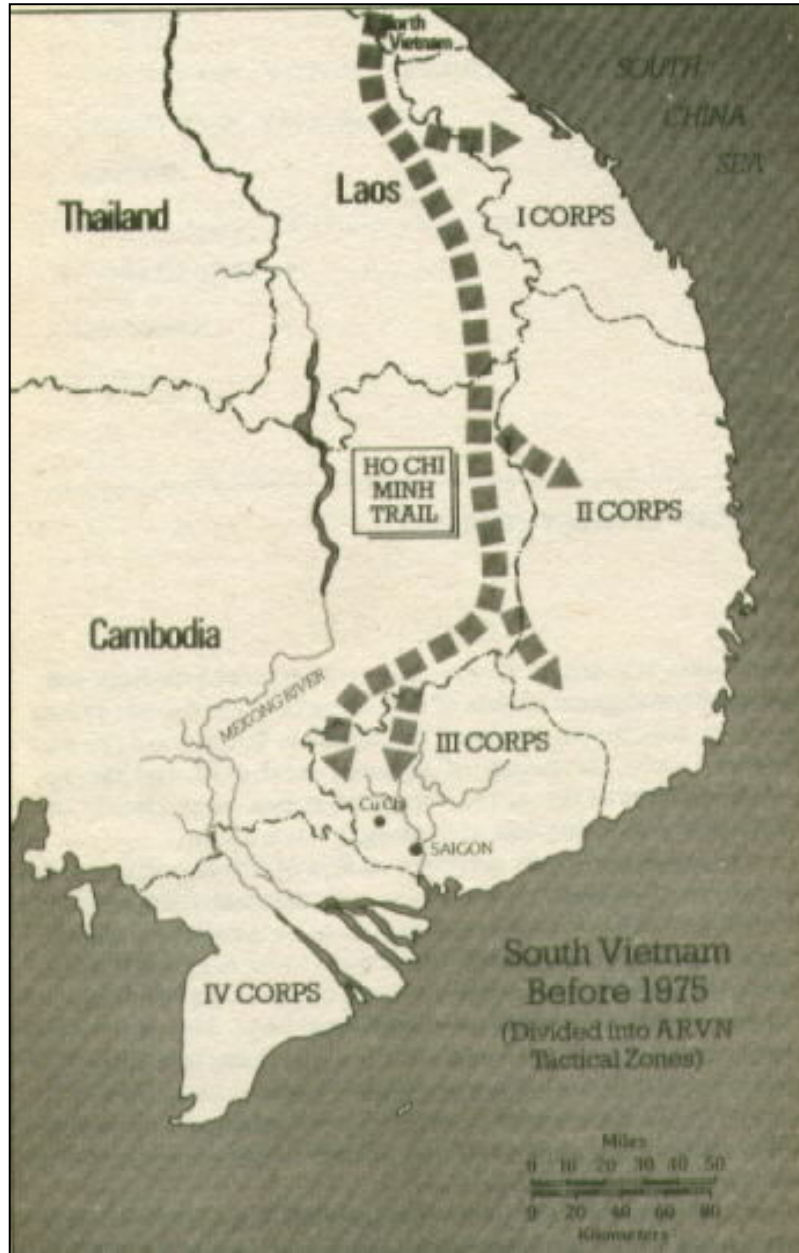
- Area of Operations
- History of Cu Chi Tunnels
- Tunnel Construction
- Viet Cong Tunnel Fighting
- Cu Chi Base Camp
- Operation Cedar Falls
- Tunnel Rats
- Tunnel Destruction
- Summary
- Conclusion





Vietnam is located in Southeast Asia, east of Cambodia and Laos, south of China and bordered on the east by the Gulf of Tonkin/South China Sea.



