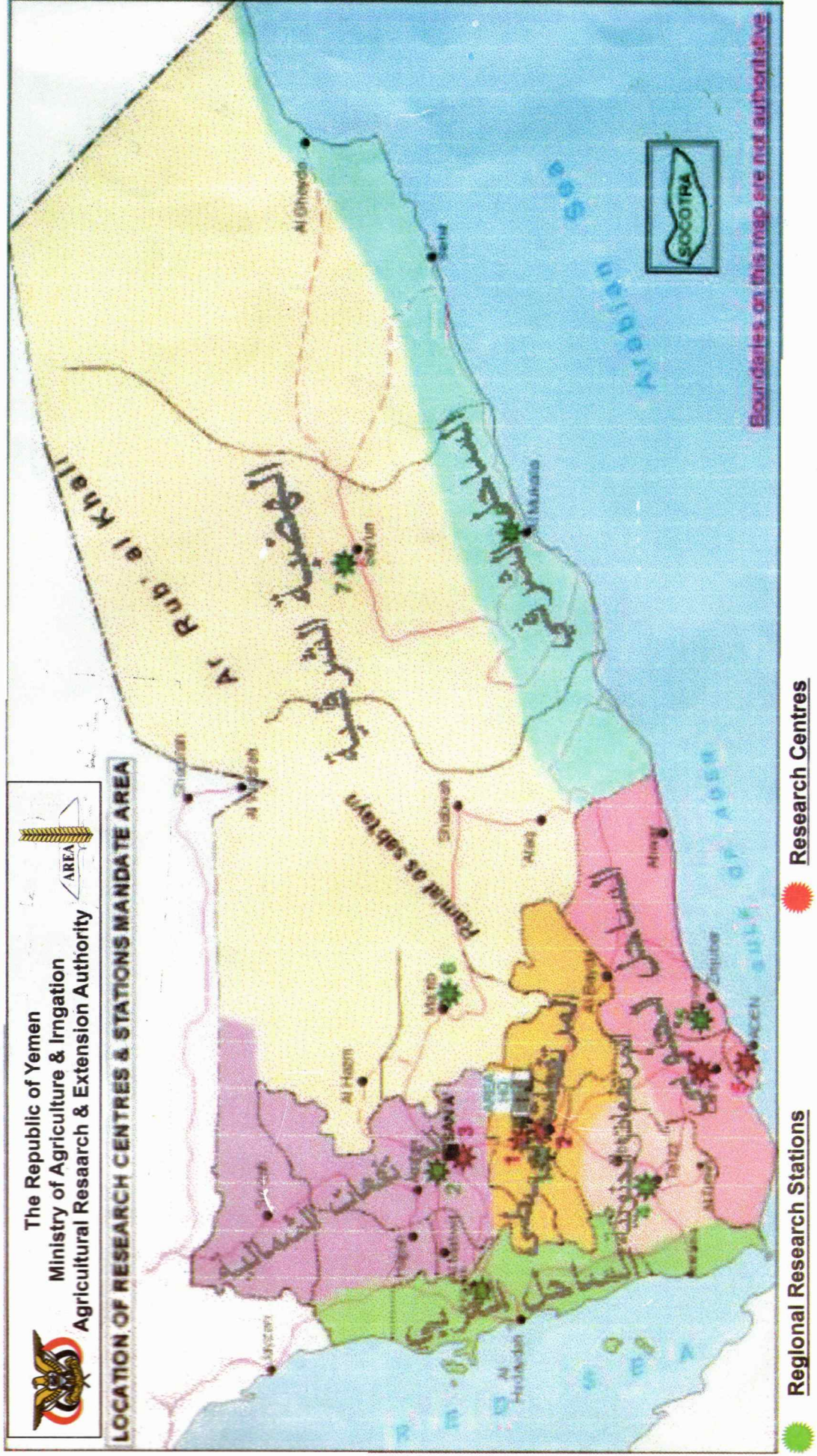


الهيئة العامة للبحوث والإرشاد الزراعي  
مركز بحوث الموارد الطبيعية المتجددة - ذمار



## خرائط الموارد الطبيعية والإنتاجية



ذمار: ص.ب. 87148 تلفون 509412-3-5-6 فاكس (00967) 509414 بريد إلكتروني: [area@y.net.ye](mailto:area@y.net.ye)

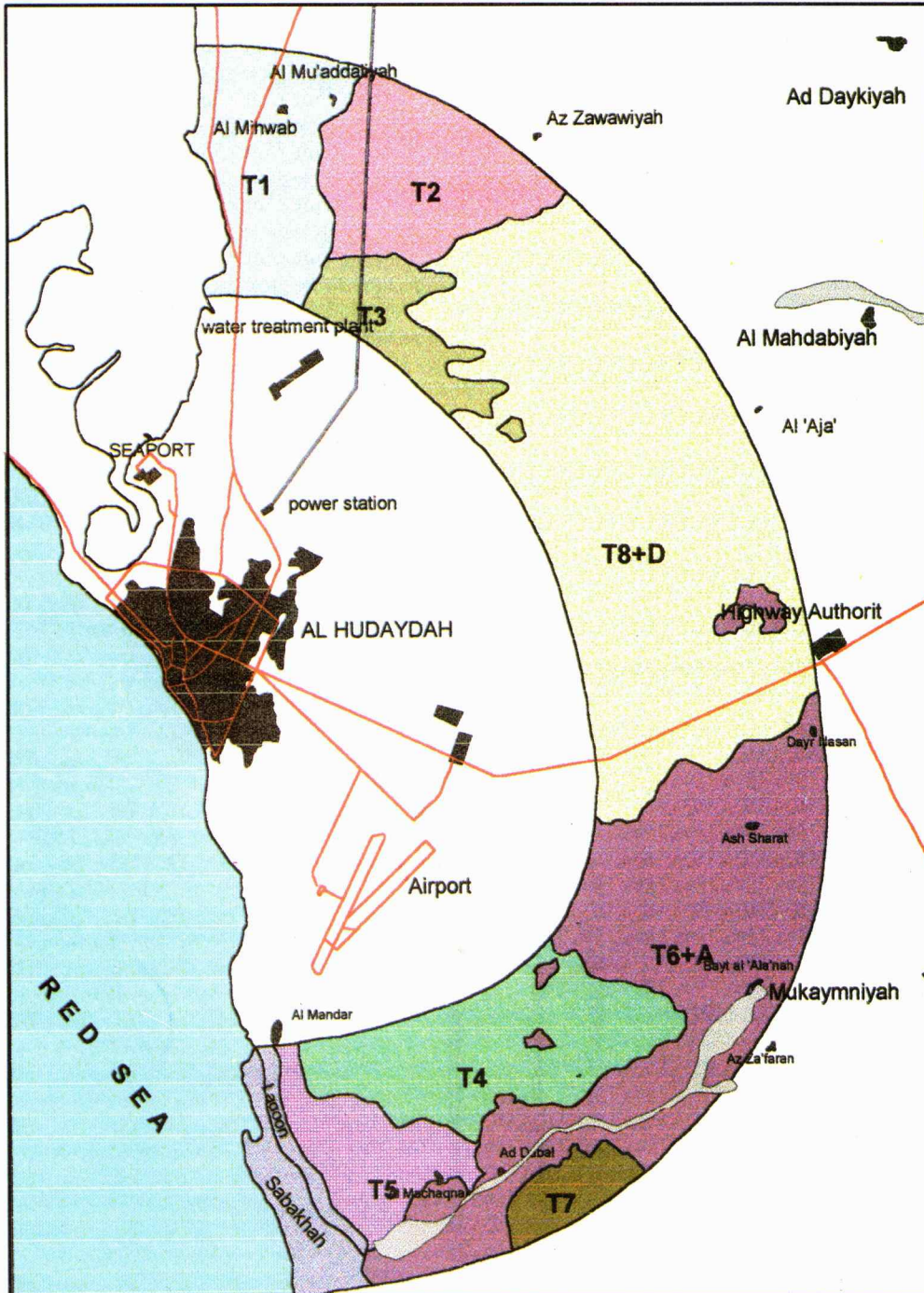
2001



# VEGETATION MAP OF GFEEN BEL T(AI Hudaydah)



**Agricultural Research & Extension  
Authority  
Renewable Natural Resources  
Research Centre**



## LEGEND

- Main Road
- Gravel road
- Electricity line
- Wadi Siham
- Settlement
- Sabakha , Lagoon



