

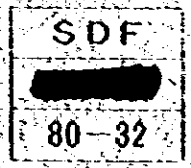
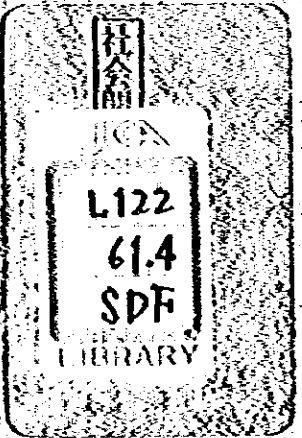
KINGDOM OF THAILAND
MINISTRY OF COMMUNICATIONS
DEPARTMENT OF HIGHWAYS

**FEASIBILITY STUDY
FOR
NONG BUA - BAN LAM CHI BON HIGHWAY PROJECT**

FINAL REPORT
FEBRUARY 1980

VOLUME 2 : APPENDIXES AND DRAWINGS

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)



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NONG BUA-BAN LAM CHI BON HIGHWAY PROJECT

FINAL REPORT

VOLUME 2 APPENDIXES AND DRAWINGS

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PART I
APPENDICES

PREFACE

The Appendixes presented herein give technical details and supporting data as the supplemental information on the subjects discussed in Volume I : Text of this Final Report of Feasibility Study for Nong Bua-Ban Lam Chi Bon Highway Project. Their cross relations to the Chapters of Volume I are as follows:

Volume 1 Chapter	Volume 2 Appendix
III THE AREA OF INFLUENCE	1 GENERAL FEATURE OF THE AREA OF INFLUENCE
	2 LAND CAPABILITY AND LAND USE
	3 PRESENT CONDITIONS OF AGRICULTURE IN THE AREA OF INFLUENCE
	4 TRANSPORTATION IN THE AREA OF INFLUENCE
IV ROUTE SELECTION	5 CONSTRUCTION COSTS BY ROUTE ALTERNATIVE
V PROJECTION OF AGRICULTURAL DEVELOPMENT	6 FUTURE PRODUCTION COSTS AND NET ADDED VALUE
VI TRAFFIC FORECAST	7 BASIC DATA FOR TRAFFIC FORECAST
VII ROAD USERS' BENEFITS	8 ROAD USERS' COSTS
VIII ENGINEERING STUDY	9 ROAD INVENTORY
	10 SOIL AND MATERIAL INVESTIGATION
	11 HYDROLOGICAL STUDY
	12 LIST OF BRIDGES
IX EVALUATION	13 FUTURE FARM INCOMES

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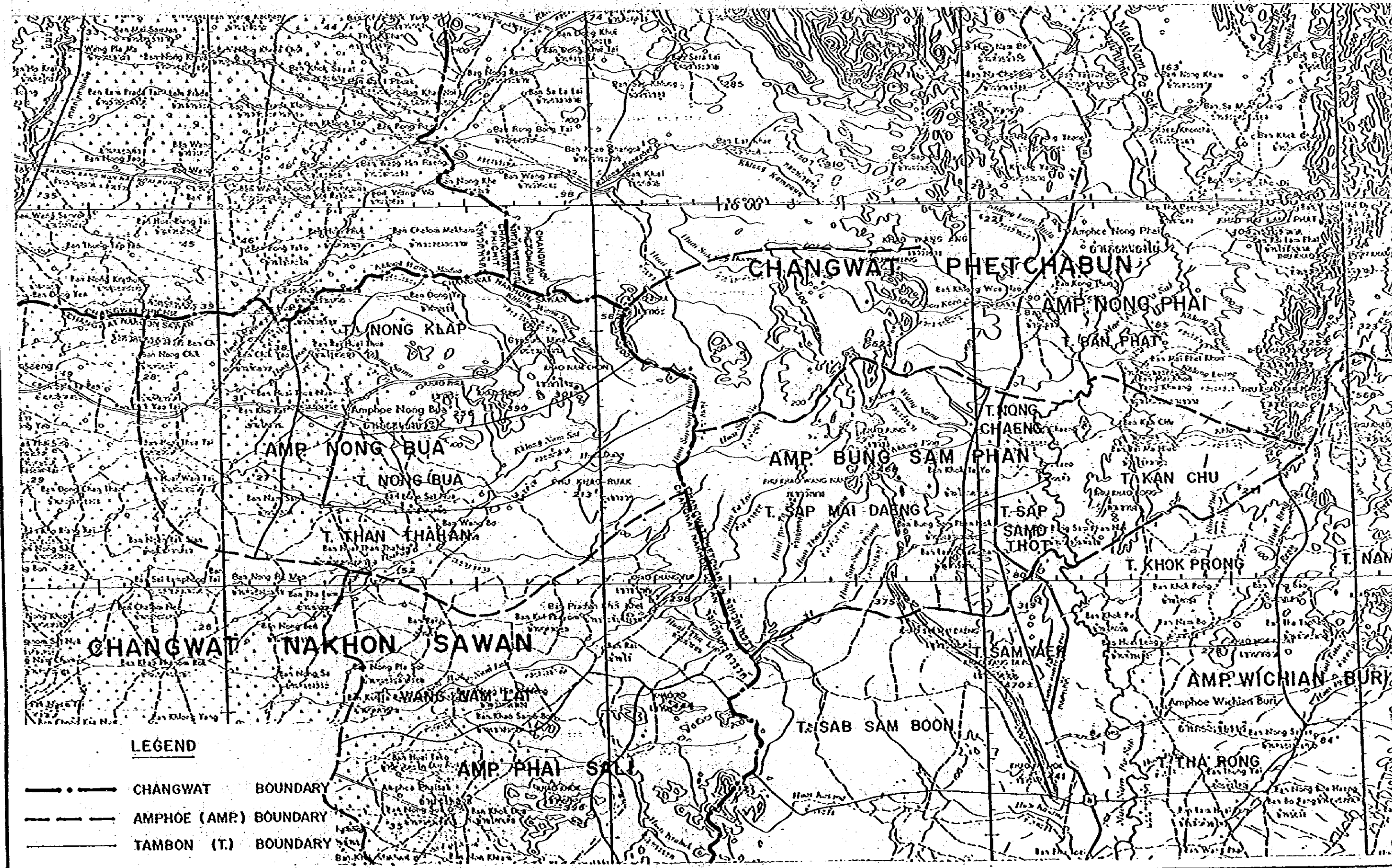
Appendix 1

