

THE GROWTH AND REGIONAL CENTRALIZATION OF MODERN AGADIR,

SOUTH WEST MOROCCO

by

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ABSTRACT

The thesis examines processes of change in a geographic context within the region of the south of Morocco over the past fifty years. The most striking phenomenon, that of the rise to political and economic dominance within the region of the town of Agadir, is examined in parallel with the consequent relative decline of two other centres in the area, Taroudant and Tiznit, and with their eventual, delayed growth, though of a weaker nature. Various approaches are adopted in the course of the study including historical and economic analyses, and a mathematical technique is devised to yield a practical measure of the degree of demographic-spatial concentration within a specified area. A general theme of the thesis is that of the division between centre and periphery at different levels of political organization, and of a related, particularly Moroccan, concept of a division of specific areas into 'utile' and 'inutile' portions. On the administrative side the process of fragmentation of existing provinces and the creation of new provinces is examined, together with the consequent apparent devolution of some political responsibilities; on the economic side recent projects are discussed, including those in the sectors of agriculture, mining, industry, fishing and port activity, as well as tourism and urban development. It is felt that the limited political decentralization effected has far outpaced any real economic decentralization. Finally, likely future projects, including that of a railway link between the area and the north of Morocco, are critically assessed as regards their impact on the region. It is concluded that planning for the region is uncoordinated and in many cases misdirected both in terms of the types and spatial locations of projects as well as the time scales being proposed for their development.

Outline of contents

	<u>page</u>
<u>Chapter 1</u> Geographic, political and economic setting	34
<u>Chapter 2</u> Historic setting of the region	117
<u>Chapter 3</u> The predominance of Agadir, 1960 to 1980	169
<u>Chapter 4</u> The evolution of the region	246
<u>Chapter 5</u> Agadir town in the 1980s and 1990s	331
<u>Chapter 6</u> The shape of the region in the 1980s and 1990s	390
<u>Chapter 7</u> Conclusions to thesis	458

List of contents

	<u>page</u>
Title page	1
Abstract	2
Outline of contents	3
List of contents	4
List of tables	9
List of figures	12
List of images	17
Acknowledgements	19
Preface	22
Introduction	27
<u>Chapter 1</u> Geographic, political and economic setting	34
1.1 Physical description of area	35
1.1.1 Situation and physical description	35
1.1.2 Climate	38
1.2 Geopolitical description	46
1.2.1 General background	46
1.2.2 Regional integration	47
1.2.3 The geopolitics of the south west	49
1.2.4 Poles of integration, attraction and equilibrium	55
1.2.5 Frontierism and bufferism	57
1.2.6 International geopolitical dimensions	58
1.3 Demographic description	61
1.3.1 Theoretic introduction	61
1.3.2 Application to Morocco	66
1.3.3 Application to two regions	70
1.3.4 Agadir province	70
1.3.5 Other demographic indicators	78
1.4 Administrative evolution	82
1.4.1 Phenomenon of subdivision	82
1.4.2 Criteria for creation of new provinces	82
1.4.3 The fragmentation of the region of the south	85
1.4.4 The role of Agadir province in the fragmentation of provinces	92
1.5 Economic description	95
1.5.1 The traditional sector	95
1.5.2 The modern sector	101
1.5.3 Links with other parts of Morocco	111
1.5.4 Links with abroad	112

	<u>page</u>
<u>Chapter 2</u>	117
2.1	118
2.2	126
2.2.1	126
2.2.2	142
2.3	149
2.4	157
 <u>Chapter 3</u>	 169
3.1	170
3.1.1	170
3.1.2	184
3.2	188
3.3	197
3.3.1	197
3.3.2	204
3.3.3	206
3.4	207
3.5	212
3.5.1	212
3.5.2	217
3.5.3	225
Introduction	225
A case study of a leading deep sea 'mixed company'	226
The trawler Azaiz	229
Las Palmas and Agadir	231
3.6	232
3.6.1	232
3.6.2	233
3.6.3	236
3.6.4	241
3.6.5	243
3.6.6	243
 <u>Chapter 4</u>	 246
4.1	247

	<u>page</u>
4.2 Taroudant	253
4.2.1 Brief historical outline	253
4.2.2 Geographical position and description of the region	256
4.2.3 The town of Taroudant	267
Description	267
Economic activity	273
The kasbah	274
Irrigation	274
Growth of the town	277
4.2.4 Taroudant and the region in the 1980s and 1990s	283
4.2.5 Conclusion to section 4.2	287
4.3 Tiznit and its region	287
4.3.1 General	287
4.3.2 Economic activity of Tiznit province	298
4.3.3 Budget of the province	302
4.4 The town of Tiznit	310
4.4.1 Description	310
4.4.2 Economic activities of Tiznit	319
4.4.3 Administration	320
4.4.4 Growth of the town	321
4.4.5 Conclusions to section 4.4 and to chapter 4	328
<u>Chapter 5</u> Agadir town in the 1980s and 1990s	331
5.1 Tourism in Agadir in the 1980s	332
5.1.1 General description of development and locational distribution	332
5.1.2 Employment stemming from tourism	351
5.1.3 Income from tourism	357
5.1.4 Investment in tourism	357
5.1.5 Conclusion to section 5.1	359
5.2 Industry in Agadir in the 1980s and 1990s	361
5.2.1 Position in 1980	361
5.2.2 Development in the 1980s and 1990s	364
5.3 New housing estates in Agadir in the 1980s and 1990s	370
5.4 Conclusions to chapter 5	377
5.4.1 The region	377
5.4.2 Tourism	377
5.4.3 The shape of Agadir up to 2000	381

	<u>page</u>
<u>Chapter 6</u> The shape of the region in the 1980s and 1990s	390
6.1 Introduction	391
6.2 The railway project in the south of Morocco	394
6.2.1 Background to the project	394
6.2.2 Mining in the region of the south	396
General	396
Manganese	405
Cobalt	409
Silver	409
Barytes	410
Copper	411
Other minerals mined in the region	416
Iron	417
Economic benefits and transformation of mineral ores	418
6.2.3 Discussion on the railway project	419
Details of route and cost of railway	419
The main arguments presented in the GEFMA report for the railway	423
6.2.4 The impact of the railway on the Souss-Massa region, and on Taroudant, Tiznit and Agadir in particular	434
6.3 Other projects in the region in the 1980s and 1990s	437
6.3.1 General	437
6.3.2 Industry	437
6.3.3 Agriculture	440
6.3.4 Administrative change with the creation of Taroudant province	443
The change in the shape of the region	443
The shape of the new province itself	445
Taroudant province as seen from Ouarzazate and from Agadir	450
6.4 Conclusion to chapter 6	456
<u>Chapter 7</u> Conclusions to thesis	458
7.1 Spatial dichotomies and boundaries	459
7.2 Aspects of the changing shape of the town of Agadir	461
7.2.1 General	461
7.2.2 The particular case of tourism	464

	<u>page</u>
7.3 Aspects of the changing shape of the region	469
7.4 The interrelation of the town of Agadir and the region	472
<u>Appendix I</u> The administrative breakdown in cercles, annexes and communes of the provinces of the region of the south; also, for Agadir and Tiznit provinces, the areas, populations and densities at the commune and cercle levels	478
Legend for Appendix I	479
I.0 Overall regional position	480
I.1 Agadir province	482
I.2 Tiznit province	487
I.3 Guelmim province	491
I.4 Tata province	492
I.5 Tan-Tan province	493
I.6 Quarzazate province	494
<u>Appendix II</u> The dual administration in Morocco	495
<u>Appendix III</u> The value of the dirham	499
<u>Appendix IV</u> Tribes and confederations of tribes in the south of Morocco	504
Glossary	506
List of abbreviations	510
Bibliography	512

List of tables

<u>table number</u>	<u>title</u>	<u>page</u>
1	Distribution of average rainfall by season of five places in the south of Morocco	40
2	Average maximum and minimum temperatures throughout the year at Agadir, Taroudant and Tiznit	43
3	The values of Q, the Emberger coefficient, for four places in the south	45
4	Populations and areas of regions of Morocco	67
5	The communes of Agadir province	74
6	Origin of inhabitants of urban areas of Agadir province	78
7	Age distributions of population of Agadir town and province	80
8	Proliferation of provinces, 1973 to 1980	84
9	Sectorial distribution of economic activity (1971)	103
10	Location of industry (enterprises with 5 or more employees) in Agadir province	107
11	Estimated employment by economic sector in Agadir province, 1977	109
12	Volume of fish caught in Moroccan ports (French zone) in 1935 and 1950-55	140
13	Volume of trade through the port of Agadir, 1929 to 1959	141
14	Estimated populations of the various quarters of Agadir in 1948-49 and in 1960 (before the earthquake)	145
15	Jewish populations of some Moroccan centres in 1931 and 1951	156
16	Special budget allowances for the reconstruction of Agadir	183
17	The growth of the satellite towns	192
18	Merchandise in the port of Agadir from 1960 to 1980	198
19	Progression of exports and imports at Agadir port	200
20	Evolution of citrus exports from Agadir port	202

<u>table number</u>	<u>title</u>	<u>page</u>
21	Evolution of export of fish produce from Agadir port	203
22	Evolution of air traffic at Agadir airport	205
23	Evolution by nationality of tourists arriving in Agadir	209
24	Distribution, by calendar, month, of percentage shares of tourist arrivals (by air) in Agadir, 1971 to 1978	211
25	Evolution of fishing fleet at Agadir port during the 1970s	218
26	Approximate breakdown of destination of industrial fish in Morocco	222
27	Evolution of deep sea fish landed at Agadir, 1973-1979	227
28	Evolution of industry in Agadir, 1960-1980	234
29	Breakdown of industry in Greater Agadir by size and type of enterprise	237
30	Construction in Agadir, 1960-1980	240
31	Cement production	242
32	Information from figure 50 on growth of built-on areas of Taroudant	280
33	Population densities of the various areas of relief of Tiznit province	295
34	Estimated percentages of area in each relief area	297
35	Estimated arable area (in ha) of Tiznit province (1980)	300
36	Provincial budget allocations for the region of the south in 1981-85 plan (for 5 years)	305
37	State investment in region of south in the 1978-1980 period	306
38	Budgetary allocations for Tiznit province in 1981-1985 plan	307
39	Areas and densities of the quarters of Tiznit	327
40	List of hotels in Agadir by year of opening and capacity	335
41	Direct employment in hotel industry in Agadir	353
42	Industrial targets for Greater Agadir up to 2000	366

<u>table number</u>	<u>title</u>	<u>page</u>
43	New housing estates in Agadir	370
44	Populations and industry of the sectors of Greater Agadir	386
45	Production and export of the main minerals in Morocco	397
46	Exports of minerals from Morocco in 1979	400
47	Share of the region of the south in the export of minerals (in 1978)	401
48	Number of workers employed in mining and the profitability of various minerals in the region of the south	403
49	Principal companies involved in mining in the region of the south of Morocco	407
50	The progression of copper prices	412
51	Estimated costs of the railway extension	421
52	Estimated merchandise to be transported on the railway extension in the year 2000	425
53	Value added of agricultural production in the Souss plain	442
54	Populations and areas of the cercles of a future Taroudant province (for figure 83)	453
55	Regional administrative position in August 1980	480
56	Regional administrative position with the creation of the province of Taroudant	480
57	Agadir province, cercles and communes	484
58	Tiznit province, cercles and communes	489

List of figures

<u>Figure number</u>	<u>title</u>	<u>page</u>
1	General map of the region of the south of Morocco	36
2	Pluviothermic climatogram of some places in Morocco	44
3	Sketch of administrative provincial boundaries in the south of Morocco and the western Sahara	50
4	Morocco without Sahara, M, partitioned by regions	69
5	Morocco, without Sahara, M, partitioned by provinces	69
6	Morocco with Sahara, \tilde{M} , partitioned by regions	69
7	Morocco with Sahara, \tilde{M} , partitioned by provinces	69
8	The region of the east, E, covered and partitioned by provinces	71
9	The region of the south, S, covered and partitioned by provinces	72
10	Agadir province and its communes	73
11	Agadir province, A, covered by cercles	77
12	Agadir province, A, covered by communes	77
13	Factors having an influence in the creation of new provinces	83
14	Situation at independence	87
15	Addition of Tarfaya province	88
16	Addition of Tamri commune	88
17	Addition of Ifni	89
18	Transfer of Goulimine cercle	89
19	Creation of Tiznit province	90
20	Change in Tarfaya province and creation of Tata province	90
21	Creation of Guelmim province	91

<u>Figure number</u>	<u>title</u>	<u>page</u>
22	Emigration from the Souss and its region to Europe (estimated situation in 1972)	99
23	Rates of urbanization for southern provinces	102
24	The irrigated Massa-Tassila sectors	105
25	The quarters of Agadir (1948-49) with their indigenous populations	138
26	Population of major southern urban centres up to 1960	139
27	The population of Agadir from 1900 to 1960	144
28	Agadir before 1960, with the Jewish quarter in Talbordjt	153
29	Taroudant in 1958, with the Jewish mellah	154
30	Zones of seismicity in Morocco	158
31	Seismic and volcanic activity in the western part of Morocco and off the Atlantic coast	159
32	Isoseismic curves and geological features of the Agadir area	164
33	Quarters of Agadir before earthquake	171
34	Sketch-map showing quarters of Agadir, 1960-1980	179
35	Agadir between the Oued Tildi and the Oued Lahouar, around 1980	180
36	Agadir and its surrounding settlements before 1960	189
37	Agadir and its satellite towns around 1980	195
38	The Atlantic waters off the southern Moroccan and Saharan coast, as far south as Dakhia	213
39	The Atlantic coast of north west Africa, from Tangier to Dakar	214
40	Evolution of return per fisherman and per tonnage of shipping at Agadir, 1960-1980	219
41	Evolution of Agadir and national fish catches (pelagic fish), 1960-1979	221
42	The concepts of centre/periphery and utile/inutile	251

<u>Figure number</u>	<u>title</u>	<u>page</u>
43	The north-south axis	257
44	The east-west axis	257
45	The relief of the Souss plain	260
46	Agricultural sectors up-valley from Taroudant	260
47	The situation of Azough	266
48	Taroudant	268
49	Taroudant and its canal system	275
50	The growth of the constructed areas within the walls of Taroudant	278
51	The growths of populations of Taroudant and Tiznit compared with Agadir, 1930-1980	281
52	Administrative boundaries of Tiznit province	290
53	Demographic partition by communes of Tiznit province	291
54	Relief map of Tiznit province	292
55	Rainfall map of Tiznit province	293
56	Tiznit (the medina)	312
57	Tribal areas of the Ait Ba'Amrane and Ida Oubaakil (from which the inhabitants of three of the quarters of Tiznit originated)	316
58	Tiznit (the new sectors of the town)	323
59	Location of main hotels in Agadir, before earthquake	333
60	Evolution of tourist capacity in Agadir and other provinces	338
61	Evolution of numbers of tourists in Agadir and in Morocco	339
62	Evolution of the distribution of hotel beds in Agadir by category of hotel from 1965 to August 1979 with an estimate for the corresponding breakdown in 1985 in Greater Agadir, including the sector of Founty	340
63	Location of main tourist sectors in Agadir and Founty	342

<u>Figure number</u>	<u>title</u>	<u>page</u>
64	Change of centres of gravity of hotel capacity in Agadir by year, and by types of hotel	343
65	Plan of the new sector of Founty	346
66	Map of coastline around Agadir showing projected tourist complexes of Sonaba	348
67	The evolution of hotel capacity in Agadir (including Inezgane, Ben Sergao and Dcheira) since 1964, and an estimate of the likely growth up to 1988	350
68	Estimate of evolution of numbers directly employed in hotels in Agadir	352
69	Rank order of principal industrial towns in Morocco	362
70	Location of industrial sites in Greater Agadir	368
71	Location of new residential sectors in Greater Agadir	371
72	The boundaries of municipalities (Agadir and Inezgane) and of rural communes in the region of Greater Agadir around 1980	374
73	Greater Agadir in 1990	382
74	Greater Agadir in around 2000	383
75	Movement of centres of gravity of population, industrial and tourist locations in Greater Agadir, 1960 to 1990	384
76	Minerals in the region of the south	406
77	The proposed route of the railway between Marrakesh and Laayoune	422
78	The projected development of agricultural production in the Souss plain	441
79	The region of the south with the creation of a possible Taroudant province	444
80	Possible shape of future Taroudant province	446
81	Demographic partition (by communes) of a future province of Taroudant	448
82	Main physical aspects of a possible future province of Taroudant	449

<u>Figure number</u>	<u>title</u>	<u>page</u>
83	The spatial-demographic effect on Agadir and Quarzazate province of the creation of Taroudant province	452
84	Structure of the dual administration	498
85	Exchange (buying) rates for the £ sterling, the US \$ and the French franc in terms of the Moroccan dirham, from 1962 to 1980	502
86	Exchange (buying) rates for the £ sterling, the US \$ and the French franc in terms of the Moroccan dirham, by month, from January 1978 to July 1981	503
87	Map of the tribal confederations of the south of Morocco, and of some individual tribes in the vicinity of the Souss valley and of Tiznit	505

LIST OF IMAGES

<u>Image Number</u>	<u>Title</u>	<u>Page</u>
1	A collage of two Landsat images of south west Morocco, showing the Souss and Massa plains surrounded by the High Atlas mountains to the north and the Anti-Atlas to the south and south east	26
2	A goat in an argan tree in the Anti-Atlas mountains	96
3	The small town of Ait Baha in the Anti-Atlas mountains	96
4	A Berber village in the Anti-Atlas mountains above Ait Baha	116
5	A typical house in the Souss region constructed from emigrant revenues	116
6	Agadir in 1930; a view southwards along the coastal road from near the port	131
7	Agadir in 1930; the bay as seen looking southwards from near the old Founti	131
8	Agadir in 1930; the site of the port and the quarters of Founti and part of old Talbordjt	131
9	Agadir before the earthquake: the hotels Mauritania and Gautier	143
10	Agadir before the earthquake: a square in the old Talbordjt	143
11	An aerial view after the earthquake of the destruction in Agadir	166
12	The urban centre of Agadir and its central mosque in 1979	176
13	A street in the new Talbordjt	176
14	The new quarter of Yachech	178
15	A view from the site of the old Kasbah on the top of the hill, looking south eastwards over Agadir	178
16	A view of Dcheira from the R.P. 32	191
17	A view over Inezgane in the evening, facing northwards; the foothills of the High Atlas are in the background	191

<u>Image Number</u>	<u>Title</u>	<u>Page</u>
18	Repairing nets in the fishing port of Agadir	215
19	A scene inside the fish hall at the port	215
20	The main part of the port of Agadir	239
21	The cement works at Anza	239
22	Sprinkler system in a field near Tazzemourt, south of Taroudant	258
23	Water pump on a citrus farm at Bouzoug, a few kilometres west of Oulad Teima	258
24	The river bed of the Oued Assads, descending from the Anti-Atlas mountains; the village of Arba Assads is in the background at the edge of the plain and the foot of the mountains .	264
25	A scene in the village of Arba Assads	264
26	A citron (noronj) tree in Arba Assads	265
27	Tombs in the walled site of Azough; the tombs of David ben Baruch and Benyamin Cohen Azogh are under the constructed shelter	265
28	The walls of Taroudant seen through one of the arches of the Bab Kasbah	270
29	A scene in the Place Talmaklat	270
30	A public water source near the open souk in Taroudant, south of the Place Talmaklat	272
31	Street scene in Taroudant; the Saadian Jemaa el Kebir (Great Mosque) is in the background	272
32	A view of the village of Freija, as seen across the dry river bed of the Oued Souss	276
33	The seguiat (canal) Taffelagt, between Freija and Taroudant	276
34	The central square of Tiznit, the Place Mechouar	314
35	A scene in Sidi Abderrahman street in Tiznit	314
36	Unloading meat at a shop outside the Bab Jedid (to the south west of the medina)	318
37	Houses in a narrow lane in Tiznit	318
38	A model of the new housing sector of Agadir South East	376

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Tony Kahane
at SOAS, London
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PREFACE

The sixth planet was a planet ten times as large and was inhabited by an old gentleman who wrote enormous books.

'Look, an explorer!' he cried, when he saw the little prince. The little prince sat on the table and panted a bit. He had already been travelling so much.

'Where do you come from?' the old gentleman asked him.

'What is this huge book?' asked the little prince. 'What do you do here?'

'I am a geographer,' said the old gentleman.

'What is a geographer?'

'He is a learned person who knows where the seas, the rivers, the towns, the mountains and the deserts are situated.'

'That's very interesting,' said the little prince. 'At last this is a true profession.' And he cast an eye around over the geographer's planet. He had never yet seen such a majestic looking planet. 'Your planet is very beautiful. Does it contain oceans?'

'I couldn't say,' answered the geographer.

'Oh,' said the little prince, disappointed. "And are there mountains?'

"I couldn't say,' said the geographer.

'And towns and rivers and deserts?'

'I wouldn't know there either.'

'But you're a geographer!'

'Yes, that is true,' said the geographer, 'but I am not an explorer. In fact, I'm completely lacking in explorers. It's not the geographer who makes the tally of the towns, rivers, mountains, seas, oceans and deserts. The geographer is too important a person to idle around like that. He doesn't leave his office. But he receives explorers and he questions them and takes notes on the accounts they have to offer. And if the accounts of one of these explorers seem to him to be of interest, then the geographer has an enquiry carried out on the moral standing of the explorer.'

'Why is that?'

'Because an explorer who lied would bring about disasters in the geography books. And also one who drank too much.'

'Why is that?'

'Because drunkards see double. So a geographer would note down two mountains where there was in fact only one.'

'I know someone who would make a bad explorer,' said the little prince.

'That may be. So, when it seems that the explorer's morality is in good standing, an enquiry is launched on his discovery.'

'One goes out and investigates oneself?'

'No, that would be too complicated. But one asks the explorer to furnish some proof. For instance, if it is a question of the discovery of a large mountain one requests that he bring back some large stones.'

Then suddenly the geographer became agitated. 'But you, you come from far away! You're an explorer. You're going to describe my planet.' And the geographer opened his register and sharpened his pencil. 'First, one notes in pencil the accounts of the explorer. One then waits until he has furnished some proof before noting down in ink. Well then?' asked the geographer.

from Le Petit Prince - by Antoine de Saint-Exupéry
(written in 1943)

Editions Gallimard, Paris 1980 - pp. 53-55

Image 1 A collage of two Landsat images of south west Morocco, showing the Souss and Massa plains surrounded by the High Atlas mountains to the north and the Anti-Atlas to the south and south east
(Scale: approx. 1:1,000,000; both parts of image are band 5 of the imagery taken by Landsat 2 on 26 January 1976, with positions path 218, row 39 and path 218, row 40 respectively)



INTRODUCTION

The original aim when this thesis was first embarked on was to present a description and analysis of the growth of Agadir from the period of its reconstruction after the 1960 earthquake onwards; it was simply as an illustration of this irresistible dynamism that it was intended to show how the two other leading settlements in the region had been pushed into very much a secondary role vis-à-vis that of Agadir. The title of the thesis, formulated at the time, and the two hypotheses introduced in chapter 4, both reflected this notion. During the course of the study it became clear that not only did Agadir's rise to political and economic predominance date from an earlier period (which itself needed only a simple shift in the time scale to correct the original assumption), but that the activity of the rest of the region, its 'pulse' as Braudel would say, was a factor which was itself of considerable importance as regards the changes that had taken place over 50 years or more, and one which was also possibly of greater interest, though that is a subjective judgement. From being an appendix, a hinterland in stagnation serving merely to show up the dominance of the coastal centre, the rest of the region - the political and economic periphery to that region's centre - became of ever greater interest as the study proceeded, and this, too, is reflected in the increasingly detailed analysis of and concern with the region in the later chapters. Not that the rest of the region - and as regards this thesis this is narrowed down to principally the areas around the two centres of Taroudant and Tiznit - was ever considered to be a matter of little importance; it was more the case that, firstly, its own pace of evolution was thought to be no more than a belated response to that of Agadir, and secondly, and partly as a consequence of the first point, there was little available information on it that would be of use. What emerged was, firstly, that these places did possess, as already mentioned, their own 'pulse', which was an independent and important factor on its own, and secondly, that there was information to be found,

if it was sought, on these places which was both relevant to the study and of intrinsic interest in itself. Furthermore, in keeping with the idea of a 'centre' at Agadir, created from above at the national centre of Rabat/Casablanca, not only was the major part of political and economic attention within the region being channelled into Agadir, but the overwhelming mass of studies within the region - government reports, commissioned reports on development projects and even academic studies - was being devoted to the town of Agadir. This distortion of interest around the single centre of Agadir is frequently commented upon throughout the thesis, and it is in direct correspondence with the regional distortion created by the influence of the economic and political singularity at the same point.

The original, primarily single-centred and somewhat simplistic idea behind the study evolved during the course of the latter into something rather different, with an alternating centring of attention first on the region and then on the town. This duality of focus was found to be a useful one, and, like an argument switching from one protagonist to the other, of its very nature produced new ideas. It is reflected, in a linear way, by the alternate focuses of attention from chapter 3 to chapter 6, and as an example of a dual, or multiple approach, or at least one which is not singularly defined, it is the first of several such instances within the thesis. The original title, which is not itself of great importance, has been retained; furthermore the two hypotheses have also been kept. In their case it was felt that an elaboration of what has been and is happening within the region could usefully be presented by examining the simple assertions contained in the hypotheses and developing them along various paths.

The approach is varied also according to discipline; demographic and spatial analysis, described according to a precise mathematical framework, is interwoven with local and regional economic analysis, often less precise, and with some political and

social descriptions as well, usually less precise still. A third instance of a mixed approach is the alternation between static and evolving accounts - synchronic and diachronic to adopt the somewhat pedantic terminology in vogue; the preference here, though, is for a historical element in the description wherever possible. One section, chapter 2, is entirely historical, and in only a few parts of the thesis is the account a purely static one. The historical element is felt to be a vital one and a natural one in a human geographic study such as this one, and the holistic approach combining various methods from various sub-disciplines a desirable one.

With attention switching between the central town and other places within the region, between various types of spatial elements (administrative boundaries, ethnic subdivisions, agricultural sectors, urban areas and communication networks) and between different types of economic activity located very differently spatially (such as fishing activity, mining, industry and irrigated agriculture), the spatial domain of this study is not going to be easy to define. The simplest course would be to take the maximal area within which everything of importance that is described takes place; this area would correspond to that known for purposes of regional economic planning as the region of the south, and comprising the six provinces of Agadir, Tiznit, Guelmim, Tata, Tan-Tan and Ouarzazate, or, in geographic terms, the area roughly between the High Atlas mountains and the Oued Draa (see fig. 1). In practice, though, the area south of the Anti-Atlas mountains and north of the southern part of the Draa and the province of Ouarzazate are not dealt with to a very detailed extent in the thesis, being introduced only when the context of the discussion necessitates it. The main domain of the study, then - what remains when this large area is removed - is the plain area between the two ranges mentioned, the contiguous Souss, Massa and Tiznit plains, and the adjoining slopes of the plain. In administrative terms this corresponds approximately to the provinces of Agadir and Tiznit.