4000 0 4000 8000 12000 Meters

<p><b>T1</b> Prosopis Juliflora Acasia ehrenbergiana Odyssa mucronata Suaeda Fruticosa Cadaba rotundifolia Cadaba glandulosa Panicum Turgidum.</p>	<p>Sparse Woodland Sparse dwarf - shrubland Sparse shrubland Sparse Grassland and Bareland</p>	<p><b>T3</b> Acasia ehrenbergiana Prosopis Juliflora Acasia tortilis Dipterygium glaucum Tephrosia Purpurea.</p>	<p>Dominat and dense woodland Sparse wood land Dense grassland</p>
<p><b>T2</b> Prosopis Juliflora Acasia ehrenbergiana Tamarix spp Euphorbia triaculeata odyssa mucronata Cadaba rotundifolia Cadaba glandulosa Panicum turgidum Schweinfurthia pterosperma</p>	<p>Spares wood land Sparse dwarf - shrubland Sparse shrubland Hrassland</p>	<p><b>T4</b> Acasia ehrenbergiana Acasia tortilis Tamarix spp Euphorbia triaculeata Cadaba rotundifolia Cadaba glandulosa.</p>	<p>Sparse woodland Dominat dwarf - shrubland Dominat and dense shrubland</p>
<p><b>T5</b> Hyphaene thebaica Prosopis Juliflora Acasia ehrenbergiana Suaeda Fruticosa Odyssa mucronata Odyssa glandulosa.</p>	<p>Dominat woodland Dominat dwarf - shrubland</p>	<p><b>T6+A</b> Phoenix Doctylifera Acasia tortilis Acasia ehrenbergiana Tamarix spp Aeluropus massauenis Schweinfuthia pterosperma Arable land (cereal crops;cotton;sesame;vegetables)</p>	<p>Sparse wood land</p>
<p><b>T7</b> Phoenix doctylifera Hyphaene thebaica Acasia tortilis Tamarix spp Odyssa mucronata Aeluropus massauenis Schweinfuthia pterosperma</p>	<p>Sparse wood land Dominat dwarf - shrubland Dominant grassland</p>	<p><b>T8+D</b> Dume land area</p>	<p>L Land Mangarove</p>

Cartography by:  
Faud Al-Qadasi  
Ahmed R. An Nasiri

GIS analysis by:  
A. Maged Al-Hemairy

الهيئة العامة للبحوث والإرشاد الزراعي

الجمهورية اليمنية

ذمار

87148

ص ب

(009676)6-509412-3-5-6

هاتف

(009676)6-509414

فاكس

area @y.net.ye

بريدال

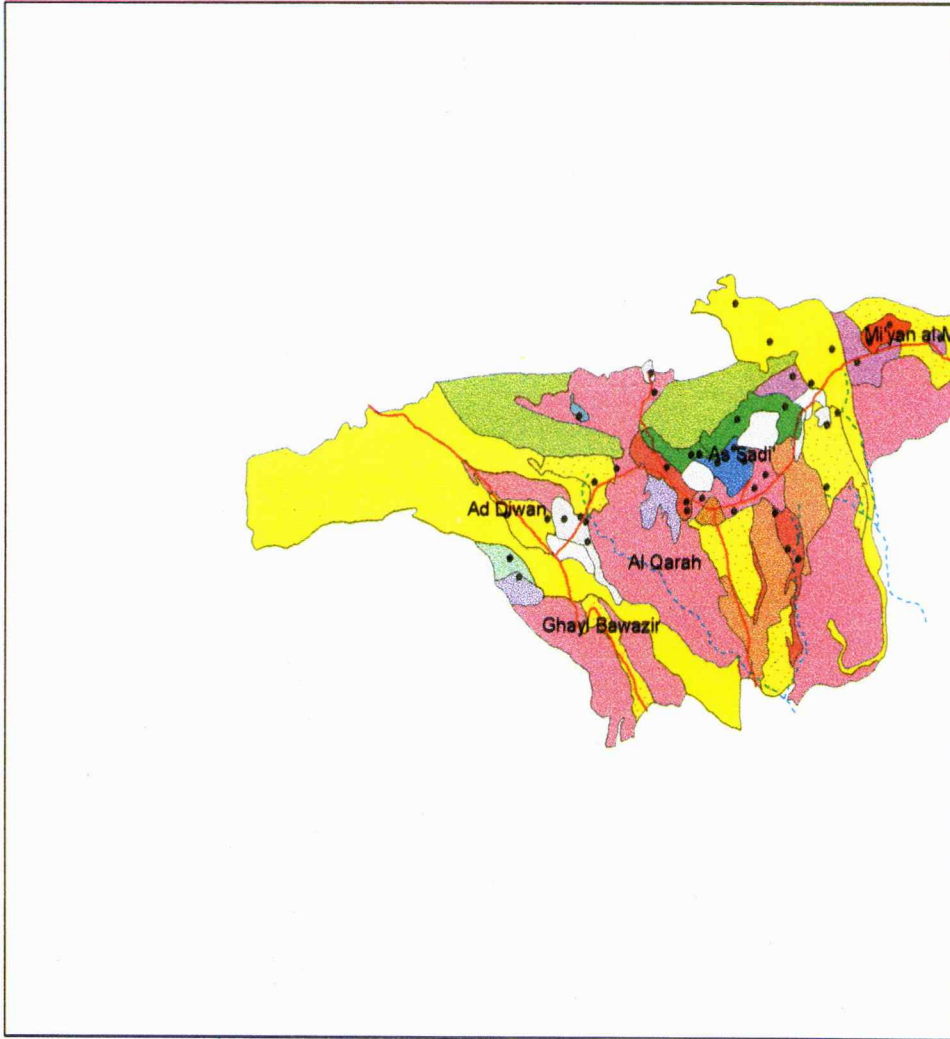
مطابع ذمار للأوقست ت : ( ٥٠٠١٢٣ )



# SOIL MAP OF GHAYL BA WAZIR



**Agricultural Research & Extension  
Authority  
Renewable Natural Resources  
Research Centre  
Land Resources Section**



## LEGEND

- Road
- Soils profile
- Wadi



Cartography by:  
Faud Al-Qadasi  
GIS analysis by:  
A. Maged Al-Hemiary  
Prepared by:  
GIS and Cartography Units



Physiography/Landform	Mapping symbol	Mapping unit	Type of Mapping unit	Suitability for Irrigated Agriculture
Plateau and foothills	PT	Plateau		NS2
Rock outcrops	RK	Rock outcrops		NS2
Rolling terrain, deeply dissected, mountainous	R1	Naqa'a Variant 1 series	Consociation	NS2
	R2	Naqa'a variant 1 and Fidjrah series	complex	NS(2)
Undulating to rolling terrain	U1	Naqa'a variant 2 series	Consociation	NS2
	U2	Naqa'a variant 2 and Goff series	Association	
	U3	Bagh and Naqa'a Variant 2 series	Complex	S2 (for Bagn) NS2(for Naqa'a)
	U4	Fidjera'h and Huwairah series	Complex	S3 to NS1
Flat to Undulating terrain	F1	Naqa'a series	Consociation	NS1
	F2	Fiajerah and Naqa'a Series	Complex	S2 to NS2
	F3	Udarba'h series	Consociation	S2
	F4	Goff series	Consociation	S2
	F5	Bagh series	Consociation	S2 to S3
	F6	Fidjera'h series	Consociation	S2 to S3
	F7	Goff and Kathiba'h Series	Complex	S2
Wadi bottom and broad wadi bed in flat to sloping terrain	W1	Huwairah series	Consociation	NS2
Depression in flat to slightly undulating terrain	D1	Kathiba'h series	Consociation	S1 to S2
	D2	Qoz series	Consociation	S2 to S3



خارطة الغطاء النباتي لمنطقة الحزام الأخضر

حول مدينة الحديدة

توضح أنواع الأشجار الطبيعية السائدة في كل وحدة أرضية

200000  
100000  
50000  
25000  
12500  
6250  
3125  
1562  
781  
390  
195  
97  
48  
24  
12  
6  
3  
1