GENERAL FEATURE OF THE AREA OF INFLUENCE

Table 1A-1 POPULATION IN THE AREA OF INFLUENCE (1979)

<u>Changwat Nakhon Sawan</u>		<u>61,561</u>
<u>Amphoe Nong Bua</u>		<u>44,920</u>
Tambon Nong Klap	17,701	
Nong Bua	10,678	
Than Thahan	16,541	
<u>Amphoe Phai Saii</u>		<u>16,641</u>
Tambon Wang Nam Lat	16,641	
<u>Changwat Phetchabun</u>		<u>121,773</u>
<u>Amphoe Nong Phai</u>		<u>21,152</u>
Tambon Ban Phat	21,152	
<u>Amphoe Bung Sam Phan</u>		<u>59,912</u>
Tambon Sap Mai Daeng	23,575	
Nong Chaeng	8,050	
Sap Sam Thot	17,304	
Kan Chu	10,983	
<u>Amphoe Wichian Buri</u>		<u>40,709</u>
Tambon Khok Prong	9,335	
Nam Ron	7,830	
Tha Rong	18,299	
Sam Yaek	5,245	
<u>Changwat Chaiyaphum</u>		<u>93,542</u>
<u>Amphoe Nong Bua Daeng</u>		<u>4,901</u>
Tambon Chau Thong	4,901	
<u>Amphoe Thep Sathit</u>		<u>5,780</u>
Tambon Nayang Klak	5,780	
<u>Amphoe Nong Bua Rawe</u>		<u>18,882</u>
Tambon Wang Takhe	6,773	
Nong Bua Rawe	12,109	
<u>Amphoe Chaturat</u>		<u>18,015</u>
Tambon Nong Bua Ban	14,888	
Tha Kup	3,127	
<u>Amphoe Ban Khwao</u>		<u>45,964</u>
Tambon Chi Bon	6,370	
Talat Raeng	11,202	
Ban Khwao	19,578	
Lum Lam Chi	8,814	
<u>Whole Area of Influence</u>		<u>276,876</u>

