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AN INFANTRYMAN'S GUIDE TO COMBAT IN BUILT-UP AREAS

CONTENTS

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*PREFACE

The urban growth in all areas of the world has changed the face of the battlefield. Military operations on urbanized terrain (MOUT) constitute the battlefield in the Eurasian continent. It includes all man-made features (cities, towns, villages) as well as natural terrain. Combat in built-up areas focuses on fighting for and in those cities, towns, and villages.

The probability is great that United States forces will become engaged by enemy forces who are intermingled with the civilian population. Therefore, units using the techniques outlined in this manual under these conditions must obey the rules of engagement issued by their headquarters and the laws of land warfare. Infantry commanders and staffs should concentrate on the skills contained in Chapters 3 through 5 as they train their units.

This manual provides the infantryman with guidelines and techniques for fighting against an organized enemy in built-up areas who may or may not be separated from the civilian population. Some techniques for dealing with insurgents, guerrillas, and terrorists are included; however, the manuals which best address these issues are FM 7-98 and FM 90-8. This manual does not address any techniques for missions that require the restoration of order to urban areas. Information and techniques to accomplish this mission are addressed in FM 19-15.

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1

INTRODUCTION

The increased population and accelerated growth of cities have made the problems of combat in built-up areas an urgent requirement for the US Army. This type of combat cannot be avoided. The makeup and distribution of smaller built-up areas as part of an urban complex make the isolation of enemy fires occupying one or more of these smaller enclaves increasingly difficult. ***MOUT*** *is expected to be the future battlefield in Europe and Asia with brigade- and higher-level commanders focusing on these operations. This manual provides the infantry battalion commander and his subordinates a current doctrinal source for tactics, techniques, and procedures for fighting in built-up areas.*

Section I. BACKGROUND

Friendly and enemy doctrine reflect the fact that more attention must be given to urban combat. Expanding urban development affects military operations as the terrain is altered. Although the current doctrine still applies, the increasing focus on operations short of war, urban terrorism, and civil disorder emphasizes that combat in built-up areas is unavoidable.

1-1. AIRLAND BATTLE

AirLand Battle doctrine describes the Army's approach to generating and applying combat power at the operational and tactical levels. It is based on securing or retaining the initiative and exercising it aggressively to accomplish the mission. The four basic AirLand Battle tenets of initiative, agility, depth, and synchronization are constant. During combat in built-up areas, the principles of AirLand Battle doctrine still apply—only the terrain over which combat operations will be conducted has changed.

1-2. DEFINITIONS

MOUT is defined as all military actions that are planned and conducted on terrain where man-made construction affects the tactical options available to the commander. These operations are conducted to defeat an enemy that may be mixed in with civilians. Therefore, the rules of engagement (ROE) and use of combat power are more restrictive than in other conditions of combat. Due to political change, advances in technology, and the Army's role in maintaining world order, MOUT now takes on new dimensions that previously did not exist. These new conditions affect how units will fight or accomplish their assigned missions. The following definitions provide clarity and focus for commanders conducting tactical planning for MOUT. The terms "surgical MOUT operations" and "precision MOUT operations" are descriptive in nature only. These are conditions of MOUT, not doctrinal terms.

a. **Built-Up Area.** A built-up area is a concentration of structures, facilities, and people that forms the economic and cultural focus for the surrounding area. The four categories of built-up areas are large cities, towns and small cities, villages, and strip areas.

b. **Surgical MOUT.** These operations are usually conducted by joint special operation forces. They include missions such as raids, recovery

operations, rescues, and other special operations (for example, hostage rescue).

c. **Precision MOUT.** Conventional forces conduct these operations to defeat an enemy that is mixed with noncombatants. They conduct these operations carefully to limit noncombatant casualties and collateral damage. Precision MOUT requires strict accountability of individual and unit actions through strict ROE. It also requires specific tactics, techniques, and procedures for precise use of combat power (as in Operation Just Cause). (See Appendix G for more detailed information.)

1-3. CITIES

Cities are the centers of finance, politics, transportation, communication, industry, and culture. Therefore, they have often been scenes of important battles (Table 1-1).

CITY	YEAR	CITY	YEAR
RIGA	1917	BUDAPEST	1956
MADRID	1936	* BEIRUT	1958
WARSAW	1939	* SANTO DOMINGO	1965
ROTTERDAM	1940	* SAIGON	1968
MOSCOW	1942	* KONTUM	1968
STALINGRAD	1942	* HUE	1968
LENINGRAD	1942	BELFAST	1972
WARSAW	1943	MONTEVIDEO	1972
* PALERMO	1944	QUANGTRI CITY	1972
* BREST	1944	AN LOC	1972
WARSAW	1944	XUAN LOC	1975
* AACHEN	1944	SAIGON	1975
ORTONA	1944	BEIRUT	1975-1978
* CHERBOURG	1944	MANAGUA	1978
BRESLAU	1945	ZAHLE	1981
* WEISSENFELS	1945	TYRE	1982
BERLIN	1945	* BEIRUT	1983
* MANILA	1945	* PANAMA CITY	1989-1990
* SAN MANUEL	1945	* COLON	1989-1990
* SEOUL	1950	* KUWAIT CITY	1991

*Direct US Troop Involvement

Table 1-1. Cities contested during twentieth century conflicts.

a. Operations in built-up areas are conducted to capitalize on the strategic and tactical advantages of the city, and to deny those advantages to the enemy. Often, the side that controls a city has a psychological advantage, which can be enough to significantly affect the outcome of larger conflicts.

b. Even in insurgences, combat occurs in cities. In developing nations, control of only a few cities is often the key to control of national resources. The city riots of the 1960's and the guerrilla and terrorist operations in Santo Domingo, Caracas, Belfast, Managua, and Beirut indicate the many situations that can result in combat operations in built-up areas.

c. Built-up areas also affect military operations because of the way they alter the terrain. In the last 40 years, cities have expanded, losing their well-defined boundaries as they extended into the countryside. New road systems have opened areas to make them passable. Highways, canals, and railroads have been built to connect population centers. Industries have grown along those connectors, creating "strip areas." Rural areas, although retaining much of their farm-like character, are connected to the towns by a network of secondary roads.

d. These trends have occurred in most parts of the world, but they are the most dramatic in Western Europe. European cities tend to grow together to form one vast built-up area. Entire regions assume an unbroken built-up character, as is the case in the Ruhr and Rhein Main complex. Such growth patterns block and dominate the historic armor avenues of approach, or decrease the amount of open maneuver area available to an attacker. It is estimated that a typical brigade sector in a European environment will include 25 small towns, most of which would lie in the more open avenues of approach (Figure 1-1).