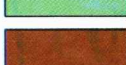




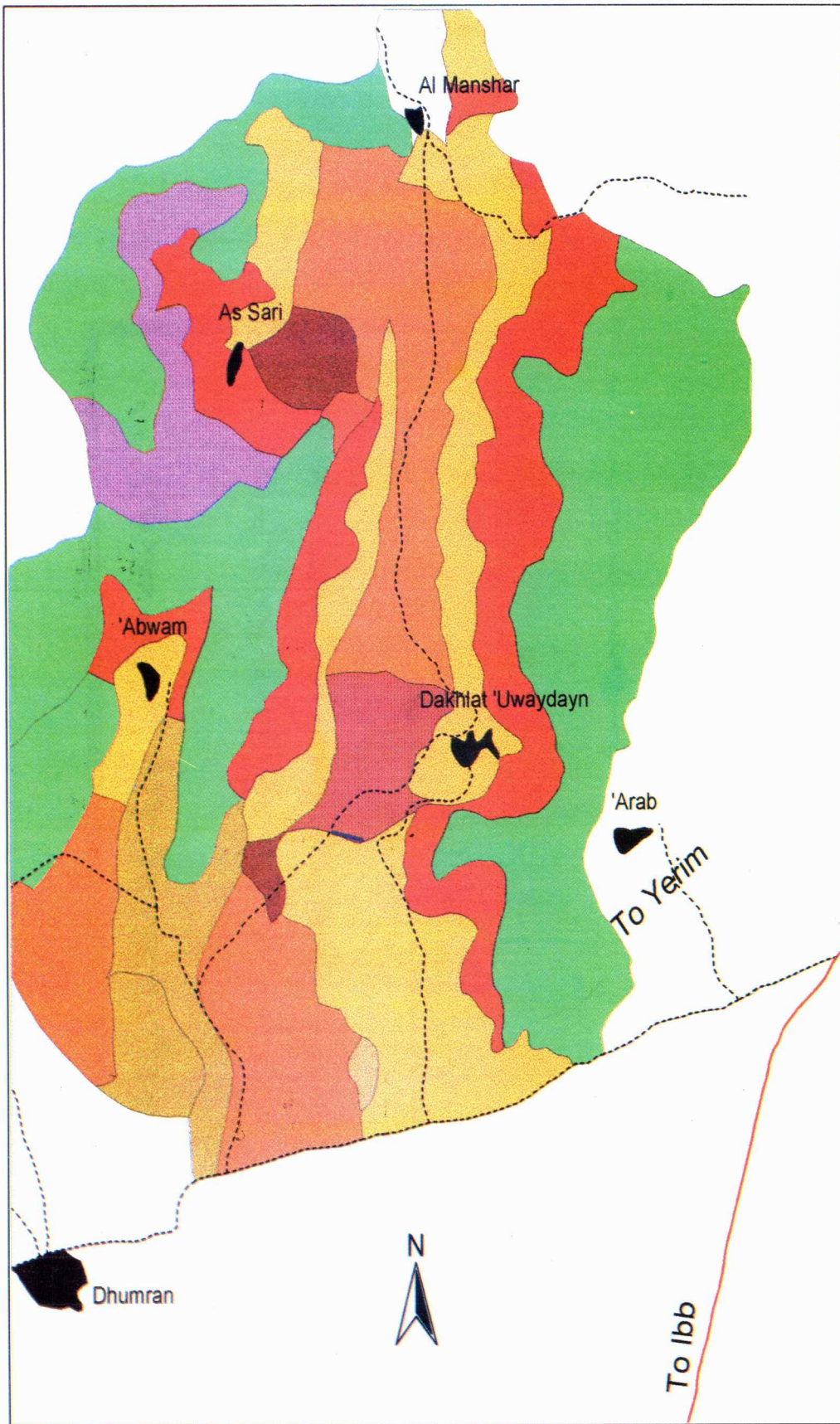
# Land Use Pilot Area - Dhumran / Yerim



**Agricultural Research & Extension Authority**  
**Renewable Natural Resources Research Centre**

## Legend

-  Dam
-  Settlement
-  Main Road
-  Gravel Road
-  Dafoor
-  Harriri
-  Harriri- Hassas
-  Harriri -Terraces
-  Lime
-  Murri
-  Murri-Range
-  Range Land
-  Saa'
-  Terraces



Map compiled by:  
 Land Use Planning Unit  
 GCP/YEM/021/NET

Cartography by:  
 Fuad . A. Al Qadasi

Prepared by :  
 GIS & Cartographic Units  
 Renewable Natural Resources  
 Research Centre

**AREA - Dhamar**  
 Aug.1999



## خارطة التربة لمنطقة غيل باوزير / محافظة حضرموت

توضح :

- (١) الوحدات الأرضية المختلفة وأنواع الترب فيها ( تم تصنيف الترب على مستوى السلسلة)
- (٢) تقييم صلاحية الأراضي للمحاصيل المروية لكل وحدة أرضية على حدة



# Al Mawahib Soil map (Dhamar)



**Agricultural Research and Extension Authority**  
**Renewable Natural Resources Research Centre**  
**Land Resources Section**

## LEGEND

### SOIL ASSOCIATION

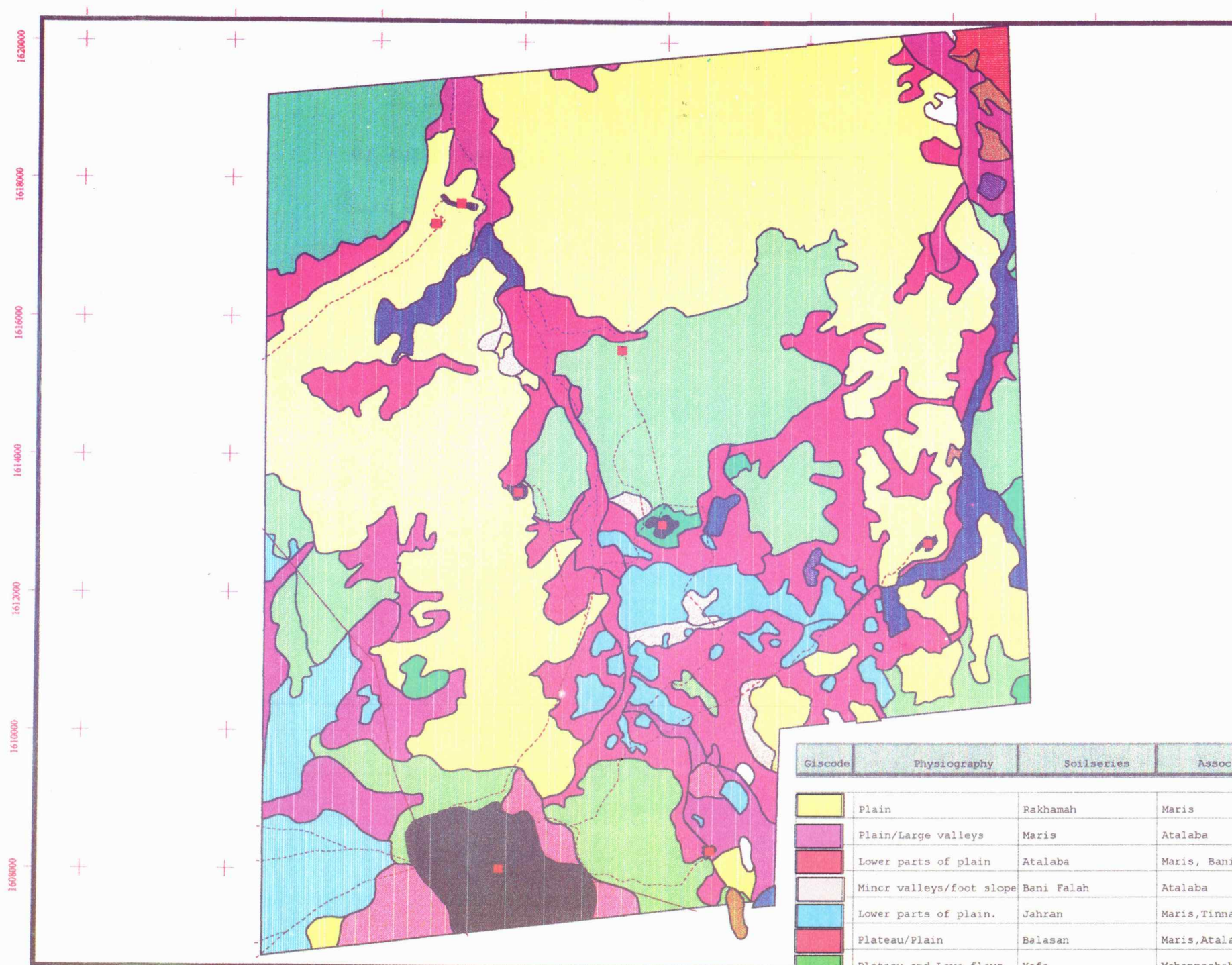
Glscode	Soilassoc	Dominant	Assocser.
TR	THAMAF		MARIS, SAWAD, NIMI JAH
YL	YIZLAH	ROCK	YIZLAH

### KEY TO SYMBOLS

- Crater
- Gravel ridges
- Rock outcrops

### TOPOGRAPHIC SYMBOLS

- Settlement
- Main Road
- Gravel Road
- Wadi



Glscode	Physiography	Soilseries	Assocsoils	Includsoil
	Plain	Rakhamah	Maris	
	Plain/Large valleys	Maris	Atalaba	Rakhamah, Shirah, Tinn
	Lower parts of plain	Atalaba	Maris, Bani Falah	Shirah
	Minor valleys/foot slope	Bani Falah	Atalaba	Numarah
	Lower parts of plain.	Jahran	Maris, Tinnan	Kathaj
	Plateau/Plain	Balasan	Maris, Atalaba	Wasitah, Yafa Rock.
	Plateau and Lava flows	Yafa	Mahannashah	Atalaba, Maris Rock
	Plateau	Qamah	Kiba Rock	Atalaba
	Valley with stream	Sawad	Maris, Nimi jah	Rakhamah Jalab