FIGURE IA-1 AMPHOES AND TAN



LEGEND

- • — • — CHANGWAT BOUNDARY
- - - - - AMPHOE (AMP) BOUNDARY
- TAMBON (T.) BOUNDARY

FIGURE 1A - 2

AMPHOES AND TAMBONS IN THE AREA OF INFLUENCE

AMPHOES AND TAMBONS IN THE AREA OF INFLUENCE

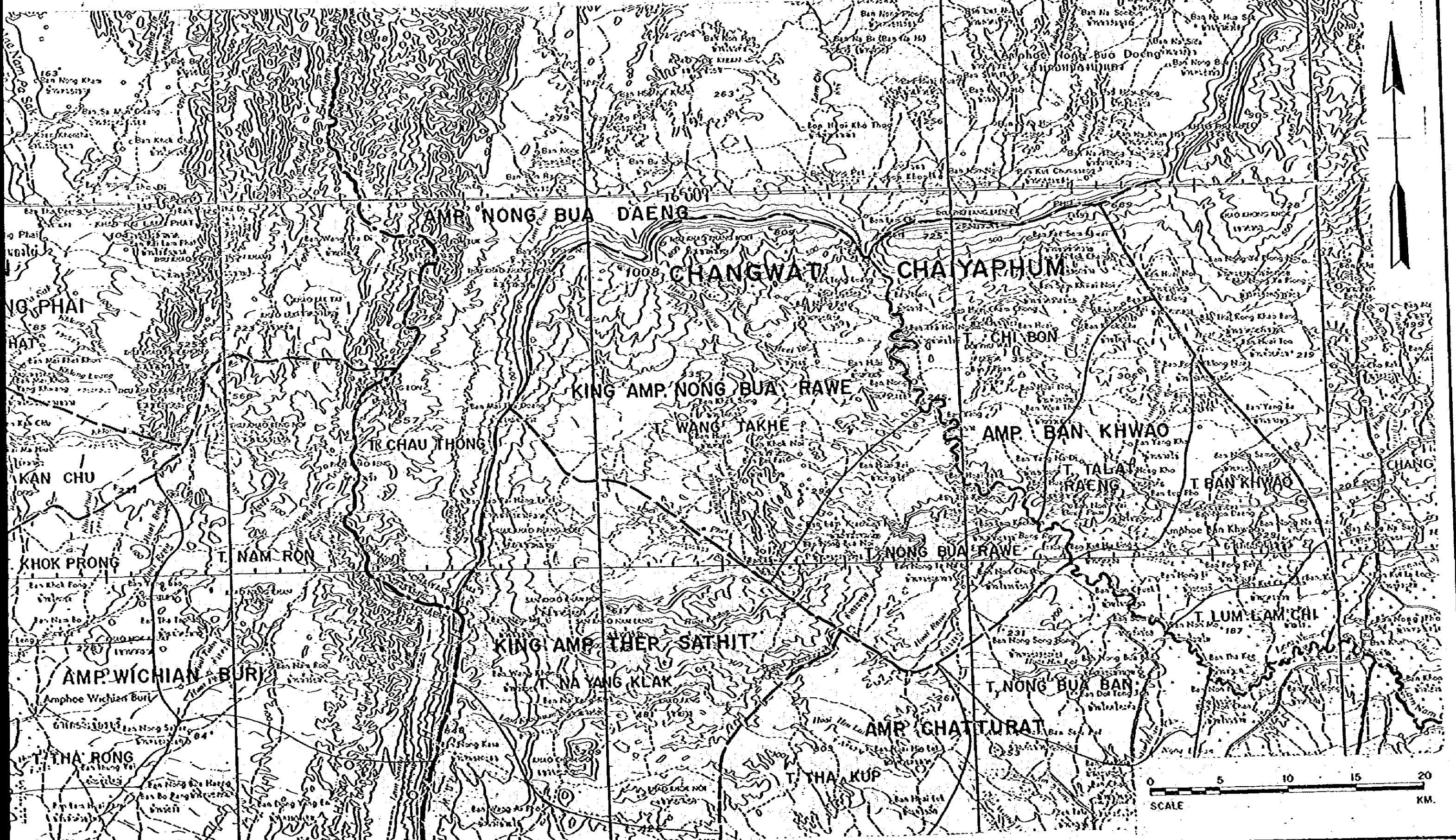