Figure 1-1. Urban areas blocking maneuver areas.

e. Extensive urbanization provides conditions that a defending force can exploit. Used with mobile forces on the adjacent terrain, antitank forces defending from built-up areas can dominate avenues of approach, greatly improving the overall strength of the defense.

f. Forces operating in such areas may have elements in open terrain, villages, towns, or small and large cities. Each of these areas calls for different tactics, task organization, fire support, and CSS.

1-4. THE THREAT IN BUILT-UP AREAS

The Commonwealth of Independent States and other nations that use Soviet doctrine have traditionally devoted much of their training to urban combat exercises. Indications are that they believe such combat is unavoidable in

future conflicts. But, the threat of combat in built-up areas cannot be limited to former Soviet doctrine. Throughout many Third World countries, the possibility of combat in built-up areas exists through acts of insurgents, guerrillas, and terrorists. (Information on operations in this environment is found in the reference list.)

Section II. CHARACTERISTICS AND CATEGORIES OF BUILT-UP AREAS

One of the first requirements for conducting operations in built-up areas is to understand the common characteristics and categories of such areas.

1-5. CHARACTERISTICS

Built-up areas consist mainly of man-made features such as buildings. Buildings provide cover and concealment, limit fields of observation and fire, and block movement of troops, especially mechanized troops. Thick-walled buildings provide ready-made, fortified positions. Thin-walled buildings that have fields of observation and fire may also be important. Another important aspect is that built-up areas complicate, confuse and degrade command and control.

a. Streets are usually avenues of approach. However, forces moving along streets are often canalized by the buildings and have little space for off-road maneuver. Thus, obstacles on streets in towns are usually more effective than those on roads in open terrain since they are more difficult to bypass.

b. Subterranean systems found in some built-up areas are easily overlooked but can be important to the outcome of operations. They include subways, sewers, cellars, and utility systems (Figure 1-2).

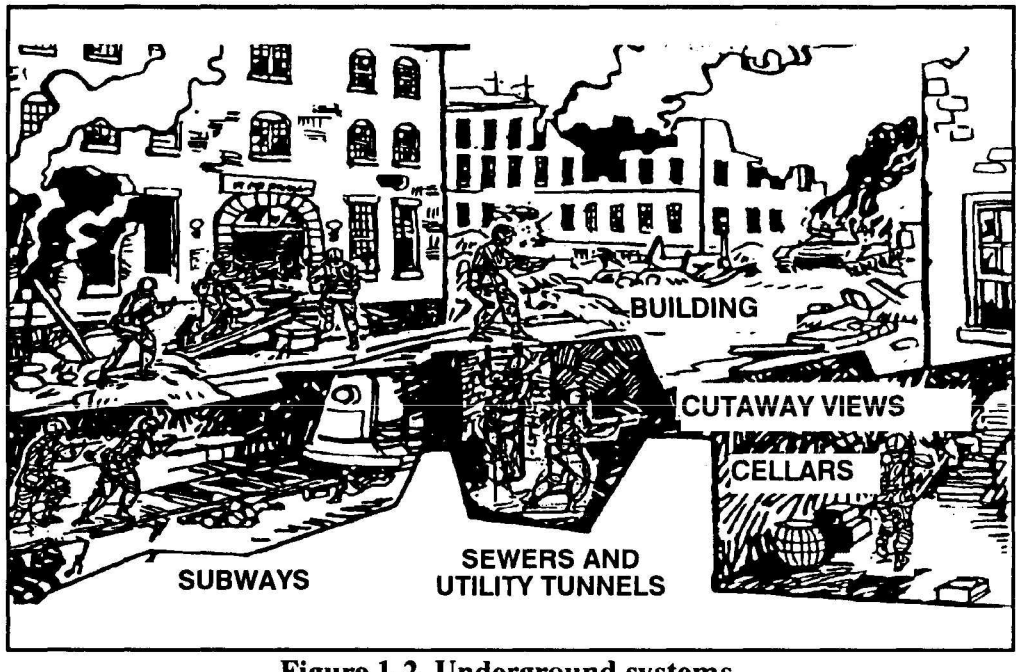

Figure 1-2. Underground systems.

1-6. CATEGORIES

Built-up areas are classified into four categories:

- Villages (population of 3,000 or less).
- Strip areas (urban areas built along roads connecting towns or cities).
- Towns or small cities (population up to 100,000 and not part of a major urban complex).
- Large cities with associated urban sprawl (population in the millions, covering hundreds of square kilometers).

Each area affects operations differently. Villages and strip areas are commonly encountered by companies and battalions. Towns and small cities involve operations of entire brigades or divisions. Large cities and major urban complexes involve units up to corps size and above.

Section III. SPECIAL CONSIDERATIONS

Several considerations are addressed herein concerning combat in built-up areas.

1-7. BATTLES IN BUILT-UP AREAS

Battles in built-up areas usually occur when—

- A city is between two natural obstacles and there is no bypass.
- The seizure of a city contributes to the attainment of an overall objective.
- The city is in the path of a general advance and cannot be surrounded or bypassed.
- Political or humanitarian concerns require the seizure orretention of a city.

1-8. TARGET ENGAGEMENT

In the city, the ranges of observation and fields of fire are reduced by structures as well as by the dust and smoke of battle. Targets are usually briefly exposed at ranges of 100 meters or less. As a result, combat in built-up areas consists mostly of close, violent combat. Infantry troops will use mostly light and medium antitank weapons, automatic rifles, machine guns, and hand grenades. Opportunities for using antitank guided missiles are rare because of the short ranges involved and the many obstructions that interfere with missile flight.

1-9. SMALL-UNIT BATTLES

Units fighting in built-up areas often become isolated, making combat a series of small-unit battles. Soldiers and small-unit leaders must have the initiative, skill, and courage to accomplish their missions while isolated from their parent units. A skilled, well-trained defender has tactical advantages over the attacker in this type of combat. He occupies strong static positions, whereas the attacker must be exposed in order to advance. Greatly reduced line-of-sight ranges, built-in obstacles, and compartmented terrain require the commitment of more troops for a given frontage. The troop density for both an attack and defense in built-up areas can be as much as three to five

times greater than for an attack or defense in open terrain. Individual soldiers must be trained and psychologically ready for this type of operation.

