Land Clearing in Vietnam

by CPT Rodney R. Gettig and Dr. James W. Dunn

The Vietnam Conflict only recently became history, yet techniques learned in the rice paddies and jungles are already being forgotten. Hidden in old field manuals and reports, valuable lessons are in danger of gathering dust on back shelves.

The current situation in Central America, U.S. Army contributions to training friendly armies, and our need to be ready to operate in a jungle environment should prevent us from putting these lessons in the archives too soon.

One important engineer story that deserves to be returned to the light is our experience with tactical land-clearing operations in Vietnam from 1966 to 1971.

A key mission in jungle operations

The Army turned to land clearing to deny cover to the Viet Cong and the North Vietnamese Army, who concealed base camps, infiltration routes, and sanctuaries in jungle vegetation. We also needed to combat the jungle itself—modern tools of war can't move through dense rain forest. Eventually, land clearing became the key to mobility and success in many American offensive operations.

We create the Rome Plow

In November 1965, General Westmoreland dispatched an engineer officer to Australia to watch bulldozers towing heavy steel balls and ship anchor chains through the jungle. The officer actually brought a lost art home—our engineers taught the Australians how to do this early in World War II. The dozers proved able to clear trees less than 10 inches in diameter.

The Army also tested a dinosaur called the Transphibian Tactical Tree Crusher, which floated over swampy jungle floor and could fell trees up to 6 feet in diameter. Unfortunately, it was vulnerable to enemy fire, and its complex hydraulic system often broke down.

While the specially-designed Transphibian proved unreliable, a simpler system using a sharpened bulldozer blade realized great success. The blade, made by the Rome Construction Company of Rome, Georgia, was originally designed to clear American farmland. The Army tested four blades with accessories, including a gasoline-powered blade sharpener, in August 1966.

The Army installed the Rome blade on medium tractors, usually the D7E or HD-16M, and added a steel cab to protect operators from

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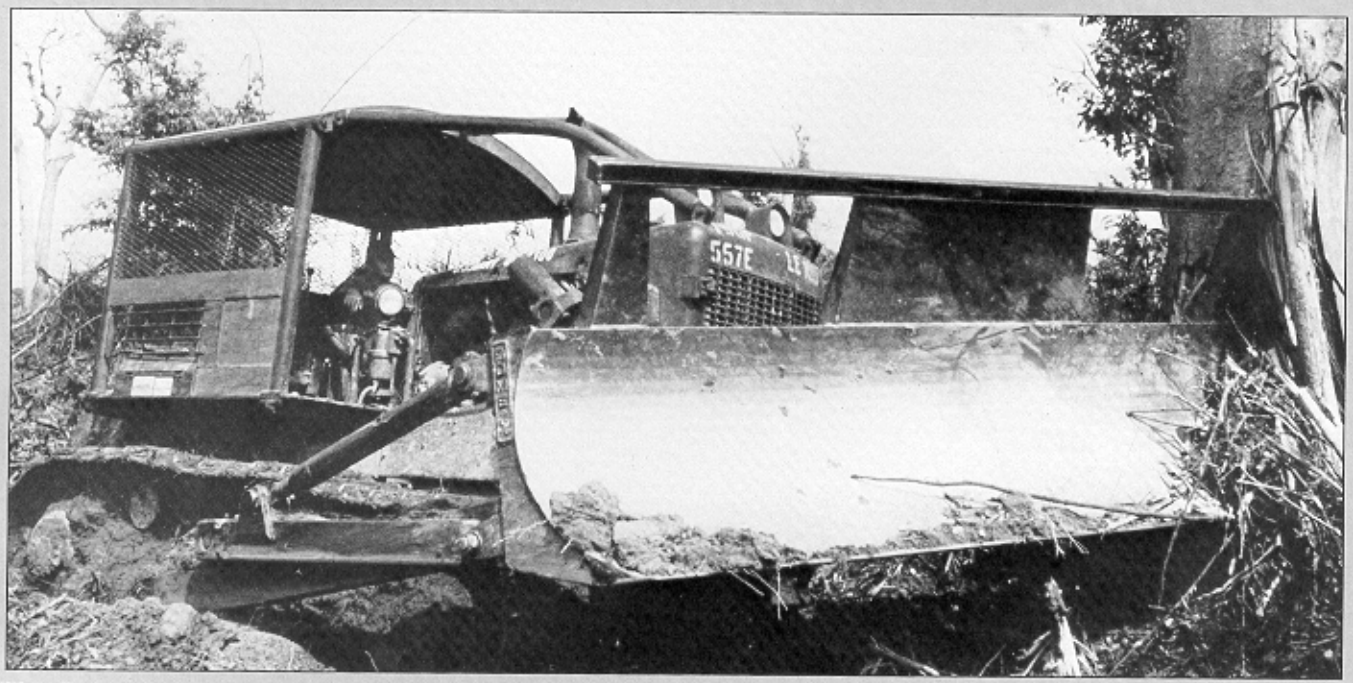