The temporal domain of the study was originally intended to be principally from 1960 to the present, but this ought to be revised, in the light of earlier remarks, to the period from 1930 to the year 2000, with perhaps more emphasis within that time interval on the period between 1960 and 1990. The aim of the study, then, is not only to describe the main processes that have taken place up to the present within the specified area and time period, but to analyze what changes are likely to occur in the period up to the end of the 20th century (given the past history of these processes and the present intentions of the planners for the region), and to assess some of the probable impacts of these changes on the inhabitants of the region, and the scope within which some of the evolving processes could be, or perhaps ought to be, modified.

Chapter 1 of the thesis gives the geographical, political and economic background to the area of study. Within the chapter, in section 1.2, a mathematical technique is developed which proves useful in later parts of the thesis for analyzing the spatial-demographic states of specified areas, generally administrative areas with given administrative subdivisions.

Chapter 2 presents various aspects of the historical background to the area of study, most of it drawing on secondary sources, but a part of it, that dealing with the early development in the modern period of Agadir in the 1930's and 1940's, deriving from material in the British Foreign Office archives.

Chapter 3 describes the development of the town of Agadir in the period 1960 to 1980, the period that was originally felt to be the sole crucial one in its rise to economic dominance, though this assertion has to be modified in the light of the earlier discussion and the chapter read together with those parts of chapter 2 (principally in section 2.2.1) that have a bearing on the development of the town between 1930 and 1960.

In chapter 4 attention switches to the region and in particular to the towns of Taroudant and Tiznit. The two linked hypotheses are introduced in a theoretical discussion at the beginning of the chapter, and though by the end of the chapter their assertions, being rather straightforward in nature, are felt to have been substantiated (with modifications as to the exact time scale of the process concerned, as mentioned earlier), they set the tone for the rest of the thesis. In essence the hypotheses state: firstly, that the rapid growth of Agadir originally induced a decline or stagnation in other centres of the region; and secondly, that in the wake of the expansion of the modern town of Agadir a belated, but weaker, modern growth subsequently began to take place in the centres of Taroudant and Tiznit.

Chapter 5 then reverts to the town of Agadir and examines the three sectors of tourism, industry and housing development within the town, mainly in the period from the present to the year 2000, though, especially in the case of tourism which had not been dealt with in detail previously, with some description of the period before 1980. The changing shape of the town is also examined, as it grows and absorbs neighbouring smaller centres to become transformed into a Greater Agadir.

Chapter 6 also deals with the period from the present to the end of the 20th century, in this case as regards the region, and examines the main economic sectors and new projects that are central to its development. Agriculture, mining and industrial projects are all dealt with, the second of these in some detail; the principal focus, though, is on the proposed scheme for the extension of the railway network south of the High Atlas to Agadir and further south, and on the assessment of its likely impact on the region. Finally, in chapter 7, the brief concluding chapter, an attempt is made to tie up the various strands of the thesis.

The main part of the field work for this study was conducted in two visits to the area, each of some 2 to 3 months, in the summers of 1979 and 1980. There had earlier been a shorter, preliminary visit in the early spring of 1979, and there was a fourth stay there over the period of the end of December 1980 and the beginning of January 1981.

The written sources used in the thesis, other than generally available secondary sources and the specific archival materials already referred to, were largely reports or other documents obtained during field work. Some of these were specially commissioned studies or reports, some of them unpublished and not generally available and some technically published but obtainable usually only with difficulty elsewhere (and sometimes with difficulty in the region itself). Various articles in geographic and other specialist periodicals and locally or nationally published statistics were also consulted. Considerable information, though, was obtained from interviews and meetings with a wide range of people in the area; in some cases there was a series of meetings, structured not only for the purpose of eliciting hard facts but also for a developing interchange of ideas. In a few cases correspondence continued after the work in the field had been completed.

Some brief words ought to be added on the terminology and orthography adopted in the thesis. Firstly, and of a rather different nature from other terminological matters, the area of the study is generally referred to as 'southern Morocco', the 'south', sometimes as the 'south west', and more precisely as the 'region of the south' or the '1st economic region of Morocco'. This is done fully conscious of the fact that the Moroccan government no longer regards the area in question as southern, but in fact rather central if not northern, since the time of its annexation of the western Sahara. The official map division in Rabat will keep purchasers of its maps waiting, while officials in a separate room of the department stencil the words 'northern

provinces' onto maps of Morocco covering the area from the Straits of Gibraltar to the Qued Draa. Mention in places of the western Sahara in conjunction with parts of Morocco, in particular during the discussion in chapter 1.3 on the spatial-demographic partition of Morocco, is made simply in order to illustrate the matters being dealt with, and in no way is meant to imply political recognition of the right of the Moroccan government to this territory. Secondly, Arabic or Berber words commonly used in the area, to the extent that their use has spread into French and sometimes English, are included throughout the thesis; the system of spelling adopted here is that which would appear to be the most straightforward, while at the same time maintaining a reasonable degree of internal consistency within the system. With place names the orthography employed is usually the most common one as used in French, sometimes with simplifications from an unnecessarily cumbersome French form, and in a limited number of cases the particular English form of a place name is used where it exists differently from the French. A brief glossary and a list of abbreviations used in the thesis appear at the end, before the bibliography.

CHAPTER 1

GEOGRAPHIC, POLITICAL AND ECONOMIC SETTING

1.1 Physical Description of Area

1.1.1 Situation and physical description

The region in which this study is situated is the south west of Morocco, the area south of the High Atlas mountains bounded to the west by the Atlantic ocean and to the south and south east by the river Draa and the Saharan region (see figure 1). For most purposes of the study, the region dealt with is, in fact, a smaller one, bounded to the south and south east by the Anti-Atlas range, which, extending from the ocean in the south west in a north easterly direction to its join with the High Atlas, forms an approximate triangle with that latter range and the Atlantic coast. In that triangle, whose vertices are the three points with approximate coordinates A(30°45'N, 9°55'W), B(30°55'N, 6°55'W) and C(29°N, 10°30'W), is located the Souss plain and its extension to the south west, the Massa and Tiznit plains. It is this plain area and its neighbouring mountains which form the principal area of concern of this study. In terms of the administrative areas described in later sections, this area corresponds roughly to the two provinces of Agadir and Tiznit.

The Souss plain lies entirely within the province of Agadir and constitutes some 90% of the 5,000 km² of plain within that province (the remaining 10% being the Massa plain), this total making up around 30% of the area of the province. The plain is centred around the valley of the river Souss on a west-east axis some 150 km long, and is 48 km broad at its point of maximum width (on a north-south axis through the village of Sebt Guerdane). It acts as a transition between the region around Marrakesh to the north and the Sahara to the south. Hardy and Célérier¹ point out the symmetry in location which exists between the Souss plain and the Haouz plain to the north. Like the latter the Souss plain has a system of faults running in the same west-east direction.

1. Hardy, G. and J. Célérier, *Les grandes lignes de la géographie du Maroc*, Larose, (2nd edition) Paris 1927, p.153

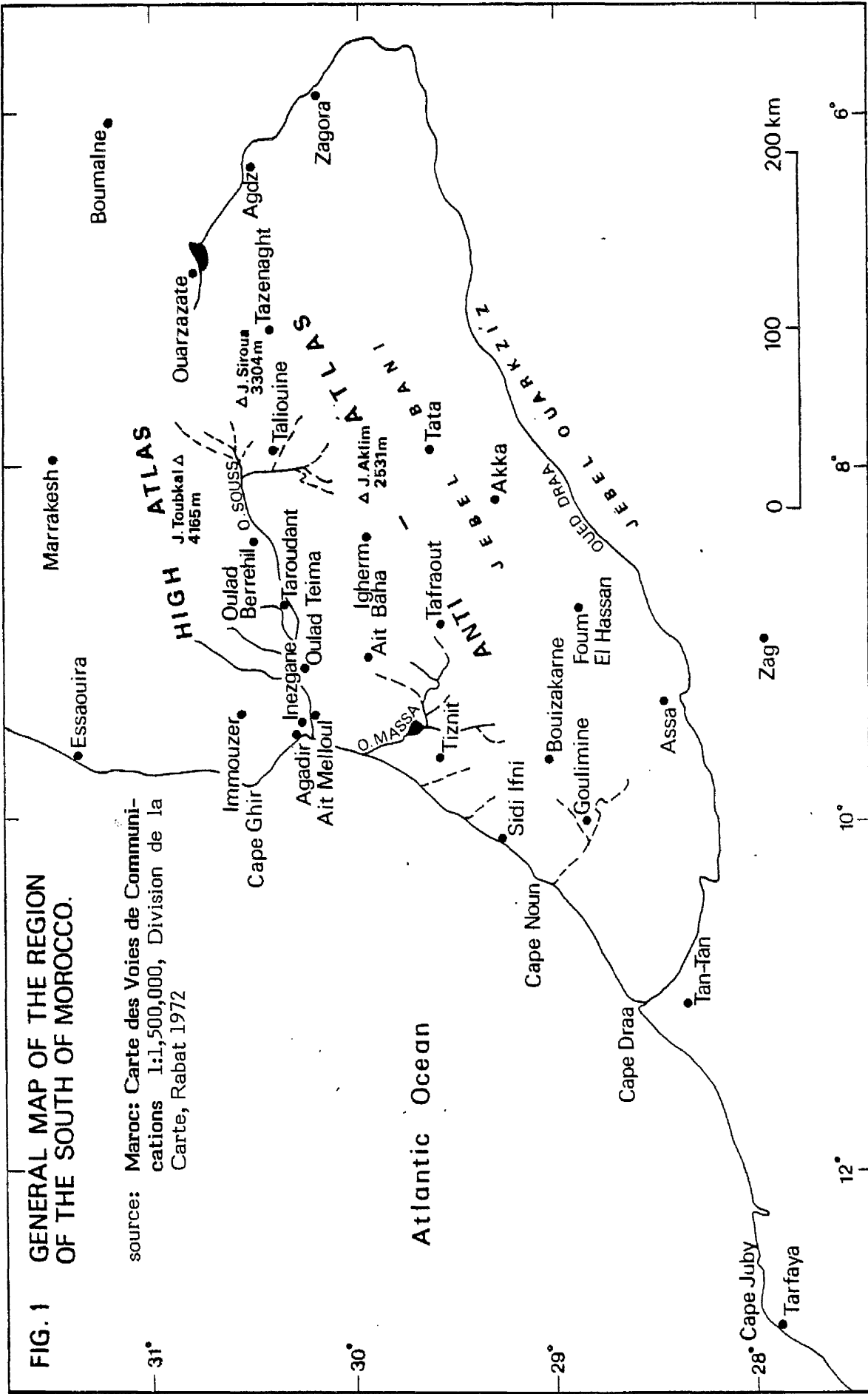


FIG. 1 GENERAL MAP OF THE REGION OF THE SOUTH OF MOROCCO.

source: Maroc: Carte des Voies de Communications 1:1,500,000, Division de la Carte, Rabat 1972

Figure 45 in chapter 4.2 shows the relief of the Souss plain and the path of the river through it, from Aoulouz at the top of the plain (at 691 m above sea-level) to the sea. The plains were formed in the Quaternary and recent Tertiary. In the Souss valley the covering is recent Quaternary with alluvium, alluvial clay and red clay; the Massa is middle Quaternary and old marine Quaternary with some consolidated dunes.

In the High Atlas mountains three zones are distinguishable: to the west there is the region of Ida ou Tanane which is post-Triassic (the low hills of the southern part being Cretaceous and the higher area to the north Jurassic); the Argana corridor, formed in the continental Permo-Triassic, contains salt-bearing layers from lacustrine sedimentation which give rise to the salinity of the river Issen which descends from that area onto the plain; and in the east the oldest formations of the three are found, of quartz and sandstone dating from the Arcadian and Ordovician. The Anti-Atlas has a similar structure to the High Atlas with its crystalline and primary rocks; both ranges contain Hercynian folds running in a SSW - NNE direction². The two ranges are joined around the Jebel Siroua, a volcanic massif of over 3,000 m; beyond the Siroua to the east the folds disappear and high plateaus continue on to the Tafilelt region. From the Siroua two major water systems flow in opposite directions; the waters which make up the Souss flow off to the west while the sources of the Draa go eastwards, the latter then curving around to the south and finally to the west before arriving as a dry river bed at the sea.

The three major rivers of the region are, in order of their length, the Draa (of 350 km), the Souss (175 km) and the Massa (85 km), which last river rises in the Anti-Atlas and flows north west to the sea. The Souss river, flowing above ground in the period of the rains and melting snows in the mountains, in the winter and

2. *ibid.* p.154

spring, has various smaller oued's (rivers) coming down from the mountains to join it, most of them on its right bank from the High Atlas, but some from the Anti-Atlas as well. Numerous natural springs occur throughout the mountains of the region; of the known total of around 280 some 200 are within Tiznit province in the Anti-Atlas mountains.

The highest points of the region are in the High Atlas range, containing ground over 4,000 m above sea-level; the Anti-Atlas mountains, with lower peaks, reach their maximum height at Jebel Aklim (2,531 m), near Igherm. The Souss plain rises to almost 700m at its eastern extremity, with Taroudant, approximately mid-way along it, at 250 m above sea-level; in the plains to the south Tiznit is situated at almost the same height. Other than figure 45 already mentioned on the Souss plain, figure 54 shows the relief of the mountains and plain area of Tiznit province.

1.1.2 Climate

Agadir and Tiznit provinces have a generally arid climate, according to precise definition of this term (see the end of this section), of the broad Mediterranean type. Climatically the area comes under the dual influences of the mountains and the ocean; the latter's zone of influence is a coastal belt about 10 km deep where a mild and fairly uniform climate exists, one becoming increasingly more continental in an inland direction. The ocean, in fact, at this part of the coast, contains the cold stream of the Canary Islands which is 2 to 5 degrees C colder locally than neighbouring waters³.

3. Royaume du Maroc, Ministère de l'Agriculture et de la Réforme Agraire, Direction Provinciale de l'Agriculture d'Agadir-Tiznit-Guelmin-Tan-Tan-Tata

Rainfall throughout the whole area is generally low, at irregular intervals and distributed unevenly throughout the year, with most of it occurring in the autumn and winter, and very little in the summer; furthermore, for any given place there are great variations in the precipitation figures from one year to another. This accounts for considerable discrepancies between various sources of rainfall figures for given locations, the differences arising from the choice of periods from which the average figures are obtained. To illustrate the large annual variations that occur, the amounts of rain that fell each year (measured in mm) in Agadir town from 1971 to 1979 were, respectively: 195.0, 242.6, 122.7, 175.2, 121.0, 195.2, 294.1, 233.6 and 229.5⁴. The number of days of rain each year in Agadir, from 1975 to 1978 was 18, 48, 41 and 35 respectively. The figures quoted below, then, are averages, usually calculated over periods of at least 30 years, and subject to large variations.

In the Souss plain the annual rainfall ranges from 187 mm at Timdouine to 359 mm at Aoulouz; as one moves southwards through the Massa and Tiznit plains rainfall, on the whole, decreases steadily. In the High Atlas it is above 500 mm at heights over 1,500 m, whereas in the Anti-Atlas it is low (166 mm at Igherm). Figure 55 shows the rainfall distribution in the Anti-Atlas mountains and in the plain of Tiznit province. Table 1 shows the distribution of average rainfall at five places within the region. South east of the Anti-Atlas the annual rainfall is generally below 150 mm and drops to around 100 mm or less before the Oued Draa is reached.

4. Serete (a French firm of consultants, 86 rue Regnault, Paris 13), *Etude d'identification de projets industriels dans la province d'Agadir*; vol. 1: rapport; vol. 2: annexes; vol. 3: monographies - agriculture et irrigation, April 1978; this reference Annexe I-3, p.3;

Royaume du Maroc, Ministère de l'Intérieur, *Annuaire Statistique (Région Economique du Sud)*, 1975 to 1978;

Royaume du Maroc, *Le Maroc en Chiffres 1979*, p.33

Table 1: Distribution of average rainfall by season of five places in the south of Morocco (in mm)

Season ⁽¹⁾	Agadir	Taroudant	Igherm	Tiznit	Tata
Autumn	60	67	67	46	52
Winter	127	123	74	102	30
Spring	38	40	30	39	12
Summer	-	1	12	2	6
Total	225	231	183	189	100

Source: 'Monographie (Zone DPA)' (1979), op cit, p.1 and p.5

Note: (1) autumn refers to the months September to November, winter December to February, spring March to May and summer June to August.

Temperatures, as already mentioned, tend to be milder on the coast, with a smaller variation in their range throughout the year. Table 2 shows the monthly averages of maximum temperatures and of minimum temperatures for the towns of Agadir, Taroudant and Tiznit.

Humidity is lower inland than on the coast, and varies slightly by season, being marginally lower in winter and spring than in summer and autumn. It is generally highest in the early morning and lowest at mid-day. At Agadir the average humidity recorded was: at 07.00 hrs 87%, at 13.00 hrs 66% and at 18.00 hrs 72%; for Taroudant the figures were: at 07.00 hrs 76% and at 18.00 hrs 53%.

The dominant winds at Agadir are from west to east (and also from east to west in November), and these generally increase in strength during the daytime hours; during the period November to January they are less strong than in other months⁵. In the Souss plain the dominant winds tend to be from north east to south west and in the Massa plain from north west to south east⁶. The local wind known as the *chergui* which occurs intermittently throughout the year (see also ch. 4.2.3) is more a phenomenon of prevailing humidity than of wind direction or speed. It arises when humidity falls below 35% and usually coincides with winds from the east (which often, especially in summer, implies very hot and dusty winds) and with speeds frequently exceeding 4 or 5 m/s⁷.

The division of the Mediterranean climatic region (into which category Morocco in general comes) into five bioclimatic levels, each corresponding to distinct zones of climate and vegetation, is due to Emberger⁸; the levels proposed were: Saharan, arid, semi-arid, subhumid, humid and high mountain type. In Morocco the last of these accounts for only 1% of the total area, with the Saharan, arid and semi-arid types being dominant (and covering 31%, 29% and 26% of the country respectively). The south of Morocco comes almost entirely within the Saharan and arid categories, with Agadir province generally within the latter of these two. Emberger also proposed the use of a coefficient (known as the Emberger coefficient) combining rainfall and temperatures for a given place, and defined by:

5. Monographie Zone DPA, op.cit. p.7

6. ORMVA/SM report of activities, 1st semester 1976, p.3

7. Monographie Zone DPA, op.cit. p.7

8. Ionesco, T. and J. Mathez, 'Climatologie, Bioclimatologie et Phytogéographie du Maroc',

Chapter II of Royaume du Maroc, Ministère de l'Agriculture, Les Cahiers de la Recherche Agronomique, No. 24, Rabat 1967.

The description of Emberger's methods (on pp.39-40) quotes works by Ch. Sauvage (1963) and L. Emberger himself (1939).

$$Q = 1000 P \left\{ \frac{1}{2} (M+m) \cdot (M-m) \right\}$$

$$= \frac{2000}{(M^2 - m^2)},$$

where P is the average annual rainfall in mm,

M is the average maximum temperature of the hottest month, measured in absolute degrees ($^{\circ}\text{K} = ^{\circ}\text{C} + 273.2$),

and m is the average minimum temperature of the coldest month, in absolute degrees.

Table 3 shows the values of P, M and m, and the resulting values of Q, for four places in the south.

Using this definition, Ionesco and Mathez⁹ plotted the value of Q against that for m (in $^{\circ}\text{C}$), the average minimum temperature of the coldest month, for a number of places in Morocco. Adopting their diagram and amending and adding a couple of points, figure 2 is obtained. This shows the division of the places plotted into both the bioclimatic levels mentioned above as well as into four vertical strips corresponding to the different average minimum cold month temperatures. This latter division, again due to Emberger, was on the basis that zones where $m \leq 0^{\circ}\text{C}$ were to be labelled 'cold', those with $0^{\circ}\text{C} < m \leq 3^{\circ}\text{C}$ termed 'fresh', those with $3^{\circ}\text{C} < m \leq 7^{\circ}\text{C}$ 'temperate', and those where $m > 7^{\circ}\text{C}$ 'warm'. These divisions correspond to important differences for vegetation, including the relative frequency of frosts.

9. *ibid.* p.38

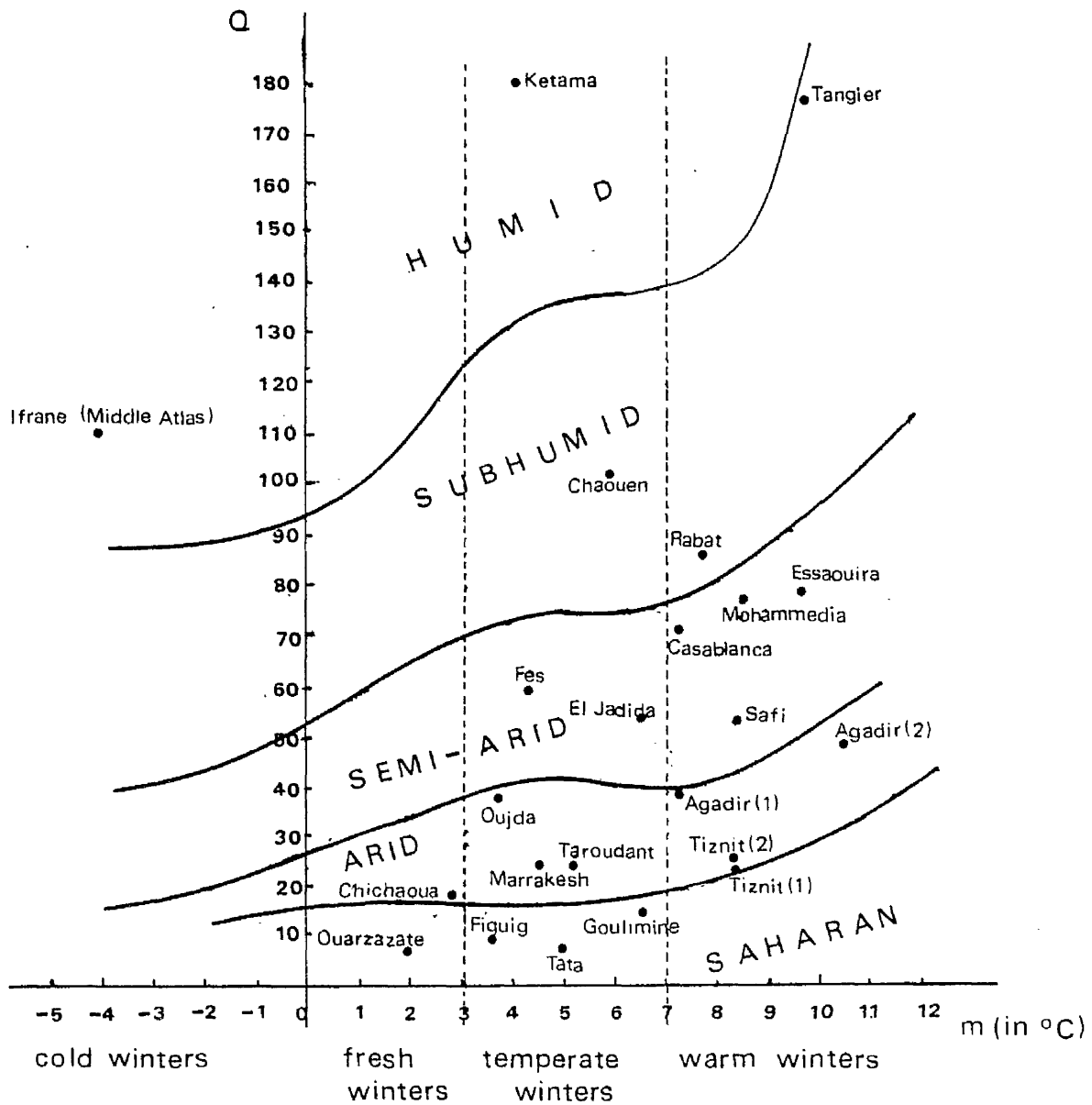
Table 2: Average maximum and minimum temperatures throughout the year at Agadir, Taroudant and Tiznit (in °C)

<u>Month</u>	<u>Agadir</u>		<u>Taroudant</u>		<u>Tiznit</u>	
	<u>max</u>	<u>min</u>	<u>max</u>	<u>min</u>	<u>max</u>	<u>min</u>
January	18.9	10.7	20.9	5.2		
February	19.6	11.3	23.0	6.5		
March	20.2	11.8	25.9	8.4	24.9	9.8
April	21.1	12.2	27.9	9.2	24.2	12.2
May	24.2	14.7	29.8	12.0	27.2	14.5
June	24.5	14.7	29.8	12.0	27.2	14.5
July	26.5	17.4	35.5	15.8	33.1	17.2
August	27.2	17.7	37.5	16.7	33.8	17.6
September	25.8	17.4	32.4	14.4	32.0	16.6
October	25.2	16.6	30.9	13.7	29.2	14.2
November	21.5	13.5	24.0	8.4	23.1	10.0
December	19.6	11.6	23.4	6.4	21.8	8.4

Source: 'Monographie (Zone DPA)' *op.cit.* p.6

Note: The January and February figures for Tiznit have not been traceable, despite efforts to obtain them, and are thus left blank above. Ionesco and Mathez, *op.cit.*, quote an average minimum temperature for the coldest month at Tiznit of 7.3° C, which can be taken to apply to the month of January.

FIG. 2 PLUVIOTHERMIC CLIMATOGRAM OF SOME PLACES
IN MOROCCO



Q is the Emberger coefficient, and m is the average minimum temperature of the coldest month

source: Ionesco and Mathez, *op.cit.* p.38

According to this double categorization (one bioclimatic and the other referring to winter temperatures), most of the coastal region of Morocco is seen to have 'warm' winters (El Jadida being 'temperate'), though ranging in bioclimatic levels from Saharan to subhumid. In the south, Agadir province is arid, and mainly warm or temperate. The region generally is arid or Saharan, with areas south of the Anti-Atlas coming under the latter category; places in the mountains, to whichever of the bioclimatic levels they correspond, tend to have fresh winters, Ouarzazate in particular being fresh and Saharan.

Table 3: The values of Q, the Emberger coefficient, for four places in the south

	Agadir		Taroudant	Tiznit		Goulimine
	(1)	(2)		(1)	(2)	
P (in mm)	226	225	231	154	189	116
M in °C	27.1	27.2	37.5	33.3	33.8	35.4
M in °K	300.3	300.4	310.7	306.5	307.0	308.6
m in °C	7.2	10.7	5.2	7.3	7.3	6.5
m in °K	280.4	283.9	278.4	280.5	280.5	279.7
Q	39.1	46.7	24.3	20.2	24.3	13.6

Note: The values of P, M and m for Agadir (1), Tiznit (1) and Goulimine are given in Ionesco and Mathez, *op.cit.*, pp.36-37; those for Taroudant, Agadir (2) and Tiznit (2) are from tables 1 and 2, and in the case of Agadir and Tiznit, result in somewhat different values of Q from those obtained by Ionesco and Mathez. The main differences between cases (1) and (2) are in the value of m in the case of Agadir and in that of P for Tiznit. The value of m for Agadir (and hence that for Q) given by Ionesco and Mathez (of 7.2°C) would definitely appear to be wrong (when calculated over any reasonably long time period). The two versions for each of these two towns are reflected in the two different points plotted for each in figure 2. It is therefore suggested that the point Agadir (2) in that diagram is a more accurate one than Agadir (1).