1-10. MUNITIONS AND SPECIAL EQUIPMENT

Forces engaged infighting in built-up areas use large quantities of munitions because of the need for reconnaissance by fire, which is due to short ranges and limited visibility. LAWs or AT-4s, rifle and machine gun ammunition, 40-mm grenades, hand grenades, and explosives are high-usage items in this type of fighting. Units committed to combat in built-up areas also must have special equipment such as grappling hooks, rope, snaplinks, collapsible pole ladders, rope ladders, construction material, axes, and sandbags. When possible, those items should be either stockpiled or brought forward on-call, so they are easily available to the troops.

1-11. COMMUNICATIONS

Urban operations require centralized planning and decentralized execution. Therefore, communications plays an important part. Commanders must trust their subordinates' initiative and skill, which can only occur through training. The state of a unit's training is a vital, decisive factor in the execution of operations in built-up areas.

a. Wire is the primary means of communication for controlling the defense of a city and for enforcing security. However, wire can be compromised if interdicted by the enemy.

b. Radio communication in built-up areas is normally degraded by structures and a high concentration of electrical power lines. Many buildings are constructed so that radio waves will not pass through them. The new family of radios may correct this problem, but all units within the built-up area may not have these radios. Therefore, radio is an alternate means of communication.

c. Visual signals may also be used but are often not effective because of the screening effects of buildings, walls, and so forth. Signals must be planned, widely disseminated, and understood by all assigned and attached units. Increased noise makes the effective use of sound signals difficult.

d. Messengers can be used as another means of communication.

1-12. STRESS

A related problem of combat in built-up areas is stress. Continuous close combat, intense pressure, high casualties, fleeting targets, and fire from a concealed enemy produce psychological strain and physical fatigue for the soldier. Such stress requires consideration for the soldiers' and small-unit leaders' morale and the unit's esprit de corps. Stress can be reduced by rotating units that have been committed to heavy combat for long periods.

1-13. RESTRICTIONS

The law of war prohibits unnecessary injury to noncombatants and needless damage to property. This may restrict the commander's use of certain weapons and tactics. Although a disadvantage at the time, this restriction may be necessary to preserve a nation's cultural institutions and to gain the support of its people. Units must be highly disciplined so that the laws of land warfare and ROE are obeyed. Leaders must strictly enforce orders against looting and expeditiously dispose of violations against the UCMJ.

1-14. FRATRICIDE AVOIDANCE

The overriding consideration in any tactical operation is the accomplishment of the mission. Commanders must consider fratricide in their planning process because of the decentralized nature of execution in the MOUT environment. However, they must weigh the risk of fratricide against losses to enemy fire when considering a given course of action. Fratricide is avoided by doctrine; by tactics, techniques, and procedures; and by training.

a. **Doctrine.** Doctrine provides the basic framework for accomplishment of the mission. Commanders must have a thorough understanding of US, joint, and host nation doctrine.

b. **Tactics, Techniques, and Procedures.** TTP provide a "how-to" that everyone understands. TTP are disseminated in doctrinal manuals and SOPs.

(1) ***Tactics.*** Tactics is the employment of units in combat or the ordered arrangement and maneuver of units in relation to each other and or the enemy in order to use their full potential.

(2) ***Techniques.*** Techniques are the general and detailed methods used by troops or commanders to perform assigned missions and functions. Specifically, techniques are the methods of using weapons and personnel. Techniques describe a method, but not the only method.

(3) ***Procedures.*** Procedures are standard, detailed courses of action that describe how to accomplish a task.

(4) ***Planning.*** A simple, flexible maneuver plan that is disseminated to the lowest level of command will aid in the prevention of fratricide. Plans should make the maximum possible use of SOPs and battle drills at the user level. They should incorporate adequate control measures and fire support planning and coordination to ensure the safety of friendly troops and allow changes after execution begins.

(5) ***Execution.*** The execution of the plan must be monitored, especially with regard to the location of friendly troops and their relationship to friendly fires. Subordinate units must understand the importance of accurately reporting their position.

c. **Training.** The most important factor in the prevention of fratricide is individual and collective training in the many tasks that support MOUT.

(1) ***Situational awareness.*** Well-trained soldiers accomplish routine tasks instinctively or automatically. This allows them to focus on what is happening on the battlefield. They can maintain an awareness of the relative location of enemy and friendly forces.

(2) ***Rehearsal.*** Rehearsal is simply training for the mission at hand. Commanders at every level must allow time for this critical task.

(3) ***Train to standard.*** Soldiers that are trained to the Army standard are predictable. This predictability will be evident to any NCO or officer who may be required to lead them at a moments notice or who is observing their maneuvers to determine if they are friend or foe.

CHAPTER 2

URBAN ANALYSIS

Intelligence preparation of the battlefield (IPB) is key to all operations conducted in built-up areas—intelligence is an important part of every combat decision. To succeed as fighters in built-up areas, commanders and leaders must know the nature of built-up areas. They must analyze its effect on both enemy and friendly forces. The focus of the material presented in this chapter will be on those issues of urban analysis that commanders and their staffs must be aware of before conducting the IPB process. (For a detailed explanation of IPB in the urban battle, see FM 34-130.)

Section I. MODELS OF BUILT-UP AREAS

Each model of an urban area has distinctive characteristics. Most urban areas resemble the generalized model shown in Figure 2-1.