The Rome Plow rapidly became the Army's workhorse for land clearing in Vietnam.

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Rome Plows easily felled trees in the dense Vietnamese jungle.

falling limbs, trees, and brush. This tractor and blade, soon known all over Vietnam as the "Rome Plow," became the mainstay of tactical land-clearing units in Vietnam.

The Rome Plow's blade was supported by shoes mounted on the bottom of the blade. Thus it rode about 6 inches above the ground, eliminating standing vegetation but not pulling up the roots or digging into the earth. The Rome Plow could slice through a 12-inch tree with one pass. Repeated passes by the knife-like stinger mounted on the left side of the blade felled trees up to 48 inches in diameter.

Land-clearing units

The Rome Plow force grew from the original four test plows of 1966 to three platoons, each with thirty plows, by the summer of 1967. In January 1969, the force reached its peak strength—six full companies with thirty plows each. Three of these companies operated independently under the 18th Engineer Brigade and supported I Field Force in the central highlands of Vietnam. The other three companies formed the 62d Engineer Battalion (Land Clearing) under the 20th Engineer Brigade, and supported II Field Force in the lowlands north and northwest of Saigon.

The 62d Engineer Battalion was designed to work in the large tracts of relatively level jungle found in the III Corps Tactical Zone, an area with a well-established road net and a large force of enemy soldiers.

The tactical land-clearing concept directly addressed the need to operate on Vietnamese terrain; its success owed much to the fact that techniques and doctrine were tailored in the field. The Rome Plow companies' organization, for example, was based directly on results of the field tests run in 1966.

These tests showed that platoons had too little maintenance support and too few operators to use an optimal number of plows. Since adequate maintenance was clearly critical for successful operations, the land-clearing companies formed in 1967 were given adequate organizational and direct-support maintenance. The company organization included enough operators to keep thirty tractors functioning.

Tactical operations

Land-clearing operations were of two kinds—area cutting and strip cutting. These operations fit two missions: 1) Clearing extensive areas of vegetation to deny cover where enemy activity was suspected, and 2) Clearing vegetation along roadways, trails, airfields, and installations to provide observation and fields of fire and to reduce the danger of ambush.

Area cutting operations. Area cuts were aimed at enemy supply and base areas and infiltration routes, and were usually conducted by company-size units. Guided by an officer in a helicopter overhead, a plow operator cut an outline of the area to be cleared. The other tractors followed counterclockwise around the delineated area, forcing debris to the outside. Using this method, a land-clearing company could clear 150 to 200 acres a day, depending on enemy action, the terrain, and maintenance problems.

Strip cuts. Strip cuts helped secure lines of communication (LOCs) and installations by clearing the jungle for 200 meters on either side of roads and trails or around base areas.

Security measures. Land-clearing companies had to provide themselves with flexible bases for operation. They established a nightly defensive position (NDP) with centralized maintenance and resupply at each project. New NDPs were cut as work progressed so that the tractors would not have to "walk" more than 4 kilometers to the work site.

The enemy was a constant and formidable problem to land-clearing units, which, lacking defensive manpower, relied on infantry or

armor units to provide work-site security. The 62d Engineer Battalion (L/C) found that land-clearing operations worked best as coordinated engineer-infantry-armor operations. The unit posted two infantrymen on the lead tractor during operations to recon the jungle by fire.

