TRADOC
OE-OPFOR PROGRAM

Describing
the
Operational Environment

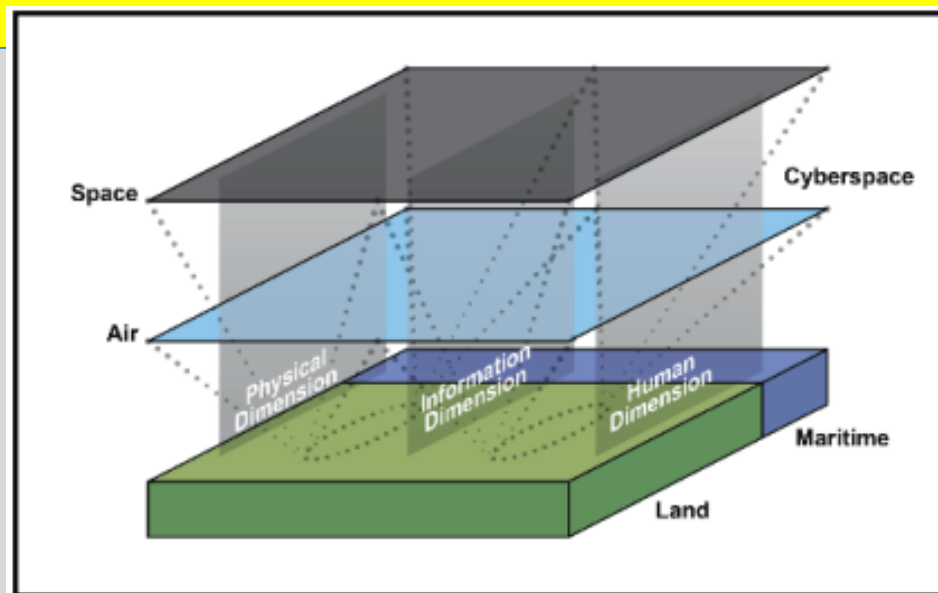# *The Operational Environment*

1. An ***operational environment (OE)*** is the aggregate of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0)

2. For Army forces, an OE includes portions of each of the five domains (land, maritime, air, space, and cyberspace) understood through three dimensions (human, physical, and information).

The interrelationship among land, maritime, air, space, and cyberspace domains require cross domain understanding. As such, Army leaders seek to understand an OE through the physical, information, and human dimensions.

The Domains

A *domain* is a physically defined portion of an operational environment requiring a unique set of warfighting capabilities and skills.

The *land domain* is the area of the Earth's surface ending at the high water mark and overlapping the maritime domain in the landward segment of the littorals. The most distinguishing characteristic of the land domain is the human dimension (JP 3-31).

The *maritime domain* is the oceans, seas, bays, estuaries, islands, coastal areas, and the airspace above these, including the littorals (JP 3-32). It overlaps with the land domain in the seaward segment of the littoral.

The *air domain* is the atmosphere, beginning at the Earth's surface, extending to an altitude where its effects upon operations becomes negligible (JP 3-30).

The *space domain* is the area above the altitude where atmospheric effects on airborne objects becomes negligible.

The *cyberspace domain* is the interdependent networks of information technology infrastructures and resident data, including the Internet, telecommunications networks, computer systems, embedded processors and controllers, and relevant portions of the electromagnetic spectrum.

Cyberspace is dependent on the land, maritime, air, and space domains

The Dimensions

Understanding the three dimensions from a friendly, threat (adversary or enemy), and neutral perspective helps leaders, identify problems, anticipate potential outcomes; and effectively plan operations.

The *physical dimension* is the material characteristics and capabilities, both natural and manufactured within an operational environment (FM 3-0)

The *information dimension* is the content, data, and processes that individuals, groups, and information systems use to communicate

The *human dimension* encompasses people and interaction between individuals and groups, how they understand information and events, make decisions, generate will, and act within an operational environment (FM 3-0)

There are several framework approaches to visualize and describe an operational environment

DIME (Strategic)
- Diplomatic
- Information
- Military
- Economic

PMESII-PT   (Operational)
- Political   • Information
- Military   • Infrastructure
- Economic   • Physical Environment
- Social   • Time

METT-TC (I)   (Mission)
- Mission   • Informational Considerations
- Enemy
- Terrain & Weather
- Troops Available
- Time Available
- Civil Considerations