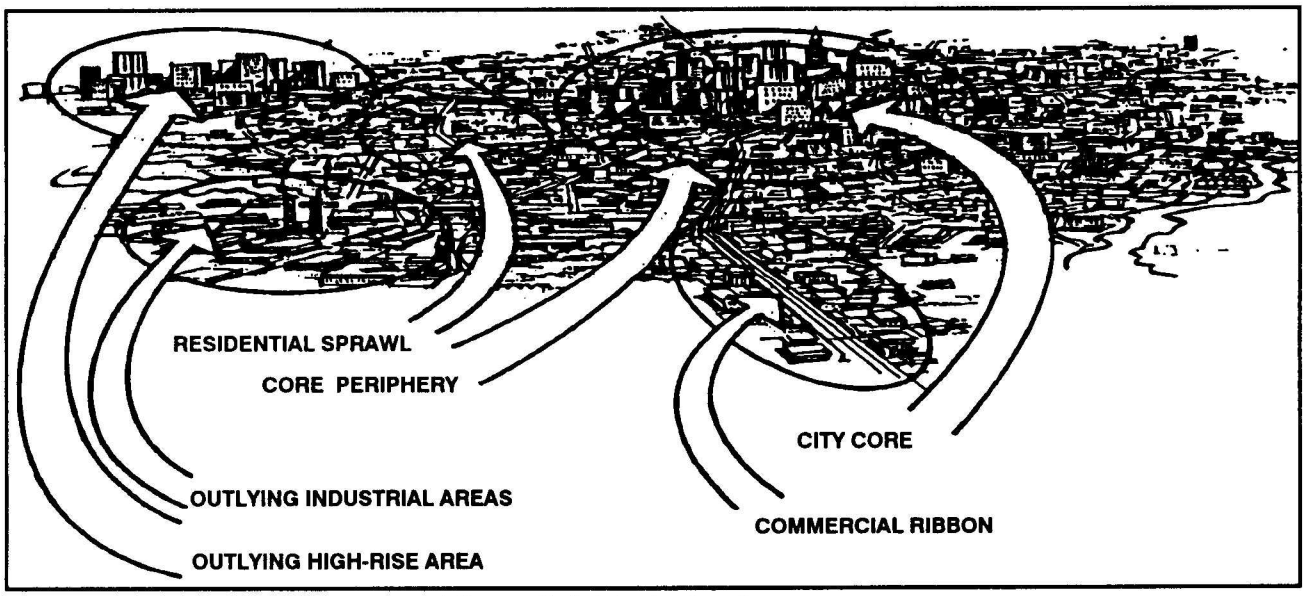

Figure 2-1. Typical urban area.

2-1. REGIONAL URBAN CHARACTERISTICS

Cities of the world are characterized by density of construction and population, street patterns, compartmentalization, affluent and poor sections, modernization, and presence of utility systems. The differences in built-up areas are in size, level of development, and style.

a. Due to colonization, most major cities throughout the world have European characteristics. They have combination street patterns, distinct economic and ethnic sections, and areas known as shanty towns. All of which present obstacles to vehicles. Also, concrete and steel high-rise structures hinder wall breaching and limit radio communications.

b. Variations in cities are caused mainly by differences in economic development and cultural needs. Developed and developing countries differ more in degree and style rather than in structure and function. Major

urban trends are: high-rise apartments, reinforced concrete construction, truck-related industrial storage, shopping centers, detached buildings, suburbs at outer edges, and apartment complexes.

c. The spatial expanse of cities throughout the world in the last three decades presents problems for MOUT. The increased use of reinforced concrete framed construction is only one example of the trend to use lighter construction, which affects how forces will attack or defend such an area. Another example is the growing apartment complexes, shopping centers, and truck-related industrial storage that lie on the outskirts of towns and cities. This change in style causes offensive action to be more difficult and enhances the defense of such an area.

2-2. SPECIFIC CHARACTERISTICS OF URBAN AREAS

A summary of regional urban characteristics is as follows:

a. **Middle East and North Africa.** All nations in the region can be reached by sea and urbanization rates are high. This region has long, hot, dry summers and mild winters, making life outside cities difficult. In spite of its vast deserts, greater urban congestion has resulted. Ancient cities have expanded into their current metropolises, and many new cities have been created because of the petroleum industry (mainly in the Persian Gulf). European influence and petroleum revenues have resulted in urban centers with modern sections of multistory buildings.

b. **Latin America.** Most urban centers can be reached by sea with many capitals serving as ports. This is a region that has mainly a tropical climate. It has a strong Spanish influence characterized by broad avenues that radiate outward from a central plaza with a large church and town hall. Upper and middle class sections combine with the urban centers, while the lower class sections are located farther out. The poor sections are located in slums at the outer edges of the city.

c. **Far East.** Except for Mongolia, all nations in this region can be reached by sea. Urbanization is dense, especially in coastal cities where modern commercial centers are surrounded by vast industrial developments and residential districts.

d. **South Asia.** This region has great European influence with wide busy streets that are overcrowded. Urban centers may be composed mainly of poorer native sections with few or no public services and alleys no more than a yard wide.

e. **Southeast Asia.** This region also has strong European influences with all capitals and major cities serving as seaports. Urban centers contain both the older, high-density native quarters with temples or religious shrines, and modern sections with boulevards, parks, and warehouses.

f. **Sub-Sahara Africa.** In contrast to other regions, this region cannot be accessed by sea and has impassable terrain. Except for a few kingdoms, towns did not exist before the arrival of the Europeans. As a result, urban areas are relatively modem and without "an old quarter," although many do have shanty towns.

2-3. CHARACTERISTICS OF URBAN AREAS

Atypical urban area consists of the city core, commercial ribbon, core periphery, residential sprawl, outlying industrial areas, and outlying high-rise areas.

a. In most cities, the core has undergone more recent development than the core periphery. As a result, the two regions are often quite different. Typical city cores of today are made up of high-rise buildings, which vary greatly in height. Modern planning for built-up areas allows for more open spaces between buildings than in old city cores or in core peripheries. Outlying high-rise areas are dominated by this open construction style more than city cores (Figures 2-2 and 2-3).

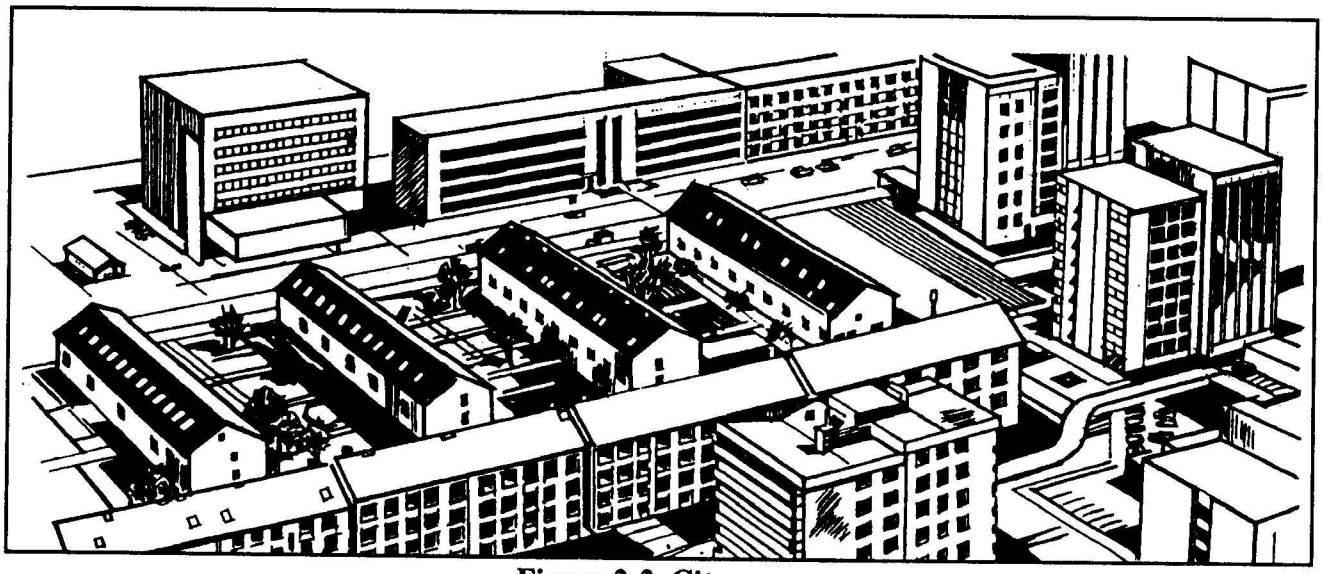

Figure 2-2. City core.