Rome Plow operators often found themselves clearing the jungle far ahead of their infantry security. They carried .45-caliber submachine guns to protect themselves against enemy attack, since the standard issue M16 was too long for the enclosed cab.

Most casualties suffered by land-clearing companies were inflicted by mines, booby traps, and mortar attacks on NDPs. Nearly two-thirds of the men in these companies were wounded by enemy action during their 1-year tours. In a single, 75-day operation, almost 50 percent of one land-clearing unit was wounded. Other hazards included falling trees and limbs, bamboo slivers, snakes, swarms of bees, and extreme heat.

Maintenance and transportation

Maintenance problems abounded. It was common for one-half to two-thirds of the plows to suffer severe damage during an operation. Repair parts were in short supply, and frequently had to be flown in by helicopter. Heavy monsoon rains, thick dust, and constant mortar attacks on the NDPs made maintenance more than a challenge. Most maintenance was done by the company's organizational and direct-support mechanics at the cutting site or in the NDP.

Lack of transportation assets for the Rome Plows limited company mobility. Assigned ten semitrailer lowbeds, a land-clearing company could move only one-third of its plows at a time. In the Mekong Delta, where roads were impassable much of the year and the main supply routes were canals, land-clearing companies used U.S. Navy landing craft and Army M4T6 rafts to move between work sites.

Operation Cedar Falls

Almost immediately, the new units became an innovative assault tool. In the first use of land clearing as direct support of an infantry thrust, they formed the leading edge of the infantry assault in Operation Cedar Falls (January 1967). The 168th Engineer Combat Battalion, with 15 bulldozers and 2 Rome Plows, was joined in the attack by 35 bulldozers and 2 Rome Plows from the 1st, 27th, 86th, and 588th Engineer Battalions.

The operation's mission was to drive the enemy from the Iron Triangle, northwest of Saigon. Tractor teams plunged into the jungle to open a path for mounted and dismounted infantry assault forces. As dozer and infantry columns advanced, the engineers leveled enemy base camps and supply areas and established helicopter landing zones for resupply and casualty evacuation. When Cedar Falls ended, land-clearing companies had cleared 2,711 acres of jungle and had given maneuver commanders an impressive first look at the value of tactical land clearing.

Other operations in which tactical land-clearing teams were part of a maneuver assault force included Junction City (February 1967), in War Zone C, northwest of Saigon, and the Cambodian incursion in May and June 1970. In the Cambodian operation, the 62d led the way with land-clearing operations to provide access to suspected enemy base areas.

Civic action applications

Tactical land-clearing operations provided more than just a means for penetrating the jungle or for making roads and trails safe from ambush. Strip clearing along main supply routes aided villagers on their way to market by eliminating hiding places for the Viet Cong highway "tax collectors."

Besides providing security for military bases, area clearing operations opened heretofore uncultivated land. Vietnamese farmers moved onto cleared land, particularly along roadways, as soon as debris was removed. In one civic action project, the 20th Engineer Battalion cleared more than 2 square miles of forest to make way for Montagnard farmlands and homesites.

Land-clearing units operating near villages had to take care not to disrupt the lifestyle of the inhabitants. The Vietnamese hold land dear, so the U.S. Army learned to avoid unwarranted destruction of wooded areas. Units in the Mekong Delta found that the Vietnamese customarily buried their dead in the woodlines on high ground. Such locations were left undisturbed.

Tactical land-clearing operations were a valuable resource to maneuver commanders in Vietnam, and occasionally benefited the economy of South Vietnam and farmers in the countryside. Tactical planners at first believed that land-clearing operations could deny ambush sites and sanctuaries indefinitely, accomplishing what repeated infantry operations could not.

But the jungle quickly returned, and with it the enemy. A few months after operation Cedar Falls, the jungle and the Viet Cong had returned to the Iron Triangle. Within a year, the enemy used the area as its base for the 1968 TET Offensive attack on Saigon.

For further reading, see: MG Robert R. Ploger, *Vietnam Studies, US Army Engineers, 1965-1970.*

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