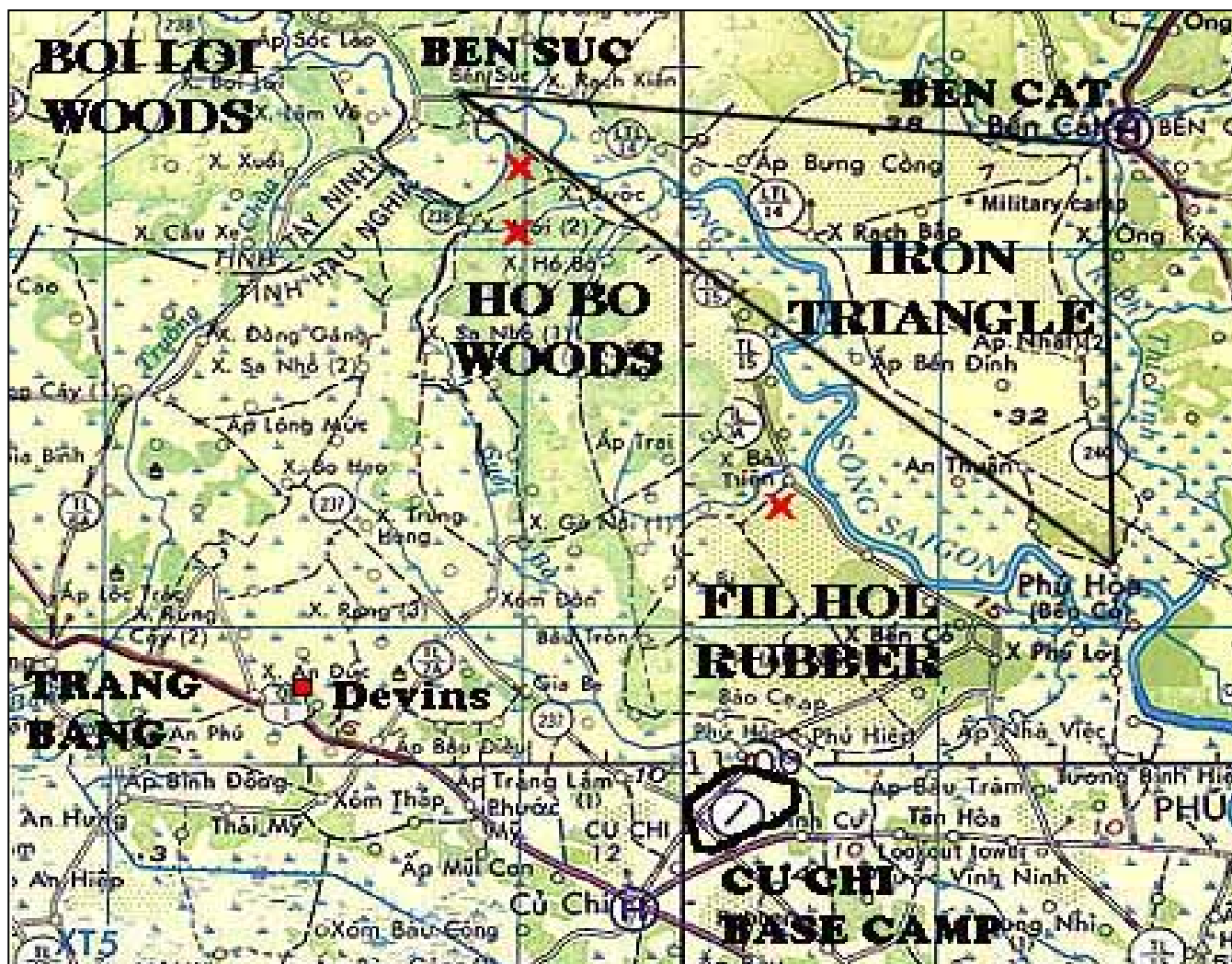




- The district of Cu Chi is located Northwest of Saigon (Ho Chi Min City) and served as a stronghold of the Viet Cong throughout the Vietnam War.
- It was of strategic significance because it straddled the main land and the river routes used by the Viet Cong to infiltrate supplies into South Vietnam from the terminus of the Ho Chi Min Trail in Cambodia.
- This was also the only sizable area in South Vietnam where troops and vehicles could move easily during the monsoon season (May to October).
- As seen on the map, Cu Chi was located in the III Corps Tactical Zone.
- Cu Chi became the most bombed, shelled, gassed, and defoliated area in the history of war (see photos).