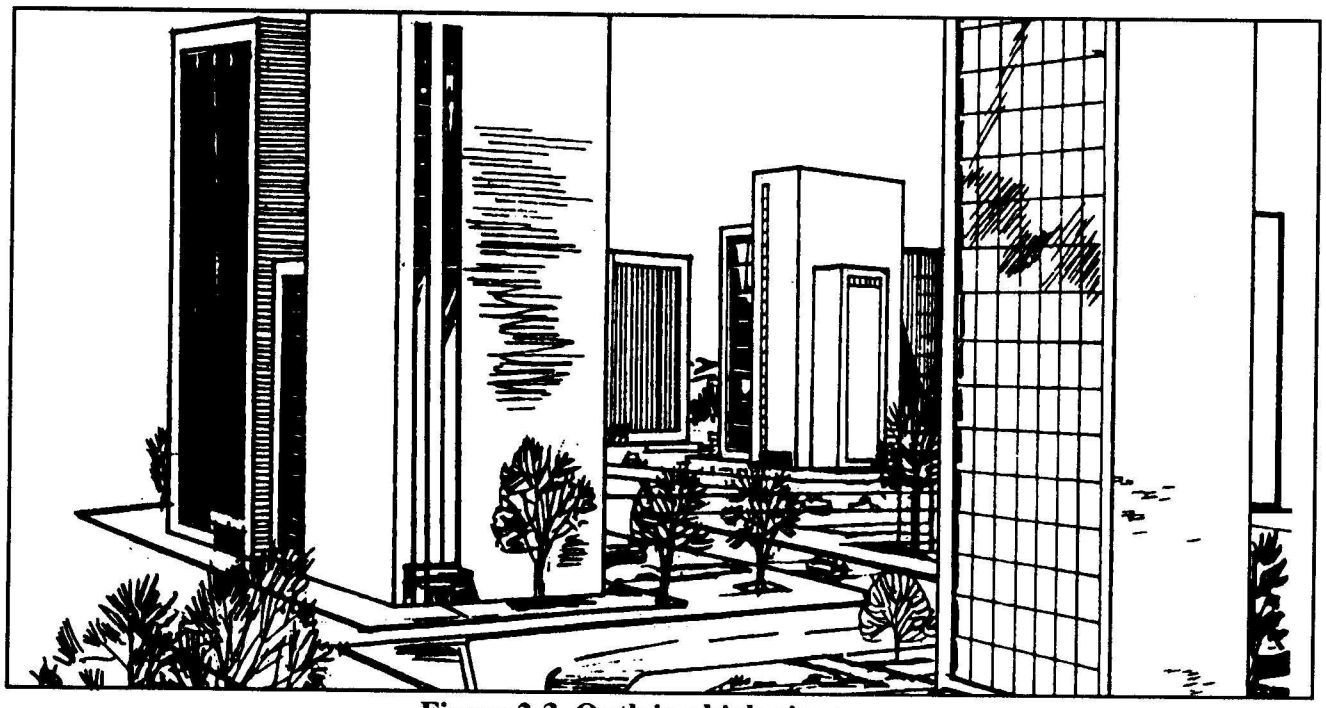

Figure 2-3. Outlying high-rise area.

b. Commercial ribbons are rows of stores, shops, and restaurants that are built along both sides of major streets through built-up areas. Usually, such streets are 25 meters wide or more. The buildings are uniformly two to three stories tall—about one story taller than the dwellings on the streets behind them (Figure 2-4).

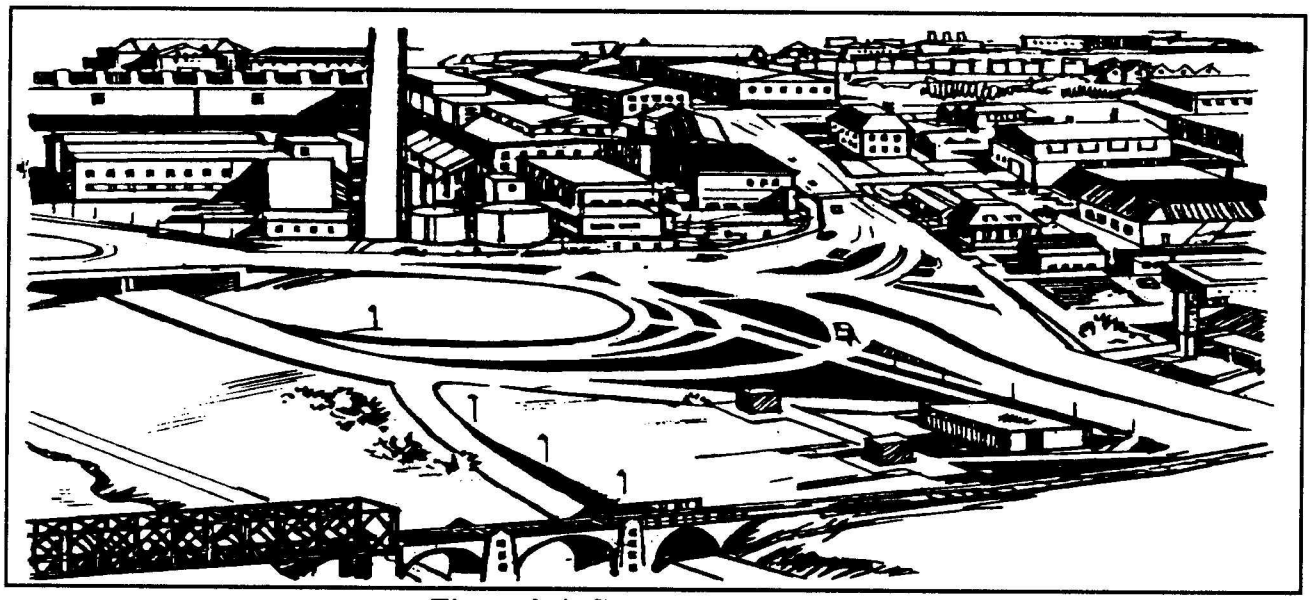

Figure 2-4. Commercial ribbons.

c. The core periphery consists of streets 12 to 20 meters wide with continuous fronts of brick or concrete buildings. The building heights are fairly uniform—2 or 3 stories in small towns, 5 to 10 stories in large cities (Figure 2-5).