1.2 Geopolitical Description

1.2.1 General background

The modern Moroccan state arose out of the historical process of domination by an industrialized country during the period of the protectorate and the political and economic structures established during that process have remained basically unchanged in the 25 years since political independence. The pre-modern state certainly contained ever-changing patterns of regional economic inequalities, according to the prevalence in any given area at any given time of drought, famine or war, and of demographic movements arising from or causing them. Politically, various regions, especially the more isolated mountainous ones or physically distant ones, would at various times be in a condition of far weaker control from the central power (the makhzen, the state) or even escape its political control altogether though usually continuing to recognize the sultan as the imam, the spiritual head of the wider Islamic community (umma)¹⁰. Much has been written about this basic dichotomy between the so-called bled el-makhzen and bled es-siba (the land of dissidence), but insofar as it existed, and it did, the boundaries between the two were often fuzzy and were always changing.

When the French came to Morocco they arrived with a notion that economically - or agriculturally, at least - the country could be simply divided into 'le Maroc utile', the Atlantic coastal strip of the north west and its hinterland, and 'le Maroc inutile', which comprised all the rest. Conveniently too, this geographical dichotomy defined in economic terms tended to coincide fairly well with the political makhzen/siba distinction and with their anthropological conceptions of the Arab/Berber one. Their simplistic mythology can easily be mocked, but economically at least, by their belief in the myth they turned it into a reality.

10. See, for instance, Ayache, Germain, *Etudes d'histoire marocaine*, Rabat 1979, particularly his three essays in this book, entitled 'Histoire et colonisation, l'exemple du Maroc', 'La fonction d'arbitrage du Makhzen' and 'Société rifaine et pouvoir central marocain (1850-1950)'.

The modern state they created was centred on their Maroc utile, the area around Casablanca, Safi, Rabat, Salé and Kenitra, around these ports, their factories and their agricultural and mineral (phosphate) hinterlands. Demographically and economically, as well as politically, this area became the centre of the modern state, and the process of centralization has continued up to the present day. In the course of this, isolated and distant areas from the centre have lagged behind in the modern development, the notable areas fitting this category being the north east and the south west.

1.2.2 Regional integration

Regional integration, the policy of economically integrating regions into the rest of the nation state, is a policy devised by the state to redress this imbalance. Promulgated in the name of an equal distribution of wealth among the people, its aims are as much political as economic, since it seeks to reduce the economic, demographic and political problems that the increasing movement of people into the urban centres, especially Casablanca and Rabat, are creating, and to eliminate the economic gap between regions, which, if left unchecked, could create serious political problems for the state. The use of local regional nationalism to articulate local economic grievances is not one which has found very strong favour in Morocco, the last major instance being the nationalist secessionist movement in the Rif in the 1920s. The possibility is always there, though (both the Rif and the south west contain major Berber influences, of culture and of language), and the cases of two neighbouring countries where such local nationalism has been displayed recently, in the Kabyle region of Algeria in early 1980 and, for different historical reasons, in at least three regions of Spain, must at least give the Moroccan state cause to guard against similar developments within its own boundaries. Economic integration, then, is as much political integration, and would ideally choose to be cultural as well. In the context of the modern Moroccan state, regional integration

hinges around urbanization, the development of specific economic functions within certain towns and a partial decentralization of economic activities to them.

Turning to the regions in Morocco in question, in the late 1970s two economic regions were designated as special development regions, the north east (the 6th economic region of Morocco, comprising Nador, Oujda and Figuig provinces) and the region of the south (the 1st region, really the south west, comprising what now exist as Agadir, Tiznit, Guelmim, Tata, Ouarzazate and Tan-Tan provinces). These two regions possessed in common the factor of distance from the centre (Oujda town being 555 km from Casablanca and Agadir 405 km), a geographic isolation (both being separated by mountain ranges from the centre) and a frontierism, with the north east bordering onto Algeria and containing the coastal Spanish-held enclave of Melilla, and the south west bordering directly on the former Spanish territory of the western Sahara, an area which is politically and militarily sensitive. Within each region one town was designated as the special pole of development, pole of attraction or pole of equilibrium according to the terminology chosen (though it is by no means clear that these all mean the same thing). Agadir town, in the north west corner of its particular region, was the obvious candidate for the south, and Oujda town, with a population of some 200,000 on the Algerian border, became the focal point for the north east. Both were relatively underdeveloped and both less urbanized than Morocco overall (the south west having a rate of urbanization of 16.3% and the north east of 35.8%, against the overall Moroccan figure of 39.8% in 1977¹¹).

11. Royaume du Maroc, Le Maroc en chiffres 1977

1.2.3 The geopolitics of the south west

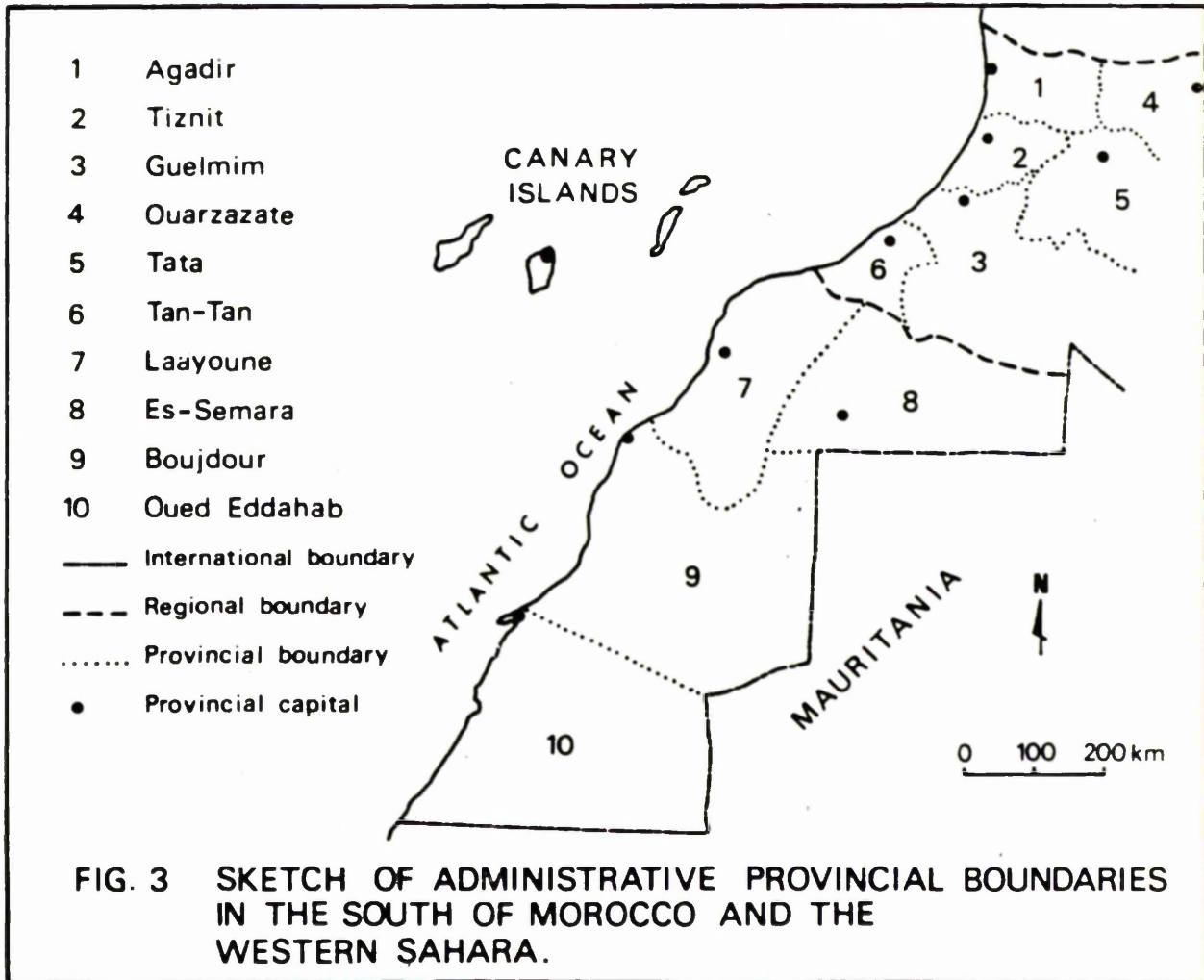
The geopolitical situation of the north east in the late 1970's was analyzed in an interesting and original paper by Mohamed Laghouat at a round table meeting in Tours, France in November 1977, on 'urbanization in the Maghreb'¹², his analysis developing the acknowledged groundwork laid earlier by J.-F. Troin¹³ in his work on the same region. Laghouat's analysis follows a highly structural, schematic and geometric approach; some objections to it will be mentioned later on, but it is worth following, at least in its earlier stages before it becomes abstrusely involved with idealized axes of integration, not only because it is refreshingly unorthodox but also because it attempts with some rigour (too much, perhaps) to classify certain geopolitical factors relevant to the north east. With some modifications an attempt will be made here to apply Laghouat's schemata to the situation of the south west.

The following abbreviations will be used to denote various subsets of southern Morocco and the western Sahara.

Proposed geographic designation	Abbr.	Corresponding provinces	Observations
Agadir province	AP	1	
Souss-Massa plain	SP	1,2	
South west	SW	1,2,3	
Region of South	RS	1 to 6	1st economic region of Morocco
Western Sahara	WS	7 to 10	

12. Laghouat, Mohamed, 'La situation géopolitique et l'intégration régionale et urbaine du nord-est marocain', paper delivered at Tours, November 1977 at a 'table ronde sur l'urbanisation au Maghreb'.

13. Troin, J.-F., 'Le Nord-Est du Maroc: mise au point régional' in *Revue de Géographie du Maroc* No. 12, 1967



Laghouat begins with a simple schema listing the geopolitical blockages that exist in the north east and their corresponding potential unblockings ('déblocages'), which, with a minor modification, is as follows:

blockages		N	S	E	W
physical	maritime				
	topographical				
human	economic				
	political				

short term		long term		unblock-ings
underway	planned	possible		
				port
				infra-structure
				mineral. water exploration
				?

KEY: weak medium strong very strong

The maritime blocking to the north refers to the fact that the single major port of the region is not under Moroccan sovereignty (namely, Melilla) and its unblocking refers to the construction of a large port at Nador, on Melilla's doorstep. Laghouat, prudently perhaps, does not venture to provide a suggested means of unblocking the political blockage of the east (the Algerian frontier). Applying this methodology to four nested subsets of southern Morocco of successively increasing size, the following schemata can be obtained.

1. AP

blockages		N	S	E	W
physical	topographical				
human	economic				

short term		long term		unblock-ings
underway	planned	possible		
				railway
				agr. minerals water

There is not much to say about this diagram, except that the topographical blockage to the north which will occur in every subsequent diagram (since AP is included in each area) is of course the High Atlas mountains, whose blocking power on the region from the north has been reduced in recent years by the construction of a more suitable road crossing the range (the R.P. 40) but which is still a barrier that could be lessened considerably by a proper railway link across it. The economic blockages shown in the diagram, and which occur in subsequent diagrams (either to the south, or to the east, or both) are somewhat vague, as indeed are the proposed solutions for their unblocking. They arise not so much from the fact of any solid economic barrier (the same remark could be made for Laghouat's original schema, where he shows the north east as being strongly blocked economically to the south) but more from a fairly continuous economic falling off as one traverses the region both from north to south and from west to east, the mainly physical reasons for this being obvious. Stating this last observation another way: economically and demographically, any connected subset of the region containing AP faces north, and also faces west.

2. SP

blockages		W	E	S	N
physical	maritime				
	topo-graphical				
human	economic				

short term		long term		unblock-ings
under way	planned	possible		
				port
				railway roads
				minerals agr. water

The scheme for the Souss-Massa plain is similar; a mild blocking to the south and east by the Anti-Atlas range has been introduced and another light blocking of part of the coastline at Sidi Ifni. This former Spanish enclave has been in Moroccan hands since 1969, but its port activity has been run down to the point where it is now completely closed (as is the case with its small airport), and it is now apparently proposed that the port should be enlarged and reopened, giving an extra outlet from the region to the Atlantic.

3. SW

blockages		W	E	S	N
physical	maritime	■			
	topo-graphical		■		▨
human	economic		▩	▩	
	political conjunctural			▩	

short term		long term		unblockings
underway	planned	possible		
	■			port
	▨	■		railway roads
		▩		minerals water research
			▩	resolution of Saharan conflict

4. RS

blockages		W	SE	S	N
physical	maritime	■			
	topo-graphical				▨
human	economic			▨	
	political (structural)		▩		
	political conjunctural			▨	

short term		long term		unblockings
underway	planned	possible		
■	■			ports
	▨			railway
		▨	▨	development of resources
			▩	agreement with Algeria; resolutions of Saharan conflict
			▨	

These last two schemata resemble the earlier ones with two modifications. A minor one is that the maritime blocking in diagram 4 (RS) would now include the barely operative ports (except for military purposes) of Tan-Tan and Tarfaya; the proposed reconstruction of these, as with Sidi Ifni, would contribute towards the opening up of a series of ports along this part of the Atlantic coast without having to rely on the bulk of maritime trade being channelled through the port of Agadir. The other addition is the introduction of two political blocking factors, referred to here (in the *esprit du jeu* of French structuralism) as 'structural' and 'conjunctural' (the popularity of the terms in modern French writing being largely due to Braudel). The former refers to the permanent political blockage (or relatively so), to the south east, of the Algerian border (though the exact location of that border has still not been agreed, and all Moroccan maps show, at the most, in its place a faint dotted line). The latter refers to the blocking action of the current, and changing, political situation in the south, the military conflict between the Moroccan forces and those of the guerillas of the Western Sahara, which clearly blocks the region of the south (RS) and even the smaller south west (SW) to a considerable extent. At the weaker level this blockage already operates south of Goulimine, beyond which tourists and other casual travellers have in recent years been strongly discouraged from venturing, and at the stronger level it operates south of the old border of the former Spanish territory (the 27°40' parallel).

Laghouat develops his schematic methodology beyond the analytic stage into an instrument for decision making, devising idealized axes of national integration and regional integration. His approach can be criticized for being too structuralist and too abstractly geometric; human society does not flow along axes of integration from east to west or from north to south, except in the cartesian minds of French-trained regional planners in Rabat. At a technical level one can also object that even at the level of elementary analysis, as has been seen above in the cases of

southern Morocco, the situation is never as neat as in his own example of the north east, where each of his four blocking factors occurs once and only once, each in a different direction and with a distinct grading of strength. In any case the differentiation between weak, intermediate and strong blockages is a fuzzy and highly subjective one. Finally, even to distinguish between what project is under way and what is planned in present day Morocco is far from easy; projects are announced as finalized and ready to be carried out, even to have begun, only to be delayed (always, according to officialdom, for 'conjunctural reasons').

1.2.4 Poles of integration, attraction and equilibrium

Agadir town has been designated as the 'pole of attraction' of the region of the south, to where capital - foreign, state and private - is being and will be attracted for the development of tourism, agro- and fishing industries and infrastructure (port, roads and air transport). What Laghouat calls 'le fait urbain' (urbanization or urban development) is, as he remarks, both the instrument and the objective of regional integration. With capital for development 'attracted' to Agadir, both public capital and private being involved (the latter directed to the chosen site by attractive fiscal inducements enacted by the state), the second type of attraction of the town, that drawing people from the surrounding region, can not fail to materialize. Indeed, a high net growth rate has been the outstanding feature of Agadir since the earthquake of 1960.

What of the intention to integrate both the region within itself as well as the region into the national political economy? In a political sense the pyramidal hierarchy of Moroccan administration ensures that there will be a tightening of the links between the southern places and the centre. The region of the south comprises six provinces of which three, or even four, can only be described as backwater provinces; as headquarters of the region and as an earmarked town of an earmarked region Agadir is very much primus

inter pares of the six southern provincial capitals. The raising of its political and economic status will tend to do two things; it will bring Agadir itself into the tighter orbit of the centre, under the closer control of the state, and it will tend to raise the levels of those places under it, both the second order towns in its own province, and also the other five southern provincial capitals officially on a par with it but effectively of the same status, the same order, as second order towns in AP, such as Taroudant. All these will see their political rank, their prestige, lifted and will hope for a similar raising of their economic status. From the point of view of the state there are strong reasons why it should seek, by raising the status of a minor settlement such as the town of Tata for example, to bring that town and the whole area around it, spreading expansively south eastwards towards the desert and the Algerian border, under a more scrutinizing political eye, whereas previously no one in Rabat was ever very seriously concerned even with its existence. This whole question of the genesis of new, often almost fictitious, provinces (in the south particularly, but also elsewhere) and of the political process whereby each tries to pull itself up the hierarchy by the other's bootstraps, will be discussed in section 1.4.

Finally, what equilibrium is likely to result from the process? It is too easy to point out the lack of equilibrium in virtually every sphere - demographic, social and economic - that is likely to come about within the province or the region. Clearly, though, the term is intended to apply on the level of the whole nation rather than a part of it. One intention is that Agadir and Ujda, the two poles in the south west and north east, should provide a counterbalancing force against the centripetal implosion of people and wealth in the direction of Casablanca-Rabat. Economic devolution, and the creation of special development areas in peripheral, neglected regions, are not new concepts; they have worked elsewhere with varying degrees of success and Morocco is presumably as justified in attempting them as is any other

country. Whether they will succeed, or whether the conjunctural disequilibrium of the economy through the Saharan conflict or the more structurally implanted disequilibrium created by the momentum towards the centre will overshadow these attempts, remains to be seen.

1.2.5 Frontierism and bufferism

The discussion in section 1.2.3 on the southern political blockages leads on to the question of the western Sahara. In some ways, as has been seen, there are geopolitical similarities between the region of the south, the 1st economic region, and that of the north east, the 6th, though one factor that Laghouat claims for the latter region, its homogeneity, clearly does not apply to the south. There is nothing resembling homogeneity, either physical, demographic or economic, within the 1st region, nor within any of its nested subsets described above. The second differentiating factor concerns the 'frontierism' of the two regions. Whereas the north east is firmly planted against the Algerian frontier and is likely to stay so (the demarcated frontier line running from the Mediterranean, past Ujda, to some 135 km inland is the only section of the long boundary between the two countries which has actually been agreed upon), the south - up to the border with the former Spanish Sahara - is, on paper at least, following the annexation by Morocco of the Saharan territory, no longer a frontier zone but rather a buffer zone. No longer peripheral, it ought to be benefitting by its intermediate positioning between the northern area (where the old phosphate mines are located) and the area just to its south where the newly acquired Saharan phosphate deposits are. Not that it is simply a matter of the phosphates; the addition of a large sector of territory to the south (some 266,000 km², or 40% of the territory of the enlarged Morocco) and the ensuing attempt to impose a modern economic order on it, would necessarily entail a raising of the importance of the former south (itself 143,000 km², or 22% of Morocco's territory), which, on the new map at least, is closer to

being the geographical centre than the south. In the five years that it has claimed to hold the Saharan territory Morocco has not been able to 'pacify' it (it took the French 22 years to achieve complete control of parts of Morocco) and the old south, the 1st region, remains, in effect, the real south, the end of the road. The Saharan region, the provinces of Laayoune, Es-Semara, Boujdour and Oued Eddahab (the last of these acquired in August 1979), remains an economically fictitious entity and in fact, for purposes of regional planning and administration within the annexed territory, it is now linked to the 1st region, whose regional headquarters are at Agadir. The political (conjunctural) factor of the Saharan conflict, then, acts as a blockage for the 1st region, and indeed distorts the whole economy of Morocco, to a far greater extent. Any projects at regional level, such as, for example, some of the 'unblocking' schemes mentioned in the diagrams above - the trans-Atlas railway, the development of new port facilities, mineral exploitation in the south - are likely in the present situation to be curtailed, postponed or abandoned, which indeed happened to several of the projects in the 1978-82 plan (itself abrogated after two years). The north east is a frontier zone, and, in the current state of cold relations between Morocco and Algeria, is very firmly so; the south west was a frontier zone which should have become a buffer zone and somehow it has ended up not managing to be quite either.

1.2.6 International geopolitical dimensions

Laghout, in his paper, makes passing reference to the four international geopolitical dimensions within which Morocco operates - the Mediterranean, the Atlantic, the Maghribi and the African - and a few words on these is perhaps in order here. Three of these merit little comment here. On the Maghribi and African contexts, Morocco's official devotion to these two areas is stated in the opening two sentences of the preamble to its constitution: 'Le Royaume du Maroc, Etat musulman souverain, dont la langue officielle est l'arabe, constitue une partie du Grand

Maghreb. Etat africain, il s'assigne en outre, comme l'un de ses objectifs, la réalisation de l'Unité africaine.¹⁴ However, it is clear that the continuation of the Saharan conflict has brought intra-Maghribi relations to a low ebb, and for similar reasons Morocco's relations with almost half of the member states of the O.A.U. (at the time of writing) are poor or non-existent. The Mediterranean links have been well enough discussed elsewhere¹⁵ not to need much comment. On the one hand there exists the relatively blocked maritime position of Morocco's Mediterranean coast by the presence of the two Spanish enclaves, Ceuta and Melilla, and on the other the strong historical links with the north and the current economic and political links, especially with France and Spain, as well as strong ties resulting from emigration northwards from all parts of Morocco, including from the most distant areas such as the south west.

The Atlantic dimension demands a few comments. That the concentration of demographic and economic settlement and the bulk of maritime trade is along the west coast is clear, and so in a general sense Morocco can be said to 'face west', without it actually facing anything very specific. Off the southern part of its Atlantic coastline Morocco does face a nearby human settlement, the Canary Islands being (at their closest point) less than 100 km from the Moroccan coast (375 km from Agadir town), and it is interesting that, for all its westwardness, Morocco's - and Agadir's - links with the Canaries should be so slender. Historically there are strong links; the population in the Canaries (geologically distinct, in fact, from the African continent)

14. Preamble to the constitution of 10 March 1972, reprinted in Rousset, M., *Le Royaume du Maroc*, série Afrique of *Encyclopédie Politique et Constitutionnelle* Paris 1978 (annexe I)

15. see, for example, as regards economic and political links, Qualoulou, Fathallah, *Propos d'économie marocaine* SMER, Rabat 1980, especially ch. III 'Le Maroc, le Maghreb et la communauté économique européenne: de l'"association" à la "coopération"' pp.59-107

consisted of a Berber people, the Guancha, connected particularly with Saharan Berbers of the mainland such as the Tuareg, up to the time the Spanish arrived in the islands in the 16th century and eliminated most of it¹⁶. In the recent period two indirect links between the islands and coastline of the Moroccan region of the south have existed. The first and more recent one is the causally indirect link of deep-sea trawling activity in the waters between the two and to the south; the connection here as will be pointed out in a later chapter, is not so much a symbiotic relation as a direct competition, with the far more developed facilities of Las Palmas (Spain's largest port) detracting from the economic benefits that might otherwise have accrued to southern Moroccan ports. The second link, an indirect spatial one, is through the former Spanish Saharan territory. The Canaries, in their proximity, their common political control at the time and their superior economic development, acted as a strong bridgehead to Spain's otherwise remote Saharan territory; the military and strategic link was strong, and all goods and provisions to the Sahara came from the Canary Islands which in every way (even down to radio and television transmissions, newspapers and a small amount of tourism) supported the daily life of that colony. The indirect effect on the south of Morocco, which continued to persist after Morocco had annexed the Sahara, was that a steady flow of goods, mainly contraband supplies of electrical items, cameras and watches, found their way north to Tarfaya and especially Tan-Tan, a town of 10,000 inhabitants whose main source of economic activity was in this trade, and the flow would reach as far north as the souks of Agadir. The Moroccan government has stated its intention of stopping the passage of contraband from the south, as well as the alternative direct maritime route to Agadir port which flourished after the Saharan conflict affected the viability of the former route, both of them detrimental to the economic interests of the Moroccan state.

16. Albano, M., (ed.), *Canarie: il colonialismo dimenticato* Edizioni Jaca Book, Milan 1973

see also: Torres, Agustin Millares, (ed. and main contributor), *Historia General de las Islas Canarias* (3 volumes) Edirca SL, Las Palmas 1977

1.3 Demographic description

Section 1.2 (geopolitical) was concerned with factors which were mainly external to the area under consideration, whether Morocco as a whole, the region of the south, or Agadir province, and the effects of those external or peripheral factors on the area in question. In this and the next section the interaction of the two dimensions of human geography - the human and the spatial - will be examined from the inside, as it were. Whereas previously such factors as the constraining effects of the boundary with neighbouring countries or coastal enclaves were the focal points, the internal distribution of people and of boundaries will be examined in sections 1.3 and 1.4. In section 1.2 the effect of the southward prolongation of Morocco by the annexation of the Saharan region on the region of the south was considered; now the effects of phenomena such as the internal proliferation of new provinces will be discussed.

1.3.1 Theoretic introduction

Defn. 1 Given a connected geographical space, X , define a covering, Π , of X to be a collection of disjoint subsets X_1, X_2, \dots, X_n of X whose set theoretic union is X (that is, they entirely cover X).

Defn. 2 Define a refinement, Π' , of a covering, Π , of X to be another covering of X , each of whose subsets is entirely contained in one of the subsets X_i of Π (that is, a set of nested subsets contained within Π). Denote Π' is a refinement of Π , by $\Pi' < \Pi$.

Defn. 3 Given a covering $\Pi \equiv (X_1, X_2, \dots, X_n)$ of a geographical space X , define (X_U, X_I) to be a partition of X with covering Π if X_U is the union of a certain number of contiguous subsets of X_i of Π , and X_I is the union of the remaining (not necessarily contiguous) subsets.

Now, introducing the human element into the space

$$X \equiv X_1 \cup X_2 \cup \dots \cup X_n,$$

if $p(X_i)$ is some positive measure of the human element of X_i satisfying

$$\sum_{i=1}^n p(X_i) = p(X) \equiv p\left(\bigcup_{i=1}^n X_i\right)$$

(in the discussion below $p(X)$ will denote the population of X), and if $d(X_i)$ is a similar positive measure of the spatial element of X_i similarly satisfying

$$\sum_{i=1}^n d(X_i) = d(X)$$

($d(X)$ will be used to denote the area of X), and if (X_U, X_I) is a partition of X , then define

$$r = \frac{p(X_U)}{p(X)}, \quad s = \frac{d(X_I)}{d(X)},$$

and $\sigma = \min(r, s)$.

Defn. 4 σ will be called the strength of the partition (X_U, X_I) on X , and will be written $\sigma(\Pi)$ if there is need to draw attention to the particular underlying cover Π of X .

A maximal partition of X (with a given underlying covering Π) will be defined to be a partition of X (with covering Π) whose strength σ is a maximum.