DIME

Instruments of National Power	Brief Description
Diplomatic	The essence of the diplomatic instrument is engagement—how a nation interacts with state or non-state actors, generally to secure some form of agreement that allows the conflicting parties to coexist peacefully. The diplomatic instrument can be used in bilateral situations, or it can be used in forums for international governance to reinforce partner nations, benefit developing states, or block/censure the actions of an adversarial state. The diplomatic instrument is often used as the first steppingstone for engaging the other instruments, particularly when considering military or economic actions. Examples include negotiating a treaty, building coalitions, providing foreign aid.
Informational	The informational instrument is about creating, exploiting, and disrupting the knowledge, perception, and opinion of a population. A state or non-state actor generally benefits when it enjoys an information advantage over another party. The information instrument can target the population or the infrastructure and can seek to impact capabilities and processes by which a state or non-state gathers, analyzes, disseminates, and exploits information are crucial foundational and institutional dimensions of power. Communication synchronization and information activities are two primary effects created to achieve the state's strategic informational objectives. Examples include public diplomacy campaigns, social media engagement, and cyber operations.
Military	The essence of the military instrument is the use of force by one party to impose its will on another. This use can entail applying force, threatening the application of force, or enabling other parties to apply force in furtherance of strategic ends. In contrast to the military variable within PMESII-PT, which specifies what a military has, how it is organized, and how it may operate at a tactical level, the military instrument of national power describes how the military is used at a strategic level. Examples include deterrence, military intervention, humanitarian assistance and disaster relief.
Economic	The economic instrument focuses on furthering or constraining the economic opportunity and/or prosperity of others. Economic power is frequently considered as being the heart of national power and is often the foundation of a nation's strategy during competition. Whether the state has the economic power to pursue a particular strategy, or whether the effort to attain a strategic end will consume too much of the state's economic power are crucial national strategy judgments. Few, if any, strategies' ends are worth putting the nation's economic power in jeopardy. Examples include sanctions, trade agreements, development assessment.

DIME is a tool used to analyze the instruments of national power and how they can be leveraged to achieve objectives in an operational environment

These instruments of power are often used in conjunction with each other. For example, a diplomatic effort to resolve a crisis might be backed by the credible threat of military force, while economic sanctions could be used to pressure an adversary to negotiate.

PMESII-PT

Variable	Brief Description
Political	This variable describes the distribution of responsibility and power at all levels of governance-formally constituted authorities and informal or covert political powers. (Who are the policy and operational decision makers?)
Military	This variable includes the military and paramilitary capabilities of all relevant actors (enemy, friendly, and neutral) in an operational environment. (How does the enemy employ all capabilities throughout the range of military operations?)
Economic	This variable encompasses individual and group behaviors related to producing, distributing, and consuming resources. (What industries and capacities support enemy military operations?)
Social	This variable includes the cultural, religious, and ethnic makeup within an operational environment and the beliefs, values, customs, gender norms, and behaviors of society members. (Where are the critical cultural centers and how do they influence the population?)
Information	This variable describes the nature, scope, characteristics, and effects of individuals, organizations, and systems that collect, process, disseminate, or act on information. (How does information affect enemy decision making or support of the population?)
Infrastructure	This variable comprises the basic facilities, services, and installations needed for the functioning of a community or society. (What are the critical sources and locations that provide basic needs to the population?)
Physical Environment	This variable includes the geography and man-made structures and the climate and weather in the assigned area. (What types of terrain or weather conditions in this assigned area favor enemy operations?)
Time	This variable describes the timing and duration of activities, events, or conditions within an operational environment and how the timing and duration are perceived by various actors in the operational environment. (For example, at what times are people likely to congest roads or conduct activities that provide a cover for hostile operations?)

Table A-1, FM 5-0 (04 NOV 2024)

PMESSI-PT is a comprehensive set of operational variables used to describe an OE (ADP 1-01).

Each of the eight operational variables also has associated sub variables. The specific questions for each variable will differ, depending on the general nature of an OE (FM 5-0)
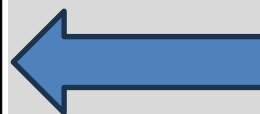
METT-TC (I)

