

SLIDE #1: TITLE:
Environment-North
and South Vietnam

*ENVIRONMENT - VIETNAM
INTRODUCTION

ONE OF THE BASIC CONSIDERATIONS IN A GLOBAL MEDICINE PROGRAM IS THE INHERENT RELATIONSHIP OF CERTAIN TYPES OF DISEASES WITH VARIOUS ENVIRONMENTS. PAST EXPERIENCE HAS SHOWN THAT A THOROUGH ACQUAINTANCE WITH ENVIRONMENTAL FACTORS IS A PREREQUISITE TO SUCCESSFUL MILITARY OPERATIONS. BECAUSE SOUTHEAST ASIA IS OF SPECIAL IMPORTANCE AT THIS TIME THE DISCUSSION THAT FOLLOWS IS LIMITED TO THAT AREA OF THE WORLD.

ENVIRONMENT, AS THE TERM IS USED HERE, MEANS "TERRAIN AND CLIMATE TOGETHER WITH CIRCUMSTANCES WHICH MAY INFLUENCE OR MODIFY MILITARY OPERATIONS AND THE PRACTICE OF MILITARY MEDICINE."

SLIDE #2: MAP:
Southeast Asia

*NORTH AND SOUTH VIETNAM ARE CURRENTLY THE MOST IMPORTANT FROM A MILITARY POINT OF VIEW AND SPECIFIC ENVIRONMENTAL INFORMATION ON THESE TWO COUNTRIES CONSTITUTES THE MAJOR PART OF THIS DISCUSSION.

FIRST, HOWEVER, A GENERAL DISCUSSION OF THE MAJOR ENVIRONMENTAL FEATURES OF THE SOUTHEAST ASIAN PENINSULA SEEMS APPROPRIATE

TO PROVIDE AN INTEGRATED OVERVIEW OF MEDICAL PROBLEMS LIKELY TO BE FACED BY MILITARY FORCES ANYWHERE IN THIS PART OF THE WORLD.

SLIDE #3: MAP:
Eastern Hemisphere

*SOUTHEAST ASIA INCLUDES FIVE COUNTRIES INCORPORATED IN AN AREA APPROXIMATELY 6,000 MILES LONG BY 2,000 MILES WIDE IN THE EASTERN HEMISPHERE. SAIGON IS 2,000 MILES FROM TOKYO; 5,000 MILES FROM MOSCOW, AND INCIDENTALLY, IT'S NEARLY HALFWAY AROUND THE WORLD FROM THE UNITED STATES. THE FIVE COUNTRIES OF SOUTHEAST ASIA OCCUPY NEARLY 500,000 SQUARE MILES AND *THIS VIEW SHOWS A COMPARISON OF THIS AREA OVERLAYED ON A MAP OF THE AMERICAS.

SLIDE #4: Map:
comparison

THROUGHOUT SOUTHEAST ASIA, CLIMATE PLAYS AN IMPORTANT ROLE IN THE GENESIS OF MILITARY MEDICAL PROBLEMS. AMBIENT TEMPERATURES, HUMIDITY AND RAINFALL COMBINE TO PRESENT AN ENERVATING ENVIRONMENT. MINIMUM DAILY TEMPERATURES DO NOT FALL BELOW 40°F. (EXCEPT IN THE HIGHEST MOUNTAINS) AND MANY PLACES RECORD MAXIMUM TEMPERATURES IN EXCESS OF 100°F. FOR 6-8 MONTHS OF THE YEAR. HIGH MAXIMUM DAILY TEMPERATURES MAY EXCEED 110°F. IN SOME PLACES IN MAY TO JULY.