Lemma 1 if Π' and Π are coverings of X , and if Π' is a refinement of Π , (that is $\Pi' \leq \Pi$), then $\sigma(\Pi) \leq \sigma(\Pi')$.

Proof: trivial

Note that r, s and σ are all numbers between 0 and 1.

Lemma 2 It is always possible to construct a covering with a partition such that $\sigma \geq 1/2$.

Proof: (also trivial). Let $X = A \cup B$ be any covering such that the area of X is divided into halves, that is,

$$d(A) = d(B) = 1/2 d(X) .$$

Then, if $p(A) \geq 1/2 p(X)$ put $X_U = A$ and $X_I = B$,

otherwise put $X_U = B$ and $X_I = A$.

Then

$$r = \frac{p(X_U)}{p(X)} \geq \frac{1}{2} \quad \text{and} \quad s = \frac{d(X_I)}{d(X)} = \frac{1}{2}$$

so that $\sigma = 1/2$

However, with a given a priori covering of X , σ may well be less than $1/2$.

Defn. 5 Define a maximal partition (X_U, X_I) of X , with given covering Π , to be strong if $\sigma(\Pi) \geq 2/3$.

In terms of ordinary language, a strength σ equal to 0.7, say, of a given partition covering X means that at least 70% of the total population of X lives in a contiguous sub-area of X which covers no more than 30% of the total area of X .

Theorem If (X_U, X_I) is a maximal partition of X with a given covering,

and if $\rho_U \equiv \frac{p(X_U)}{d(X_U)}$ is the density of X_U ,

$\rho_I \equiv \frac{p(X_I)}{d(X_I)}$ is the density of X_I ,

and $R = \frac{\rho_U}{\rho_I}$ is the ratio of these two densities

then $R \geq \frac{\sigma^2}{(1-\sigma)^2}$

In particular, if the partition is strong,

then $R \geq 4$.

Proof

$$R = \frac{p(X_U)}{d(X_U)} \cdot \frac{d(X_I)}{p(X_I)} = \frac{p(X_U) \cdot d(X_I)}{\frac{p(X)}{d(X_U)} \cdot \frac{p(X_I)}{d(X)}} = \frac{p(X_U) \cdot d(X_I)}{\frac{p(X)}{d(X)} \cdot \frac{p(X_I)}{d(X)}}$$

$$= \frac{r \cdot s}{\left\{ \frac{d(X) - d(X_I)}{d(X)} \right\} \cdot \left\{ \frac{p(X) - p(X_U)}{p(X)} \right\}}$$

$$= \frac{r \cdot s}{(1-r)(1-s)}$$

Now $\sigma = \min(r, s)$,

so that $\sigma < r$, $\sigma < s$,

$$1-r < 1-\sigma \quad \text{and} \quad 1-s < 1-\sigma,$$

so that $\frac{1}{1-r} > \frac{1}{1-\sigma}$, $\frac{1}{1-s} > \frac{1}{1-\sigma}$.

$$\text{Hence} \quad R = \frac{rs}{(1-r)(1-s)} > \frac{\sigma^2}{(1-\sigma)^2}.$$

Finally, if the partition is strong, $\sigma \geq 2/3$, and $1 - \sigma \leq 1/3$,

so that $\frac{1}{1-\sigma} > 3$;

hence $\frac{\sigma}{1-\sigma} > 2$, so that

$$R > \left(\frac{\sigma}{1-\sigma} \right)^2 > 4$$

As a direct consequence of the above result it is seen that if $\sigma = 0.75$, $R > 9$, and if $\sigma = 0.8$, then $R > 16$. It is clear, then, that in most ordinarily occurring cases the value obtained for σ will rarely be as high as 0.8, and in fact will usually be less than 0.75.

In the applications below, the given space X will be Morocco, or one of its regions such as the region of the south), or a province (such as Agadir). Where X is Morocco (with or without the Saharan territory) the coverings used will be the given administrative divisions (the only practical ones available, given that statistics on populations and areas exist only for such divisions). The first covering thus available (the broadest, or

least fine covering) is Π_1 , that of the seven economic regions (or eight with the Sahara); the next, Π_2 , will be the 35 (or 39 with the Sahara) provinces, followed by Π_3 , the 122 or so cercles, and Π_4 , the 830-odd communes in Morocco.

Then $\Pi_1 > \Pi_2 > \Pi_3 > \Pi_4$, that is, the coverings are successive refinements of their predecessors - and the subdivisions could be continued further to Π_5 , the collection of fractions and Π_6 , the set of douar.

1.3.2 Application to Morocco

- a. Take $X = M$ to be Morocco, and take the covering $\Pi = \Pi_1$, the seven regions. Table 4 shows the populations and areas of the regions. Using the figures (for 1978) in this table it can easily be shown that a maximal partition is

$$M_U = R_2 \cup R_3 \cup R_4 \cup R_5 \text{ (which is connected),}$$

$$M_I = R_1 \cup R_6 \cup R_7$$

(where R_i denotes the i th economic region),

with values $r = 0.74$ and $s = 0.66$, so that $\sigma = 0.66$, which just qualifies as a strong partition.

The subscripts U and I were introduced into the notation in section 1.3.1 to carry the suggestion of 'utile' and 'inutile' (see the geopolitical discussion in section 1.2), and indeed the partition obtained here for Morocco resembles, though is not identical to, the old French utile/inutile distinction. Thus at least $2/3$ of the population of Morocco (in fact 74%) lives in at most $1/3$ (in fact, exactly one third) of the area, namely in the four economic regions of the north western part of the country, and the ratio of the population densities of the two parts (utile to inutile) is, by the theorem, at least 4:1 (in fact, the two densities are 91.0 and 16.1 respectively, per km^2 , giving a ratio of 5.65:1).

Table 4 Populations and areas of regions of Morocco

Region	1971 Population	ρ	1978 Population	ρ	% incr.	area (km ²)	ρ	density (1978)
1	1,714,547	5	2,033,200	5	18.6	142,856	1	14.2
2	2,456,487	3	2,818,400	3	14.7	38,443	6	73.3
3	3,973,108	1	5,136,800	1	29.3	41,500	5	123.8
4	2,999,469	2	3,744,000	2	24.8	29,955	7	125.0
5	1,896,566	4	2,295,200	4	21.0	43,948	4	52.2
6	1,114,345	7	1,440,500	6	29.3	82,820	2	17.4
7	1,224,737	6	1,437,900	7	17.4	79,208	3	18.2
Totals	15,379,259	-	18,906,000	-	22.9	458,730	-	41.2

Note: The first three in population (for both 1971 and 1978) are the last three in size, and the last three in population are the first three in size (though not in the same order). If the annexed territory of the Sahara is added (8th region), it is by far the largest region in area and by far the smallest in population. Its (approximately estimated) figures, which have been used in calculations in this section, are as follows:

8			174,000	-	-	261,000	-	0.67
<u>Overall Totals</u>			19,080,000	-	-	720,000	-	26.5

The 1971 population figures are from the 1971 census; the 1978 figures and the areas are from 'Le Maroc en Chiffres 1978', the population figures for 1978 being (official) estimates. 'Le Maroc en Chiffres 1978' gives areas for the Saharan region, except for Oued Eddahab province (which was not yet part of Morocco in 1978) which has been guessed, as has the figure for the Saharan population which the Moroccan government has not yet undertaken to estimate.

ρ denotes rank order

- b. Now take $X = M$, as above, and covering $\Pi = \Pi_2$, the 35 (non-Saharan) provinces. Since Π_2 is a refinement of Π_1 , a maximal partition will be at least as strong, from lemma 1, with Π_2 as with Π_1 above. In fact, it can be calculated that one can do better and obtain a strength of 0.737, with the following 20 contiguous provinces (or prefectures, which are considered equivalent) comprising M_U : Casablanca, Beni Slimane, Rabat-Salé, Kenitra, Meknes, Settat, Fes, El Jadida, Khouribga, El Kelaa Sraghna, Beni Mellal, Taounate, Al Hoceima, Marrakesh, Essaouira, Safi, Tetouan, Nador, Chaouen and Tangier. These are, as it happens (though it need not necessarily work out in this way), the 20 densest provinces of Morocco. This M_U is the same as that in (a) above, without Khemisset, Azilal, Taza and Boulmane, but with Meknes and Nador added (see figures 4 and 5). For this partition (M_U, M_I) , $r = 0.729$, $s = 0.737$ (so that $\sigma = 0.737$); thus 72.9% of the (non-Saharan) population lives in 26.3% of the territory (excluding the Sahara).
- c. Taking $X = \tilde{M}$ (Morocco plus the western Sahara, that is $\tilde{M} = M \cup R_8$), the regional covering $\Pi = \Pi_1$ gives the same maximal partition

$$\tilde{M}_U = \bigcup_{i=2}^5 R_i, \quad \tilde{M}_I = R_1 \cup R_6 \cup R_7 \cup R_8, \quad \text{with } \sigma = 0.733.$$

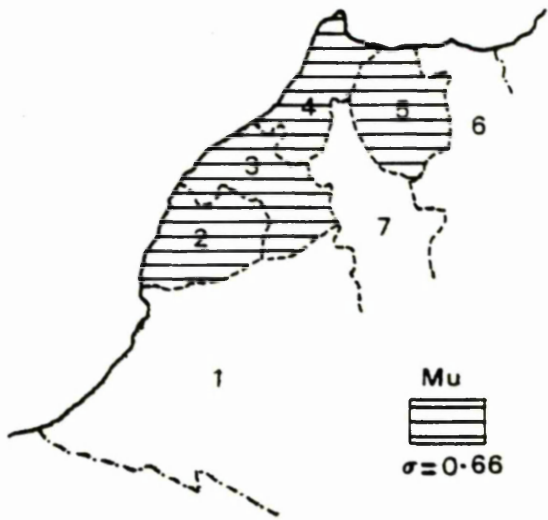


FIG. 4 MOROCCO WITHOUT SAHARA, \bar{M} , PARTITIONED BY REGIONS

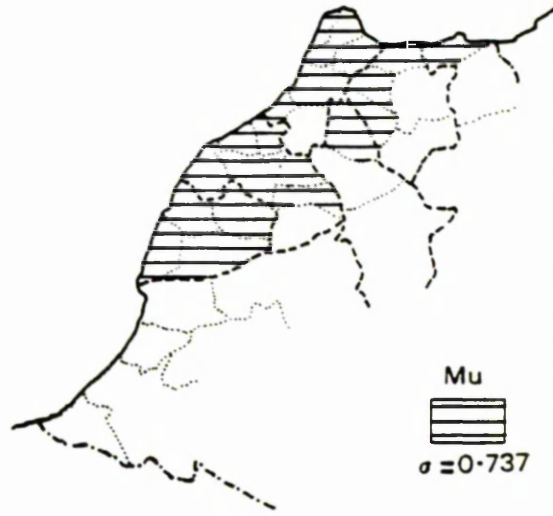


FIG. 5 MOROCCO WITHOUT SAHARA, \bar{M} , PARTITIONED BY PROVINCES



- International boundary
- Regional boundary
- Provincial boundary

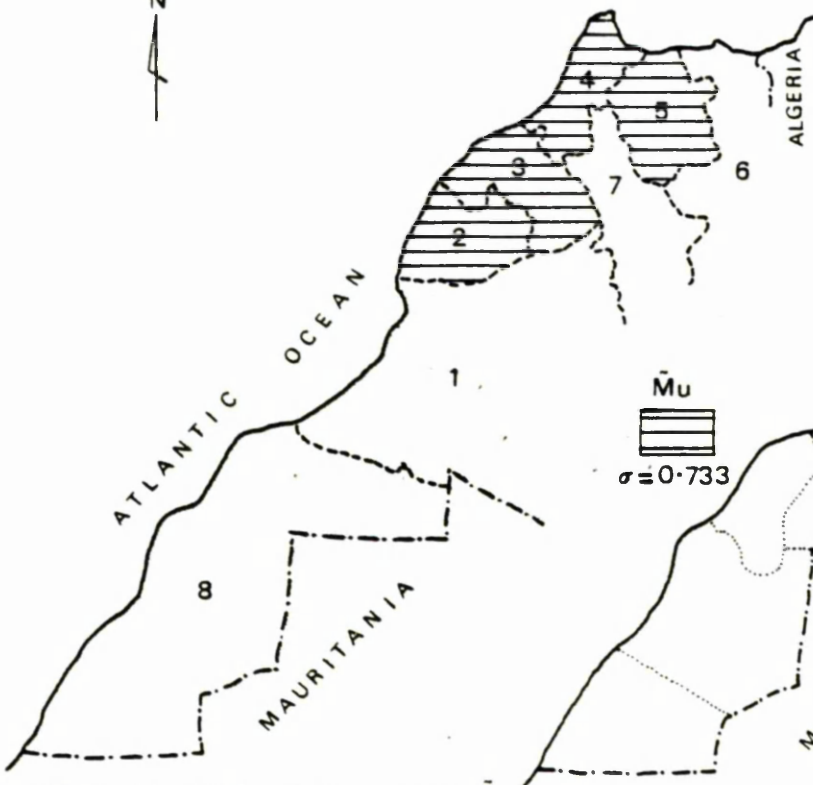


FIG. 6 MOROCCO WITH SAHARA, \bar{M} , PARTITIONED BY REGIONS

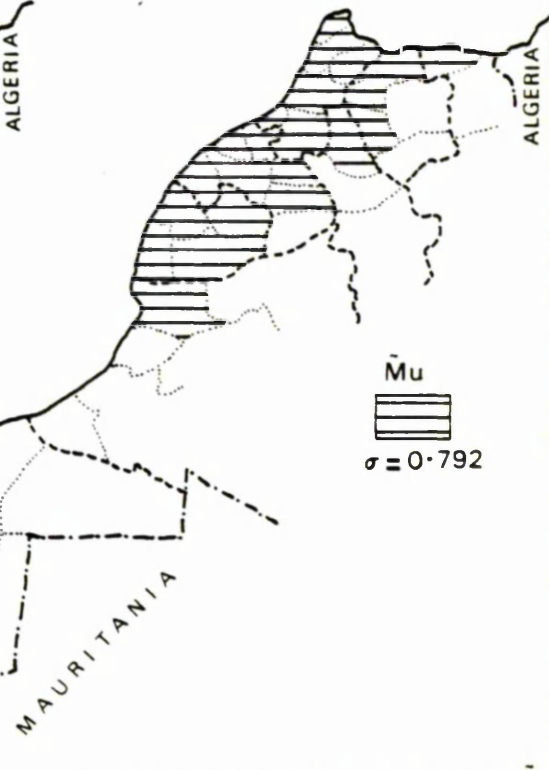


FIG. 7 MOROCCO WITH SAHARA, \bar{M} , PARTITIONED BY PROVINCES

- d. Taking $X = \tilde{M}$ and $\Pi = \Pi_2$, the maximal partition $(\tilde{M}_U, \tilde{M}_I)$ is given by $\tilde{M}_U =$ the 20 provinces listed above plus Agadir and Khemisset; $r = 0.7922$, $s = 0.7968$, so that $\sigma = 0.7922$ (see figures 6 and 7).

1.3.3 Application to two regions

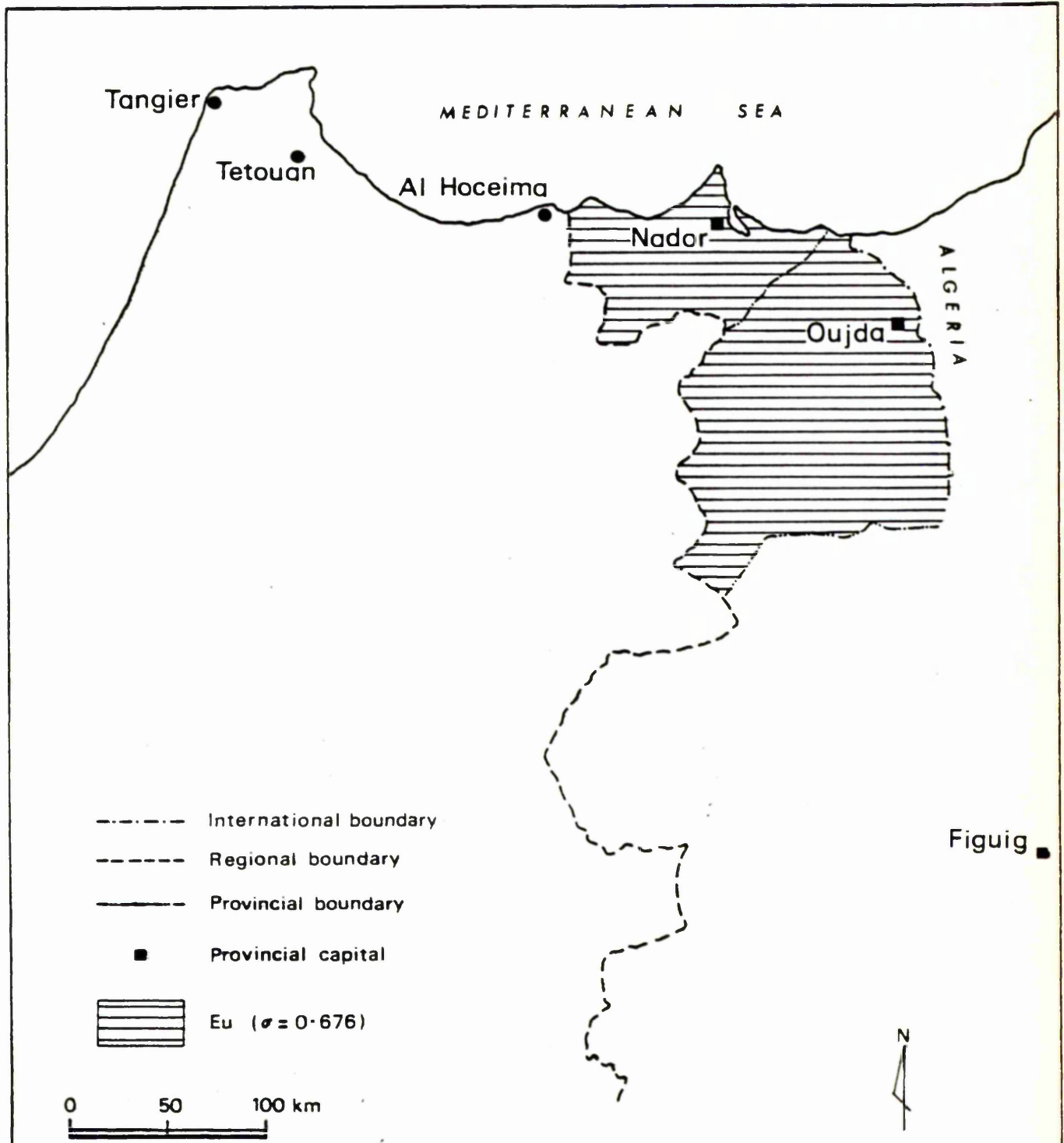
The pattern observed above, of a dense concentration of population in a small area of the country, is repeated at a lower level - the regional one - at least in the cases of two 'outlying' regions, the north east and the south, which bear certain similarities to each other that have already been remarked on in the geopolitical analysis of section 1.2.

The north east region, E, (region 6) contains only three provinces (Nador, Oujda and Figuig), but even using this unfine covering it can be strongly partitioned (since its largest province, Figuig - the "Tan-Tan" of the north east - is so sparsely populated). Setting $E_U = \text{Nador} \cup \text{Oujda}$, and $E_I = \text{Figuig}$, one obtains a (maximal) value of σ , with $r = 0.926$, $s = 0.676$, so that $\sigma = 0.676$.

In the case of the region of the south, S, the concentration is somewhat less strong by province. The partition $S_U = \text{Agadir} \cup \text{Tiznit}$, $S_I = \text{Tan-Tan} \cup \text{Tata} \cup \text{Ouarzazate} \cup \text{Guelmim}$, gives $\sigma = 0.609$, whereas transferring Tata to S_U and putting $S_U = \text{Agadir} \cup \text{Tiznit} \cup \text{Tata}$, $S_I = \text{Tan-Tan} \cup \text{Ouarzazate} \cup \text{Guelmim}$, gives a value of $\sigma = 0.645$, which is the maximal one (see figures 8 and 9).

1.3.4 Agadir province

- a. Taking $X = A$, Agadir province, and the covering $\Pi = \Pi_3$, (that of its five cercles) it is not possible to obtain a stronger partition than that with $\sigma = 0.497$; this is the case when $A_U = \text{Inezgane} \cup \text{Biougra}$, $A_I = \text{Oulad Teima} \cup \text{Taroudant} \cup \text{Igherm}$. This is a reflection of the fact that in some of the outlying areas, and especially in parts of the mountains, there are often high densities of population (see figure 10 and table 5).



Figuig ■

FIG.8 THE REGION OF THE EAST, E,
COVERED AND PARTITIONED
BY PROVINCES

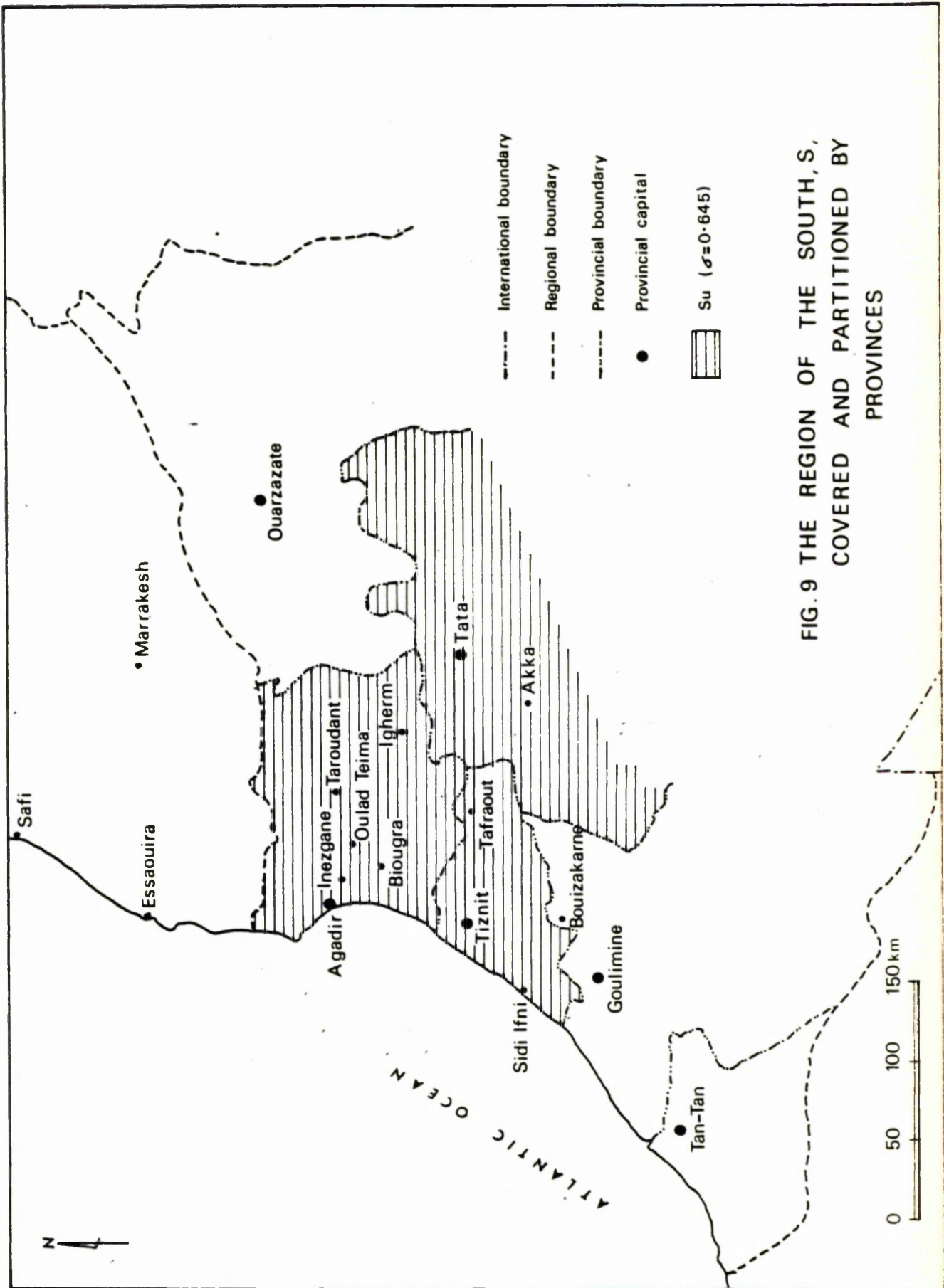


FIG.9 THE REGION OF THE SOUTH, S,
COVERED AND PARTITIONED BY
PROVINCES

- Provincial boundary
- - - Boundary of cercle
- Boundary of commune
- Boundary of municipality
- Chef-lieu of commune
- Chef-lieu of cercle
- ★ Provincial capital

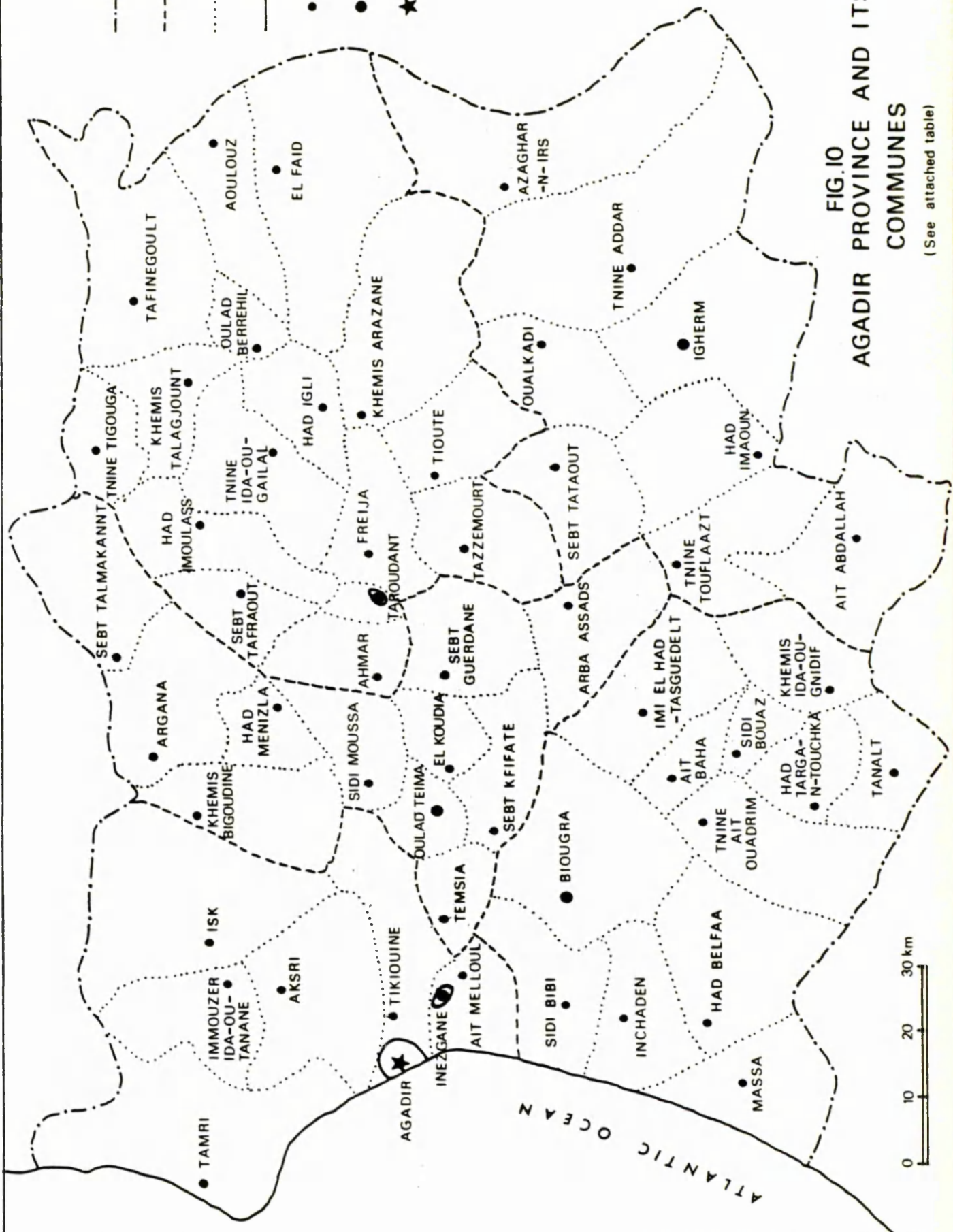


FIG.10
AGADIR PROVINCE AND ITS
COMMUNES

(See attached table)