# TUNNELES WERE CONCENTRATED IN THE IRON TRIANGLE AREA







**The Iron Triangle was a known Viet Cong stronghold. It was 40 square miles of jungle and briar with an intricate network of interconnecting tunnels and bunkers, extending over 200 km! The remained in operation throughout the war.**

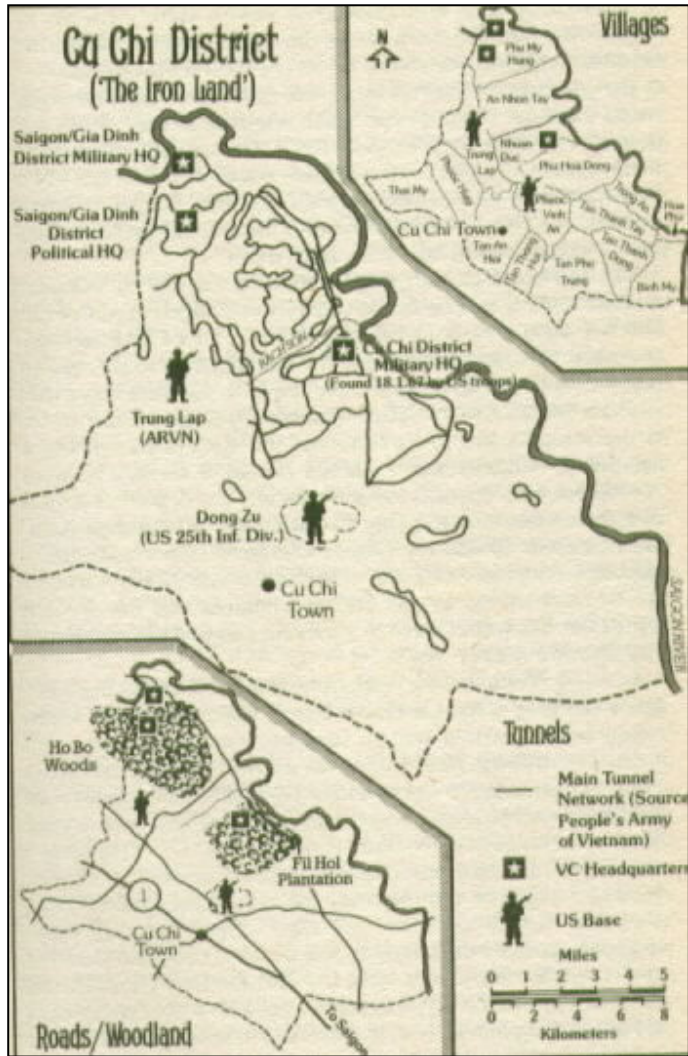
**From the preceding map you can see the proximity of the Iron Triangle to Cu Chi base.**

**The Iron Triangle, the HoBo Woods and the Boi Loi Woods were defoliated and their original populations relocated.**

**The red Xs mark VC/NVA headquarters locations.**



# A LITTLE BACKGROUND





- The tunnels stretched from Saigon to the Cambodian border
- By the end of the war approximately 200km of tunnels were constructed.
- The tunnels were used to connect villages, districts, and provinces together so the guerrilla fighters could move between areas undetected.
- They were originally dug as hiding places for the Viet Minh, nationalist guerillas who fought the Japanese during World War II and France afterwards (1946-54).
- The tunnels were subsequently expanded in response to pressure brought on by conventional ARVN and US forces.
- No central entity designed the tunnels or oversaw their construction. They evolved out of necessity.
- Aircraft, bombs, artillery, and chemicals forced the Viet Cong to station themselves underground.



# TYPICAL TUNNEL CONSTRUCTION

(1 of 6)





- The tunnels were excavated in laterite clay, a ferric soil with clay and iron oxide binder which allowed some air penetration.
- The clay was not affected by seasonal changes in water content because of the iron cementation. It was further strengthened by tree roots.
- The thickness of the useable clay layer varied between 10 to 20 meters, depending on the depth of the water table.
- The tunnels were mostly excavated by hand methods with 2 people rotating digging and 2 to 3 people who removed the cuttings.
- The normal rate of advance was about 1 cubic meter per person per day, but varied with the digger's health, age, the climate and the soil.
- The earth removed from the tunnels was used in the basements of local houses, furrows for potato growing, banks for communication or combat trenches, or poured into streams, to prevent US forces from discovering the tunnel entrances.