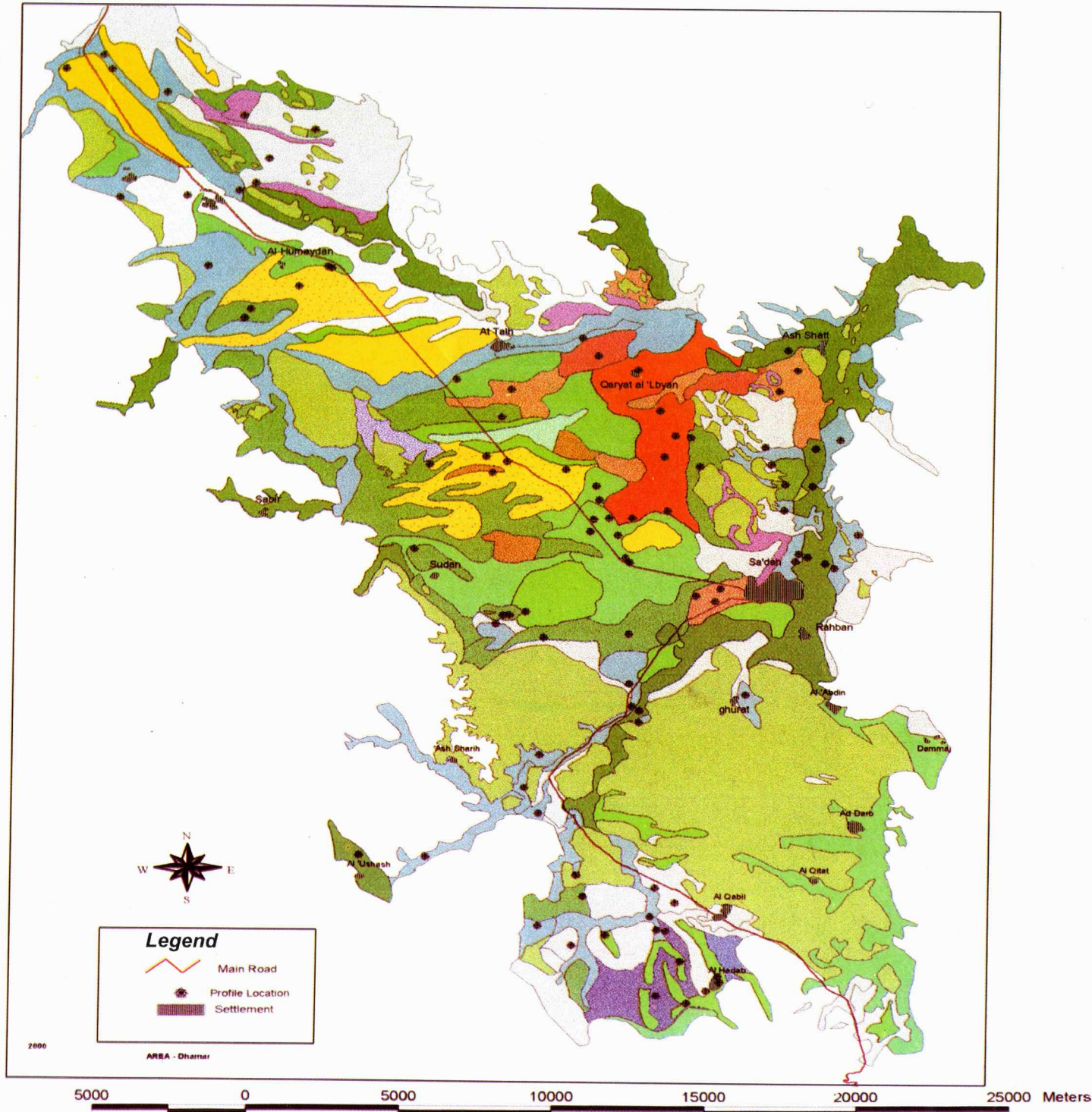
Field Verification by:  
 Abdullah al Bawrani  
 Cartography by:  
 Faud Al-Qadasi  
 Ahmad R. Ar. Nasiri  
 GIS analysis by:  
 A. Maged Al-Hemary  
 Prepared by:  
 GIS and Cartography Units



خارطة التصنيف المحلي للتربة  
في منطقة نمران (يريم) /محافظة إب  
المتعارف عليها من قبل المجتمع المحلي



# Soil Map of Sa'da



## Agricultural Research and Extension Authority Renewable Natural Resources Research Centre Land Resources Section

### LEGEND

- Miscellaneous land type, rock scree eroded rock surface etc.
- Deep stratified alluvial sandy to loamy sand.
- Deep, very dark grey (10YR 2.5/1) loam - silt loam, moderately to strongly saline, calcic horizon within 50cm.
- Deep, very dark greyish brown (10YR 3/2) sandy loam (stony and gravelly) calcic horizon below 50cm
- Dissected phase
- Eroded phase
- Moderately deep, very dark greyish brown loam on a calcic and petrocalcic horizons within 50cm.
- Moderately deep, very dark greyish brown (10YR 3/2) clay, on petrocalcic horizon below 80cm depth top 15cm sealed, surface covered by
- Mountainous area
- Sadah eroded phase
- Sadah eroded phase.
- Sadah gravelly surface phase
- Sadah stony phase
- Shallow strong brown (7.5Yr 4/6) loam (gravelly) on petrocalcic horizon surface stony.
- Very deep, dark brown (10YR 3/3), alluvial sandy loam to silt loam on very dark grey (10Y 3/2) silt loam.
- Very deep, very dark greyish brown (10Yr 3.5/2) sandy loam to sandy clay loam, calcic horizon below 50cm.
- Very shallow, very dark greyish brown (10YR 3/2) Loamy sand over aduripan (silcrete)
- shallow, strong brown (7.5YR 4/6) loam (gravelly) on petrocalcic horizon, surface stony
- very deep loamy sand over sandy loam (gravelly) stratified.
- very deep pale brown (10YR 6/3) silt loam
- very deep very dark greyish brown (10YR 3.5/2) sandy loam to sandy clay loam; calcic horizon below 50cm.
- very deep, brown (10YR 4/3) clay loam to dark yellowish brown (10YR 3.5/4) silty clay loam, calcic horizon below 90 cm
- very deep, dark yellowish brown (10YR 3.4/4) silt loam over stratified sandy loam (gravelly)
- very deep, light brown (7.5YR 6/4) sandy clay loam, deep calcic horizon - below 80cm
- very deep, very dark greyish brown (10YR 3/2) sandy loam, few gravels, calcic horizon below
- very deep yellowish brown (10YR 5/4) clay loam, soils truncated off uplies intermediate areas between the plain, low pediments

Cartography by  
Faud Al-Qadasi  
GIS analysis by  
A. Maged Al-Hemary

خارطة التربة لمنطقة المواهب / محافظة ذمار

توضح تصنيف التربة على مستوى السلسلة

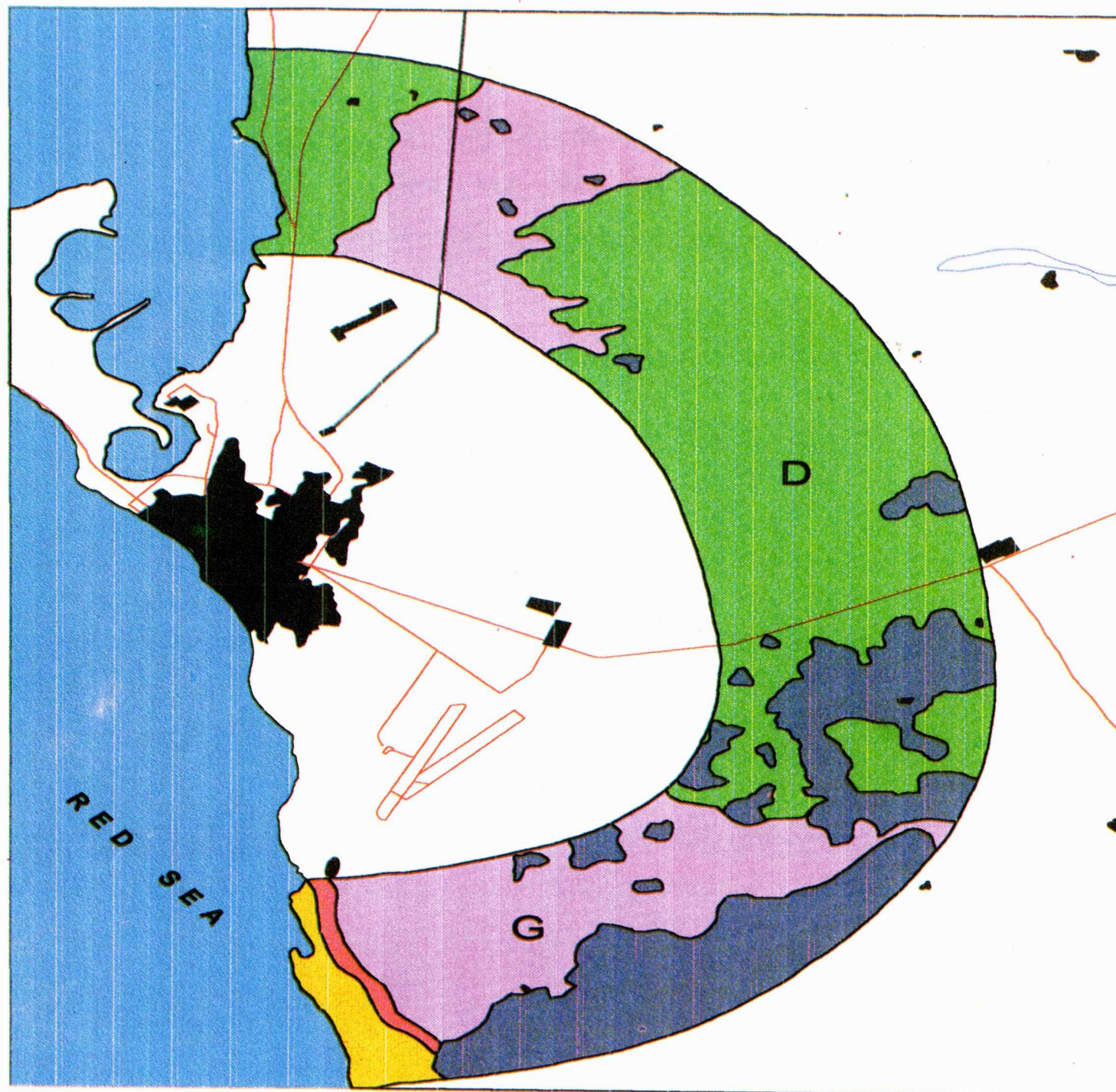
للوحدات الأرضية المختلفة



# LAND USE MAP OF GREEN BELT (Hudaydah)



**Agricultural Research & Extension  
Authority  
Renewable Natural Resources  
Research Centre**



## Legend

- Settlement
- Main Road
- Gravel Road
- Electricity Line
- Grazing land
- Dunes land (Non Arable land)
- Arable land
- Sabakhah
- Lagoon
- Red Sea