THE RAINFALL RANGES FROM A MINIMUM OF 40 TO OVER 120 INCHES PER YEAR IN SOME AREAS. THE PHYSIOLOGICAL RESPONSE OF TROOPS, PARTICULARLY UNACCLIMATIZED TROOPS, MAY NOT BE COMPLETELY PREDICTABLE AND SANITARY DISCIPLINE MAY BE DIFFICULT TO MAINTAIN. LACK OF ADEQUATE WATER SUPPLY, EXHAUSTION AND TRAUMA DUE TO DIFFICULTIES IN MOVING THROUGH ROUGH, HEAVILY VEGETATED TERRAIN AND THE PREVALENCE OF DISEASE-BEARING INSECTS, POISONOUS OR DANGEROUS ANIMALS, MAY IMPOSE A DISTINCT THREAT TO COMBAT EFFECTIVENESS. MANY OF THESE HAZARDS ARE DIRECTLY RELATED TO CLIMATE.

SLIDE #5: List of
Countries of S.E.
Asia

* THE ENVIRONMENT OF COUNTRIES INCLUDED IN SOUTHEAST ASIA, I.E., NORTH AND SOUTH VIETNAM, CAMBODIA, THAILAND AND LAOS IS QUITE SIMILAR IN MOST RESPECTS. ALL HAVE MOUNTAINS UP TO ABOUT 6,000 - 8,000 FEET, LARGE AREAS OF FOREST LAND, JUNGLES, HIGHLAND PLAINS, AND EXTENSIVE AREAS OF FLAT LOWLANDS ONLY A FEW FEET ABOVE SEA LEVEL. ONLY LAOS HAS NO COASTLINE, AND MANY BEACHES IN THE OTHER COUNTRIES ARE NOT SATISFACTORY FOR AMPHIBIOUS LANDING OPERATIONS.

SLIDE #6: Mekong
River graphic

*THE MIGHTY MEKONG RIVER IS THE DOMINANT TERRAIN FEATURE OF SOUTHEAST ASIA. ITS WATERS

IN LOWER CAMBODIA AND SOUTH VIETNAM, NOURISH ONE OF THE RICHEST RICE GROWING AREAS IN THE WORLD. *NAVIGABLE IN PLACES, THE RIVER PROVIDES A MEANS OF LOCAL TRANSPORTATION AND IRRIGATES A LARGE AREA OF AGRICULTURAL LAND ALONG ITS BANKS.

SLIDE #7: People
in boats

SLIDE #8: Aerial
SLIDE #9: views of
SLIDE #10: flooded
delta

*THE MONSOON RAINS CAUSE SEVERE FLOODING, NOT ONLY CREATING DIFFICULT LOGISTIC PROBLEMS FOR THE CIVILIAN POPULATION AND MILITARY FORCES AS WELL, BUT CAUSING HEAVY CONTAMINATION OF THE SURROUNDING COUNTRYSIDE. THUS, WATER-BORNE DISEASES ARE LIKELY TO INCREASE DURING THE FLOOD SEASONS. INTESTINAL DISEASES, LEPTOSPIROSIS, IMMERSION FOOT, A VARIETY OF DERMATOSES, TO MENTION A FEW, ARE DISEASES THAT INCREASE SIGNIFICANTLY DURING AND FOLLOWING THE FLOODS. FLOODING MAY ALSO BE RESPONSIBLE FOR INCREASED SNAKE BITE CASUALTIES AND HIGHER INCIDENCE OF DISEASES IN ANIMALS. ***

***PROJECTOR OFF

THE OPPRESSIVE HUMIDITY AND ENERVATING TEMPERATURE OF THE JUNGLE AREAS CAUSE AN INCREASE IN HEAT PROSTRATION CASES. THE MORALE OF TROOPS MAY DETERIORATE UNLESS POSITIVE STEPS ARE TAKEN TO ALLEVIATE THE EFFECTS OF LIFE IN THE JUNGLE. ***

***PROJECTOR ON

SOUTH VIETNAM

NOW, LET'S TAKE A CLOSER LOOK AT SOUTH VIETNAM. SOUTH VIETNAM OCCUPIES A CRESCENT SHAPED 66,000 SQUARE MILES ON THE SOUTHEASTERN EDGE OF THE INDOCHINA PENINSULA. *THIS VIEW COMPARES ITS SIZE WITH THAT OF THE SOUTHEASTERN U. S. THE COUNTRY IS SLIGHTLY LARGER THAN FLORIDA. IT IS ABOUT 700 MILES LONG, AND VARIES IN WIDTH FROM 40 TO 120 MILES.