FIGURE 1A-2, GEOLOGICAL MAP

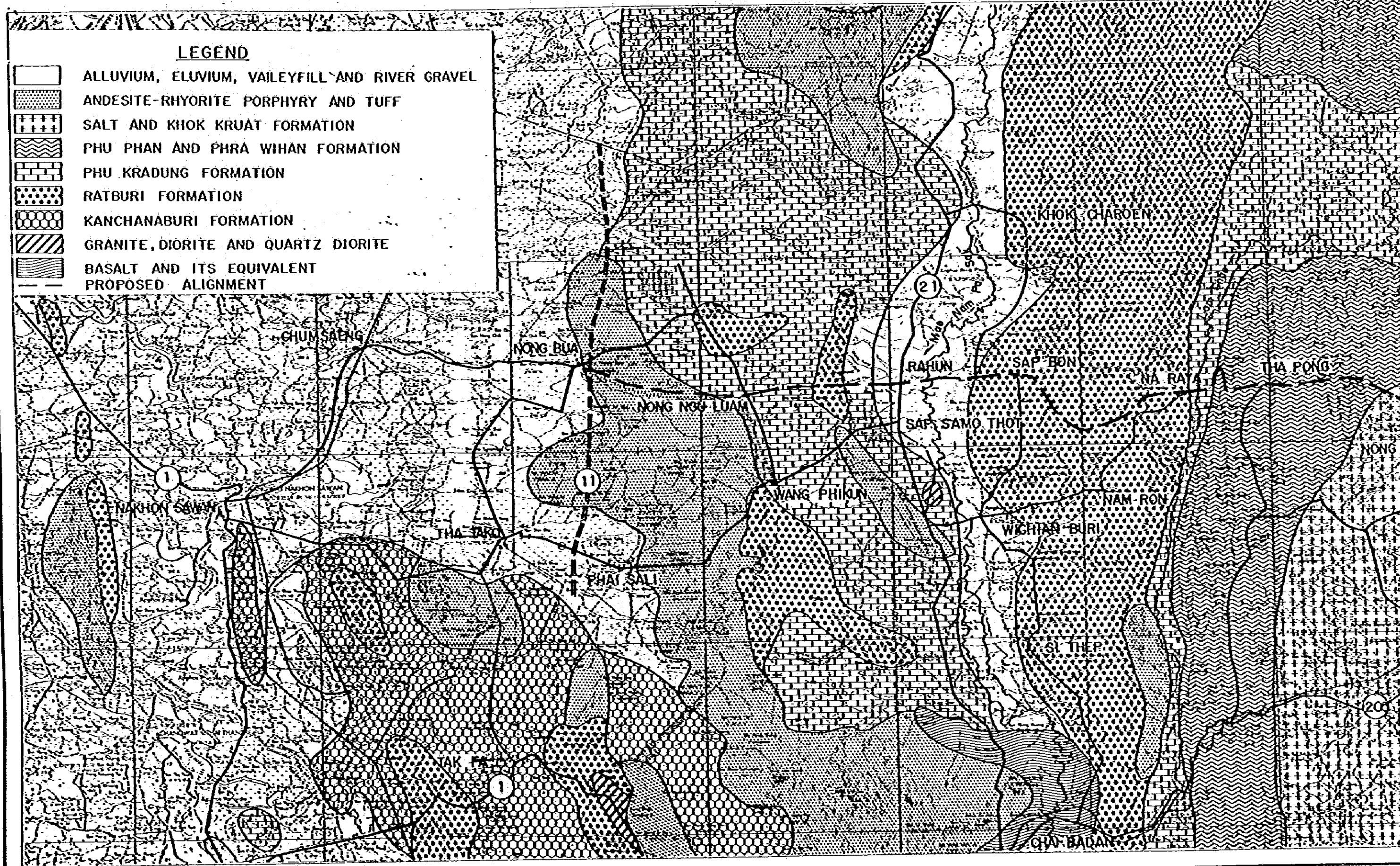
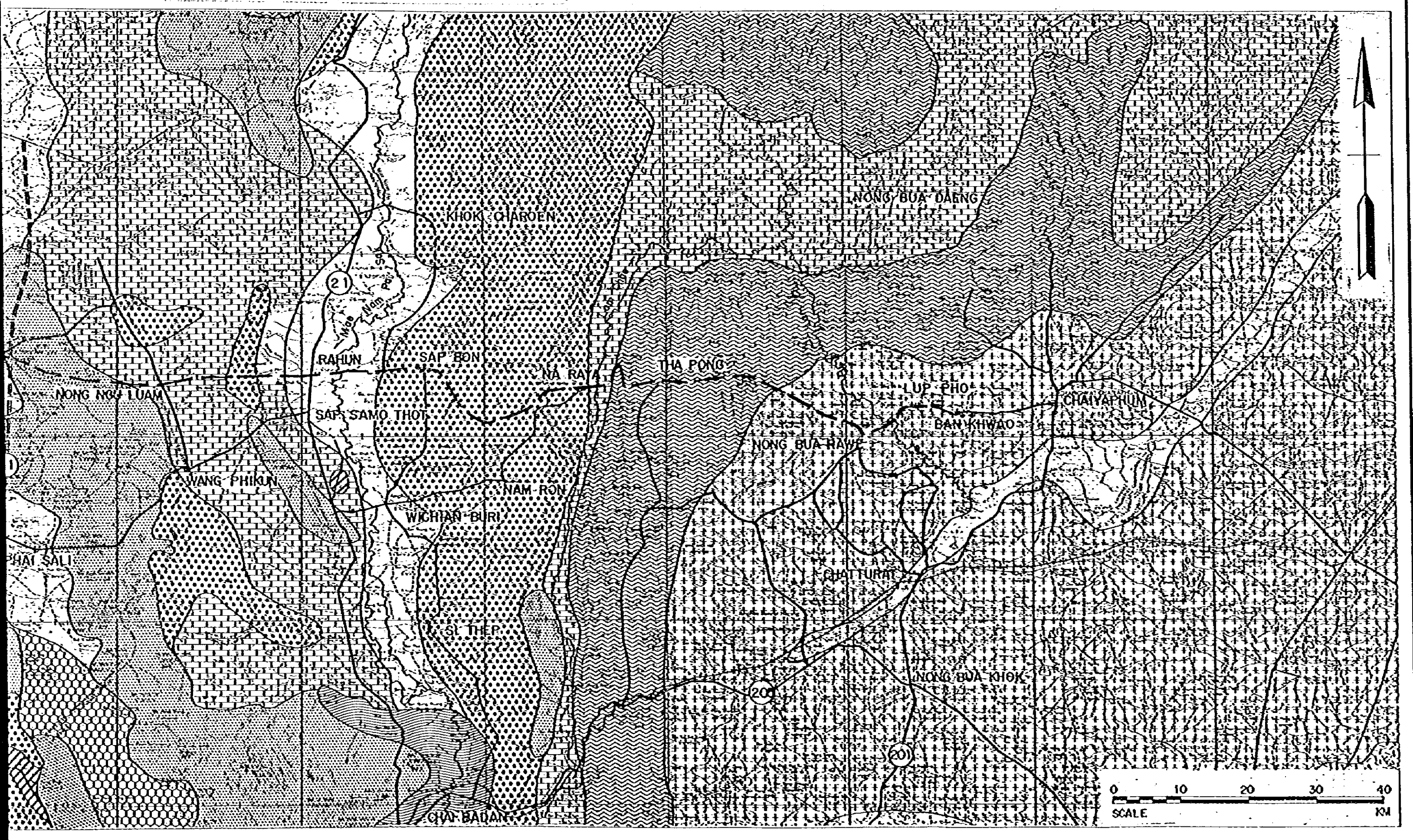