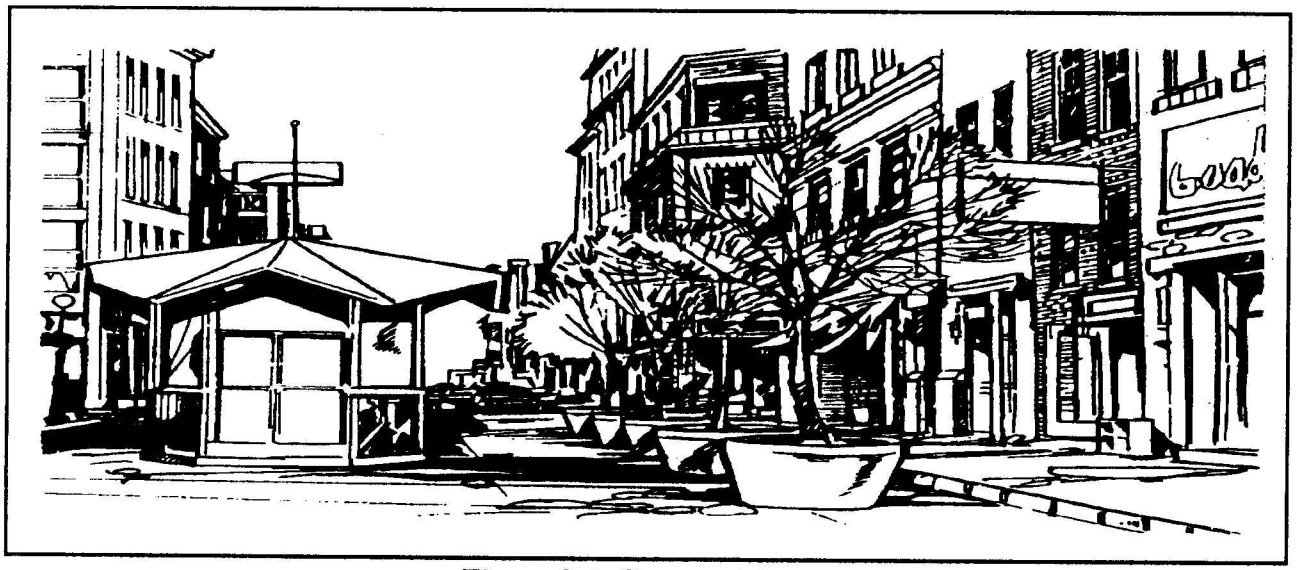

Figure 2-5. Core periphery.

d. Residential sprawl and outlying industrial areas consist of low buildings that are 1 to 3 stories tall. Buildings are detached and arranged in irregular patterns along the streets with many open areas (Figures 2-6 and 2-7).

Figure 2-6. Residential sprawl.

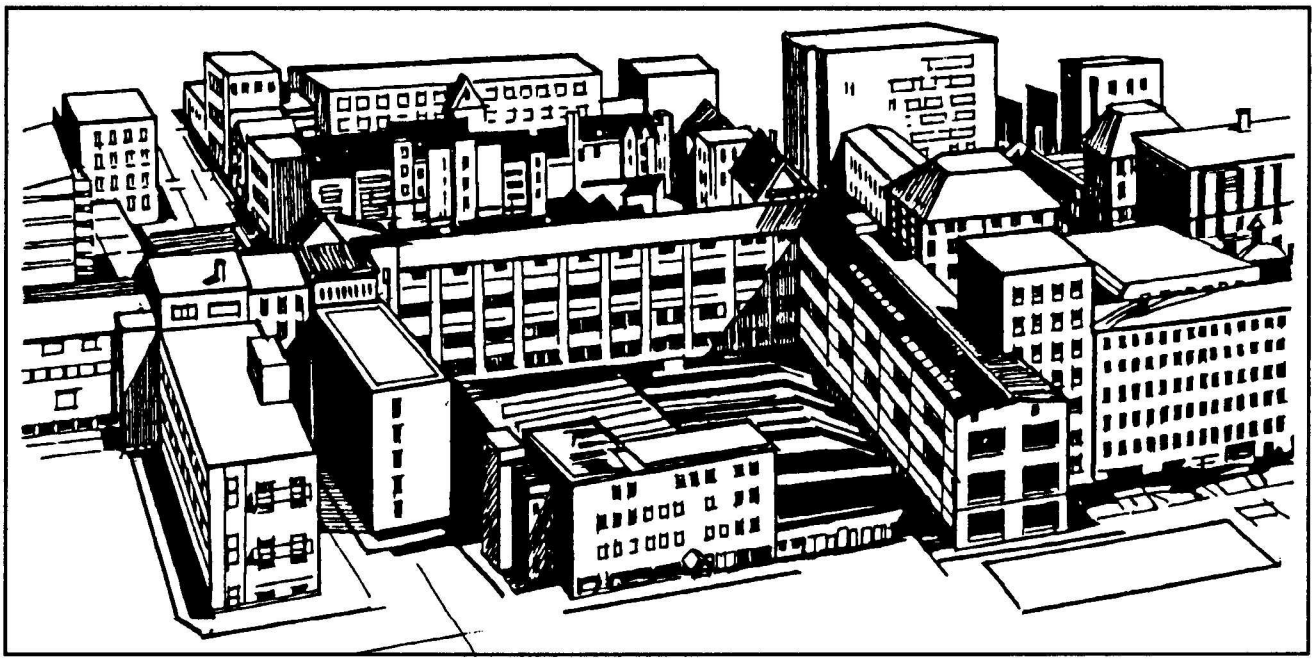

Figure 2-7. Outlying industrial areas.