Variable	Brief description
Mission	Commanders and staffs view the mission variables in terms of their impact on mission accomplishment. The mission is the task, together with the purpose, that clearly indicates the action to be taken and the reason for it. It is always the first variable leaders consider during decision making. A mission statement contains the "who, what, when, where, and why" of the operation. The mission statement provides purpose to any operation and sets the parameters for generating cognitive effects.
Enemy	The second variable to consider is the enemy-dispositions (including organization, strength, location, and tactical mobility), doctrine, equipment, capabilities, vulnerabilities, and probable courses of action. Analysis of all enemy capabilities, intentions, and desired outcomes is essential in developing threat models and enemy courses of action.
Terrain and weather	Terrain and weather analysis are inseparable and directly influence each other's impact on military operations. Terrain includes natural features (such as rivers and mountains) and man-made features (such as cities, airfields, and bridges). Leaders analyze terrain using the five military aspects of terrain expressed in the memory aid OAKOC: observation and fields of fire, avenues of approach, key terrain, obstacles, and cover and concealment. The military aspects of weather include visibility, wind, precipitation, cloud cover, temperature, humidity, and space weather. Terrain and weather are neutral and impact both friendly and enemy operations, including impacts on communications, space-based support (including communication, navigation, and surveillance), military deception, and use of the electromagnetic spectrum.
Troops and support available	This variable includes the number, type, capabilities, and condition of available friendly troops and support. These include supplies, services, and support available from joint, host-nation, and unified action partners. Support available also includes capabilities available upon request such as air, space, cyberspace, and information operations support. They also include support from civilians and contractors employed by military organizations, such as the Defense Logistics Agency and the Army Materiel Command.
Time available	Leaders assess the time available for planning, preparing, and executing tasks and operations. This includes the time required to assemble, deploy, and maneuver units in relationship to the enemy and conditions. It also includes understanding the time necessary to request and initiate certain effects (such as cyberspace or electromagnetic warfare actions) and an appreciation for how long it will take to assess the effects of those actions.
Civil considerations	*Civil considerations* are the influence of man-made infrastructure, civilian institutions, and activities of the civilian leaders, populations, and organizations within an area of operations on the conduct of military operations (ADP 6-0). Understanding the behaviors and attitudes of the population, to include discerning if they are hostile, friendly, or neutral to the friendly forces, is a key aspect of analyzing civil considerations. Civil considerations comprise six characteristics, expressed as the memory aid ASCOPE: areas, structures, capabilities, organizations, people, and events.

METT-TC (I)
represents the mission variables leaders use to analyze and understand a situation in relationship to a unit's mission.

The increased use of information (both military and civilian) to generate cognitive effects requires leaders to continuously assess the informational impacts on operations.

Mission variables descriptions with informational integrated examples

Table A-2, FM 5-0 (04 NOV 2024)

METT-TC (I)

Mission Variables	Informational Questions
Mission	What are we told to do and for what purpose? What strategic messaging is occurring that our mission supports? Does it include shaping enemy perception, decision making, and behavior? Does it include military deception? What OPSEC measures are implied?
Enemy	What are the enemy's capabilities to disrupt our C2 (including cyberspace, EW and space)? What are their collection capabilities, and can we counter them with good OPSEC measures? How susceptible are their troops to our messaging (MISO)? Are they vulnerable to deception (including MILDEC, TAC-D, and DISO)? What OPSEC measure can we implement to protect our information?
Terrain and weather	What are the terrain and weather impacts on the transmission of friendly communications, especially ground-based, line-of-sight communications? Can terrain mask friendly EMS signatures? What is the space weather impact on satellite-enabled communications (including C2, EW, cyberspace, and space)?
Troops and support available	What information capabilities do we have available, either organic, assigned, or attached? Do we have PSYOP, civil affairs, cyberspace support elements, or information operations field support teams? What support can headquarters provide?
Time available	Do we have time for supporting efforts, which may include appeals to surrender (MISO), jamming (EW), or offensive cyberspace operations? Do we have sufficient time to devise and execute a deception plan, or at least deception in support of OPSEC (DISO)? Is there sufficient time available for the information-related capabilities to affect behavior towards a favorable action? MISO usually does not change people's minds overnight, or on just one broadcast or leaflet drop. Likewise, it takes time to develop a deception plan. What OPSEC measure can we implement to protect our critical information? For support we need from headquarters, when is it available?
Civil considerations	Is the local population hostile, neutral, or friendly? Who are the relevant actors that can influence specific audiences? What conduits are available to deliver messages to the populace? Are they susceptible to MISO? What can civil affairs do to help? How do these factors vary by gender?
C2 DISO EMS EW MILDEC MISO OPSEC PSYOP TAC-D	command and control deception in support of operations security electromagnetic spectrum electromagnetic warfare military deception military information support operations operations security psychological operations (forces) tactical deception

Example mission variable informational questions

Tactical Army staffs use ASCOPE characteristics to analyze civil considerations essential in supporting development of effective plans for operations.