FIGURE 1A-2 GEOLOGICAL MAP



Appendix 2

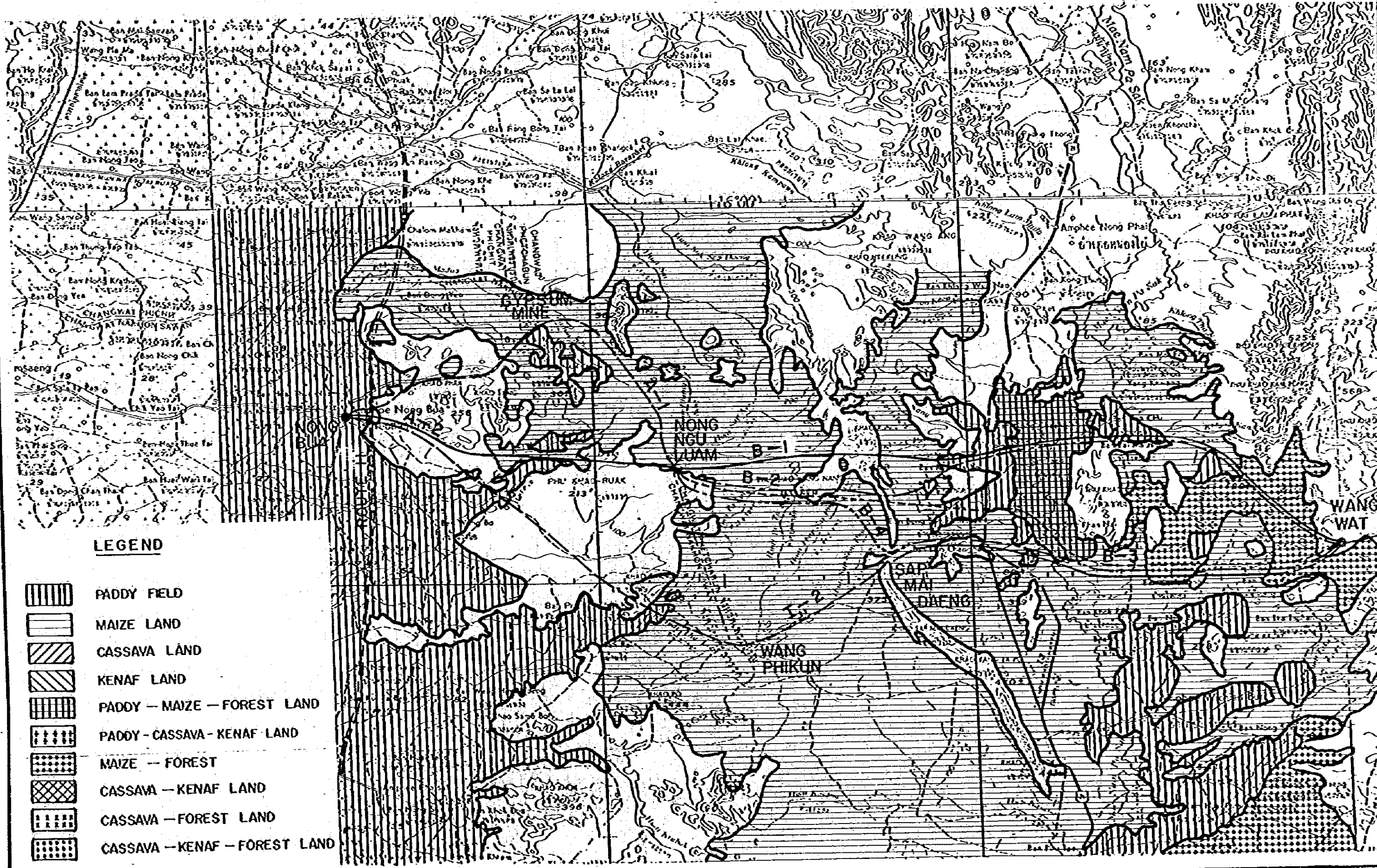
LAND USE AND LAND CAPABILITY

Table 2A-1 CHARACTERISTICS OF SOILS IN THE AREA OF INFLUENCE




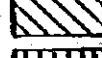
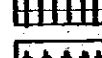
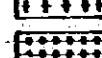


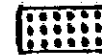

CLASSIFICATION	AREA COVERED	KIND	COLOR	PERMEABILITY	REACTION	SUITABILITY ^{1/}	
						FOR PADDY	FOR UPLAND CROPS
1. Hydromorphic Alluvial Soils or Alluvial Complex	flood plains along Nam Pasak in the central part and along Lam Chi in the eastern part of the Area	silty clay to clay	dark gray to dark grayish brown	slow	5.5 - 7.0	II	IV (central) II (east)
2. Low Humic Gley Soils	low terraces in the western and central parts of the Area	sandy loam to loam	dark brown to brown	moderate	5.0 - 6.5	III	III (west) IV (central)
3. Hydromorphic Non Calcic Brown Soils	semi-recent terraces in the western part and low terraces in the central part of the Area	loam to sandy clay loam	dark brown to dark grayish brown	moderate	5.5 - 8.0	II (west) IV (central)	III (west) IV (central)
4. Grumsols	semi-recent terrace in the central part of the Area	silty clay or clay	black to dark clay	slow	6.0 - 8.0	II	IV
5. Red Yellow Podzolic Soils	high terraces in the western part and middle terrace or foothills in the eastern part of the Area	sandy loam or loamy sand	dark brown to dark grayish brown	moderate to slow	4.5 - 7.0	IV (west) V (east)	IV (west) II & III (middle terrace, east) V (foothills, east)
6. Reddish Brown Lateritic Soils	hills and dissected erosion surface in the western and central parts of the Area	clay loam to silty loam and gravelly loam to gravelly clay loam	dark brown to dark reddish brown	moderate to slow (clay or silty loam) moderate to rapid (gravelly loam)	4.5 - 7.0	V	II & IV (west) II & III (central)
7. Gray Podzolic Soils	middle terraces in the eastern part of the Area	sandy loam or loamy sand	dark brown to brown	moderate	5.0 - 6.5	V	III
8. Red Yellow Latosols	high terrace in the eastern part of the Area	loamy sand to sandy loam	dark brown or dark reddish brown	rapid	4.5 - 6.0	V	III
9. Regosolic Soils	high terrace in the eastern part of the Area	loamy sand or sandy	dark grayish brown or grayish brown	rapid	5.5 - 7.0	V	II
10. Brown Forest Soils	hills and dissected erosion surface in the western and eastern parts of the Area	silty clay, clay loam to clay	dark gray to dark grayish brown	moderate to slow	6.5 - 8.0	V	II & III
11. Slope Complex	hills and mountains in the Area	-	-	-	-	V	V

Note: ^{1/} II: Well suited, III: Moderately suited, IV: Poorly suited, V: Unsited.