Section II. TERRAIN AND WEATHER ANALYSIS

Terrain analysis for urban combat differs significantly from that of open country, whereas a weather analysis does not. Although special considerations peculiar to the urban environment must be considered, a weather analysis for urban combat is mostly the same as for other operations. (See Appendix H for more detailed information.)

2-4. SPECIAL TERRAIN CONSIDERATIONS

Several special considerations have implications in a terrain analysis and must be considered when developing the tactical plan for combat. Special terrain products must be developed to include specialized overlays, maps, and plans augmented by vertical or hand-held imagery. The depiction of GO, SLOW-GO, NO-GO, obstacles, avenues of approach, key terrain, observation and fields of fire, and cover and concealment must focus on the terrain analysis.

a. Military maps, normally the basic tactical terrain analysis tool, do not provide sufficient detail for a terrain analysis in built-up areas. Due to growth, towns and cities are constantly adding new structures and demolishing existing ones. Therefore, any map of a built-up area, including city maps or plans published by the city, state, or national government, will be inaccurate and obsolete.

b. The nature of combat can radically alter the terrain in a built-up area in a short period. Incidental or intentional demolition of structures can change the topography of an area and destroy reference points, create obstacles to mobility, and provide additional defensive positions for defenders.

c. Maps and diagrams of sewer systems, subway systems, underground water systems, elevated railways, mass transit routes, fuel and gas supply and storage facilities, electric power stations and emergency systems, and mass communications facilities (radio, telephone) are of key importance during urban operations. Sewer and subway systems provide covered infiltration and small-unit approach routes. Elevated railways and mass transit routes provide mobility between city sectors, and point to locations where obstacles might be expected. Utility facilities are key targets for insurgents, guerrillas, and terrorists, and their destruction can hinder the capabilities of a defending force.

d. Certain public buildings must be identified during the terrain-analysis phase of an IPB. Hospitals, clinics, and surgical facilities are critical because the laws of war prohibit their attack when not being used for military purposes other than medical support. As command and control breaks down during urban operations, hospitals become an important source of medical support to combat forces. The locations of civil defense, air raid shelters, and food supplies are critical in dealing with civilian affairs. The same is true during insurgency, guerrilla, or terrorist actions.

e. Stadiums, parks, sports fields, and school playgrounds are of high interest during both conventional and unconventional operations in built-up areas. They provide civilian holding areas, interrogation centers, insurgent segregation areas, and prisoner of war holding facilities. These open areas also provide helicopter landing sites. They provide logistic support areas and offer air resupply possibilities because they are often centrally located within a city or city district.

f. Construction sites and commercial operations, such as lumberyards, brickyards, steelyards, and railroad maintenance yards, serve as primary sources of obstacle and barrier construction materials when rubble is not present or is insufficient. They can also provide engineers with materials to strengthen existing rubble obstacles or with materials for antitank hedgehogs or crib-type roadblocks.

g. Roads, rivers, streams, and bridges provide high-speed avenues of movement. They also provide supporting engineer units locations to analyze demolition targets and to estimate requirements for explosives.

h. Public baths, swimming facilities, and cisterns are useful in providing bathing facilities. They also provide an alternate water source when public utilities break down.

i. A close liaison and working relationship should be developed with local government officials and military forces. In addition to information on items of special interest, they may provide information on the population, size, and density of the built-up area; fire fighting capabilities; the location of hazardous materials; police and security capabilities; civil evacuation plans; and key public buildings. They may also provide English translators, if needed.

2-5. SPECIAL WEATHER CONSIDERATIONS

Some weather effects peculiar to an urban environment are discussed herein.

a. Rain or melting snow often floods basements and subway systems. This is especially true when automatic pumping facilities that normally handle rising water levels are deprived of power. Rain also makes storm and other sewer systems hazardous or impassable. Chemical agents are washed into underground systems by precipitation. As a result, these systems contain agent concentrations much higher than surface areas and become contaminated "hot spots." These effects become more pronounced as agents are absorbed by brick or unsealed concrete sewer walls.

b. Many major cities are located along canals or rivers, which often creates a potential for fog in the low-lying areas. Industrial and transportation areas are the most affected by fog due to their proximity to waterways.

c. Air inversion layers are common over cities, especially cities located in low-lying "bowls" or in river valleys. Inversion layers trap dust, chemical agents, and other pollutants, reducing visibility, and often creating a greenhouse effect, which causes a rise in ground and air temperature.

d. The heating of buildings during the winter and the reflection and absorption of summer heat make built-up areas warmer than surrounding open areas during both summer and winter. This difference can be as great as 10 to 20 degrees, and can add to the already high logistics requirements of urban combat.

e. Wind chill is not as pronounced in built-up areas. However, the configuration of streets, especially in closed-orderly block and high-rise areas, can cause wind canalization. This increases the effects of the wind on streets that parallel the wind direction, while cross-streets remain relatively well protected.

f. Light data have special significance during urban operations. Night and periods of reduced visibility favor surprise, infiltration, detailed reconnaissance, attacks across open areas, seizure of defended strongpoints, and

reduction of defended obstacles. However, the difficulties of night navigation in restrictive terrain, without reference points and near the enemy, forces reliance on simple maneuver plans with easily recognizable objectives.

Section III. THREAT EVALUATION AND INTEGRATION

Threat evaluation for urban combat uses a three-step process: developing a threat data base, determining enemy capabilities, and developing a doctrinal template file as threat evaluation for open terrain. Due to the unique aspects of urban combat, certain operational factors and future threat capabilities must be recognized. These factors must be considered before preparing the required templates during threat integration of the IPB process.

2-6. OPERATIONAL FACTORS

The basic tenets of AirLand Battle doctrine are the rapid deployment and employment of US forces across the operational spectrum to achieve national and strategic objectives. This doctrinal concept, and recent changes in the international security environment, presupposes the increasing chance of conflict with regional threats. These conflicts will be with the conventional forces of one or more Third World nations, to include the possibility of a regional war or, at the lower end of the operational spectrum, combat operations against insurgent forces. Because of the political and socioeconomic structures within the Third World, urban combat will be a greater probability in the future.

a. Most regular armies emphasize managing combined arms operations in built-up areas. Among the conventional force structures, the poorer the nation, the less likely it is to field, maneuver, and sustain forces beyond logistic centers. Also, the extreme environment in some regions restricts operations beyond urban centers.

b. Urban structural characteristics are shaped by social, cultural, and economic factors. These elements are the prime reasons that MOUT doctrine and tactics differ between nations. Coupled with the restrictive nature of urban combat, the differences in tactics may be superficial. More than any other factor, the advent of high technology, precision weapons has enabled nations to modify and update their MOUT doctrine and tactics. Research has revealed many factors to consider in the planning and execution of MOUT. Some key factors are—

(1) Urban combat is only combat in different terrain. Urban combat consumes time. A well-planned defense, even if cut off or lacking in air, armor, or artillery weapons, can consume a great deal of an attacker's time.