Table 5: The communes of Agadir province

cercle	commune	A _U	population (1971 census)	area km ²	density inh/km ²
Inegzane	Agadir (mun.)	*	61,192	29.0	(2,100)
	Inegzane (mun.)	*	11,495	2.5	(4,600)
	Ait Melloul	*	50,700	180	282
	Aksri		9,789	410	24
	Isk		15,195	670	23
	Immouzer Ida-ou-Tanane		9,898	330	30
	Tamri		19,146	480	40
	Tikiouine	*	25,029	440	57
Biougra	Ait Baha	*	5,704	100	57
	Biougra	*	29,221	510	57
	Had Belfaa	*	24,866	370	67
	Had Targa-n-Touchka	*	12,066	180	67
	Imi el Had-Tasguedelt		11,910	430	28
	Inchaden	*	14,272	240	59
	Khemis Ida-ou-Gnidif		6,932	290	24
	Massa	*	13,987	380	37
	Sidi Bibi	*	20,820	350	59
	Sidi Bouaz	*	4,945	120	41
	Tanalt	*	11,068	200	55
	Tnine Ait Ouadrim		15,169	450	34
Oulad Teima	Arba Assads		8,501	400	21
	Argana		5,436	390	14
	Had Menizla	*	4,244	160	27
	El Koudia	*	11,054	140	79
	Khemis Bigoudine		9,846	300	33
	Oulad Teima	*	24,762	190	130
	Sebt Talmakannt		7,040	340	21
	Sebt Guerdane	*	16,379	300	55
	Sebt Kfifate	*	16,990	220	77
	Sidi Moussa	*	9,889	260	38
Temsia	*	13,419	130	103	
Taroudant	Taroudant (mun.)	*	22,272	22.1	(1,000)
	Ahmar	*	10,331	270	38
	Aoulouz	*	17,065	250	68
	El Faid		18,191	680	27
	Freija	*	11,105	230	48
	Had Igli	*	9,655	180	54
	Had Imoulass	*	12,525	310	40
	Khemis Arazane		13,248	570	23
	Khemis Talagjount		6,760	230	29
	Oulad Berrehil	*	7,959	140	57

	Sebt Tafraout	*	11,319	200	57
	Tazzemourt		9,102	310	29
	Tioute		4,696	290	16
	Tnine Ida-ou-Gailal		10,132	330	31
	Tnine Tigouga		4,272	180	24
	Tafinegoult		15,623	550	28
Igherm	Igherm		7,647	430	18
	Ait Abdallah		8,209	540	15
	Azaghar-n-Irs		6,513	610	11
	Had Imaoun		7,233	340	21
	Oualkadi		8,705	330	26
	Sebt Tataout		8,379	280	30
	Tnine Addar		9,357	700	13
	Tnine Touflaazt		9,571	340	28

Notes

1. The sign * in the column A_U indicates whether the commune is included in the area A_U in the maximal partition by communes (in figure 12).
2. The appellations 'Had', 'Khemis' and other Arabic numerals before the names of many rural centres (and the communes named after them) refer to the day of the week on which these places hold their periodic market - thus Had X holds its market on Sundays, Tnine Y holds its on Mondays, Tleta Z on Tuesdays, and so on.
3. For the rural communes in the above table, the areas are those planimeted from the map of the province, scale 1 : 200,000, at the province headquarters (see Appendix I), and are then rounded to the nearest 100 inh/km². Since the population figures are not rounded, the density figures (rounded to the nearest whole number) may in some cases differ slightly from those in Appendix I. The areas for the three municipalities are to the nearest 0.1 km², and their densities to the nearest 100 inh/km².

- b. With a refined covering of Agadir province, $\Pi = \Pi_4$, that of its communes, it can be shown that a maximal partition is given by the 28 communes (out of 55) shown in figure 12 (see also table 5). Out of these 28, 4 are from Inezgane cercle (out of 8 in the cercle altogether), 9 from Biougra cercle (out of 12), 7 from Oulad Teima cercle (out of 11) and 8 from Taroudant cercle (out of 16). The calculations give $r = 0.645$, $s = 0.647$, so that the strength of the partition, $\sigma = 0.645$.

The configuration of these communes is a considerably different one from that of the two cercles which gave a maximal partition in (a) above (see figures 11 and 12), and it is interesting to observe the reasonably close fit of A_U here with the Souss-Massa plain, especially in the narrowing section up-valley from Taroudant.

The inability of obtain a stronger partition for A, with a covering as refined as Π_4 , than that which gives $\sigma = 0.645$, is a sign that despite the appearance of its being divided into a smaller plain area ('Agadir utile') on purely demographic figures, and not taking into account economic indicators, the province of Agadir is - at least now in its much reduced version - rather more homogeneous in population distribution than larger scale areas, such as those of some of the regions of Morocco itself. The mention here of the 'reduced version' of Agadir province is also a significant one; in section 1.4 it will become clear that between 1970 and 1980 Agadir province was reduced by successive redivisions into ever smaller areas, with outlying, marginal and sparsely populated parts successively shorn from it. Thus, whereas it may have possessed a strongly dense core A_U in its original state, this was less evident by 1980.

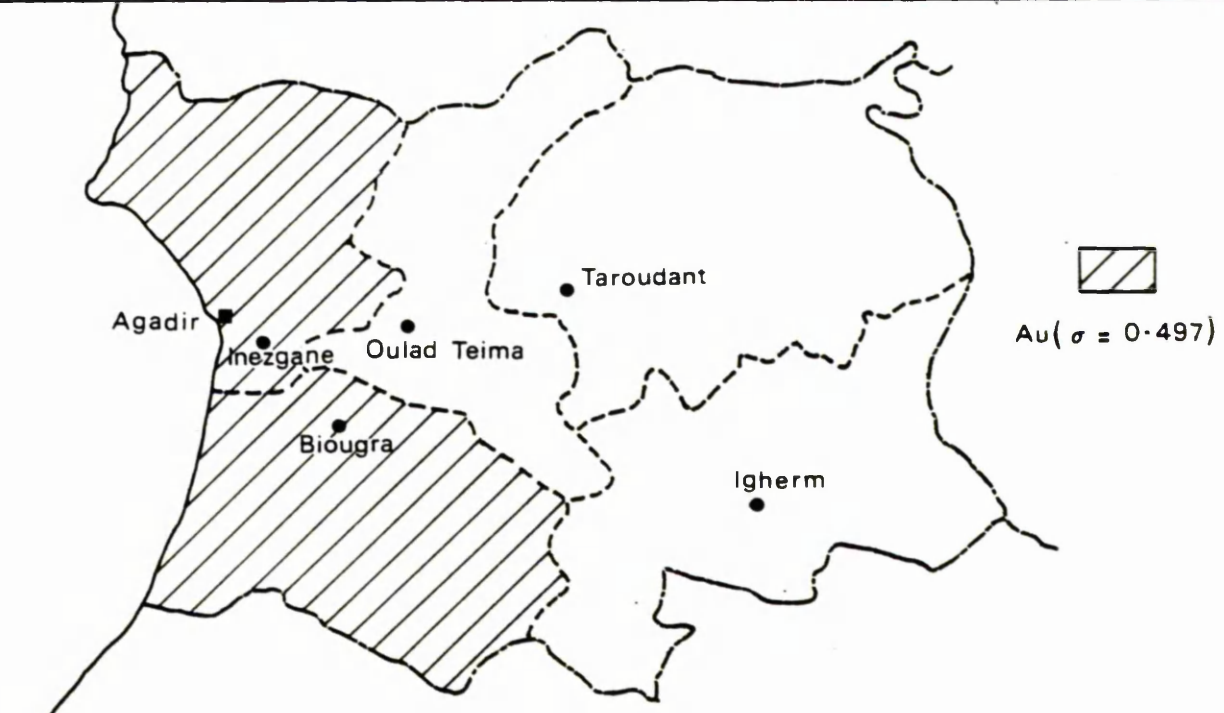


FIG.II AGADIR PROVINCE, A,
COVERED BY CERCLES

- Provincial boundary
- - - Boundary of cercle
- Boundary of commune
- Chef-lieu of cercle
- Chef-lieu of commune
- Municipality
- Capital of province

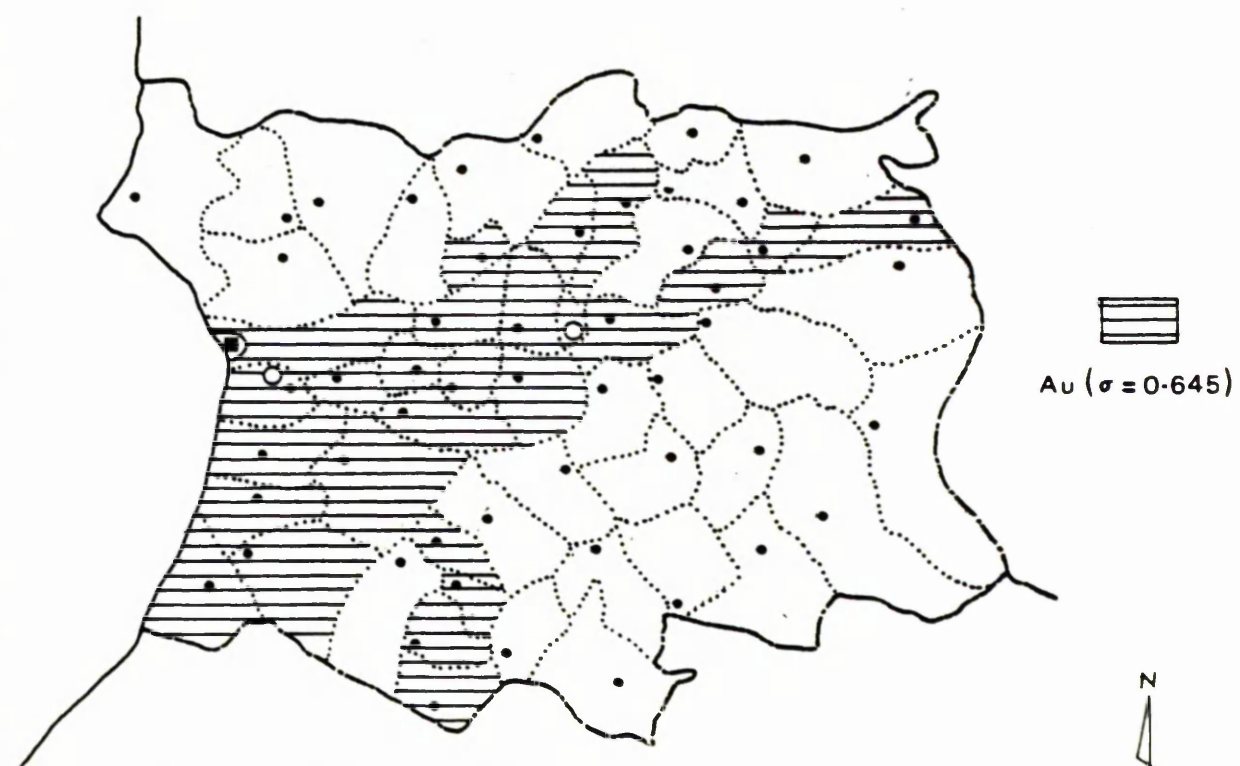
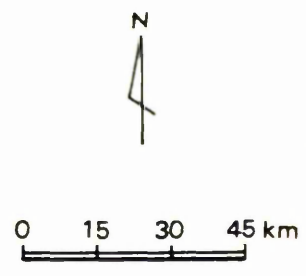


FIG.I2 AGADIR PROVINCE, A,
COVERED BY COMMUNES



1.3.5 Other demographic indicators

The 1971 census contained demographic information beyond population distribution whose main significance, if analysed in detail, is to point (even if indirectly) towards the extent of internal and external migration. A brief outline of some typical data will be given here to illustrate the situation.

a. Data on place of birth

The census gave information¹⁷ on the place of birth of the urban population of the province of Agadir, urban in 1971 referring to the municipality of Agadir, to what were then the four peripheral centres around Agadir (Inezgane, Ait Melloul, Ben Sergao and Dcheira - the first one of these now also being a municipality), to Oulad Teima and to Taroudant. The results can be summarized as follows:

Table 6: Origin of inhabitants of urban areas of Agadir province

urban place	% born in same town	% born in rural area	% born in other urban area	others
1. Agadir	39.6	42.7	15.1	2.7
2. Periphery of Agadir:				
Inezgane	42.0	43.4	12.6	2.0
Ait Melloul	53.0	40.2	6.1	0.6
Ben Sergao	52.4	37.1	9.6	0.9
Dcheira	43.6	41.9	13.6	0.8
Average for periphery	46.0	41.3	11.6	1.2
3. Oulad Teima	29.0	48.9	18.8	3.2
4. Taroudant	62.6	31.5	4.4	1.4

17. Royaume du Maroc, Direction de la Statistique, Resultats du recensement général de la population et de l'habitat de 1971; données communales; région du sud, Rabat, November 1977

The table shows that, Oulad Teima apart, the percentage of indigenously born people was least in Agadir, followed by its periphery, and highest in Taroudant, whereas those who were born in other rural or urban areas followed the opposite trend. Taroudant, at least in 1971, was still fairly stable and not developing particularly rapidly, and those who were not indigenous would seem to have gone there from surrounding rural areas. Oulad Teima stands out as an exception to the progression

Taroudant ---> periphery ---> Agadir

simply because it was still a very small centre in 1971 (with a population of only 2,842) which had barely existed a few years earlier; one could deduce from the above figures that most of its non-indigenous population had come from nearby villages or from Taroudant.

b. Data on age distribution

Correct interpretation of age distribution data is a complicated matter and a lot of space can be devoted to it for few conclusions. Baroudi¹⁸ spends the last four chapters of his thesis analysing such data for Agadir province after the earthquake. Some tentative conclusions, however, can be reached. Taking three areas of Agadir province and charting their age distributions as shown in the 1971 census returns, the following table is obtained.

18. Baroudi, Abdallah, Les mouvements de populations lors du séisme d'Agadir en 1960. Doctoral thesis (3^e cycle), June 1971.

Table 7: Age distributions of population of Agadir town and province

Age range (years)	Agadir town (61,331 inh.)		Agadir province overall (766,042 inh.)		Agadir province (rural areas only) (639,000 inh.)	
	men %	women %	men %	women %	men %	women %
0 - 14	22.7	22.6	22.8	21.8	22.8	21.6
15 - 24	8.9	8.5	7.2	7.7	7.0	7.5
25 - 34	7.3	7.1	5.5	7.0	5.3	7.0
35 - 44	5.8	5.4	4.5	5.3	4.2	5.4
45 - 64	5.2	4.4	5.8	5.9	5.9	6.3
65 +	1.1	1.4	3.4	3.1	3.8	3.4
All ages	51.0	49.0	49.3	50.7	49.0	51.0

Note: The percentages may not add to the totals given because of rounding errors.

For the 0 - 14 age group, the figures for all three areas are approximately similar. In the 15 - 24 and 25 - 34 age groups there are markedly more men proportionally in Agadir town than overall in the province and in the former group more women as well. This pattern is maintained for men in the 35 - 44 age group. The greater proportion of men in this group, to the loss of the rural areas, is clearly a reflection of emigration from the countryside (which tends often to be male migration only and mainly in these age groups), as well as migration towards Agadir town. In the age groups over 45, the lower figures for Agadir and

higher ones for the rural areas would reflect both greater rural longevity as well as an element of people retiring to their family villages.

In the figures for the province overall, the noticeably greater number of women than men, especially in the 25 - 34 age range, as well as, to a lesser extent, in the 15 - 24 and 35 - 44 age ranges, is probably a reflection, at least partly, of mainly male migration out of the province, towards the north and abroad.

1.4 Administrative evolution

1.4.1 Phenomenon of subdivision

In 1973 there were 21 provinces in Morocco (including the two prefectures of Casablanca and Rabat-Salé); seven years later there were 39. Four of these new ones were extra territory (the Sahara) acquired in 1976 and 1979, the rest, representing an addition of two new provinces for every three old ones, resulted from internal reorganization. For 13 years, from 1960 to 1973, the number of provinces in Morocco had remained static at 21, while in the following seven years a rapid splintering took place.

The commune is the basic unit of local administration (though it, too, is further subdivided into fractions and douar, and in many cases commune boundaries have remained unchanged since the days of the French protectorate. When new provinces are created in Morocco, communes, in every case, remain unaltered and a newly created province is a collection of an integral number of existing communes taken from one or more old provinces. In the fragmentation of provinces that has occurred since 1973 it is not only the basic unit below the province, the commune, that has remained unchanged, but also the one above it, the region. Except for one or two minor cases¹⁹, a newly created province has tended to remain entirely within existing regional boundaries, thus leaving these unchanged. Table 8 shows the proliferation of provinces in the period 1973 to 1980.

1.4.2 Criteria for creation of new provinces

There are no officially stated criteria to be applied to determine whether a new province is to be created in a particular area, and, as has been argued in the geopolitical analysis of section 1.2,

19. When the single commune of Tamri was transferred from Essaouira to Agadir province the regional boundary running between those two provinces was altered, and similarly in the case when Tarfaya commune was moved from Tan-Tan province to Laayoune province.

the determining factors in the creation of some new provinces would appear to have been mainly political ones. However, there are some de facto criteria which take into account human and spatial factors, which are as follows:

1. population - the population of a province should be greater than 100,000 (or 200,000 in the south);
 2. spatial - the distance from any town or village should be no more than 120 km from a major town in the province;
 3. ethnic - there should be tribal homogeneity;
- and 4. socio-economic - there should be socio-economic homogeneity.

Dividing Morocco into its three major natural zones one can obtain the following diagram²⁰.

Figure 13: Factors having an influence in the creation of new provinces

Zones	Factors			
	demographic	spatial	ethnic	socio-economic
1. north of High Atlas	*	*	*	*
2. between High Atlas and Oued Draa	*?	*?	*	
3. south of Oued Draa			*?	

20. The idea for such a diagram came from M. Abdelhamid Chraibi, regional director in Agadir of the office of the Plan and Regional Development (interview on 13.9.70).

The two boundaries in this diagram (the High Atlas and the Oued Draa) tend to run more from south west to north east rather than simply from west to east. In the first zone all four factors tend to be observed in the formation of new provinces, with one or two exceptions. In the second zone only the ethnic factor, and sometimes the demographic and spatial ones, are in practice observed, and beyond the Draa none of the factors really operates except possibly the ethnic one.

Table 8: Proliferation of provinces, 1973 to 1980

Economic region	Provinces	
	1973	1980
1. Sud	Agadir Ouarzazate Tarfaya (3)	Agadir Ouarzazate Tan-Tan (6) Tiznit Tata Guelmim
2. Tensift	Safi Marrakesh (2)	Safi Marrakesh (4) Essaouira El Kelaa Sraghna
3. Centre	Casablanca El Jadida Settat Khouribga Beni Mellal (5)	Casablanca El Jadida Settat Khouribga Beni Mellal (7) Ben Slimane Azilal
4. Nord Ouest	Kenitra Tangier Tetouan Rabat-Salé (4)	Kenitra Tangier Tetouan Rabat-Salé (6) Chaouen Khemisset

5. Centre-Nord	Al Hoceima Fes Taza	(3)	Al Hoceima Fes Taza Taounate Boulmane	(5)
6. Oriental	Nador Oujda	(2)	Nador Oujda Figuig	(3)
7. Centre-Sud	Meknes Ksar es Souk	(2)	Meknes Errachidia Khenifra Ifrane	(4)
8. Saraha		(-)	Laayoune Boujdour Es-Semara Oued Eddahab	(4)
		(21)		(39)

Note: the figures in parentheses indicate the number of provinces. Ksar es Souk changed its name to Errachidia, and Tarfaya to Tan-Tan in the period 1973 to 1980.

1.4.3 The fragmentation of the region of the south

The phenomenon of the creation of new provinces has been a national one but has been particularly marked in the south. From two provinces in the region of the south after independence the number rose to six by 1980. The following series of maps, with notation adopted from Algol computer programming, describes in detail the successive realignments of communes in the evolution of southern provinces and the corresponding changes in the areas of these provinces.

In this series of maps, p denotes the total number of provinces in the south and c the total number of communes.

ag denotes the number of communes in Agadir province,
 ou denotes the number of communes in Ouarzazate province, and
 tf denotes the number of communes in Tarfaya province
(later called Tan-Tan, which will be denoted by tn).

Similarly, tz is used for Tiznit province, $tata$ for Tata province, and gu for Guelmim province.

Analogously, AG will denote the area (in 1000 km^2) of Agadir province, OU that of Ouarzazate, TF that of Tarfaya, TN that of the renamed Tan-Tan, TZ that of Tiznit, $TATA$ that of Tata, and GU that of Guelmim province. S will denote the total area of the region.

FIG. 14 SITUATION AT INDEPENDENCE.

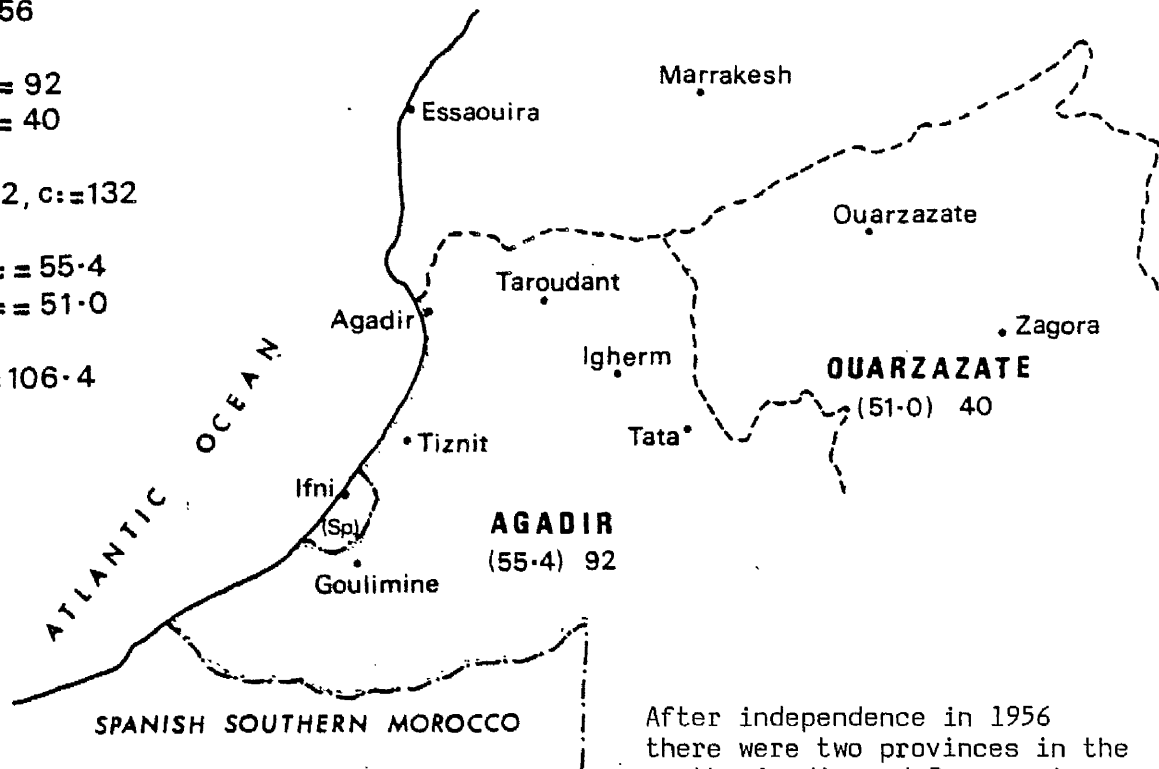
1956

ag: = 92
ou: = 40

p: = 2, c: = 132

AG: = 55.4
OU: = 51.0

S: = 106.4



After independence in 1956 there were two provinces in the south, Agadir and Ouarzazate

KEY FOR FIGS.: 14 to 21

----- International boundary

----- Provincial boundary

----- Coastline

AGADIR Province name

(55.4) Area of province (in 1000 km²)

40 Number of communes in province

0 50 100 150 200 km

FIG. 15 ADDITION OF TARFAYA PROVINCE.