# Camouflaged Tunnel Entries





- Most of the tunnel entrances were well concealed, covered by boards 1cm thick and 2 to 3 cms wide arranged in two frames, one horizontally, the other vertically.
- A nylon sheet was then glued between the 2 frames.
- The door was then covered with sponge rubber and wax, so that it would feel like natural ground when walking across it.
- The sides of the trapdoor were beveled downward at an angle so it could take considerable overpressure, even from vehicles.
- Most of the tunnels were filled with camouflaged trap doors. These were also concealed by covering them with earth.
- If a door led to the exposed ground surface, dead foliage was used to camouflage the door and was changed every three days.
- Entrances had to resist fire, flood, and chemical warfare, so they were located in dry, elevated, and generally well-ventilated areas.
- Some doors were even hidden in pig pens because the VC knew that American soldiers would not want to check such places thoroughly.



# TUNNELS EXPOSED TO REVEAL LAYOUT CHARACTERISTICS







**These are pictures of the tunnels with their earthen cover removed.**

**Tunnels were usually excavated in a zig-zag pattern, at angles between 60 and 120 degrees. This was intended to prevent linear lines-of-fire and help deflect explosive blasts if the tunnel complex was invaded by enemy troops.**

**Communications passages were constructed no wider than 1.2 meters, no narrower than 0.8 meters, at a height of 0.8 to 1.8 meters, with a minimum roof thickness of 1.5 meters. Big fellas would have a difficult time negotiating such openings.**

**These dimensions were strictly adhered to as a standard that ensured uniformity and sound construction.**

# Tunnel Construction



(4 of 6)

## NVA/VC Tunnel Complex Basics



Entrance



Inside



**Some complexes had as many as four different levels with secret trapdoors separating them.**

**They held living areas, storage depots, ordinance factories, hospitals, Headquarters, kitchens, and any other facility needed by an army.**

**The tunnels also included a water bend every 100 meters to prevent tear gas or CS riot gas from blowing all the way into the tunnel complex and they also helped to control flooding.**

**Ventilation holes ran obliquely from surface to 1<sup>st</sup> level to avoid monsoon rain flooding into the tunnels.**

**Some of the ventilation holes pointed east to let more light in while others pointed into the wind to increase air flow.**





# MORE PHOTOS OF TUNNEL CONSTRUCTION





**In the preceding slide, the picture at lower left shows a VC conference room with a roof placed later, to protect the exposed excavation so visitors can view the opening today.**

**On the right is a picture of a VC “entertainment troop” giving a performance in a specially made theater in one of the tunnel complexes. Though not as large as a Bob Hope Christmas Special, the idea was similar: a morale booster.**

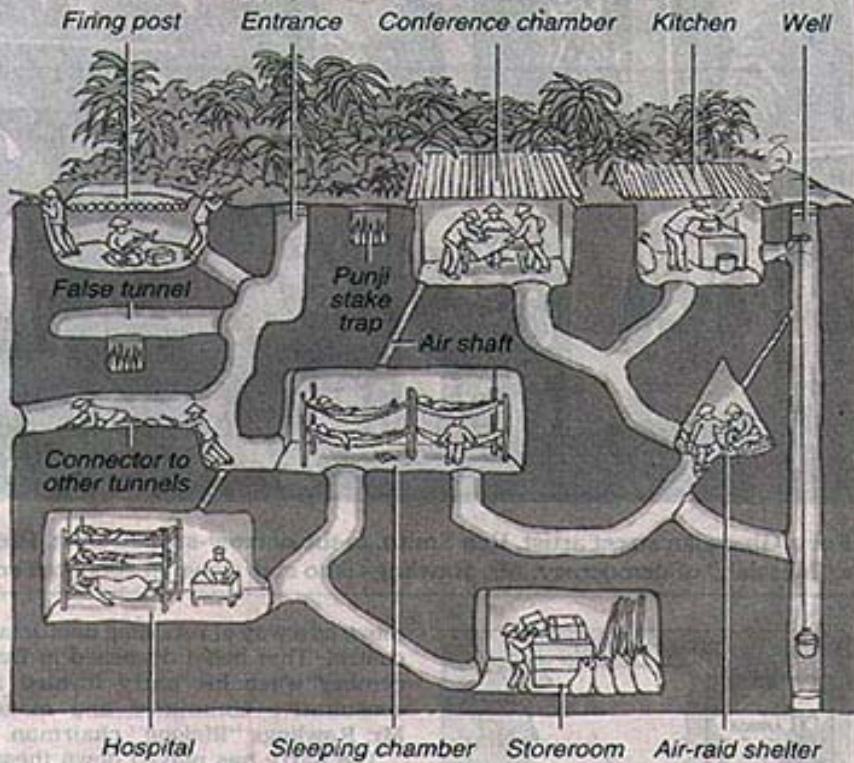
# TYPICAL INTERCONNECTING TUNNEL COMPLEX