Cartography by:  
Faud Al-Qadasi  
GIS analysis by:  
A. Maged Al-Hemiary  
Prepared by:  
GIS and Cartography Units

**AREA Dhamar  
2000**

7 0 7 Kilometers

## خارطة التربة لحوض صعدة

تبين أنواع الترب المختلفة وخواصها لكل وحدة أرضية من حيث العمق ، اللون ، القوام ، الأحجار ، الحصى و آفاق التربة التشخيصية



# LAND USE OF SYSTEMATIC AREA (Dhamar - Ibb)



**Agricultural Research & Extension  
Authority  
Renewable Natural Resources  
Research Centre  
Land Resources Section**

## LEGEND

- Settlements
- Main Road
- Gravel Road
- Wadi
- Agric.in Wadis/cereals&vegetables
- Agric.in Wadis/coffee
- Agric.in Wadis/perennials
- Agric.in Wadis/qat
- Agric.on Plaines/cereals&veget./irrigated
- Agric.on Plaines/cereals&veget./rainf.&irrigated
- Agric.on Slopes/cereals&veget./irrigated
- Agric.on Slopes/cereals&veget./limited agriculture
- Agric.on Slopes/cereals&veget./rainf.&irrigated
- Agric.on Slopes/cereals&vegetables
- Agric.on Slopes/maize/irrigated
- Agric.on Slopes/maize/rainf.&irrigated
- Agric.on Slopes/millet/limited agriculture
- Agric.on Slopes/qat/irrigated
- Agric.on Slopes/qat/rainf.&irrigated
- Agric.on Slopes/sorghum/irrigated
- Agric.on Slopes/sorghum/limited agriculture
- Agric.on Slopes/sorghum/rainf.&irrigated
- Agric.on undulat.terrain/cereals
- Agric.on undulat.terrain/cereals/limited agric.
- Agric.on undulat.terrain/cereals/rainfed&irrig.
- Agric.on undulat.terrain/sorghum/rainf.& irrig.
- Rangeland / idle land

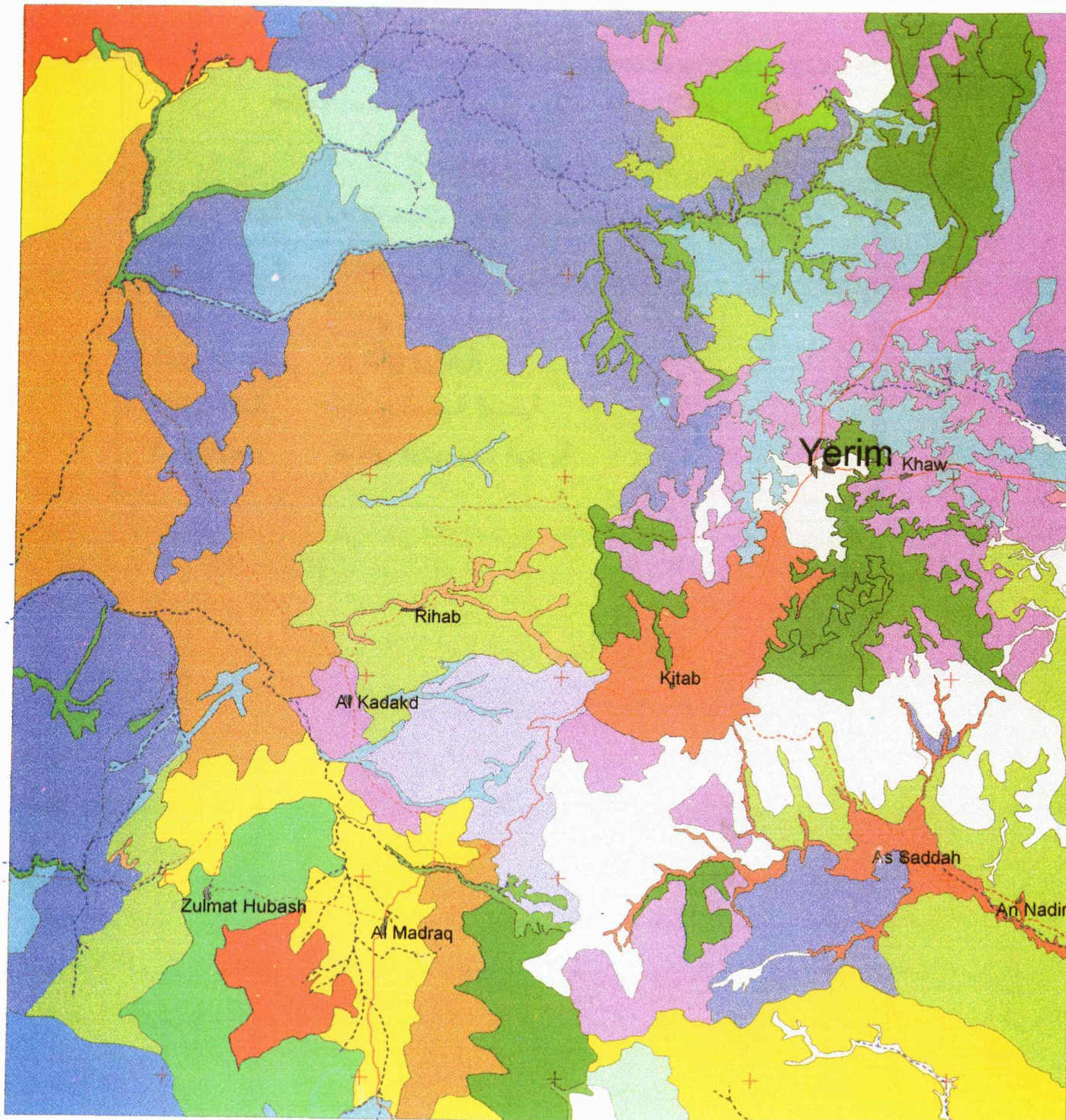
Cartography by:  
Faud Al-Qadasi

GIS analysis by:  
A. Maged Al-Hemiari

Prepared by:  
GIS and Cartography Units



1600000 +  
1590000 +  
1580000 +  
1570000 +  
1560000 +  
1550000 +  
390000 400000 410000 420000 430000 440000



10000 0 10000 20000 Meters

Dhamar - 1999



خارطة إستخدام الاراضي لمنطقة الحزام الاخضر

حول مدينة الحديدية

يتضح منها توزيع الوحدات الارضية حسب الاستخدام الحالي لها

اللون القرمزي : أراضي زراعية

اللون الاخضر : أراضي كثبان رملية ( لا تستخدم للزراعة)