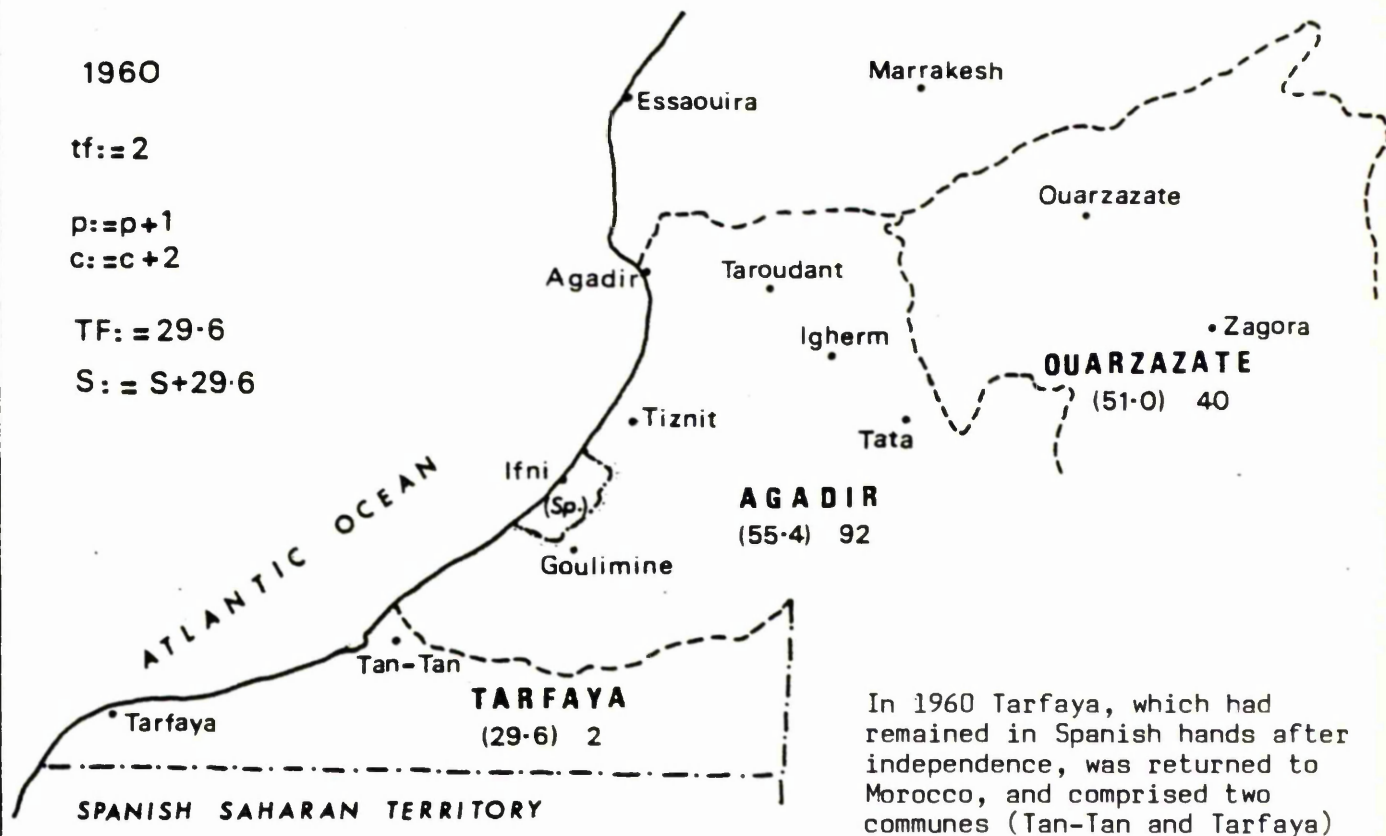


FIG.16 ADDITION OF TAMRI COMMUNE.

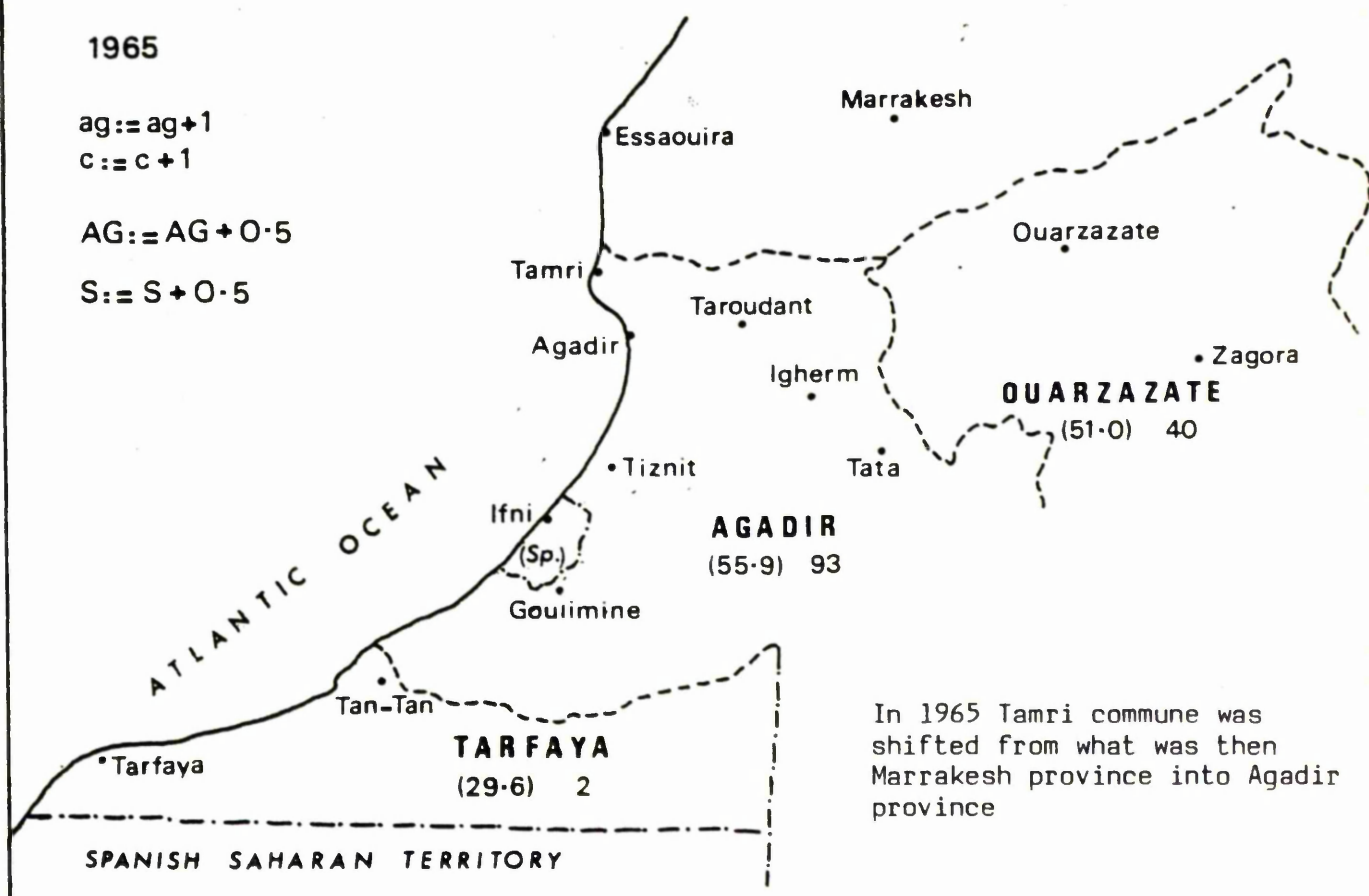


FIG. 17 ADDITION OF IFNI.

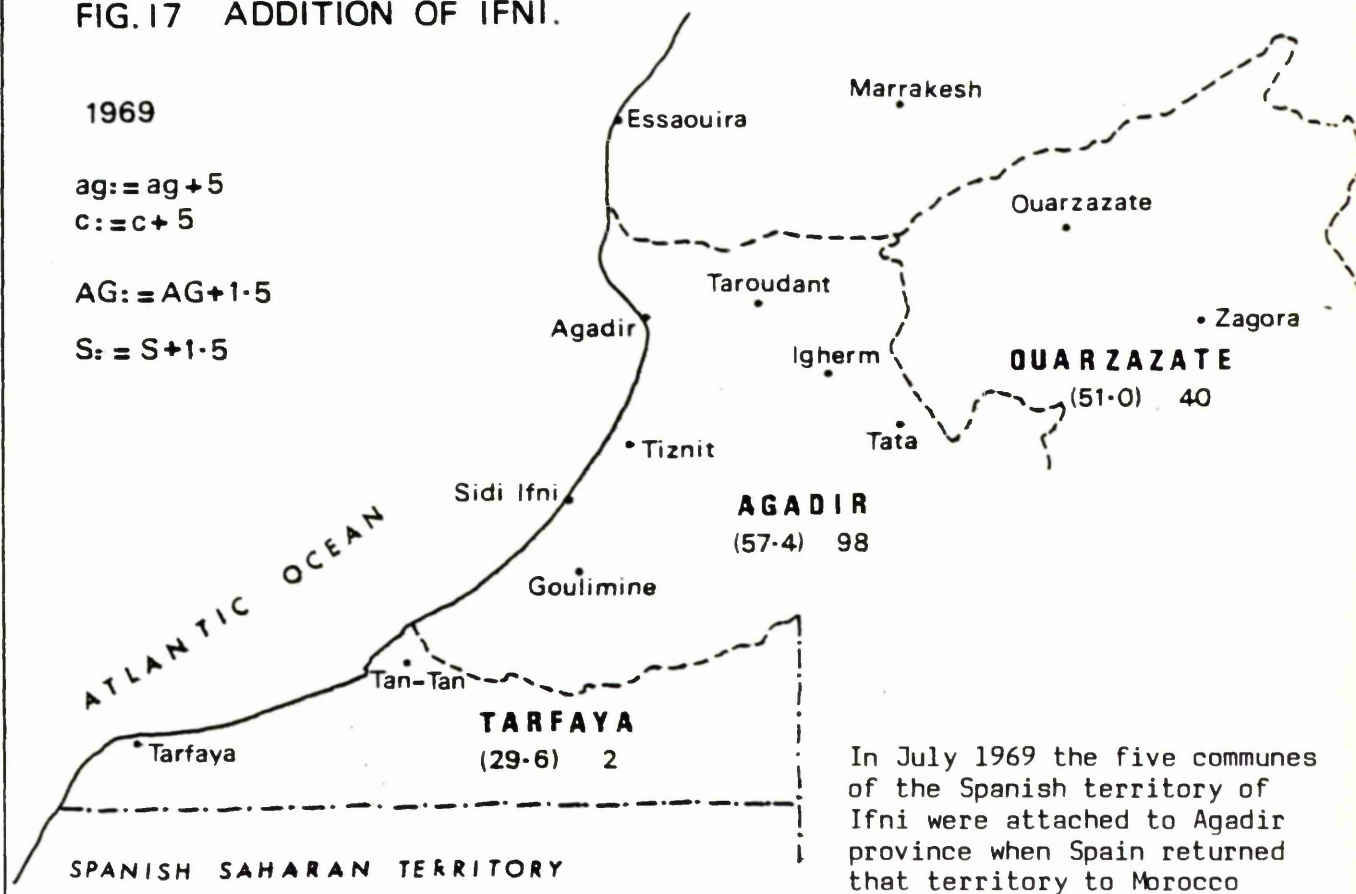


FIG. 18 TRANSFER OF GOULIMINE CERCLE.

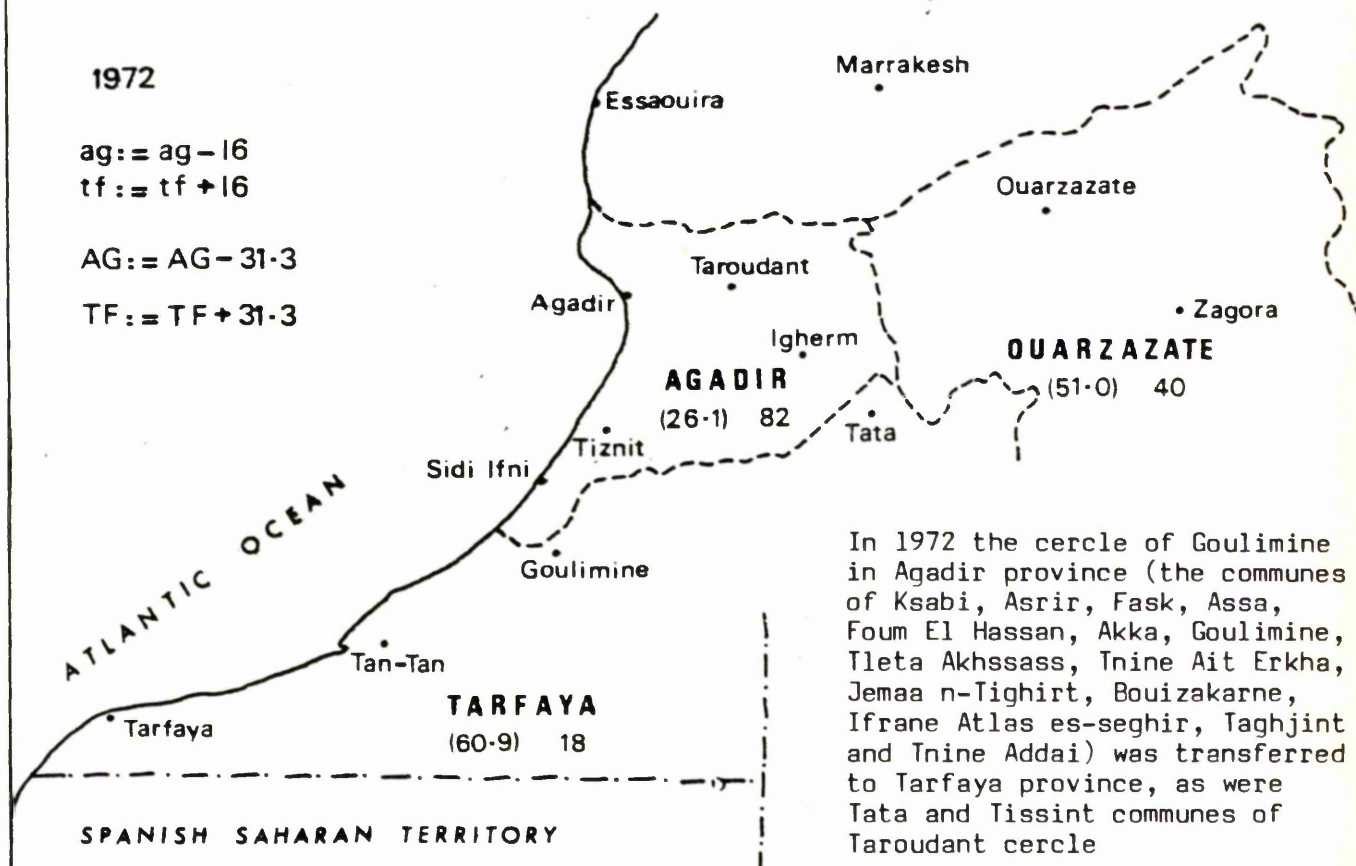


FIG. 19 CREATION OF TIZNIT PROVINCE.

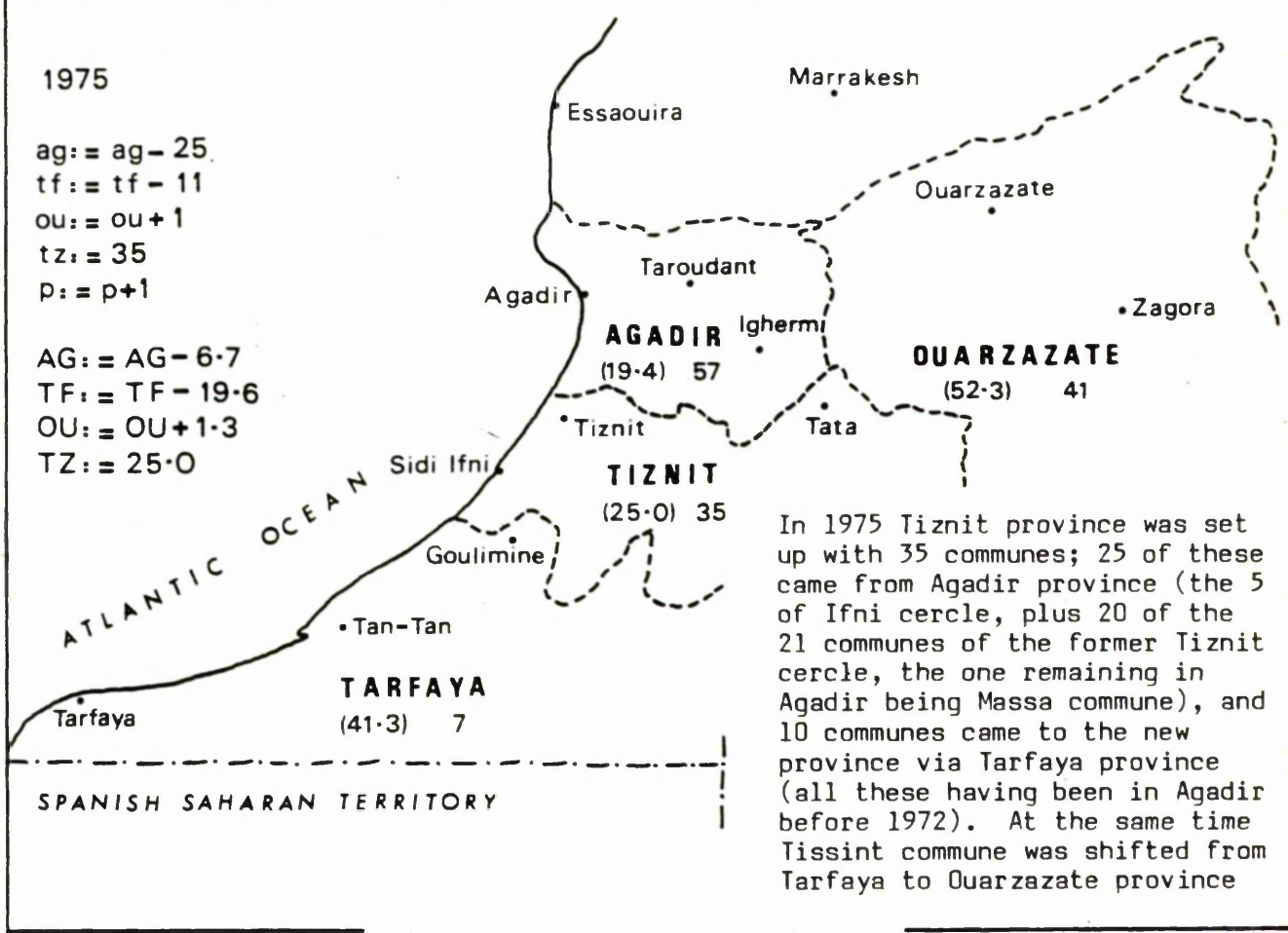


FIG. 20 CHANGE IN TARFAYA PROVINCE AND CREATION OF TATA PROVINCE.

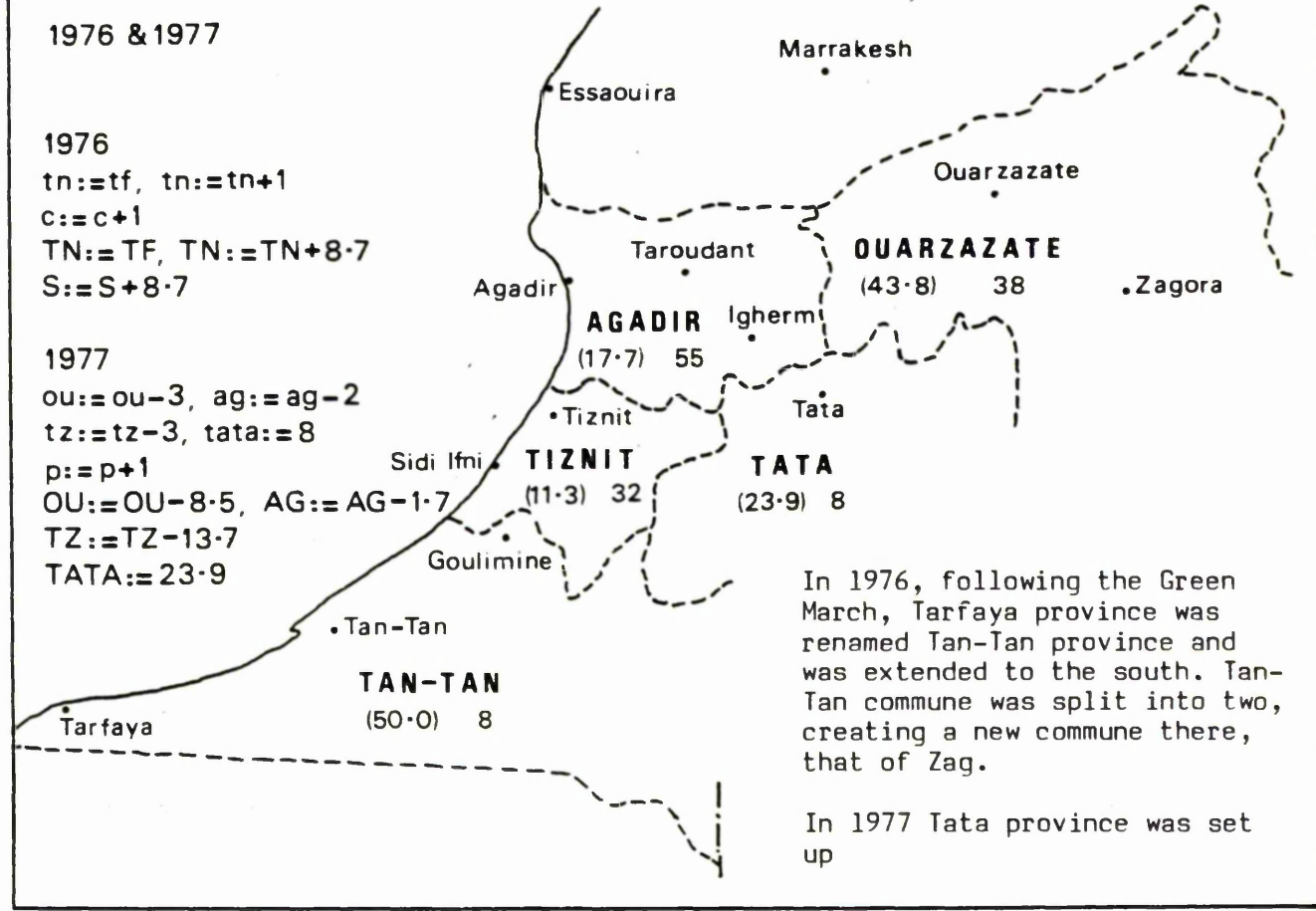
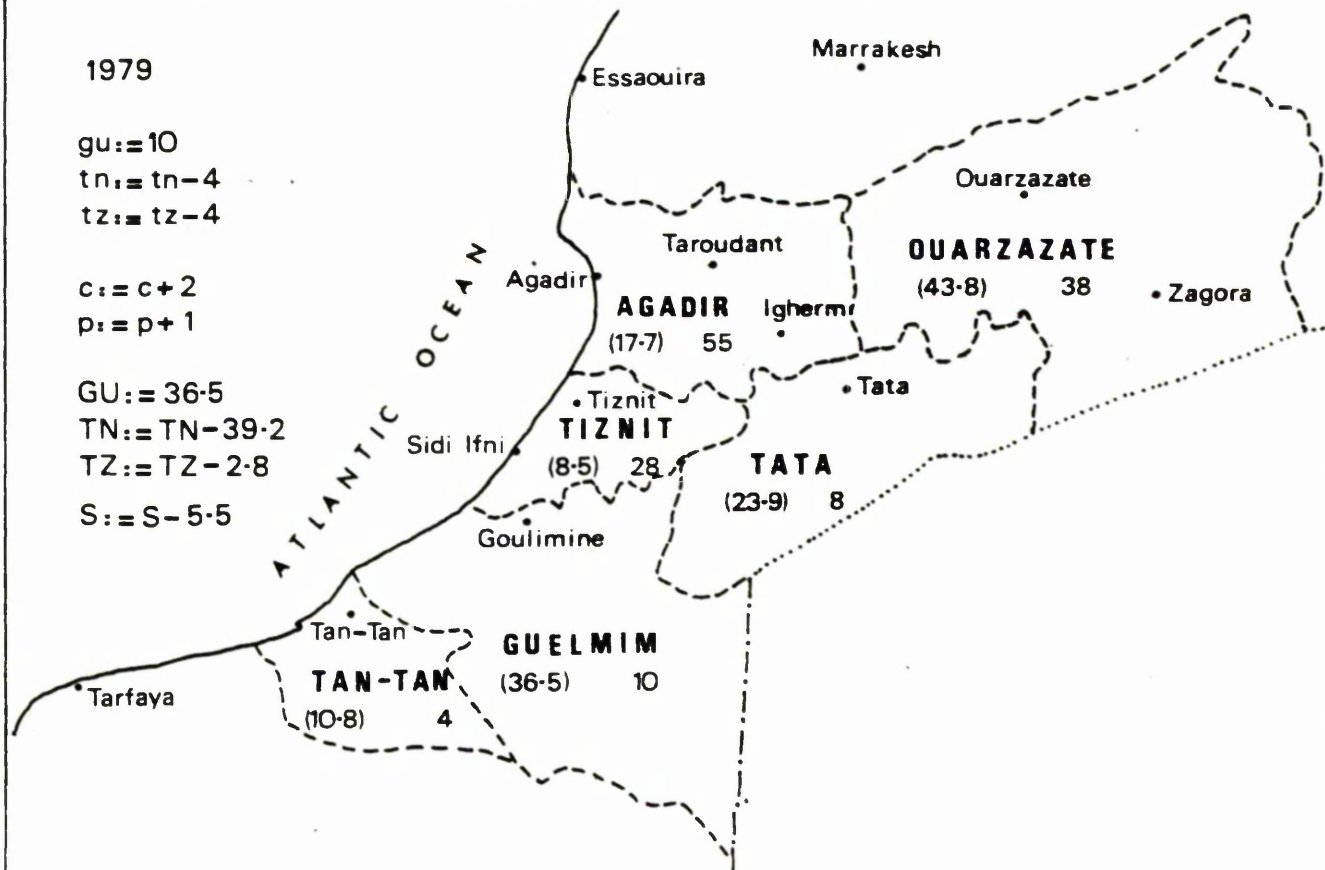


FIG. 21 CREATION OF GUELMIM PROVINCE.



In March 1979 Guelmim province was created taking six communes from Tan-Tan (Assa, Ksabi, Asrir, Goulimine, Fask and Zag) and four from Tiznit (Bouizakarne, Ifrane Atlas es-seghir, Taghjint and Tnine Addai).

Also, Tarfaya commune went from Tan-Tan province to Laayoune province in the Sahara, and three new communes (Tan-Tan plage, Msied and Abatteh) were created within what was left of Tan-Tan province, making a net loss of 4 communes for Tan-Tan province, and a net gain of two communes for the whole region.

Note (for all maps, from figures 14 to 21): the lack of boundaries in the south eastern part of the maps is due to the inability of Morocco and Algeria to agree on the exact location of most of their common frontier. The dotted line shown in figure 21 above follows the river bed of the Oued Draa, which is usually taken as the frontier.

In mid-1980, then, the position regarding the provinces and their communes in the south was the following:

ag = 55, gu = 10, tz = 28, tata = 8, tn = 4, ou = 38, with the total number, c, equal to 143, and p = 6.

The corresponding approximate areas, in 1000 km², were:

AG = 17.7, GU = 36.5, TZ = 8.5, TATA = 23.9, TN = 10.8, OU = 43.8, with S = 141.2 (see Appendix I for a detailed breakdown).

In the years of hectic redrawing of the province boundaries, eight communes in the region changed province on three separate occasions each during the period 1972 to 1979, each of them thus having been members of four of the six southern provinces. They are: Tissint - going from Agadir to Tan-Tan (1972), to Ouarzazate (1975), and to Tata (1977); Akka, Fom El Hassan and Tata - each going from Agadir to Tan-Tan (1972), to Tiznit (1975), and to Tata (1977); and Bouizakarne, Ifrane Atlas es-seghir, Taghjint and Tnine Addai - each going from Agadir to Tan-Tan (1972), to Tiznit (1975), and to Guelmim (1979).