Table A-3, FM 5-0 (04 NOV 2024)

ASCOPE

Civil Considerations Characteristics	Brief Description
Areas	Key civilian areas are localities or aspects of the terrain within an AO that often are not militarily significant. Key civilian area approaches terrain analysis (OAKOC) from a civilian perspective. Examples of key civilian areas include but are not limited to— • Areas defined by political boundaries, such as districts in a city or municipalities in a region • Locations of government centers. • Social, political, religious, or criminal enclaves. • Economic zones or regions. • Ethnic/Sectarian enclaves, neighborhoods, and fault lines. • Agricultural and mining regions. • Trade routes. • Possible sites for the temporary settlement of displaced civilians or other civil functions
Structures	Existing structures can have various degrees of significance. Analyzing a structure involves determining how the location, functions, capabilities, and consequences of its use can support or hinder the operation. Examples of structures include but are not limited to military bases; military underground facilities; police stations; jails; courtrooms; political offices; electrical power plants and substations; petroleum, oils, and lubricants refineries; dams; water and sewage treatment and distribution facilities; communications stations and networks; bridges and tunnels; warehouses; airports and bus terminals; and universities and schools.
Capabilities	Capabilities can refer to the ability of local authorities—those of the host nation, aggressor nation, or some other body—to provide a populace with key functions or services, such as public administration, public safety, emergency services, media outlets, technology, and necessities (food, water, medical availability).
Organizations	An important aspect of civil considerations is the political dimension of the local population and its expectations relative to friendly and threat operations. Understanding political implications requires analyzing all relevant partnerships—political, economic, military, religious, and cultural. Examples include private security organizations, transnational corporations, and nongovernmental organizations that provide humanitarian assistance.
People	The general use of the term people describes nonmilitary personnel encountered by military forces. The term includes all civilians within an AO as well as those outside the AO whose actions, opinions, or political influence can affect the mission. When analyzing people, one should study culture, language, religion, lifestyles, social history, and centers of authority. Understanding culture gives insight into motives and intent of nearly every person or group in the OE—friend, threat, or other.
Events	Events are routine, cyclical, planned, or spontaneous activities that significantly affect organizations, people, and military operations. Examples include but are not limited to – national and religious holidays, internationally observed cultural or religious holidays, elections, civil disturbances, celebrations, natural phenomenon (monsoons, seasonal floods and droughts, natural disasters).

Crosswalk of ASCOPE with PMESII

POLITICAL

	Areas	Structures	Capabilities	Organizations	People	Events
POLITICAL	• Enclaves • Municipalities • Provinces • Districts • Political districts • Voting • Party affiliation areas • Shadow government influence areas	• Courts (court house, mobile courts) • Government centers • Provincial/District centers • Meeting halls • Polling sites • Police stations • Prisons	• Public administration: ▪ Civil authority, practices, and rights ▪ Political system, stability, traditions ▪ Standards and effectiveness • Executive and Legislative: ▪ Administration ▪ Policies ▪ Powers ▪ Organization • Judicial/Legal: ▪ Administration ▪ Capacity ▪ Policies ▪ Civil and criminal codes ▪ Powers ▪ Organization ▪ Law enforcement • Dispute resolution, grievances • Local leadership • Degrees of legitimacy • Corrections	• Banks • Business organizations • Cooperatives • Economic nongovernment organizations • Guilds • Labor unions • Major illicit industries • Large landholders • Volunteer groups	• United Nations representatives • Political leaders • Governors • Councils • Elders • Community leaders • Paramilitary members • Judges • Prosecutors • Law enforcement officers • Corrections officers	• Elections • Council meetings • Speeches (significant) • Security and military training sessions • Significant trials • Political Motivation • Treaties • Will

MILITARY

	Areas	Structures	Capabilities	Organizations	People	Events
MILITARY	• Areas of influence • Areas of interest • Areas of operations • Safe havens or sanctuaries • Multinational/local nation bases • Historic data on operations by the opposition	• Bases • Headquarters (police) • Known leader houses/businesses	• Doctrine • Organization • Training • Materiel • Leadership • Personnel manpower • Facilities • History • Nature of civil-military relationships • Resource constraints • Local security forces • Quick-reaction forces • Insurgent strength • Enemy recruiting	• Host-nation forces present • Insurgent groups present and networks • Multinational forces present • Paramilitary organizations • Fraternal organizations • Civic organizations	• Key leaders • Multinational, insurgent, military	• Combat • Historical • Noncombat • Kinetic events • Unit reliefs • Loss of leadership