THIS SMALL COUNTRY SUPPORTS APPROXIMATELY 14 MILLION PEOPLE, RANGING IN DENSITY FROM ALMOST NONE IN SOME MOUNTAIN REGIONS TO OVER 2,000 PERSONS PER SQUARE MILE IN THE DELTA REGION. POPULATION DENSITY FOR THE COUNTRY AS A WHOLE IS 236 PERSONS PER SQUARE MILE.

THE TERRAIN OF SOUTH VIETNAM CONSISTS OF FLAT PLAINS TO RUGGED MOUNTAINS, AND HAS AN IRREGULAR COASTLINE OF SOME 1,500 MILES. THE MAJOR TERRAIN FEATURES CAN BEST BE ILLUSTRATED BY THE USE OF THIS MAP. *THE LARGEST AREA IS THE NORTHERN HIGHLANDS WHICH MAKE UP ABOUT ONE-HALF OF THE COUNTRY. THE OTHER AREAS ARE THE *COASTAL PLAINS, *UPLAND PLAINS, AND *THE MEKONG DELTA LOWLANDS.

SLIDE #11: South
Vietnam overlay
of U. S.

SLIDE #12: Map:
Northern Highlands
South Vietnam

SLIDE #13: Map:
Coastal plains

SLIDE #14: Map:
Upland plains

SLIDE #15: Map:
Mekong Delta lowlands

A LARGE PART OF THE VAST DELTA OF THE MEKONG RIVER LOWLANDS IS CRISS-CROSSED BY A DENSE *NETWORK OF CANALS AND DITCHES CONNECTED TO THE WIDE, DEEP AND *MEANDERING TRIBUTARIES. ELEVATIONS THROUGHOUT THE DELTA ARE GENERALLY LESS THAN 30 FEET ABOVE SEA LEVEL, *AND A LARGE PART OF IT IS INUNDATED FROM EARLY JUNE THROUGH DECEMBER.

SLIDE #16: Canals near Can Tho

SLIDE #17: Meandering tributaries

SLIDE #18: Inundated delta region

MANGROVE SWAMPS LINE MUCH OF THE DELTA COAST, AND MARSHES OCCUPY EXTENSIVE AREAS INLAND. *THE EXTENSIVE PLAINS ALONG THE COAST IN THE NORTHERN PART OF THE COUNTRY ARE CALLED THE COASTAL PLAINS AREA. AS WE PROGRESS SOUTHWARD THE PLAINS OCCUPY PRIMARILY A NARROW AREA ALONG THE EAST COAST. *THESE DENSELY POPULATED, RICE CULTIVATED, *COASTAL PLAINS ARE SEPARATED BY RUGGED MOUNTAIN SPURS. *THERE ARE EXTENSIVE BEACHES, MANY OF WHICH ARE BACKED BY HIGH CLIFFS. *SEVERAL BEACHES, ESPECIALLY ALONG THE NORTHEASTERN COAST, HAVE EXTENSIVE SAND DUNES RANGING FROM 10 TO 60 FEET HIGH. SOME ARE AS HIGH AS 300 FEET HIGH.

SLIDE #19: Map: Coastal plains

SLIDE #20: Rice fields (aerial view)
SLIDE #21: Ragged mountain spurs

SLIDE #22: Beaches

SLIDE #23: Sand dunes, South Vietnam

SLIDE #24: Map: Upland plains

SLIDE #25: Marshy strip in Upland plains

*ROLLING PLAINS OCCUPY THE CENTRAL AREA OF THE COUNTRY, AND ARE COVERED WITH GRASS AND OPEN FOREST. *SMALL, MARSHY AREAS ARE COMMON ALONG STREAMS IN THIS AREA.