FIGURE 2A-1 LAND



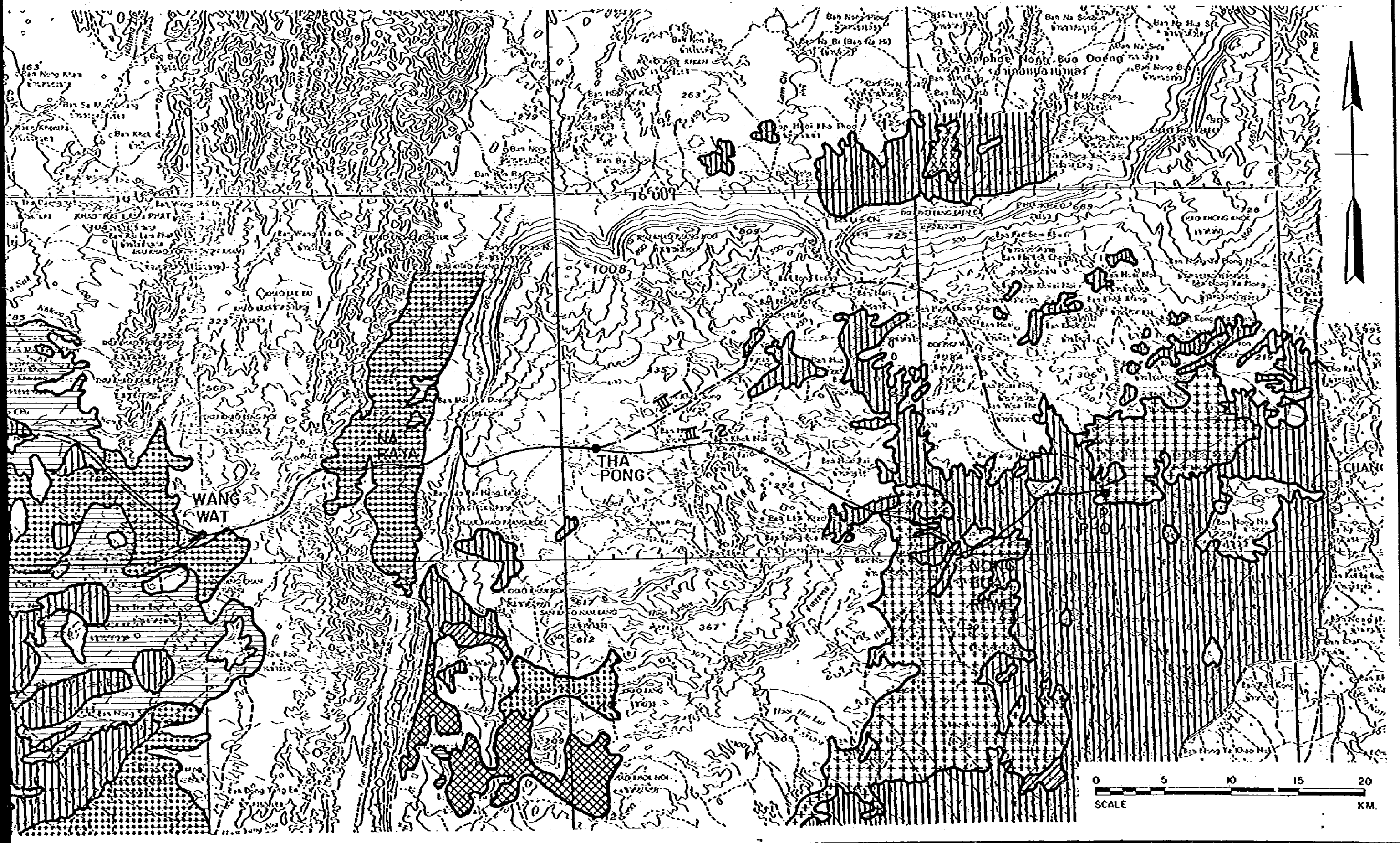
LEGEND

-  PADDY FIELD
-  MAIZE LAND
-  CASSAVA LAND
-  KENAF LAND
-  PADDY - MAIZE - FOREST LAND
-  PADDY - CASSAVA - KENAF LAND
-  MAIZE - FOREST
-  CASSAVA - KENAF LAND
-  CASSAVA - FOREST LAND
-  CASSAVA - KENAF - FOREST LAND