(2) The ability to control military operations in highly decentralized circumstances remains the priority for both attacker and defender. Personnel training and motivation continue to be as important as equipment or force balance factors.

(3) The required size of the attacking force depends on the quality of intelligence, degree of surprise, and degree of superior firepower the attacker can achieve rather than the degree of sophistication with which the defender has prepared the city.

(4) The degree of a defender's resistance depends on whether or not he is separated from the local population, is wholly or partly cut off from external support, or has effective communication systems.

(5) The belief that armor has no role in city fighting is wrong. Tanks and APCs have proven vital to the attacker inside the city as long as they are protected by dismounted infantry.

(6) If the attacker is subject to any constraints, the defender has a good chance of winning or prolonging the battle, thus raising the cost for the attacker.

(7) The defender has three tactical options: defense in depth, key sector defense, and mobile defense. Defense in depth suggests an outer and inner defense combination; key sector defense means strongpoint defense of vital positions, mainly those controlling major avenues of approach; and mobile defense is based on counterattacks. These are not mutually exclusive options.

(8) Exfiltration and movement within a city by small groups are easy at night.

(9) The prevention of the reentry of cleared buildings by the enemy will be a significant challenge to both the attacker and defender.

(10) Mortars may be used more heavily than other artillery in MOUT due to their immediate response and high-angle fire capabilities.

(11) The employment of snipers in urban combat can prove to be extremely effective for both the attacker and defender. Snipers are usually found two to three stories below the top floor in high buildings.

(12) Ammunition consumption is five to ten times greater in urban environments than infield environments. (See Chapter 7 for more information.)

2-7. URBAN COUNTERINSURGENCY, COUNTERGUERRILLA, AND COUNTERTERRORIST OPERATIONS

During urban counterinsurgency, counterguerrilla, and counterterrorist operations, threat evaluation is similar to that for low-intensity conflict. When conducting these operations, the five low-intensity imperatives (political dominance, unity of effort, adaptability, legitimacy, and perseverance) must be followed. (See FM 7-98 for more information.)

a. Population status overlays are prepared for the city, showing potential neighborhoods or districts where a hostile population could be encountered. Overlays are also prepared showing insurgent or terrorist safe houses, headquarters, known operating areas, contact points, and weapons supply sources. These overlays must include buildings that are known, or could become, explosives, ammunition, or weapons storage sites.

b. Underground routes are of primary concern when considering insurgent and terrorist avenues of approach and lines of communications. Sewers, subways, tunnels, cisterns, and basements provide mobility, concealment, cover, and storage sites for insurgents and terrorists. Elevated railways, pedestrian overpasses, rooftops, fire escapes, balconies, and access ladders provide mobility and concealment, and can serve as relatively good fighting or sniper positions.

c. Although doctrinal templates are not developed for urban insurgency and terrorist operations, pattern analysis reveals how the insurgent or terrorist group operates, and what its primary targets are. Once the group's method of operation is determined, insurgent situation maps can be developed. These maps pinpoint likely sabotage targets, kidnap or assassination targets, ambush points, and bombing targets. When developing these maps, electric power generation and transmission facilities, gas production and

holding facilities, water and sewer pumping and treatment plants, telephone exchanges and facilities, and radio and television stations should be considered as primary insurgent and terrorist targets.

d. If the enemy has, for whatever reason, become intermingled with the population, a greater degree of control is required for military operations. While detection is more difficult, the enemy forces operating without uniforms share some common characteristics with guerrillas, insurgents, and terrorists.

(1) As with any operation of this type, intelligence, rather than force, plays the dominant role. Known members of the armed forces, their auxiliaries, and the underground must be identified and arrested and or removed from the populace. Use of minimum force is critical. As a last resort, cordon and search into suspected or known hostile areas may be used. This is the least preferred method since it will cause moderate to severe casualties for both the friendly forces and the local civilian population.

(2) The local population's support to the enemy may be either forced or given willingly. In either case, an effort must be made to separate the enemy from the local population base. A population can be forced into giving support by a combination of terrorism (either by coercion or intimidation) and harassment. The friendly force commander must be observant and sensitive to the local populations concerns before the population may be willing to help the friendly forces.

(3) Logistical support will be in smaller packages. The enemy must rely on the local population to support the distribution of logistics so that identification and destruction of the logistics base is more difficult. To curb resupply operations totally, the friendly forces would have to stop all movement within the built-up area. For obvious reasons, this is not an option. Therefore, a priority for intelligence should be to identify and destroy the enemy's logistics base.

(4) Soldiers must remember the political and psychological impact of their actions if they use force. The local population may be neutral or have luke-warm support for the friendly forces, but excessive use of force will cause the local civilians to support the enemy. Of special concern is the media (newspapers, television, magazines, and so forth). Due to the large numbers of journalists and amateur and or professional photographers in built-up areas, any negative images of friendly forces will probably be published. This negative publicity could have a serious adverse effect on both civilian opinion and United States political interests. Conversely, positive publicity can greatly enhance friendly operations and morale. This also can sway the local population away from the enemy. Therefore, all media members should be accompanied.

(5) While not officially part of doctrine, infantry forces have historically been used as a part of the effort to separate the enemy from the local civilian populace. Some units may be detailed to provide civil services such as law enforcement patrols, trash pick-up, and or the restoration and maintenance of power, telephone, and water services.

2-8. PROJECTED THREAT CAPABILITIES

The wealth of some Third World nations will be used to modernize their armed forces through the acquisition of new technologies. Future conflicts

may be against Third World forces armed better than or equal to US weapon systems. Projected future threat force capabilities are—

- New munitions such as fuel air explosives (FAE), enhanced blast, intense light, and other improved ballistic technologies.
- Systems with interchangeable warheads, some designed for MOUT combat.
- Precision-guided munitions.
- Robotics.
- Day or night target acquisition systems.
- Elevated gun systems.
- Improved engineering abilities to breach or emplace obstacles.
- Soft-launch hand-held AT and flame weapons.
- Nonlethal incapacitating chemical or biological agents by conventional forces.
- Lethal chemical or biological agents by insurgent forces.
- Improved self-protection (body armor).
- Improved communications.