SLIDE #26: Map:
Northern Highlands

SLIDE #27: Forested
hills & mountains

SLIDE #28: Northern
mountains & steep-
sided valleys

SLIDE #29: Southern
mountains, rounded,
broad valleys

*THE NORTHERN AND CENTRAL PARTS OF THE COUNTRY CONSIST OF RANDOMLY ORIENTED, *FORESTED HILLS, AND MOUNTAINS. *THE MOUNTAINS IN THE NORTH AND CENTRAL PART OF THE COUNTRY ARE DISSECTED BY VALLEYS THAT ARE DEEP, NARROW, AND STEEP-SIDED. *THE MOUNTAINS ARE MORE ROUNDED AND THE VALLEYS BROADER IN THE SOUTHERN PART OF THE MOUNTAINS.

THE CLIMATE OF SOUTH VIETNAM IS MONSOONAL. THE WIND BLOWS FROM THE SOUTHWEST IN THE SUMMER MONTHS, MID-MAY THROUGH SEPTEMBER; AND FROM THE NORTHEAST IN THE WINTER MONTHS, NOVEMBER TO MID-MARCH. THE RAINY SEASON IS KNOWN AS THE SOUTHWEST MONSOON, AND LOW LYING AREAS ARE OFTEN INUNDATED DURING THIS SEASON. THE HUMIDITY IS GENERALLY HIGH AND DEBILITATING THROUGHOUT THE YEAR. RAINFALL AVERAGES 28 INCHES ALONG THE SOUTHEASTERN COAST TO 120 INCHES PER YEAR ON THE EXPOSED SLOPES OF THE INTERIOR HIGHLANDS. THE NORTHEAST MONSOON IS KNOWN AS THE DRY SEASON AND ALSO THE COOLEST SEASON OF THE YEAR.

THIS SO-CALLED DRY SEASON IS INTERRUPTED UP TO ABOUT 10 TIMES A YEAR BY TYPHOONS WHICH BRING HEAVY RAIN AND DO GREAT DAMAGE. THE TRANSITIONAL PERIOD BETWEEN THE MONSOONS LASTS FOR 1 TO 2 MONTHS. THE SPRING TRANSITIONAL

PERIOD, FOLLOWING THE NORTHEAST MONSOON, BRINGS THE HOTTEST TIME OF THE YEAR. THE COOLEST TIME OF THE YEAR IS DURING THE SO-CALLED DRY SEASON (NORTHEAST MONSOON, NOVEMBER TO MARCH) WHEN TEMPERATURES MAY FALL AS LOW AS FREEZING IN SOME PLACES,

SLIDE #30:
Temperature Chart
South Vietnam

*THIS CHART GIVES THE YEARLY RANGE OF MINIMUM AND MAXIMUM TEMPERATURES AT THE SPECIFIC LOCALITIES SHOWN. THE MINIMUM IS IN WHITE AND THE MAXIMUM IS IN BLACK. FOR EXAMPLE, AT CAN THO THE MINIMUM TEMPERATURE RANGE IS FROM 61-70 ... WHILE THE MAXIMUM TEMPERATURE RANGES FROM 92-99. READING VERTICALLY THE MINIMUM-MAXIMUM TEMPERATURES DURING THE NORTHEAST MONSOON (OR THE COOLEST TIME OF THE YEAR) ARE 61 AND 92 RESPECTIVELY. THE OTHER PAIR OF FIGURES REPRESENT THE MINIMUM-MAXIMUM TEMPERATURES RECORDED DURING THE SOUTHEAST MONSOON OR THE HOTTEST TIME OF THE YEAR. THESE RECORDINGS MAY NOT APPEAR UNUSUAL AT FIRST, BUT WHEN ONE CONSIDERS THAT THE MAXIMUM TEMPERATURES SHOWN MAY CONTINUE FOR AS LONG AS 6-8 MONTHS, AND-COMBINE THIS WITH HIGH HUMIDITY, IT CAN BE UNDERSTOOD THAT THE ENVIRONMENT MAY BE EXCEEDINGLY UNCOMFORTABLE INDEED.