اللون البنفسجي : أراضي زراعية

اللون الاصفر : أراضي السبخة الملحية

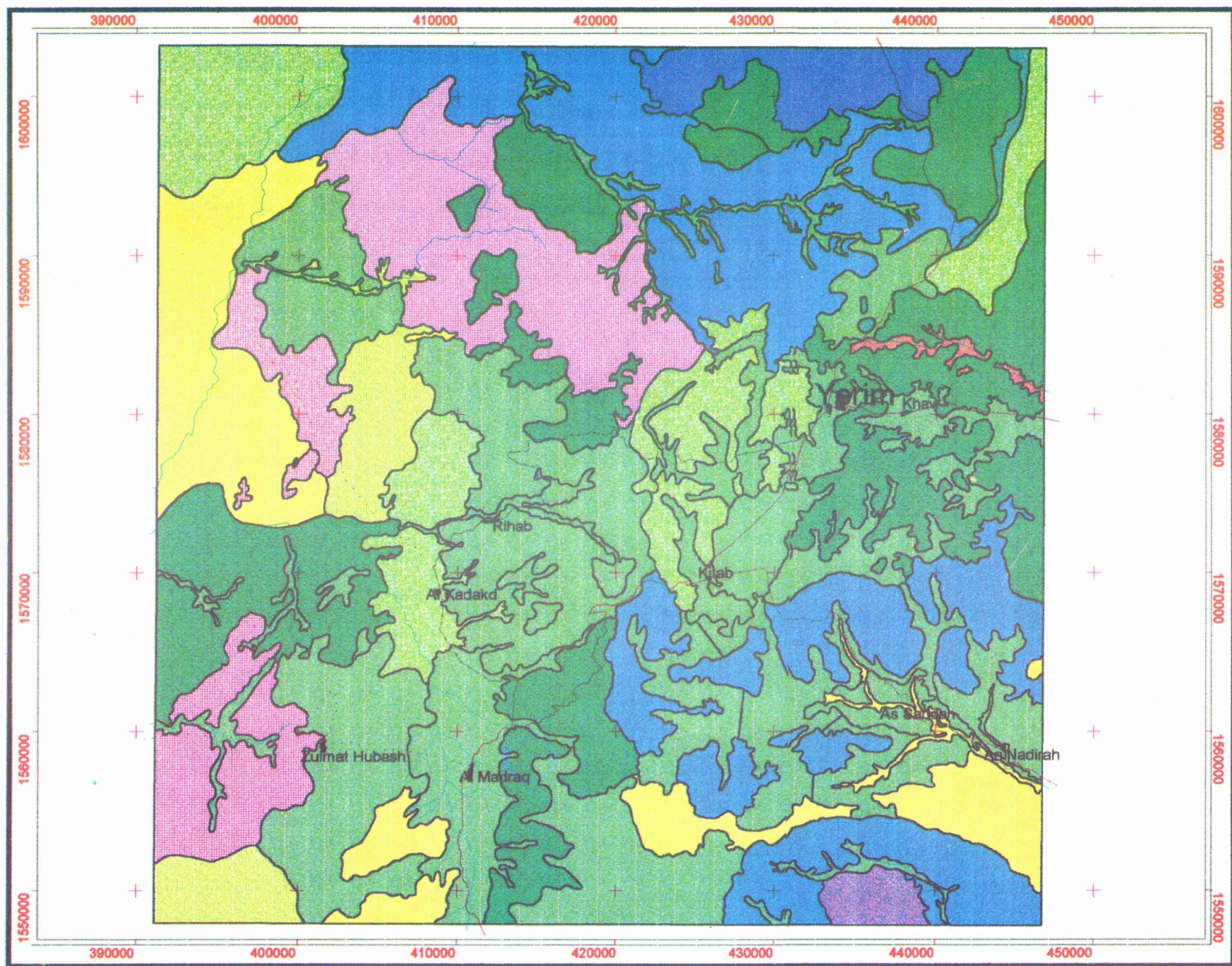
اللون الاحمر : اشجار المنجروف البحرية



# POTATO SUITABILITY MAP (SYSEMAC SURVEY AREA - 1444C)



**Agricultural Research and Extension Authority  
Renewable Natural Resources Research Centre  
Land Resources Section**



- Topographic legend
- Main road
  - Secondary road
  - Gravel road
  - Track
  - Settlement
  - Wadi

- S1
- S1/S2
- S1/S3
- S1/N
- S2/S1
- S2
- S2/S3
- S2/N
- S3/S1
- S3/S2
- S3
- S3/N
- N/S1
- N/S2
- N/S3
- N



Map compiled by :  
Land Evaluation & Land Use Planning Unit

Cartography by :  
Ahmad R. An Nasiri  
Fuad A. Al Qadasi

Prepared by :  
GIS & Cartographic units  
Renewable Natural Resources Research Centre.

**AREA - Dhamar**  
Jan. 2000



## خارطة استخدام الأراضي

للمنطقة المختارة الواقعة بين محافظتي (نمار - إب)

توضح أنماط الاستخدامات الزراعية المختلفة على مستوى

التضاريس المتباينة ( وديان ، سهول ، منحدرات )



# Land Suitability Map for Barly



**Agricultural Research & Extension Authority**  
**Renewable Natural Resources Research Centre**

**Environmental Resources Assessment for Rural Land use Planning Project**  
**GCP/YEM/021/NET**



## LEGEND

- Settlement
- Road
- Wadi
- Admin. Boundary
- Soil Suitability**
- S1/S3
- S2
- S1/S2
- S2/S1
- S2/S3
- S3/S2
- S1/N
- S2/N
- S3/N
- N/S1
- N/S2
- N/S3
- N

Cartography by:  
 Ahmed R. An Nasiri  
 Fuad Al-Qadasi  
 GIS analysis by:  
 A. Maged Al-Hemiary  
 Prepared by:  
 GIS and Cartography Units



Dhamar - 1999

10 0 10 20 Kilometers



خارطة تقييم صلاحية الأراضي لمحصول البطاطس

للمنطقة المختارة الأولى ( نمار - إب )

توضح درجات صلاحية الوحدات الأرضية لمحصول

البطاطس بناءً على مدى توفر المتطلبات البيئية للمحصول

S1 صلاحية عالية

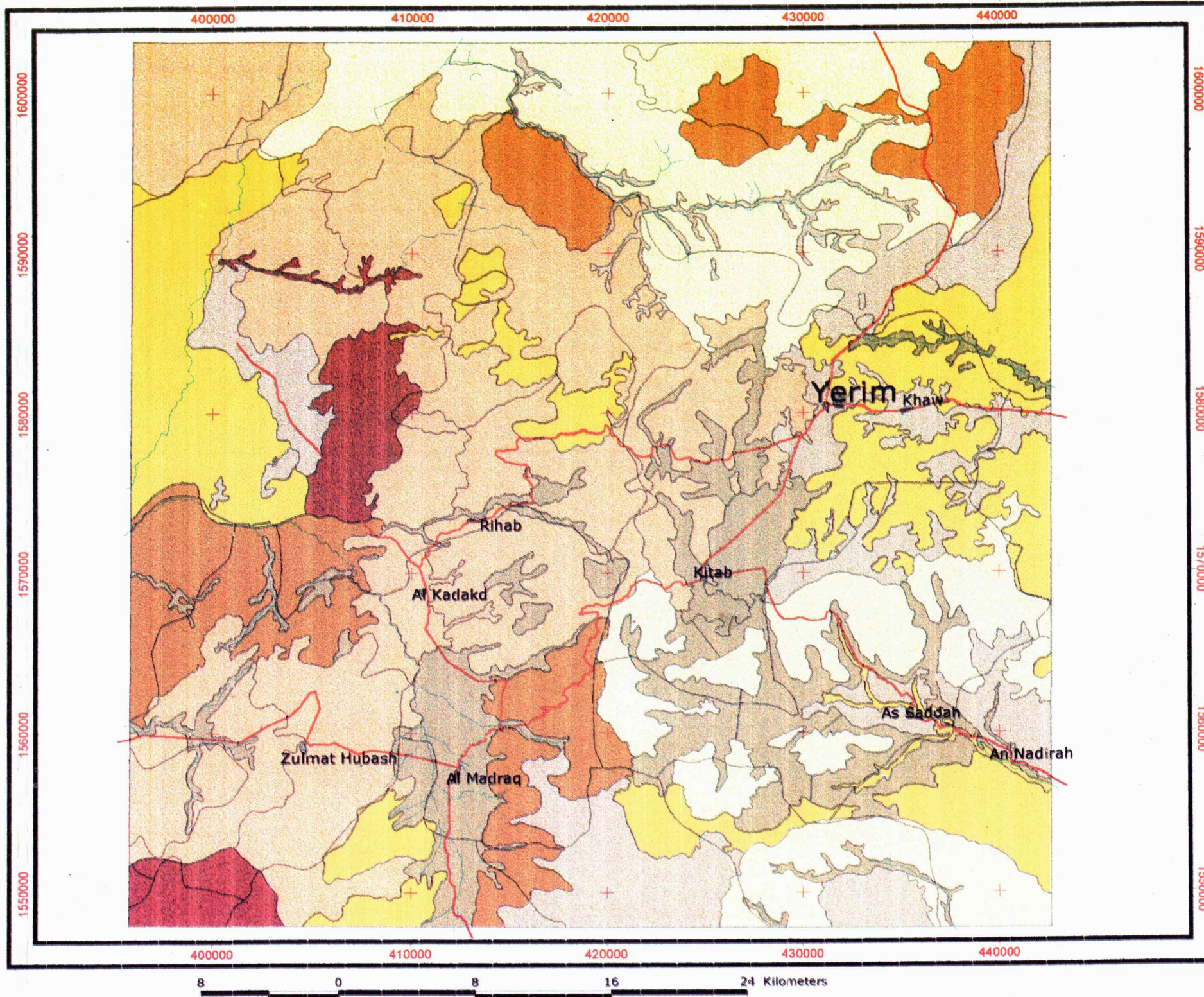
S2 صلاحية متوسطة

S3 صلاحية منخفضة

N عديمة الصلاحية



# Land Suitability for Wheat



**Agricultural Research & Extension Authority**  
**Renewable Natural Resources Research Centre**

Environmental Resources Assessment for Rural Land use Planning Project  
 GCP/YEM/021/NET

- LEGEND**
- Road
  - Wadi
  - Admin. Boundary
  - Settlement
  - Land Suitability**
  - S1
  - S1/S2
  - S2/S1
  - S3/S1
  - S1/N
  - S2/N
  - N/S1
  - N/S2

Cartography by:  
 Ahmed R. An Nasiri  
 Fuad Al-Qadasi  
 GIS analysis by:  
 A. Maged Al-Hemiary  
 Prepared by:  
 GIS and Cartography Units



Dhamar - 1999



خارطة تقييم صلاحية الأراضي لمحصول الشعير

للمنطقة المختارة الأولى ( ذمار - إب )

توضح درجات صلاحية الوحدات الأرضية لمحصول الشعير

وذلك بناءً على مدى توفر المتطلبات البيئية للمحصول

S1 صلاحية عالية

S2 صلاحية متوسطة

S3 صلاحية منخفضة

N عديمة الصلاحية



# Location of Sorghum and Wheat Sampled in Yemen



**Agricultural Research & Extension Authority**

**Renewable Natural Resources Research Centre**

Sub-Program 2: Information & Advice on Land Resources Utilisation  
{Sustainable Environmental Management Programme (YEM/97/100)}