## GUIDEBOOK

### A Day Trip to Wartime

The 75-mile-long Cu Chi tunnels, once a haven for Vietcong fighters and villagers, are now one of many battlegrounds in Vietnam that have been converted to tourist attractions.

#### A Typical Vietcong Tunnel Complex



Associated Press



Sources: "The Tunnels of Cu Chi," Tom Mangold and John Perycate; Cornell University

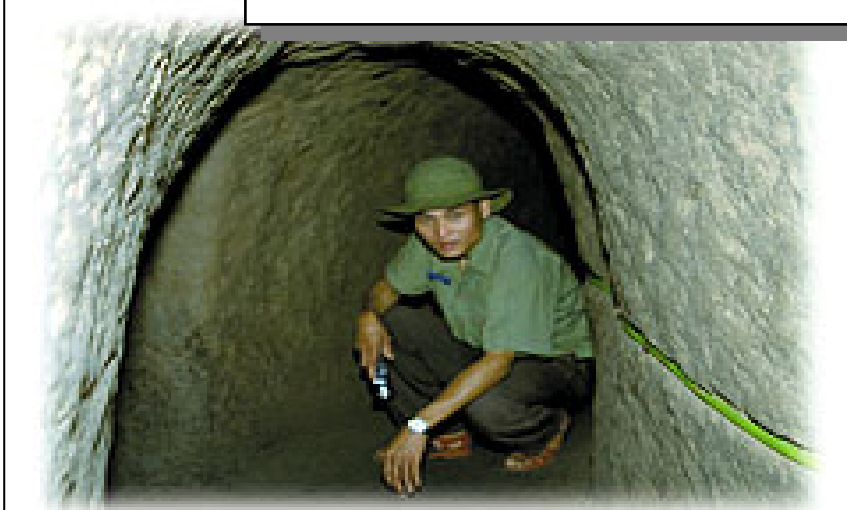


**When bombing of the tunnels in the Iron Triangle was intensified late in the war, new tunnels were excavated with conical A-shaped shelters, geometrically designed to better resist deep-penetration artillery and bomb blasts.**

**The conical shape also amplified the sound of approaching B-52's. The terrifying impact of B-52 carpet bombing was only learned after the war concluded.**



# VC Tunnel Fighting







- Entrances to tunnels were strategically located in a triangular pattern, 40 to 50 meters apart, so they could support each other.
- The multiplicity of openings also allowed troops to choose alternate escape routes from the tunnel complex if they became cornered at one location.
- The VC used the tunnel openings for scout observation and surprise sniper attacks, shooting and then disappearing.
- The VC were able to observe how American troops behaved and react to their attacks. This helped the VC devise attack and defensive tactics, and determine what kinds of booby traps to fashion and where to set them.
- When running low on explosives the VC would search the jungle for unexploded ordnance, so the explosives in the bomb could be retrieved at some later date.
- Booby traps were responsible for 11% of all American deaths and 17% of all wounds during the Vietnam War.