FURTHERMORE, IT SHOULD BE UNDERSTOOD THAT THE TEMPERATURES GIVEN ARE TAKEN FROM METEOROLOGICAL STATIONS AND TEMPERATURES OF SPECIFIC LOCALITIES MAY DIFFER BY AS MUCH AS 5 DEGREES F. OR MORE. ***

***PROJECTOR OFF

MALARIA, TUBERCULOSIS, PARASITIC INFECTION, AND WATER-BORNE DISEASES ARE THE LEADING CAUSES OF ILLNESS AND DEATH. BECAUSE OF POLLUTED WATER SUPPLIES, DISEASES SUCH AS TYPHOID FEVER, *** DYSENTERY, AND LEPTOSPIROSIS ARE ENDEMIC. *THIS WATER SUPPLY IN CHOLON, NEAR SAIGON, IS USED FOR MANY PURPOSES!

***PROJECTOR ON
SLIDE #31: Water
Supply, Cholon

NOT EVEN THE LARGEST CITIES HAVE A SAFE DRINKING WATER SUPPLY. LESS THAN HALF OF THE SMALLER TOWNS HAVE PUBLIC WATER SYSTEMS AND THESE PROVIDE NEITHER A SUFFICIENT NOR A SAFE SUPPLY. *** TRACHOMA IS WIDESPREAD, AND IT IS REPORTED THAT PERHAPS FOUR-FIFTHS OF THE POPULATION HAS BEEN AFFECTED AT ONE TIME OR ANOTHER. VECTOR-BORNE DISEASES, SUCH AS MALARIA, PLAGUE, AND SCRUB TYPHUS MAY BECOME WIDESPREAD AND EVEN EPIDEMIC AT TIMES. ***

***PROJECTOR OFF

***PROJECTOR ON

OTHER INFECTIOUS DISEASES INCLUDE SMALL POX, TETANUS, RABIES, *CHOLERA, PNEUMONIA, INFLUENZA, AND TYPHUS FEVER. LEPROSY AND YAWS

SLIDE #32: Cholera

OCCUR BUT THE INCIDENCE IS NOT HIGH AND SCARLET FEVER IS SELDOM REPORTED. INFECTION WITH INTESTINAL AND OTHER TYPES OF PARASITES IS ALMOST UNIVERSAL. ROUNDWORM, HOOKWORM, AND TAPEWORM ARE COMMON, AS ARE ORIENTAL LIVER FLUKES. MALARIA, AND INTESTINAL DISEASES (SUCH AS BACILLARY AND AMEBIC DYSENTERY) REPRESENT THE GREATEST THREATS TO MILITARY FORCES. *IN SPITE OF WHAT HAS JUST BEEN SAID, SOUTH VIETNAM, IN SOME AREAS, CAN BE A VERY PLEASANT PLACE, AS THIS VIEW NEAR DALAT ATTESTS.

SLIDE #33:
Dalat, South
Vietnam

NORTH VIETNAM

*NORTH VIETNAM OCCUPIES THE NORTHEASTERN QUARTER OF THE INDOCHINA PENINSULA, BORDERED BY CHINA, LAOS, AND SOUTH VIETNAM. THE TOTAL AREA OF NORTH VIETNAM IS ABOUT 63,000 SQUARE MILES, ABOUT THE SIZE OF THE STATE OF WASHINGTON. IT VARIES IN WIDTH FROM ABOUT 325 MILES IN THE MOUNTAINOUS NORTH TO ABOUT 30 MILES IN THE SOUTHERN COASTAL AREA. IT'S CONCAVE COASTLINE IS ABOUT 490 MILES LONG AND *OFF THE NORTHEAST COAST THERE ARE A LARGE NUMBER OF SMALL ISLANDS WITH VERY STEEP SLOPES.