Generic Resources Unit

## LEGEND

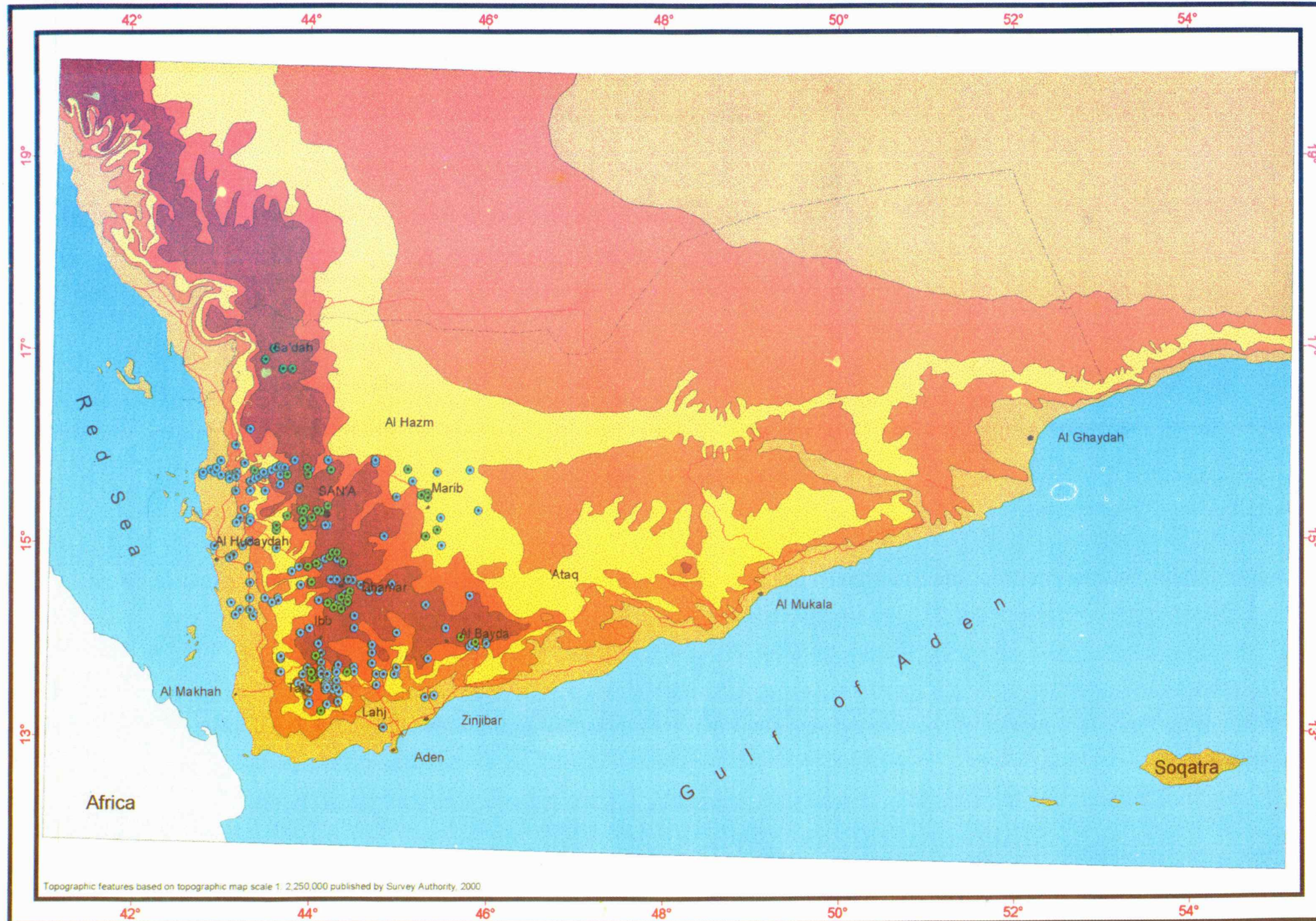
- Main Roads
- Hordium location
- Sorghum location

- Elevation**
- 0 - 500
  - 500 - 1000
  - 1000 - 1500
  - 1500 - 2000
  - > 2000

**Cartography by:**  
Fuad Al-Qadasi  
**GIS analysis by:**  
A. Maged Al-Hemiary  
**Prepared by:**  
GIS and Cartography Units



**Dhamar - 2000**





## خارطة تقييم صلاحية الأراضي لمحصول القمح

للمنطقة المختارة الأولى ( نمار - إب )

توضح درجات صلاحية الوحدات الأرضي لمحصول القمح وذلك

بناءً على مدى توفر المتطلبات البيئية للمحصول

S1 صلاحية عالية

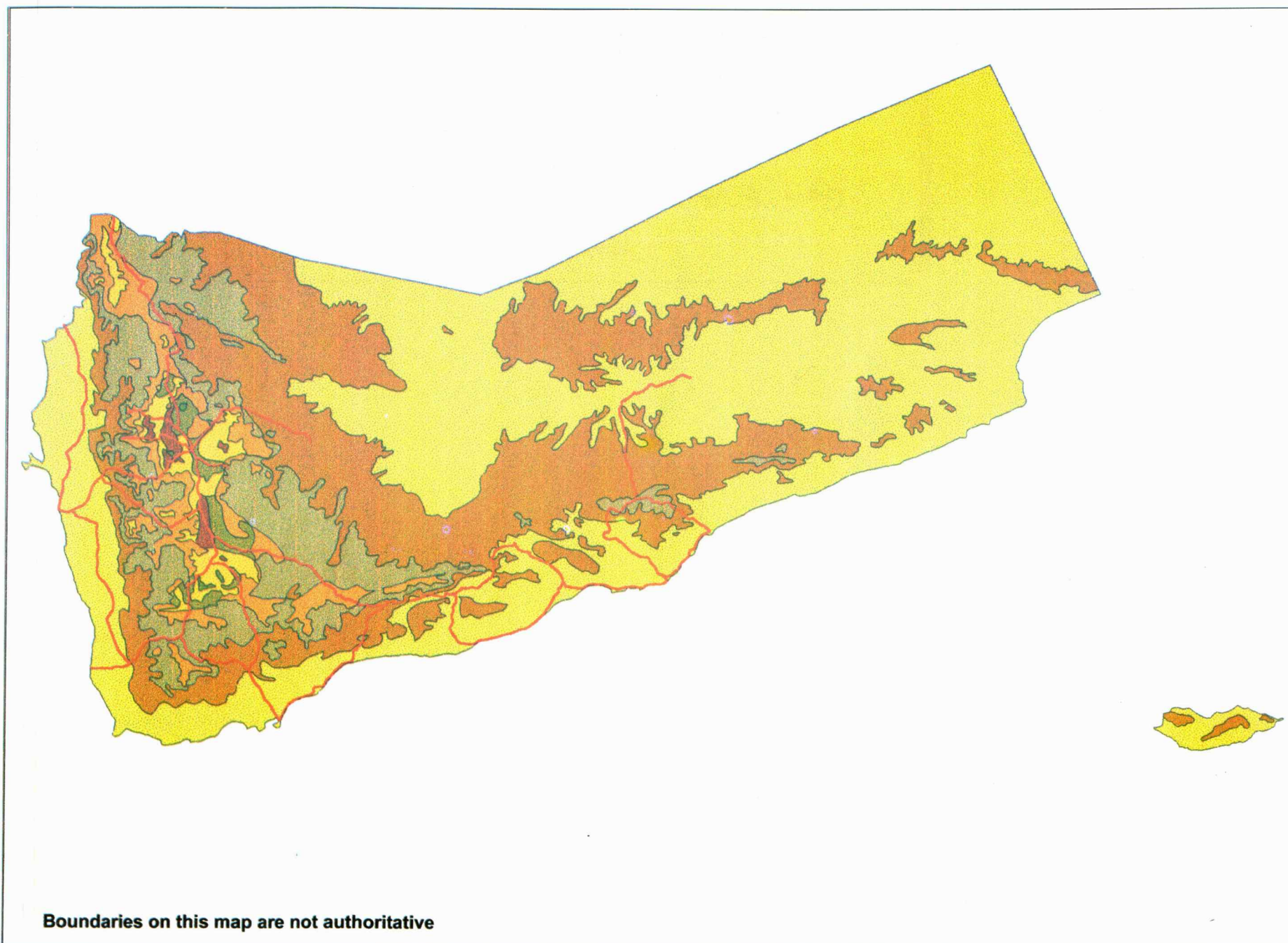
S2 صلاحية متوسطة

S3 صلاحية منخفضة

N عديمة الصلاحية



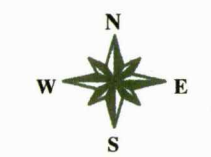
# Agro-climatic Resources of Yemen Annual Mean Temperature



**Agricultural Research & Extension  
Authority  
Renewable Natural Resources  
Research Centre**

∩ Road  
Annual mean Temp.