1.4.4 The role of Agadir province in the fragmentation of provinces

The process of fragmentation of provinces in the south began with the state of two original provinces (the 'parent' provinces), Agadir and Ouarzazate, though of these Agadir has clearly been the leading one in administrative, political and economic terms throughout. This process, which will be labelled process A, has seen the successive shrinking of the leading parent province and genesis of infant provinces.

In parallel with process A, a second process - process B - has been operating, namely that of the growth of the town of Agadir. In this process, places peripheral to Agadir town which were originally small villages have developed into satellite towns (one of them now a municipality in its own right), and are gradually being swallowed into an enlarged 'Greater Agadir'. The interesting feature to note of the two processes is that they tend to the same limit, in their limiting cases, namely that of a prefecture of Greater Agadir. Such a creation has not as yet been officially proposed, but is unofficially often mentioned, and it would seem likely that within a few years Greater Agadir will be transformed into a prefecture, the third in Morocco (after Casablanca and Rabat-Salé).

Such a raising of the administrative status of Agadir would have considerable economic and political consequences for both the town itself and for its surrounding area. The creation of such a prefecture - the breaking away of the urban centre from its own province - would presumably entail the establishment in what was left of a new province of Taroudant, which in turn would give an impetus to the up-to-now relatively slow growth of the town of Taroudant, raising its own political and economic status.

The two processes, A and B, differ in various respects. The first process is discontinuous in time, and also in space; it is propelled mainly by political decisions taken at the centre (which make the process appear arbitrary, or random, in time and space), but which will on occasion also take into account demographic, spatial and ethnic factors. The second process is continuous in space and in time (which is not to say that the agglomeration still unofficially called Greater Agadir is - at least up to the present - topologically connected, but only that its growth is spatially continuous); it is propelled by external economic investment and by its own demographic and socio-economic momentum.

The town can grow indefinitely, but the province cannot shrink beyond the point where it meets the boundaries of the greater urban area, the town and its periphery. At that moment it is transformed into a new state. Adopting an analogy with the 'black holes' in cosmology, it is extinguished as a province, having collapsed on its demographic matter, but in its new state as a demo-economically dense mass, an urban prefecture, it can from now on only begin to grow again.

Looked at from the point of view of Agadir province, one could be forgiven for viewing the successive shrinkings of that province as a consolidation of the relatively demographically dense and economically productive areas, and a hiving off of the rest of 'Agadir inutile', the detritus being reassembled into new or other existing provinces. Apart from this apparent utile/inutile distinction between the evolving Agadir and the new provinces, there is another purely geometric distinction that strikes one. Agadir province, as it has been developing, has become geometrically fairly compact (with a relatively low ratio of perimeter to area), avoiding some of the tortuously meandering frontiers that characterize some of the other provinces. It is not simply a question of cartographic neatness; with internal ethnic and socio-economic divisions being equal, a compact province will possess easier internal communications, will be more administrable and will generally possess a more coherent identity than one with many kilometres of redundant borders.

The central power, as has already been remarked in section 1.2, by the creation of new provinces, brings these often outlying areas closer under its control. The new outlying provinces, in turn, see a raising of their position; the former small market town becomes a provincial capital and even remoter villages become the chef-lieu of a cercle. It is more, though, than a mere psychological uplifting; in real economic terms the new provinces often reap an immediate benefit - as in the case of Tiznit after its creation in 1975 - as a larger sum of money is forthcoming to them from the central government for development than it was while they were still peripheral areas of Agadir province.

1.5 Economic description

1.5.1 The traditional sector

Of the approximately 17,500 km² of Agadir province, some two-thirds lies in mountainous areas. Here, in often fairly densely populated regions²¹ a traditional agricultural way of life of the sedentary Chleuh²² population continues, in much the same way as described fifty years ago in the classic work by Robert Montagne²³. In the Anti-Atlas mountains, where the rainfall is generally low, as in the High Atlas where it is higher²⁴, arboriculture is the main agricultural activity: olives, almonds, figs, pomegranates. The main animals herded are goats, and these graze off and indeed climb (see image 2) the ubiquitous argan trees, a species, somewhat resembling olive trees, which is endemic to south west Morocco and which represents about 75% of the forested areas of Agadir province²⁵. Apart from serving as grazing for goats, the fruit of the argan trees is collected and sun-dried, and the kernels extracted and crushed to produce an oil used for

-
21. densities in the mountains were generally no more than 40 or 50 to the km², though in some parts (in the 1971 census) they reached around 70/km².
 22. 'Chleuh' is the name of the Berber language spoken in the south west of Morocco, in the region of the Anti-Atlas, the Souss plain and the southern parts of the High Atlas (the other two Berber language families in Morocco being Tamazight in the Middle Atlas and Rifi in the Rif mountains); the term 'Chleuh' is also generally applied to the population of the region.
 23. Montagne, Robert, *Les Berbères et le Makhzen dans le Sud du Maroc; essai sur la transformation politique des Berbères sédentaires (groupe chleuh)*, Paris 1931.
 24. in the High Atlas rainfalls are around 500 mm/year above 1,200 m; in the Anti-Atlas rainfalls tend to be low - at Igherm an average of 166 mm/year. The Souss plain receives an average of around 200 mm (see chapter 1.1.2).
 25. 'L'Arganeraie: une précieuse richesse forestière dans le Souss' in *Le Maroc Agricole*, No. 105, May 1978. pp. 30-31.



Image 2 A goat in an **argan** tree in the Anti-Atlas mountains
(Sept. 1979)



Image 3 The small town of Ait Baha in the Anti-Atlas mountains
(Sept. 1979)

local human consumption (with a considerably low yield of about 3%; to obtain a litre of oil requires about a quintal of ripe fruit and some 10 hours of labour); the rest of the pulp and residue of the process goes to animal fodder. The species is specially protected²⁶ because of its important ecological role in conserving soils and preventing encroaching desertification.

In the Souss plain with its low rainfall (around 200 mm/year), traditional agriculture has always been limited. Noin²⁷ estimated in 1970 that only 18% of the total plain was cultivated (whether dry or irrigated), this being before the opening of the dam on the Oued Massa. Consequently there is a high density of population - some 182 inhabitants/km² - per area cultivated²⁸. In the more humid coastal region of the Chtouka tribal area south of Agadir, dry cultivation of barley is practised. Traditional irrigated agriculture, especially around the Oued Souss, provides cereals, and vegetables for local consumption, and, where there is sufficient water, orchards of olives and figs. Animal husbandry is also of importance in the traditional sector.

The means of local distribution of traditional agricultural produce is through the weekly markets, the souks. Much has been written of their important functions, both economic and social, in Morocco²⁹, of their bridge, often, between the mountains and the plains, and between rural and urban life (the frontier between the latter pair, in any case, being an indistinct one. Agadir province in 1980 contained 74 souks, in both the mountains and the plain, with the largest, in terms of turnover, at Inezgane. This

26. by the dahir (decree) of 4.3.1925.

27. Noin, Daniel, *La Population Rurale du Maroc*, Vol. 1. Presses Universitaires de France, Paris 1970. pp. 142-147.

28. Noin, D., *ibid.* p. 143.

29. cf. for example, Troin, J.-F., *Les Souks Marocains: marchés ruraux et organisation de l'espace dans la moitié nord du Maroc* (2 volumes). Edisud, Aix-en-Provence. 1975.

may seem ironic in view of Inezgane's merging into the modern expanding metropolis of Agadir, but the town still retained its spontaneous, traditional and somewhat disorganized, Berber identity.

With longstanding relatively high densities in parts of the region and the precarious nature of traditional agriculture, the demographic 'problem' was resolved in the past by a rural exodus or else by famine or epidemic. Some three years after the beginning of French colonialism in 1912, emigration from Morocco to France began, the Souss being the first, and, up to 1960, always the major source of emigrants; after 1960 it continued to supply emigrants in large numbers, though the Rif became the largest exporting region of labour in the country. The tendency either to emigrate or not to do so, and if so to which destination, shows considerable variation from tribe to tribe and from village to village, as Baroudi³⁰ and Bonnet and Bossard³¹ have shown (see fig. 22). Emigration abroad is usually 'temporary' (though this may mean for several years), often runs in turn through a succession of male members of the same family, and is a source of income of considerable importance for many rural areas.

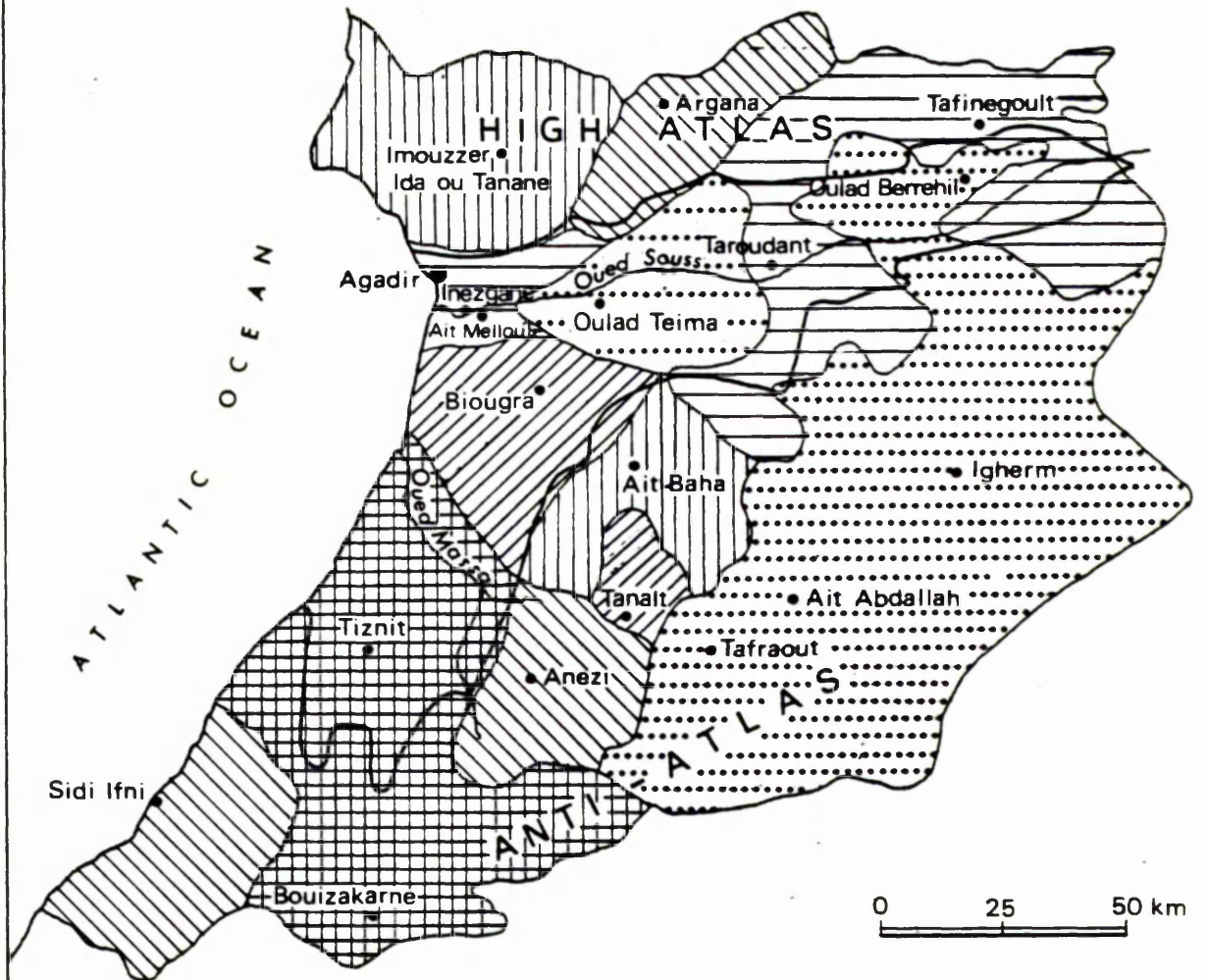
Where inhabitants of the Souss emigrated to Europe they often tended to work in heavy industry; however, they also migrated in considerable numbers earlier in the 20th century to the northern cities of Morocco, especially to Casablanca, and there they took

30. Baroudi, Abdallah, *Les Mouvements de Populations lors du Séisme d'Agadir en 1960*. Doctoral thesis (3^e cycle) at the Centre Universitaire Expérimental de Vincennes, département d'urbanisme, June 1971. (particularly Chapter VIII in this connection).

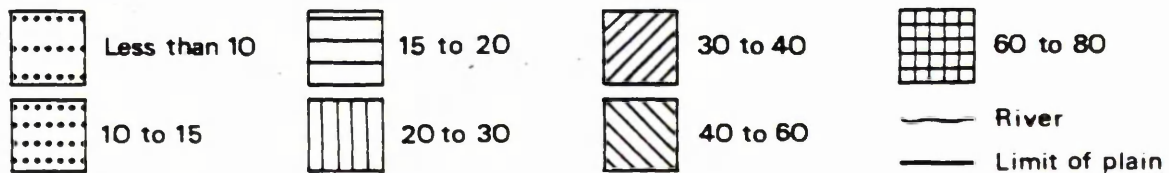
see also Baroudi, Abdallah, *Maroc: impérialisme et émigration*, Le Sycamore, Paris 1978. p. 118.

31. Bonnet, J. and R. Bossard, 'Aspects géographiques de l'émigration marocaine vers l'Europe' in *Revue de Géographie du Maroc*, No 23-24, 1973. pp. 5-49.

FIG.22 EMIGRATION FROM THE SOUSS AND ITS REGION TO EUROPE
(estimated situation in 1972)



NUMBER OF EMIGRANT WORKERS IN EUROPE PER THOUSAND INHABITANTS
(IN 1971 CENSUS)



source: Bonnet and Bossard, *op.cit.* p.20, based on a survey carried out in 1972

note: the area mapped corresponds to the province of Agadir in its 1972 boundaries.

over the retail grocery trade to such an extent that the Soussi grocer has become something of a national stereotype. The thrift and hard work which enabled them to make a success of this business, and made a few of them very rich, their ferocious group solidarity (when out of the Souss) and their rivalry mixed with cooperation vis-a-vis the other groups in Casablanca in their trade (namely the Fassi, principally wholesalers, and up to about 1960 the Jews, who were importers) have been described in the account by Waterbury³².

The traditional 'urban' areas in the region were always few; indeed, south of the High Atlas and before the development of modern Agadir, only Taroudant and Tiznit could properly be considered urban concentrations. Their activities, other than agricultural ones were in artisanry (especially in leather, wood, copper and precious metals) - and in small-scale commerce.

1.5.2 The modern sector

Although the province of Agadir was rapidly becoming more urbanized, it still lagged behind the national level of urbanization at the end of the 1970s (see fig. 23). Consequently, agriculture accounted for a larger percentage of economic activity in Agadir province and industry for a smaller one than the national rates; even considering only areas defined as urban, industry was still less significant in the province than in urban areas nationally (see table 9). In the so-called modern sector of economic activity in the province, the term 'modern' referred less to the means of production than to that of distribution and particularly to the destination for consumption, which, as pointed out in section 1.5.4, was mainly abroad.

Taking irrigated agriculture first, at the end of the 1970s this was being carried out in two areas: around the banks of the Oued Souss, and in the Massa section of the plain south of Agadir. In the Souss plain proper some 55,000 ha (12% of the plain) were being irrigated by means of pumps. Some of the production was for local distribution in the souks; this was mainly of olives and cereals in the *amont* (up-valley) part of the plain. In the *aval* area production centred more largely on the modern sectors of citrus growing and market gardening. In fact, some 17,000 ha of the irrigated part of the plain was devoted to citrus (oranges, clementines and lemons) and some 5,500 ha to market gardening (of which tomatoes, covering 2,300 ha, were the largest single crop).

Regarding the destination of agricultural produce in the Souss plain, of citrus some 20% went to the FRUSUMA factory near Taroudant for the production of fruit juice; the rest, after packaging, went to export abroad from Agadir (70%) and for local consumption (10%). About half of all vegetables produced were tomatoes, and about two-thirds of these were exported, 10% were processed into tomato juice at FRUSUMA, and the rest consumed locally; of other vegetables most were consumed locally, only

FIG. 23 RATES OF URBANIZATION FOR SOUTHERN PROVINCES

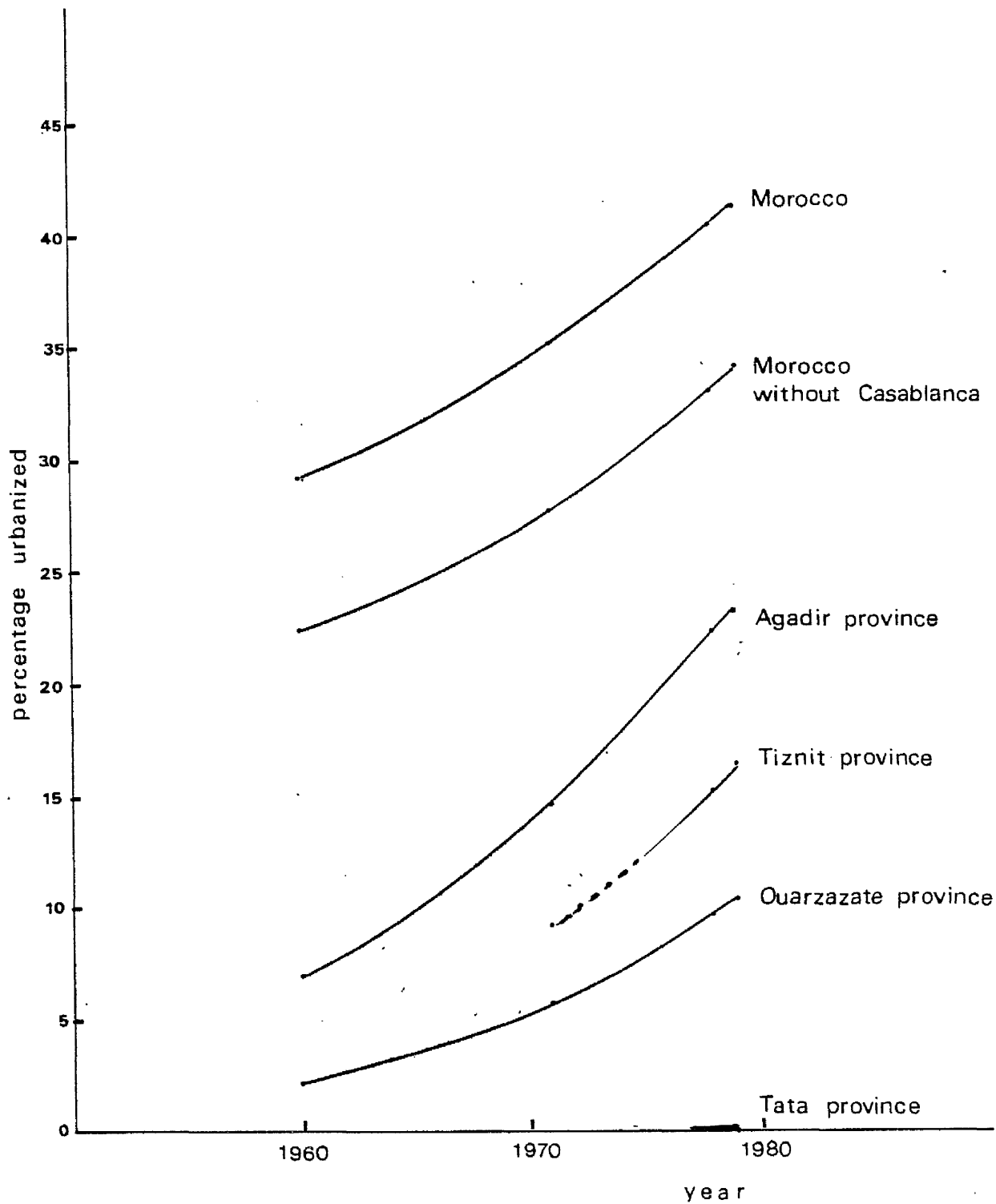


Table 9: Sectorial distribution of economic activity (1971)

	Agadir province	Morocco	Morocco (without Casablanca)
	%	%	%
1. Agriculture, fishing	66.0	50.6	56.5
2. Industry, mines, artisanry	10.7	15.8	13.6
3. Commerce, services, administration	17.2	23.2	20.5
4. Unemployed seeking work, & others undefined	6.1	10.4	9.4
Total	100.0	100.0	100.0

Considering only urban areas in Morocco, a similar table can be constructed as shown below.

1. Agriculture, fishing	10.3	4.6	5.7
2. Industry, mines, artisanry	27.9	29.7	27.9
3. Commerce, services, administration	50.6	48.0	49.2
4. Unemployed seeking work, & others undefined	11.2	17.7	17.2
Total	100.0	100.0	100.0

Source: from Serete report, *op. cit.* vol. I, based on 1971 census results entirely.

about 5% being exported. Of olives grown in the plain, some 30% came from the aval part of the plain, and these were all locally treated; of the 70% produced in the amont, about three-quarters were processed at Taroudant and the rest locally. Animals and cereals went mainly to the souks for local consumption.

The Massa sector consists of 18,900 ha of land (11% of the Massa plain) irrigated from the Youssef ben Tachfine dam at Tankist on the Massa river, a project begun in 1969 which came into full operation in January 1976 (see fig. 24). The dam, with a normal storage capacity of 310 million m³, delivers some 90 million m³ to the irrigated sectors to its north (10 million m³ being reserved for the Tassila sector around the banks of the Massa river, which sector existed before the Massa scheme), via a 43 km long canal. The waters released from the dam are entirely for irrigation and are not used for hydroelectric purposes. Some 10,500 people live in the vicinity, of whom some 4,500 are actively employed. The production targets for the early 1980s were for:

190,000 T of market gardening produce, over 5,600 ha, of which 120,000 T were of tomatoes, 25,000 T onions and 15,000 T peppers (plus cucumbers, melons, beans, augergines, asparagus and strawberries);

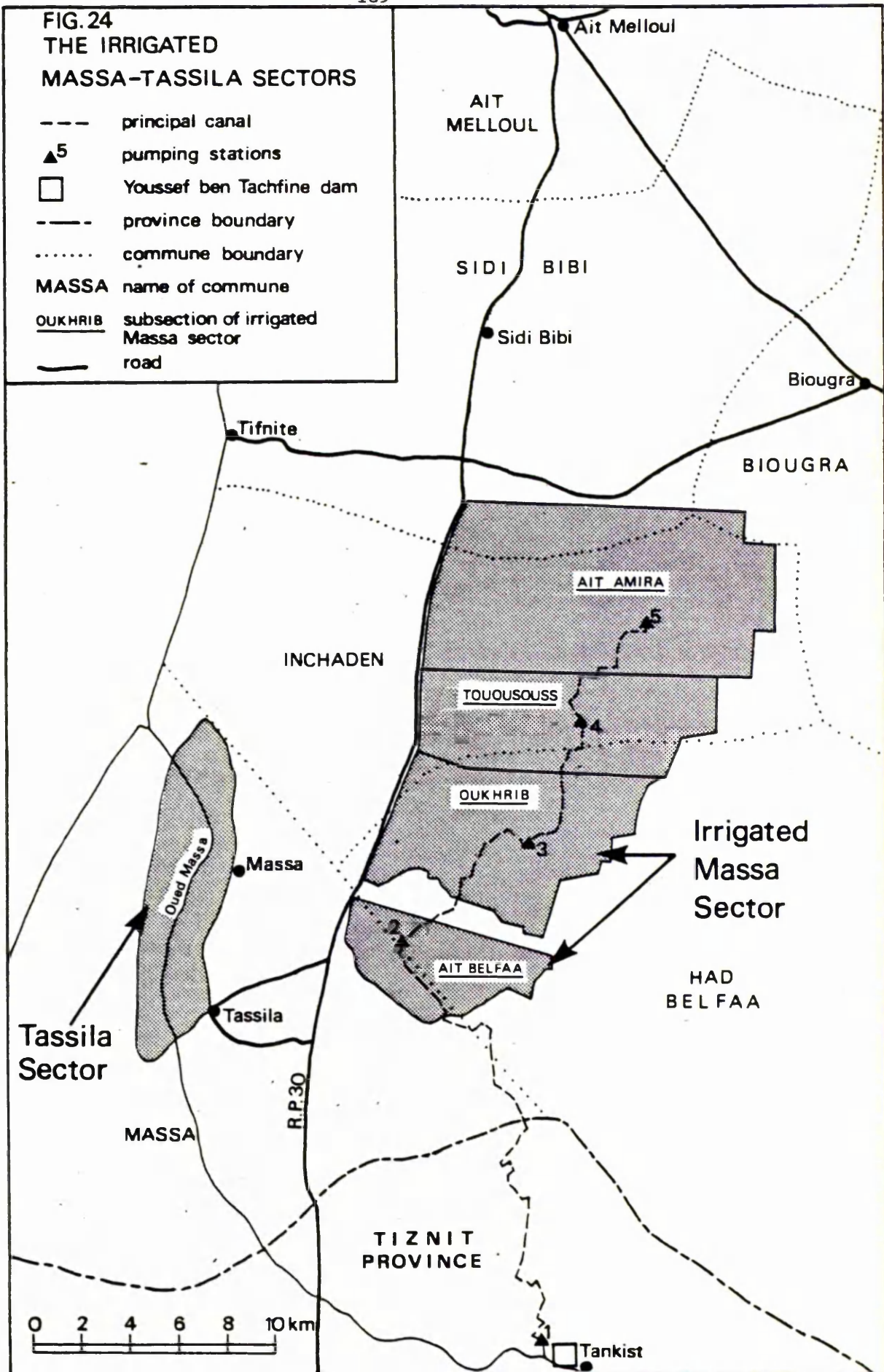
and for:

32,000 T of irrigated cereals, over 8,000 ha, and animal husbandry over 3,900 ha (cf. also ch 6.3.3).

An important regional hydraulic project being constructed is the new dam on the Issen river at Tamzaourt in the High Atlas (see fig. 82 for the location of this dam on the Issen river, and the same map, and in more detail fig. 46, for the location of the various irrigated sectors of the Issen project and those higher up the plain). This dam, when opened around 1990, is intended to recover some 100 million m³ of water annually which would otherwise have been lost to the sea, reducing the pressure of

**FIG.24
THE IRRIGATED
MASSA-TASSILA SECTORS**

- principal canal
- ▲⁵ pumping stations
- Youssef ben Tachfine dam
- - - province boundary
- commune boundary
- MASSA name of commune
- OUKHRIB subsection of irrigated Massa sector
- road



demand on the water table and easing the urban water situation. On the agricultural side it is proposed to open up about 12,000 ha of land in the vicinity of Oulad Teima, 8,530 ha of this in the 'modern' sector, of which 2,270 ha will be for citrus and 6,260 ha for sugar beet and forage. Some 3,300 ha is to be devoted to the 'traditional' sector of olive and cereal cultivation. The intention is also to multiply by a factor of more than three the present output of milk, and meat production in the area of the Issen sector is to be increased considerably. The discussion in ch. 4.2.2 gives a fuller account of agricultural activity in the Souss plain, and that in ch. 6.3.2 and 6.3.3 of agricultural projects in the region in the 1980s and 1990s.