# 25<sup>th</sup> Inf Div Cu Chi Base Camp



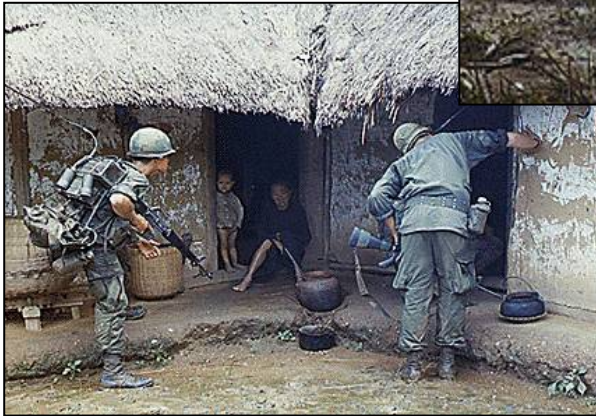
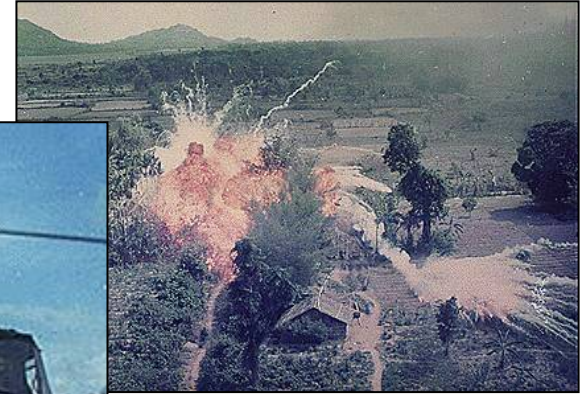


- This aerial view of Cu Chi Base Camp was taken during the monsoon season. What appears to be a river in the upper part of the photo is actually flooded lowlands. Source: Danny Driscoll.
- From the outset of the War US forces were aware that Cu Chi and the Iron Triangle were strongholds for the Viet Cong, so the 25<sup>th</sup> Infantry Division placed their base camp in Cu Chi as a supposed deterrent to VC activity in the area.
- In January 1966 Operation Crimp was launched to clear the area for the base camp. The operation successfully cleared the land, but failed to clear the VC tunnels in the area.
- Suffice to say that 25<sup>th</sup> ID was surprised when their base was attacked from INSIDE their perimeter. This went on until they finally cleared all the tunnels lying within the camp.
- Cu Chi Base Camp relied on local workers for support. Most of these people were VC sympathizers who gathered intelligence for the VC from across the base.
- Because of their inside connection, the VC in the Cu Chi district and the Iron Triangle were consistently given a few days to a few hours notice before any attack was carried out against them. This enabled the VC to prepare for such attacks or withdraw westward until the “search and destroy” missions were concluded (usually a few days).



# OPERATION CEDAR FALLS

(January 1967)

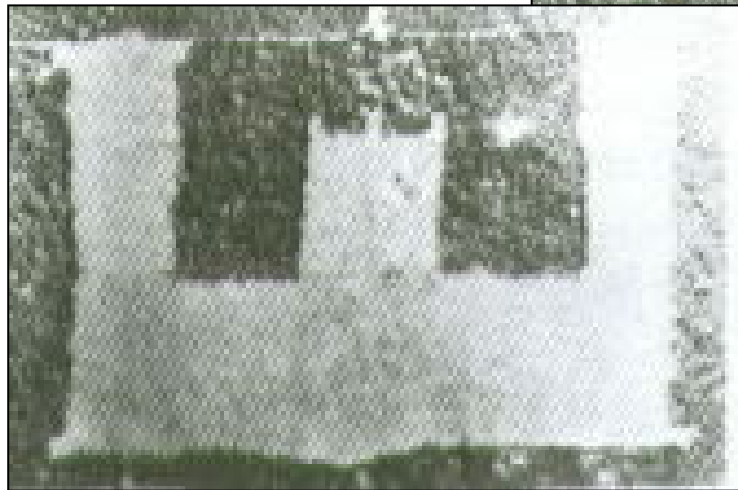
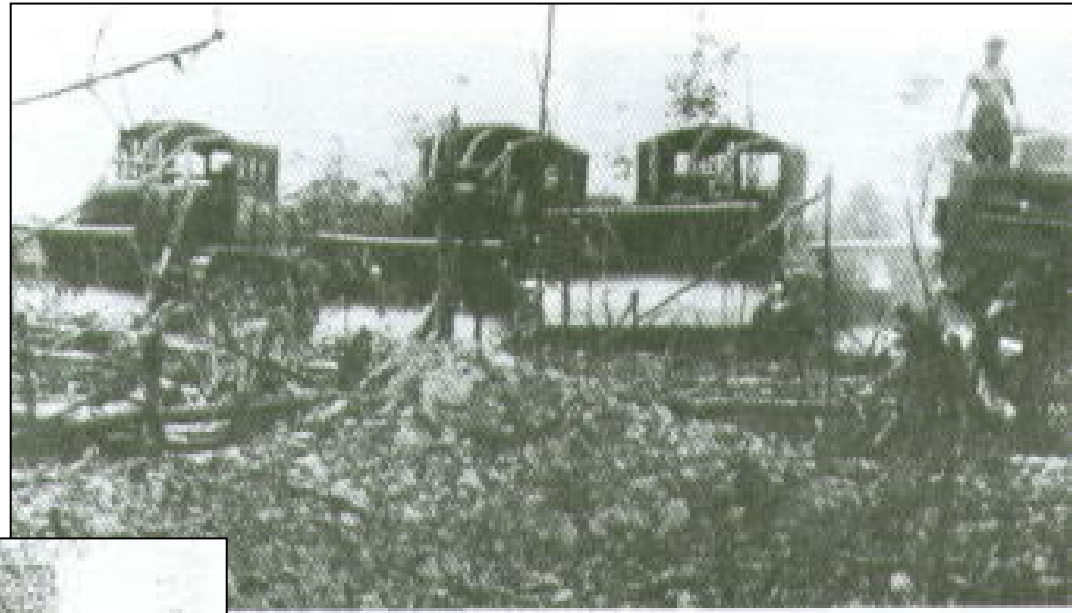