Dark Green	<12.5 C
Light Green	27.0-30.0 C
Dark Orange	25.0-27.5 C
Brown	22.5-25.0 C
Orange	20.0-22.5 C
Olive Green	17.5-20.0 C
Yellow	15.0-17.5 C
Red	12.5-15.0 C

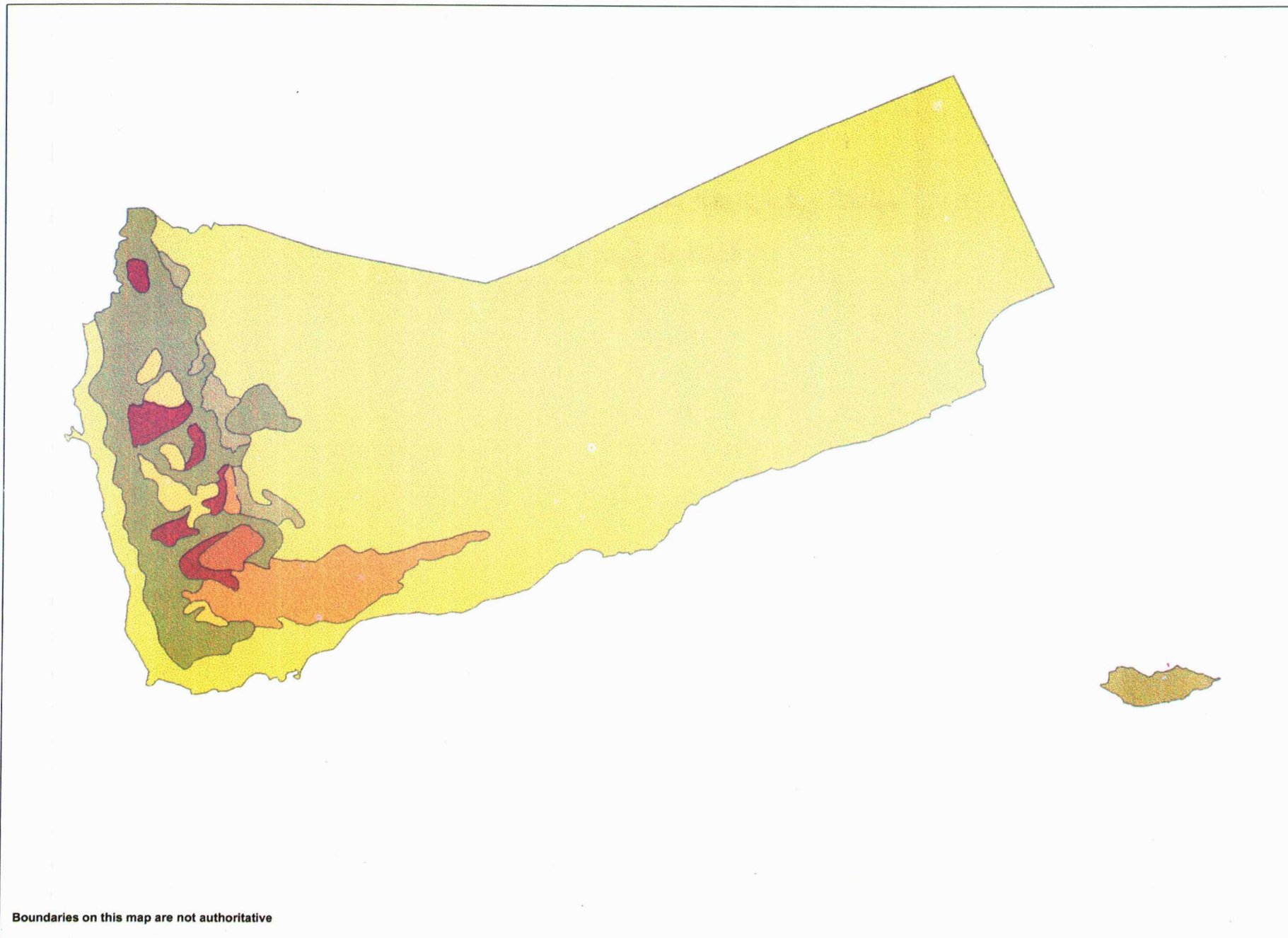


خارطة مواقع زراعة الذرة الرفيعة والقمح  
على مستوى الجمهورية  
وتبين الخارطة الارتفاعات التضاريسية عن سطح  
البحر بالأمتار



# Agro-climatic Inventory of Yemen

## Length of growing periods



**Agricultural Research & Extension  
Authority  
Renewable Natural Resources  
Research Centre**

- ∧ Road
- LGP with W harvest
- 180-210 days
- 210-240 days
- 60-90 days
- 90-120 days
- <60 days
- >240 days
- no growing period



1999



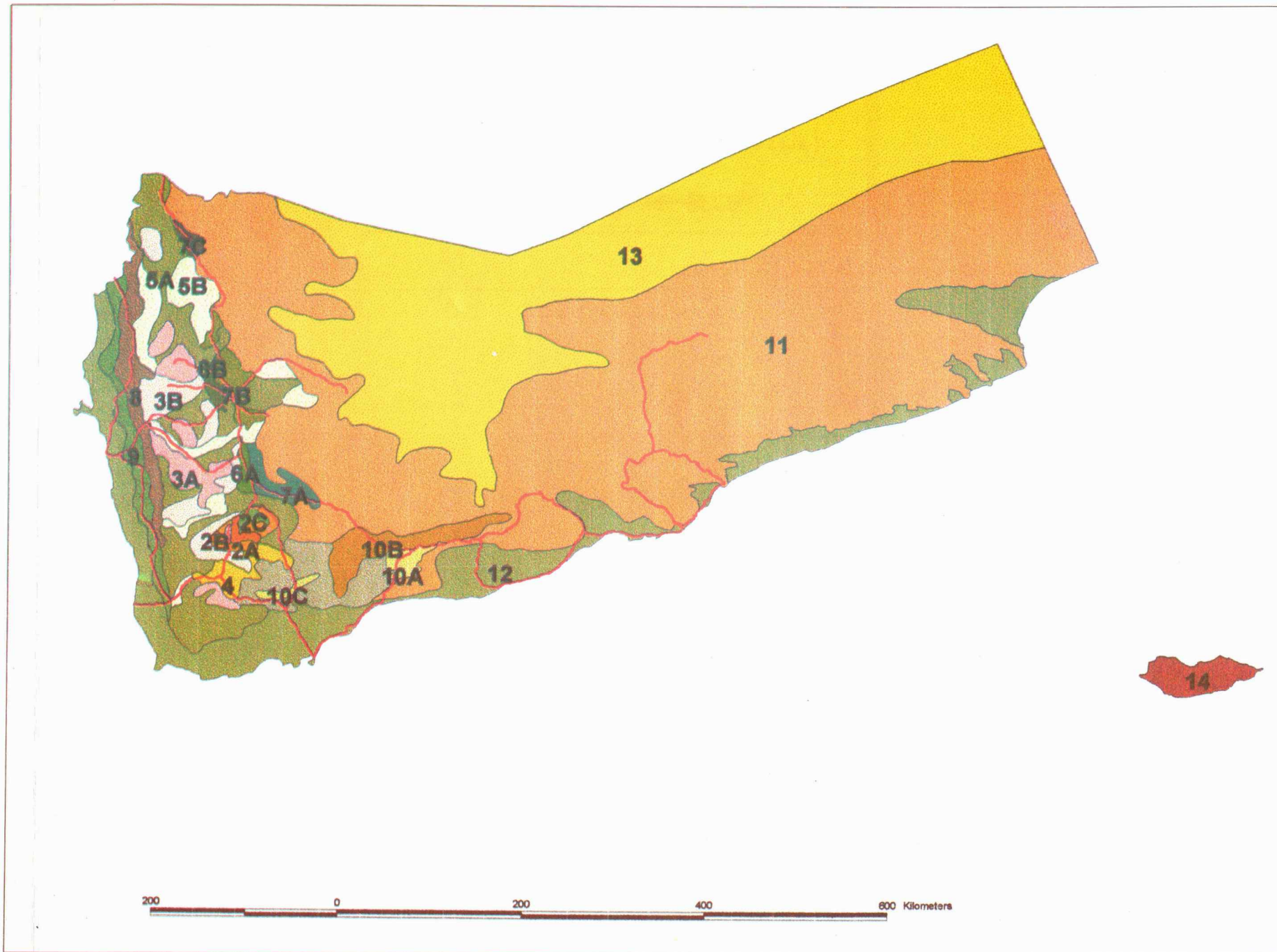
خارطة تبين متوسط درجات الحرارة السنوية  
على مستوى الجمهورية  
وتوضح مدى تباين درجات الحرارة في الاقاليم  
الزراعية المختلفة



# Agro-climatic Zones and rainfall distribution in Yemen



**Agricultural Research & Extension  
Authority  
Renewable Natural Resources  
Research Centre**



**Legend**

	1 700-1200 mm
	2a 600-850 mm
	2b 700-850 mm
	2c 600-700 mm
	3a 400-700 mm
	3b 400-700 mm
	4 300-600 mm
	5a 200-450 mm
	5b 200-450 mm
	6a 200-400 mm
	6b 200-400 mm
	7a 100-200 mm
	7b 100-200 mm
	7c 100-200 mm
	8 200-500 mm
	9 100-250 mm
	10a 175-400 mm
	10b 175-325 mm
	10c 100-250 mm
	11 50-125 mm
	12 10-200 mm
	13 0-100 mm
	14 50-200 mm

200 0 200 400 600 Kilometers



1999

Boundaries on this map are not Authoritative

خارطة تبين طول فترات النمو  
للمحاصيل الزراعية المطرية (بالأيام)  
على مستوى الجمهورية