URE 2A-1 LAND USE MAP

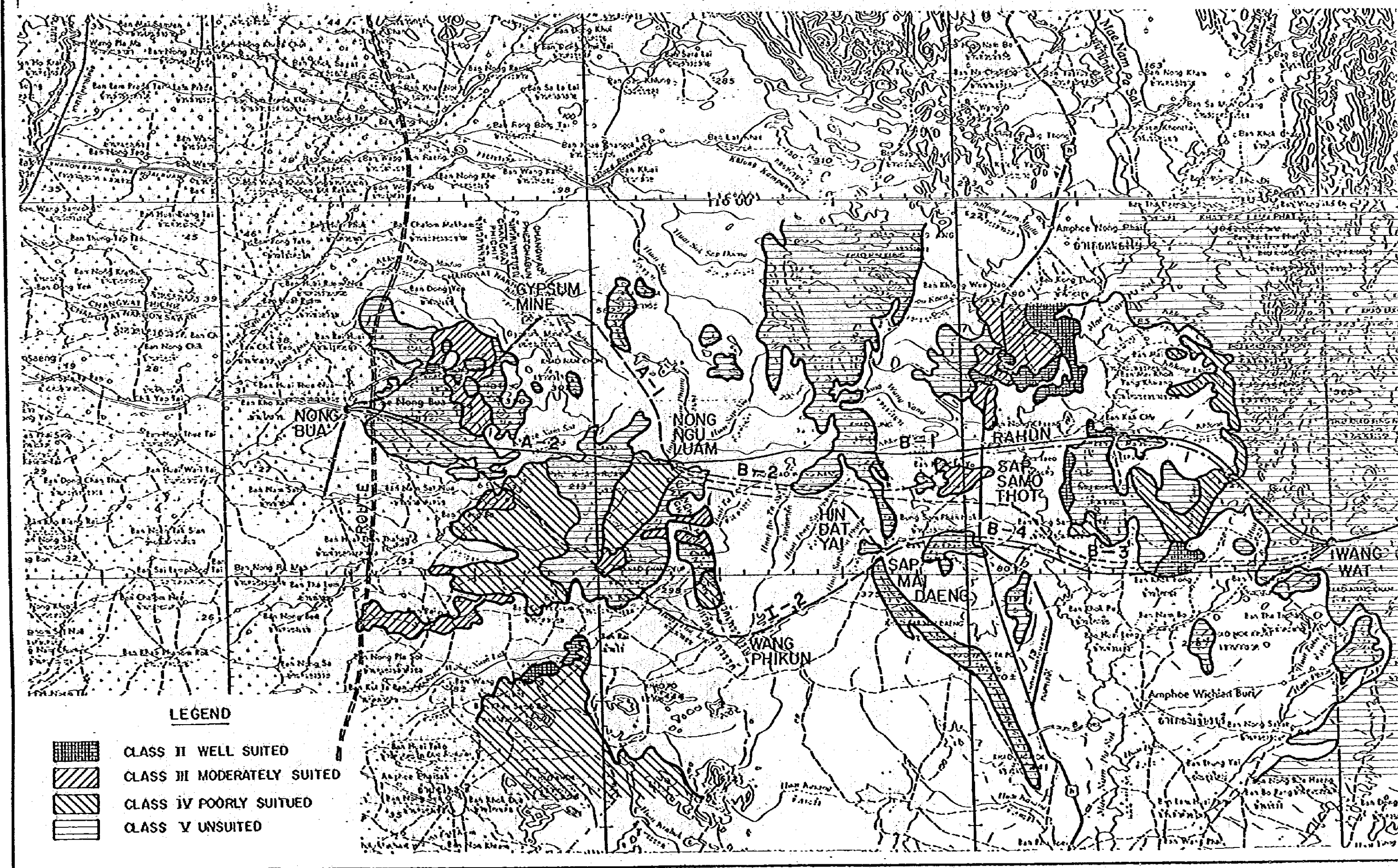
LAND USE MAP

FIGURE 2A-1



0 5 10 15 20
SCALE KM.

FIGURE 2A-2 LAND CAPABILITY



LAND CAPABILITY MAP FOR PADDY

LAND CAPABILITY MAP FOR PADDY

FIGURE 2A-2