ECONOMIC

	Areas	Structures	Capabilities	Organizations	People	Events
ECONOMIC	• Commercial • Fishery • Forestry • Industrial • Livestock dealers • Markets • Mining • Movement of goods/services • Smuggling routes • Trade routes • Black market areas	• Banking • Fuel: distribution, refining, source • Industrial plants • Manufacturing • Mining • Warehousing • Markets • Silos, granaries, warehouses • Farms/Ranches • Auto repair shops	• Fiscal: access to banks, currency, monetary policy • Can tolerate drought • Black market • Energy • Imports/Exports • External support/aid • Food: distributing, marketing, production, processing, rationing, security, storing, transporting • Inflation • Market prices • Raw materials • Tariffs	• Banks • Business organizations • Cooperatives • Economic nongovernment organizations • Guilds • Labor unions • Major illicit industries • Large landholders • Volunteer groups • Police departments	• Bankers • Police • Employers/Employees • Labor occupations • Consumption patterns • Unemployment rate (if exists) • Job lines • Landholders • Merchants • Money lenders • Black marketers • Gang members • Smuggling chain	• Drought, harvest, yield, domestic animals, livestock (cattle, sheep), market cycles • Labor migration events • Market days • Payday • Business openings • Loss of business

SOCIAL

	Areas	Structures	Capabilities	Organizations	People	Events
SOCIAL	• Refugee camps • Enclaves: ethnic, religious, social, tribal, families or clans • Neighborhoods • Boundaries of influence • School districts • Parks • Traditional picnic areas • Markets • Outdoor religious sites	• Clubs • Jails • Historical buildings/houses • Libraries • Religious buildings • Schools/Universities • Stadiums • Cemeteries • Bars and tea shops • Social gathering places (meeting places) • Restaurants • Police stations	• Medical: Traditional, modern • Social networks, including those on websites • Academic • Strength of tribal/village traditional structures • Judicial • Police	• Clan • Community councils and organizations • School councils • Familial • Patriotic/Service organizations • Religious groups • Tribes • Police departments	• Community leaders, councils, and members • Education • Ethnicity/Racial: biases, dominant group, percentages, role in conflict • Key figures: criminals, entertainment, religious leaders, chiefs/elders • Languages/Dialects • Vulnerable populations • Displaced persons • Sports • Influential families • Migration patterns • Culture: Artifacts, behaviors, customs, shared beliefs/value • Police	• Celebrations • Civil disturbance • National holidays • Religious holidays and observance days • Food lines • Weddings • Birthdays • Funerals • Sports events • Market days • Family gatherings • History: major wars/conflicts • Police engagement

INFORMATION

	Areas	Structures	Capabilities	Organizations	People	Events
INFORMATION	• Broadcast coverage area (newspaper, radio, television) • Word of mouth • Gathering points • Graffiti • Posters	• Communications: Lines, towers (cell, radio, television) • Internet service: satellite, hard wire, cafes • Cellular phone • Postal service • Print shops • Telephone • Television stations • Radio stations	• Availability of electronic media • Local communications networks • Internet access • Intelligence services • Printed material: flyers, journals, newspapers • Propaganda • Radio • Television • Social media • Literacy rate • Word of mouth	• Media groups, news organizations • Religious groups • Insurgent inform and influence activity groups • Government groups • Public relations and advertising groups	• Decision makers • Media personalities • Media groups, news organizations • Community leaders • Elders • Heads of families	• Disruption of services • Censorship • Religious observance days • Publishing dates • Inform and influence activity campaigns • Project openings

INFRASTRUCTURE

	Areas	Structures	Capabilities	Organizations	People	Events
INFRASTRUCTURE	• Commercial • Industrial • Residential • Rural • Urban • Road systems • Power grids • Irrigation networks • Water tables	• Emergency shelters • Energy: distribution system, electrical lines, natural gas, power plants • Medical: hospitals, veterinary • Public buildings • Transportation: airfields, bridges, bus stations, ports and harbors, railroads, roadways, subways • Waste distribution, storage, and treatment: dams, sewage, solid • Construction sites	• Construction • Clean water • Communications systems • Law enforcement • Fire fighting • Medical: basic, intensive, urgent • Sanitation • Maintenance of roads, dams, irrigation, sewage systems • Environmental management	• Construction companies: government, contract	• Builders • Road contractors • Local development councils	• Scheduled maintenance (road/bridge construction) • Natural/Man-made disasters • Well digging • Community center construction • School construction