SLIDE #34: Map:
North Vietnam

SLIDE #35: Island
area
SLIDE #36: Islands
near Campha

SLIDE #37: Northern
Highlands, North VN
SLIDE #38: Red River
Delta, North Vietnam

THE COUNTRY CAN BE DIVIDED INTO THREE REGIONS, *THE NORTHERN HIGHLANDS, *THE RED RIVER

SLIDE #39: Southern
Coastal plain, NVN
SLIDE #40: Map:
Northern highlands

SLIDE #41: Plateaus
and hills

SLIDE #42: Swift
stream

SLIDE #43: Map:
Red River Delta

SLIDE #44: Red
River Delta (flooded)

SLIDE #45: Map:
Southern Coastal
plains, NVN

DELTA, AND THE *SOUTHERN COASTAL PLAINS. *THE HIGHLANDS ARE COVERED WITH DENSE EVERGREEN FORESTS, BUT THERE ARE EXTENSIVE AREAS OF GRASS, SHRUB, AND DECIDUOUS FOREST. *IN THE WEST AND NORTHEAST THERE ARE HIGH, STEEP SIDED PLATEAUS AND HILLS, RANGING IN HEIGHT FROM 2,000 TO 8,000 FEET. *SWIFT FLOWING STREAMS HAVE CUT DEEP GORGES IN THESE MOUNTAINS WHICH DO NOT AFFORD EXTENSIVE AREAS FOR CULTIVATION. EXCEPT IN THE EAST, THE ROADS ARE FEW AND STEEP.

*THE ENTIRE DELTA REGION IS VERY LOW. MOST OF IT IS NOT MORE THAN 10 FEET ABOVE SEA LEVEL, AND SUBJECT TO EXTENSIVE FLOODING.

*HERE IS A VIEW OF THE RED RIVER DELTA SOME 50 MILES SOUTHEAST OF HANOI. MANY EMBANKMENTS HAVE BEEN BUILT OVER THE CENTURIES TO CHANNEL THE WATER INTO THE RICE FIELDS WHICH SUPPORT ONE OF THE DENSEST POPULATIONS IN THE WORLD. MUD FLATS AND MANGROVE SWAMPS OF THE DELTA OFFER FEW LANDING PLACES FOR SMALL CRAFT.

*THE SOUTHERN COASTAL PLAIN IS ALSO QUITE LOW, SEASONALLY INUNDATED, AND MOST OF IT PLANTED IN WETLAND RICE. SOME OF THE FIELDS ARE DOUBLE CROPPED AND REMAIN FLOODED 10 MONTHS OF EACH YEAR. MANGROVE SWAMPS OCCUPY LARGE SECTORS

OF THIS REGION AND BELTS OF SAND DUNES
PARALLEL THE COAST.

THE CLIMATE OF NORTH VIETNAM IS ALSO
MONSOONAL. EXCEPT IN A FEW MOUNTAINOUS AREAS,
HIGH TEMPERATURES PREVAIL THROUGHOUT THE YEAR.
THE HUMIDITY IS GENERALLY HIGH AND DEBILITAT-
ING. THE MEAN ANNUAL RAINFALL RANGES FROM 55
TO 130 INCHES.

SLIDE #46:
Temperature Chart
North Vietnam

*THIS CHART GIVES THE ABSOLUTE MINIMUM
AND MAXIMUM TEMPERATURES FOR NORTH VIETNAM.
THE MINIMUM TEMPERATURES ARE IN WHITE AND THE
MAXIMUM IN BLACK. READING VERTICALLY, AS IN
THE TEMPERATURE CHART FOR SOUTH VIETNAM, THE
MINIMUM-MAXIMUM TEMPERATURES FOR THE TWO
PERIODS OF THE YEAR ARE GIVEN. NOVEMBER TO
MARCH IS SHOWN ON THE LEFT AND MAY TO OCTOBER
ON THE RIGHT. THE MAXIMUM TEMPERATURES IN
NORTH VIETNAM ARE APPROXIMATELY THE SAME AS
THOSE IN SOUTH VIETNAM, EXCEPT IN A FEW LOCAL-
ITIES, WHERE A HIGHER TEMPERATURE FOR A LONGER
PERIOD OF TIME MAY BE RECORDED. FOR EXAMPLE,
THE MAXIMUM DAILY TEMPERATURE IN VINH EXCEEDS
100° F. FOR OVER 8 MONTHS OF THE YEAR.

IN THE NORTHERN PART OF THE COUNTRY THE
HEAVIEST INTENSITY OF RAINFALL OCCURS DURING

THE SOUTHWEST MONSOON, WHEREAS IN THE SOUTH, RAINFALL IS HEAVIEST DURING THE FALL TRANSITIONAL PERIOD.