- Operation Cedar Falls was conducted between Jan 8-26, 1967 and was typical of the American response to the Viet Cong operating in the Cu Chi district and Iron Triangle.
- 30,000 US troops were involved in the “search and destroy” operation
- The aim of the operation was to locate the underground headquarters of the Viet Cong’s Military Region IV, explore it, and then destroy it along with any other tunnels that were found.
- Once the civilian Vietnamese population was cleared out of the Iron Triangle, the area was stripped of vegetation and declared a “free strike zone”.
- To find the tunnels, units dragged trees behind their armored personnel carriers to create avenues of fine grained dust. In the morning, they could see where the VC had come out of their holes and walked around, leaving footprints in the fine powdery dust (only available in the dry season)



# Dozers Used in Operation Cedar Falls (Jan 1967)



Note the shape of the  
cleared area by the  
engineers: The Engineers  
Castle!



**Engineers used dozers to clear the land so that tunnel entrances could be found.**

**Once found, volunteers called “tunnel rats” were called in to explore the tunnels and eradicate any VC they encountered.**

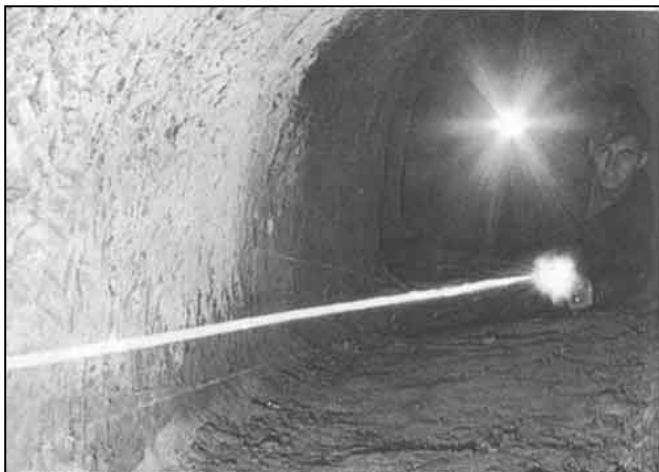
**Picture in the lower left is a specially-shaped clearing created by the engineers in the jungle near Cu Chi and the Iron Triangle.**



# American Tunnel Rats



(1 of 2)





**Creation of the American “tunnel rats” stemmed from the realization that a specialty MOS was needed for this new type of warfare.**

**Initially, infantrymen were forced to go into the tunnels, but after numerous injuries and deaths, a specialized training program was created at the Cu Chi Base Camp.**

**Tunnel rats would clear tunnels armed only with a flashlight and a pistol.**

**Many rats were injured or died from close quarters combat with VC inside the tunnels.**



# American Tunnel Rats



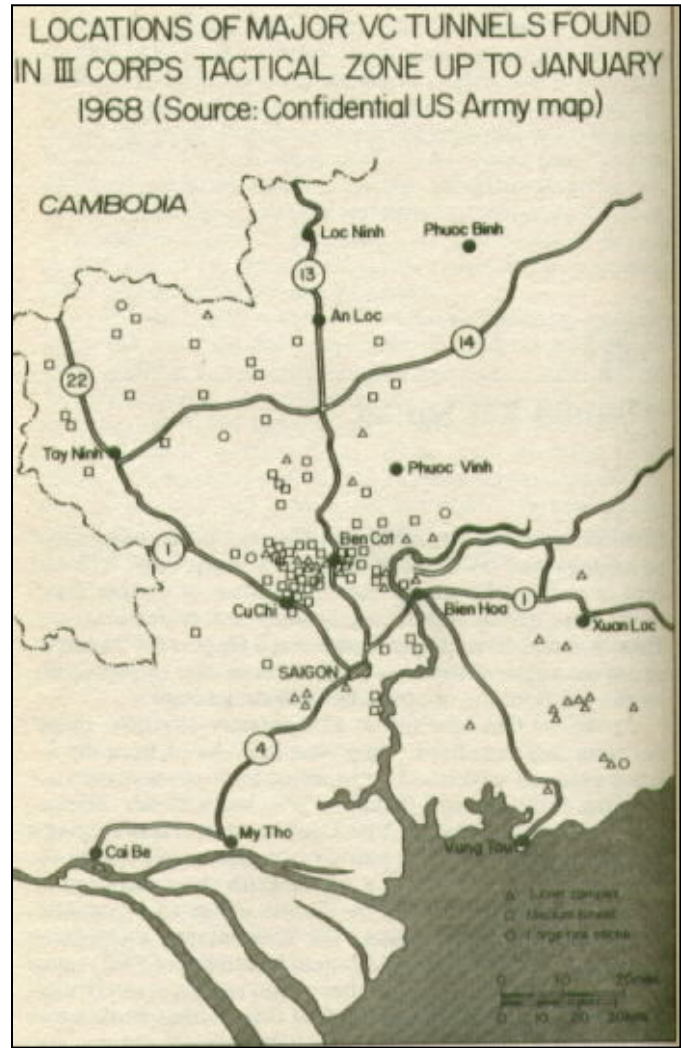
(2 of 2)





- After the rats would clear a tunnel system, they'd set up the explosives to destroy it.
- The only trouble was that in the dry season the clay would harden like concrete.
- We soon learned that the desiccated clay could withstand 40lb cratering charges, hand grenades, and other explosives, without collapsing!
- More often than not, if the explosives did work, they only damaged the initial level of the tunnel system which the VC could easily re-excavate after American forces had vacated the tunnels.
- Flooding was another method used by American forces attempt destruction of the tunnel complexes.
- Unfortunately, during the dry season the laterite clay absorbed the water and during the wet season the trapdoors proved to be reasonably watertight!
- CS gas pellets were also used to render the tunnels unusable, but the gas dispersed after about a week and was no longer effective.

# VC Tunnels that were destroyed (1 of 2)





**Although Operation Cedar Falls (January 1966) failed to locate the Viet Cong Military Region IV Headquarters, American forces discovered the Saigon Area Military HQ and recovered half a million documents.**

**The preceding slide shows the locations of the major VC tunnels found up through January 1968.**





# Carpet Bombing

(2 of 2)





## The FINAL SOLUTION

- In 1969, the tunnels were finally destroyed for good by B-52 carpet bombing raids, but not before they had already contributed significantly to the Communist cause by hiding troops, equipment and supplies used to attack ARVN and US forces when and where they least expected it.
- The preceding view shows a B-52D dropping a string of 750-lb bombs (left) and the crater hole left by the detonation of one of the bombs (at right)







# CONCLUSION



*“Resistance is a form of action aimed at destroying enough of the enemy’s power to force him to renounce his intentions.”*

*von Clausewitz*

**The VC demonstrated resolve by outlasting the Americans. Although no American unit of even squad size or greater ever surrendered to the Viet Cong or North Vietnamese during the entire Vietnam War; they still managed to prevail. We should remember this in Afghanistan and Iraq today.**