THERE IS A FAIRLY DRY SEASON DURING THE NORTHEAST MONSOON. THE COOLEST TEMPERATURE OCCURS FROM DECEMBER THROUGH FEBRUARY, AND RANGES FROM 34° F. TO 43° F. THE COAST AND NEARBY MOUNTAINS HAVE INTERMITTENT SPELLS OF DRIZZLE AND LOW OVERCAST CLOUDS, LOCALLY CALLED "CRACHIN" WEATHER, WHICH ALLOWS A SECOND CROP OF RICE TO GROW. ***

***PROJECTOR OFF

LIKE ITS NEIGHBORS, NORTH VIETNAM OBTAINS DRINKING WATER FROM POLLUTED STREAMS, AND WATERBORNE DISEASES ARE QUITE PREVALENT AND REPRESENT A SERIOUS HEALTH PROBLEM. TYPHUS, CHOLERA, AND DIPHTHERIA EPIDEMICS OCCUR, AND MALARIA AND TUBERCULOSIS ARE QUITE WIDESPREAD. DENGUE, LEPTOSPIROSIS, TRACHOMA, AND PYOGENIC INFECTIONS ALSO REPRESENT SERIOUS PROBELMS OF THE NATIVE POPULATION.

Insert:

... and parasitic infections, would be major threats to military forces in North Vietnam.
P The nature of the environment ...

MALARIA, LEPTOSPIROSIS, DERMATOSES, IMMERSION FOOT, AS WELL AS INTENSTINAL DISEASES AND CLIMATE IN SOUTH AND NORTH VIETNAM, PROVIDE A KEY TO MEDICAL PROBLEMS LIKELY TO BE FACED BY MILITARY OPERATIONS IN THIS AREA. PRIOR

ANALYSIS AND STUDY OF THESE PARAMETERS AND AVAILABLE MEDICAL STATISTICS WILL REVEAL TO THE MEDICAL DEPARTMENT THE SCOPE AND VARIETY OF TASKS WITH WHICH IT MAY BE CONFRONTED IN THIS TROPICAL REGION OF ASIA.

IN CLOSING, IT IS WIDELY RECOGNIZED, THAT GUERRILLA FORCES, GIVEN EVEN LIMITED POPULAR SUPPORT, CAN DEFEAT OR SERIOUSLY LIMIT THE EFFECTIVENESS OF NUMERICALLY SUPERIOR AND BETTER ORGANIZED CONVENTIONAL MILITARY FORCES. ONE OF THEIR GREAT ADVANTAGES IS A THOROUGH KNOWLEDGE OF THE ENVIRONMENT. SUCH KNOWLEDGE ALLOWS DEVELOPMENT OF WAYS AND MEANS TO ELIMINATE THE NATURAL THREATS ASSOCIATED WITH THE ENVIRONMENT. REGULAR MILITARY FORCES ARE SEVERELY HANDICAPPED AND VULNERABLE WITHOUT SUCH KNOWLEDGE.

THIS PRESENTATION HAS PROVIDED A BRIEF DESCRIPTION OF SOME OF THE MAJOR PROBLEMS IMPOSED ON THE MEDICAL DEPARTMENT BY THE ENVIRONMENT IN NORTH AND SOUTH VIETNAM. AND, IT SHOULD NOW BE RECOGNIZED THAT UNFAMILIAR ENVIRONMENT REPRESENTS A POSITIVE THREAT TO EFFECTIVE MEDICAL OPERATIONS.

MEDICAL DEPARTMENT PERSONNEL AT ALL ESCHELONS MUST OVERCOME THIS SEVERE INITIAL HANDICAP BY BECOMING THOROUGHLY AND QUICKLY KNOWLEDGEABLE OF THE ENVIRONMENT IN ORDER TO NEUTRALIZE SUCH HAZARDS. IGNORANCE OF IT LEADS TO INEFFECTIVENESS, INCREASED CASUALTIES AND PLACES THE MISSION IN JEOPARDY.