Industry in Agadir province is heavily concentrated around the town of Agadir, and nearly all of it there in the two industrial sector of Anza (disjoint from the rest of the town, to its north) and the Industrial Quarter of Agadir (see table 10). Anza on its own accounts for almost 20% of the industrial employment of the province, most of it in the fish-processing industry and in the cement works. Construction and related industries account for almost a half of the industrial employment in the province. The cement factory at Anza (see also ch. 3.6.4) serves the southern provinces generally: some 375,000 T were produced there in 1976 to a value of 55.5 million dh³³, with production there having risen by 1980 to 475,000 T. The cement works plays an important part in regional economic terms, given the high level of construction activity.

On the food-processing side, other than that of fish, there are some 13 enterprises in this field, most being concerned with packaging, with the production of orange or tomato juice, or with dairy products, olive processing or the production of flour.

33. Serete report, op.cit. Vol. 1, p. 1-154.

Table 10: Location of industry (enterprises with 5 or more employees) in Agadir province

	Agadir province without Greater Agadir	Greater Agadir without Agadir proper	Agadir without Anza	Anza	Total
Agro-food industry	231 (4)	183 (4)	157 (3)	381 (2)	952 (13)
Fish-processing industry	-	-	1,968 (17)	1,192 (15)	3,160 (32)
Construction industry	-	37 (1)	100 (3)	279 (1)	416 (5)
Public works	-	23 (2)	3,377 (26)	-	3,400 (28)
Activities linked with construction	-	-	892 (21)	-	892 (21)
Other activities	35 (2)	160 (1)	856 (19)	39 (1)	1,090 (23)
Total	266 (6)	403 (8)	7,350 (89)	1,891 (19)	9,910 (122)

Note: ordinary figures represent the numbers employed; figures in parentheses represent the number of establishments.

Source: from the Serete report (1978), op.cit., Vol I, p.1-19 table 1-5; based on their own survey in 1976/1977.

Fish-processing represents some 30% of the industrial employment of the province, and is entirely situated at Agadir. The town has, in recent years, become Morocco's principal fishing port, accounting for over 50% of the national catch, and, apparently, the largest sardine-fishing port in the world. Figures of catches, though, vary very considerably from one season to another and the statistics will be examined in a full treatment of the fishing industry in chapter 3.5.

In the activity of fishing itself, occupying some 5,000 people (see table 11), most of those involved (about 4,500) are in sardine fishing, using small boats and making short trips (of usually a night or two) not far from the coast. There is nothing especially modern about the technology involved here, as opposed to the recently developed deep sea trawling industry, where floating factories set off for journeys of 2 to 3 months, fishing in the waters off the Saharan coast.

The south of Morocco is the country's most important mineral area after the phosphate belt in the centre; however, in terms of employment it is not that significant, with only some 530 workers in 1978³⁴ being employed in Agadir province, basically in the three copper mines in the Anti-Atlas and the barytes mines in the Argana region of the High Atlas (see chapter 6.2.2 for a full description of the mining sector). Pozzolana is also mined in the province and used locally in the manufacture of cement at Agadir. The province of Quarzazate to the east, in fact, has a greater importance in mining (in terms of volume, value and numbers employed), with manganese, copper and barytes being mined, as well as the strategically important cobalt, and some mica and silver. The mining work force here in the late 1970s was about three times that of Agadir province. Ironically, one of the main problems of extracting minerals in the region in general is the shortage of local labour; the other problem is often the lack of water. Most

34. figures provided by M Abdallah Bait, assistant délégué in the Agadir subdivision office of the Ministry of Mines, in an interview on 29.8.79

Table 11: Estimated employment by economic sector in Agadir province, 1977

Economic activity	Agadir Province	Greater Agadir
Agriculture	138,000	0
Packaging of fruit and vegetables	3,300	1,300
Fishing	5,000	4,700
	146,300	6,000
Mining and energy	700	250
Industry	10,000	9,600
Artisanry	19,500	3,750
	30,200	13,600
Hotel Industry	3,400	3,200
Services and commerce connected with tourism	3,200	3,000
Other services and commerce and administration	43,500	18,800
	50,100	25,000
Unemployment and other activities not clearly defined	16,100	5,400
Total	242,700	50,000

Source: from Serete report (1978), *op.cit.*, Vol. I, p. 1-61, figures based on 1971 census, and extrapolated, with the assistance of Serete's own informal survey, to 1977.

of the ores mined are exported in bulk and untreated from the port of Agadir (silver is exported from Casablanca); some of the copper is also used for local artisanry. The entire 1978 production of the 126,000 T of manganese, 8,700 T of cobalt and 12,000 T of copper concentrate came from the south of Morocco. Considerable prospecting is being carried out throughout the region for various minerals, notably for uranium.

On tourism there will be further discussion later on in this thesis (cf. ch.3 and ch. 5.1). For the present it is observed that tourism in 1976 was estimated to have been providing some 6,600 jobs (including in the related sectors)³⁵ - by 1980 the figure was almost certainly 10,000 - and most of them in the town of Agadir. With a rapid expansion in the number of hotel beds, Agadir had over 20% of the hotel capacity in Morocco in 1980 and was the largest single tourist centre (having shortly before overtaken Tangier); in terms of the over 250,000 visitors it received annually it also represented almost 20% of Moroccan tourism.

This section concludes with some remarks on the category 'unclearly defined activities and unemployemnt' which appears frequently in the tables on employment. This group may, officially, be a relatively small one, but it is difficult in a Moroccan context to be precise about what constitutes unemployment, underemployment, or what is termed the 'casual' or 'informal' sector. This is probably true of urban areas in the Third World generally, and in many cases, certainly that of Morocco, the informal sector is a virtually undocumented one. Clearly quantification here is difficult, by the very nature of the activities involved; some are part-time, such as assisting a relative with his shop, or seasonal, others officially illegal or socially disapproved of. Further research in this field is needed to enable a fuller qualitative and eventually quantitative picture to emerge.

35. Serete report, op.cit. Vol. 1, p. 1-154.

1.5.3 Links with other parts of Morocco

There are four main roads in the province of Agadir: the main coastal road north along the coast to Essaouira and Casablanca (R.P.8); that south, off the coast, to Tiznit and serving the Massa plain (R.P.30); that due east along the axis of the Souss valley, to Taroudant and beyond (R.P.32), and a recent road, opened in 1973, cutting across the High Atlas to Chichaoua (R.P.40) and continuing on to Marrakesh. Up to the opening of this last road, which crosses the Atlas at about 1,000 m and which cuts the distance from Agadir to Marrakesh to 273 km, the route to Marrakesh was by the secondary road, R.S.501, from Taroudant via the Tizi n'Test pass (2,092 m), a slow and difficult road, especially in winter. The region is thus poorly connected with the north, with - apart from the colonial coastal link - only two crossings of the Atlas in the province (and a third further east linking Marrakesh to Ouarzazate). Inside the province there is the west-east Agadir-Taroudant valley axis, the traditional one, and the north-south road to Tiznit; a third (secondary) road, of recent completion, cuts diagonally to the south east from Ait Melloul to serve Biougra and the mountains around Ait Baha (see images 3 and 4), continuing on through the Anti-Atlas to Tafraoute.

The Moroccan railway network - the colonial structure serving the northern coastal area and the phosphate region - does not extend further south than Marrakesh, despite various proposals over the years to extend it (see ch. 2.2.1 and ch. 6.2).

Agadir is linked into the national and international air network, which in Morocco is a highly centralized one, and where every flight, where conceivably possible, is routed via Casablanca airport. Agadir's airport (called Inezgane, though it is half-way between the two towns) is now the third largest airport in Morocco in terms of passenger traffic, due to the expansion of tourism coming to the town. It is situated in an area which, though

formerly hardly populated, is now being built up on all sides, as the rapid growth of Agadir and its periphery fills in and urbanizes all available empty pockets in the area. If the site of the airport is not shifted, Greater Agadir will find itself with an airport in its very centre, while the airport will have no room to expand.

The domination of Morocco's centralization around Casablanca-Rabat (whatever intentions there might be expressed to change it) and the pattern of infrastructure outlined above, necessarily imply that the Souss's main economic links are along the coast and with Casablanca; it is likely that any manufactured goods that Agadir imports from outside (if they do not arrive directly through its own port) will arrive from Casablanca, the prime industrial centre of the country. Links with Marrakesh, the nearest large centre while though of importance traditionally, are now secondary.

The emigration from the Souss to the northern centres has already been noted, and one should also remark on a more recent movement southwards to Agadir, mainly since the earthquake; this consists partly of some unskilled or semi-skilled workers, but more notably of a large proportion of higher level administrators and managers.

1.5.4 Links with abroad

Links with abroad are highly important for the region of the south; mention has already been made of the five main commodities sold abroad for foreign income: agricultural produce, fish, minerals, labour and climate/landscape (in the form of tourism) and a short resumé of their importance is given here.

On agriculture, Baroudi³⁶ perceptively described the rapid growth of modern irrigated agriculture for export to the detriment of subsistence crops, pointing out that while the modern irrigated

36. Baroudi (1978), op.cit. pp. 73-74.

sectors could supply a much higher output of cereals for the needs of a growing population, the annual production of the four principal cereals (hard wheat, soft wheat, barley and maize) stayed on the whole fairly close to its 1957 level of 20 million quintals, in some occasional years reaching 50 million quintals. He pointed out that Morocco was an exporter of cereals up to the 1950s and had become a regular importer. In 1977³⁷ imports of hard wheat represented 4% by value of all Morocco's imports, and in 1978, 7%; as percentages of food imports alone, the figures, again by value, were 30% and 42% respectively. For Agadir port on its own, imports³⁸ (in 1976) of cereals represented 41% by weight of all non-oil imports through the port, and fertilizers 21%. It has been forecast that imports of wheat through the port will rise by 50% by weight (235,000 T) of all non-oil imports³⁹ by 1995, on the assumption of only a weak increase in wheat production within the province itself.

On exports, agricultural produce accounted for around 75% by weight of exports through the port at the end of the 1970s (54% for citrus and 21% for tomatoes and other vegetables), with fish produce and minerals making up most of the remainder. Exports of citrus were the second single most valuable export commodity for Morocco in 1978; in that year, out of total exported goods worth 6,261 million dh from Morocco, phosphates represented 32% by value, citrus 13%, carpets 4% and tinned fish 3.6%; about a quarter of the citrus total came from the Souss as well as the major portion of the tinned fish.

Of the minerals exported from Agadir the most valuable were manganese (115,000 T in 1978 worth some 50 million dh) and cobalt (of a similar order in value) (cf. ch. 6.2.2).

37. 'Royaume du Maroc, Secrétariat d'Etat au Plan et au Développement Régional', Le Maroc en Chiffres 1978.

38. Serete report, *op.cit.* Vol. 1, tableau 1-8.

39. Serete report, *op.cit.* Vol. 1, tableau 1-9, p.1-40.

Emigration, as has been remarked before, is a considerable source of earning for the south. Some 3.4 billion dh were estimated⁴⁰ to have been transferred by Moroccan workers abroad to Morocco in 1978, and if a conservative estimate of the percentage of these workers who are from the south is taken as 16.6%⁴¹ an income is obtained of over 550 million dh for the Souss from emigration⁴². Clearly this money is spent very differently from the revenue from tourism. Most of it goes into rural areas and tends to be spent on conspicuous wealth, such as the construction of the two-storey or three-storey, gaudily painted houses which stand out so noticeably in many rural parts of the Souss (see image 5). Heinemeijer et al., in their detailed and revealing study of Moroccan emigration, estimated that almost three-quarters of households in the south had a migrant member investing in the construction of a house, with a median investment of around 10,000 dh, and they mentioned in particular Tiznit province where a high level of migrant-assisted construction was taking place⁴³ (cf. also ch. 4.3.2 on emigrant revenues from Tiznit province).

40. BMCE (Banque Marocaine du Commerce Extérieur), *Information Review*, No 22, Jan/Feb 1979. p.12.

41. Bonnet, J. and R. Bossard, *op.cit.* p. 21.

42. In 1972 it was estimated that there were 22,677 emigrants from the then province of Agadir living abroad, remitting an annual total of some 180 million dh. Source: Province d'Agadir, *Visite de S.M. le Roi Hassan II à la Province d'Agadir*, July 1973.

43. Heinemeijer, W.F., J.M.M. van Amersfoort, W. Ettema, P. de Mas and H.H. van der Wusten, *Partir pour rester: incidence de l'émigration ouvrière à la campagne marocaine*, IMWOO/NUFFIC: *Projet REEMPLOD*, Universiteit van Amsterdam, Sociaal-Geografisch Instituut, Publication No. 2, August 1977.

Revenue from tourism is lower than might be expected; the average expenditure per tourist was only around the 1,000 dh level at the end of the 1970s (1,100 dh in 1978, on the basis of 1.5 million tourist spending around 1.65 billion dh). On the rough assumption that this spending was fairly evenly distributed among tourists in different areas, Agadir province would have earned around 280 million dh from tourism in 1978, about half of what it earned from emigrant revenues and of the same order as earnings from each of citrus exports and exports of canned fish.



Image 4 A Berber village in the Anti-Atlas mountains above Ait Baha (Sept. 1979)



Image 5 A typical house in the Souss region constructed from emigrant revenues (Sept. 1979)

CHAPTER 2

HISTORIC SETTING OF THE REGION

2.1 Agadir and the Souss up to the 20th century

There are various difficulties inherent in the writing of historical synopses, condensations of the known events of several centuries, of Morocco, or indeed of any part of it, such as in the case of the south. At one level there is the problem, in a brief background section such as this one, that many of the events described are so distant in time as to have little relevance, beyond their intrinsic interests, to the matters of the main part of the study which is situated in the modern period. Furthermore, the known events of the past, or at least those which have attracted the bulk of existing accounts, are often widely separated in time by long periods in which nothing thought worth describing happened; there is thus an element of disjointedness added as well. A standard introductory synopsis of past centuries of Moroccan history will usually begin with some nebulous speculation on the origin of the Berbers, and will then proceed to give the established accounts of successive invaders or colonizers, beginning with the Phoenicians of 3,000 to 2,500 years ago, through the Romans, Vandals and Byzantines up to the eve of the Arab conquest. In the case of the south the 'gap' of undescribed periods is even greater, since after the speculated presence of the Phoenicians and Carthaginians, none of the European colonizers mentioned above is known to have descended south of the High Atlas. A leap has to be performed then, of more than a thousand years, from the 5th century before the Christian period to the arrival of 'Uqba ben Nafi's army in the Maghreb at the end of the 7th century. Even there, the account that credits 'Uqba with reaching the Souss and its Atlantic coast must be little more than mythical, and it is not until shortly before the arrival of the Almoravid dynasty in the 11th century that any reasonably continuous and credible account of the south can be attempted.

There is a difficulty of a different order, though, that besets historical accounts of Morocco, whether of specific episodes or of a chain of them, and this is related to the fact that not only are

many of these events concerned with foreign invaders or visitors, but that their history in the past (both recent and more distant) has been described in large part by European historians, often from the same country as the colonizers themselves. Laroui¹ lucidly elaborates on this element of historical bias, which he shows to begin not with accounts of the modern colonial period but with theorizing on the ancient origins of the Maghribi peoples, the Berbers. The exaggerated inclination to build up the Roman period in Morocco, one much overrated by French archaeologists and historians of the early modern colonial period in the Maghreb, is well known, but it is not much of an advance, as Laroui points out, for historians to 'adopt' the west Asian Phoenicians as a counterweight to Eurocentric obsessions with the Romans. Laroui, as well as some other present-day Maghribi historians, is working to present a 'decolonized' account of the history of the Maghreb, but he is aware of some of the pitfalls. It is not sufficient, as he points out², simply to reverse the accounts of colonial history, substituting black for white and vice-versa, while retaining its basic structure and formulae. Even distinguished 'anti-colonial' historians can on occasion turn out a mechanical type of 'inverted colonialistic' history³. Historians of Morocco, especially Maghribi ones, should seek new methods and new approaches in their studies, as Morsy⁴ suggests, attempting to extend the non-colonial avenues pioneered in the early 1930s by, as it happened, a European historian of the Maghreb, Ch.-A. Julien.

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1. Laroui, Abdallah, *L'Histoire du Maghreb: un essai de synthèse*. Maspero, Paris 1970. See particularly pp. 9-31
 2. *ibid.* p.10 n.3
 3. cf., for example, Ayache, Germain, 'Les visées sahariennes de l'Espagne en 1900: la question de la Saguia el Hamra' in *Etudes d'Histoire Marocaine*, S.M.E.R. Rabat 1979. The apparent call in recent years for the production of propagandist historical articles on the Moroccan origins of the Western Sahara seems to have affected even Ayache.
 4. Morsy, Magali, 'Comment décrire l'histoire du Maroc?' in *Actes de Durham: Recherches récentes sur le Maroc moderne*, Publication du Bulletin Economique et Social du Maroc, Rabat, 1978. pp. 121-143

The rest of this section, going perhaps in the face of the comments expressed above on the description of Moroccan history, will after a cursory mention of the Phoenicians, concentrate principally on one brief period in the history of the Souss, that of the first half of the 16th century, filling in the period from then on to the end of the 19th century. Not only is this stated period one brazenly of European colonialism (the first historical instance of such, in fact, in the south) but, to compound the offence, its relatively detailed knowledge today rests largely on the account by an author who served that colonialism. Its inclusion here is justified on the grounds that this initial European intervention was the beginning of a period of continuous interaction between the region and Europe, leading up to the period of colonialism in the 20th century. The period before the Almoravid dynasty is omitted for the reasons already stated, while a sketch of some aspects of the history of the Souss from that time through to the Saadian period is given in chapter 4.2 and is thus not dealt with here. The description of the Souss in that section, especially of Taroudant and its region during and beyond the time of the Saadians up to the 20th century, as well as that in chapter 4.4 concerning Tiznit at the end of the 19th century and in the beginning of the 20th, both complement the historical account of this section and of that in the first part of section 2.2.1. The present section and section 2.2.1 thus tend to concentrate on the history of Agadir and the coastal region as imposed on it, almost, from outside the Maghreb, whereas the descriptions in chapter 4.2 and 4.4, as well as to some extent section 2.3 on the Jewish communities in the south, present the account more as seen from within the region and lay greater emphasis on historical processes occurring inside Morocco.

To deal first with the Phoenicians, it is established that this sea-faring people set up maritime enclaves on the Mediterranean coast of Morocco and down the Atlantic coast as far south as Larache (the city they called Liks, and even earlier Maqom Semes, 'city of the sun') and Chellah, near Rabat. Following the

destruction of the Phoenician capital of Tyre by the Babylonians some 2,560 years ago and the subsequent independent existence of their descendants based at Carthage, this latter power continued the colonization of coastal settlements, as staging posts and commercial counters, probably extending them further south along the Atlantic coast. Whether either Phoenicians or Carthaginians ever settled at Agadir must at best be considered an open question, despite claims, lacking any particular evidence, that the Rusadir described by the Carthaginian Hanno in his semi-legendary account corresponds to Agadir. The forested area around this place teemed, according to the periplus, the description of his voyage, with lions and elephants. The confusion over the siting of Rusadir, if it corresponded to any place at all, is not helped by the fact that Phoenician Melilla was also called Rusadir. All that can really be stated is that the sheltered bay and promontory of Agadir, a rare instance of such along that part of the coast and corresponding to the sort of place that the Phoenicians and Carthaginians were known to favour, would be the most likely candidate for a settlement of theirs if such ever existed anywhere between Capes Ghir and Boujdour.

Turning now to the period of European colonization, the 15th century was one in which the Portuguese attacked and successively took settlements along both Moroccan coasts. As regards Morocco south of the Atlas it is recorded that as early as 1447 the prince Dom Henrique of Portugal had tried to establish commercial relations with the town of Massa, a flourishing centre apparently at the time, situated on the mouth of the Massa river⁵. In 1487 the inhabitants of Massa were eventually persuaded to recognize the authority of the Portuguese king, Manoel I⁶, and in 1502 a Portuguese trader from Evora, João Lopez de Sequeira, set up a commercial post at Massa.

5. Valéro, Denise, *Petite Histoire des Ruines Portugaises au Maroc*, Casablanca, 1952. p. 103

6. *ibid.*

The story of the colonizing of Agadir begins at this point. Its knowledge in detail is due to the discovery in the early 1930s by Pierre de Cenival, a French scholar on Lusitanian Morocco, of a hitherto unknown document in the archives in Lisbon⁷. It had no title, beginning simply: 'Este he o origem e começo e cabo da villa de Santa Cruz do Cabo de Gué d'Agoa de Narba' (this is the origin and the beginning and end of the town of Agadir). There was no mention of the author's name either, though he was a Portuguese soldier who served his career at Santa Cruz, arriving possibly around 1525 and remaining there until the fall of the Portuguese enclave in 1541; he then went into hiding and was eventually captured and taken to Taroudant, and released, against a ransom, in 1546. He returned to Portugal and wrote the text of the chronicle some 15 years later (probably between 1560 and 1570)⁸.

Santa Cruz was settled in 1505 as a trading post by the same João Lopez de Sequeira⁹ mentioned above, with financial and material assistance from the Portuguese crown. In the following seven years he constructed a wooden castle, 'Santa Cruz de Barbeira', and a church at the foot of the hill near the sea, around the site of a spring near the koubba (marabout) of Sidi Bouknadel; the village became known as Founti (from 'fonte'; spring) and an early fishing industry was established, with the salted produce being traded at the counter there. Unable to make a viable concern of the enterprise Lopez de Sequeira sold it in January 1513 to the Portuguese king. Around the same time the Portuguese had established a fort (1502) and town (1506) at Mazagão (Mazagan, El

7. The document was published, with a French translation, introduction and annotated commentary by Cenival, in *Chronique de Santa-Cruz du Cap de Gué (Agadir)*, Geuthner, Paris, 1934.

8. *ibid.* pp. 6-11

9. The author of the chronicle called him João Lopez Girão, though Cenival (p.21) points out that in all other sources he is called de Sequeira; the author of the chronicle is often less accurate on the early events, before he himself arrived in Agadir, than on subsequent ones.

Jadida) and a fort (1506) at Mogador (Essaouira). European traders who were active on the coast near Agadir in this period included particularly the Genoese merchants, from at least 1507 onwards, operating from Massa and from Tarkoukou (near Tamraght, north of Agadir), and the Spanish, also using Tarkoukou¹⁰.

The origins of the names for Agadir deserve a brief mention. The author of the chronicle states that the local spring, or fountain, was called 'fonte d'agoa de Narba' after a local notable called Ahames Narba. Cenival¹¹ considers this patently false, and mentions a letter from the inhabitants of Massa to Manoel I¹² giving the Arabic name Agadir l-Arba'; the suggestion is that this referred to the Wednesday market (souk el-arba') near the communal storehouse of grain (agadir)¹³, that the nearby spring also came to be known as ('ain) l-arba', and that the Portuguese made this into 'agoa (water) de Narba'. Although Cenival does not suggest an origin for the invented first name, 'Ahames', this could either stand for Ahmed or could conceivably denote a Thursday market as well (el-khemis wa l-arba'), for which, admittedly, there is no other evidence¹⁴. The Cabo (Cavo) da Gué (Guer, Ger, Aguer) appearing in the name for Agadir refers to Cape Ghir¹⁵ to the north. Other local place names mentioned (in a Portuguese form) in the chronicle include Anza, the village of Tildi near Agadir

10. Abun-Nasr, Jamil, *A History of the Maghrib*, Cambridge University Press, London (2nd edition), 1975. p. 205

11. Cenival, *op.cit.* p.22

12. of 6.7.1510

13. A Berber word, of ultimately Phoenician origin (see glossary), appearing in the names of many places in the region, as 'Agadir' or 'Tagadirt'.

14. 'Agoa de Narba', in fact, appeared on Portuguese maps from 1480 on; from 1325 to 1470 maps had denoted the place as 'Porto Meseguinam' or 'Porto Mesegina' (from the local Mesguina tribe, still in existence on the right bank of the Souss in the plain near Agadir).

15. Cape Ghir itself is mentioned as early as 1325 and 1329 in two Portuguese maps, as Cabo da Guer and Cavo da Ger respectively. (source: Cenival, *op.cit.* p. 21)

(and near the river of that name), the region of the Ida ou Tanane (according to a reading of a doubtful name) and the village of Tamraght about 12 kilometres north of Agadir. At this last place Lopez de Sequeira also built a castle¹⁶.

The first Portuguese governor of Agadir after 1513, Dom Francisco de Castro, fortified the settlement, with ramparts reaching as far as the sea. From about 1525 onwards, with growing local agitation and organization of the tribes under the movement of the Saadian clan, there were clashes between the Moroccans and the Portuguese inhabitants of the enclave. Cenival points out how the chronicle shows not only the economic and political conditions existing in the Souss which enabled the Portuguese to establish themselves originally, but also the changing factors, among them the better political organization of the local people, united by the Saadians under Mohammed esh-Sheikh, as well as their much improved arming in material terms, which led to the expulsion of the Portuguese. In 1531 Mohammed esh-Sheikh¹⁷ (cf. also ch. 4.2) established a camp at Tamraght, attacking the Portuguese unsuccessfully two years later. In 1536 a truce was negotiated at Taroudant for four years but was abandoned at the end of the period by Mohammed esh-Sheikh, who had meanwhile been fortifying the hill above Agadir and purchasing arms, including gunpowder, from European merchants. He attacked again, unsuccessfully, in 1540, and finally took the town in March 1541. The Portuguese who escaped were hurriedly forced to evacuate the place, and over the following months Mogador, Safi and Azzemour were evacuated as well. The Saadians received a considerable spur by taking Agadir on their way to controlling all of Morocco.

16. Cenival, *op. cit.* p. 23

17. Kininmonth, C., *The Travellers' Guide to Morocco*, Jonathan Cape, London 1972. pp. 328-329

In the second half of the sixteenth century there was a thriving trade between the Souss and Europe, with English merchants replacing the Genoese and Spanish. The Souss exported principally sugar cane through Agadir, as well as dates, almonds, wax, leather and skins, and imported cloth and arms. There were English commercial agents in Agadir, Safi and Marrakesh, and also one from 1586 to 1589 at Taroudant, supervising the local production of saltpetre¹⁸, some of which was exported. The fortified kasbah on the top of the hill, built originally for the 1541 siege, was enlarged in 1572 (in a style imitative of Portuguese military architecture)¹⁹ by the Sultan Abdallah el-Ghalib²⁰, who apparently feared a renewed Portuguese attack.

With the decline of political control over the south of the later Saadian rulers, and with the opening of sugar plantations in the West Indies and Brazil, trade at Agadir declined in the mid-17th century, and with its falling back the European colony of traders disappeared. Trade through the port, though, continued on a smaller scale for another century before being halted in 1774 by the Sultan Sidi Mohammed, as his means of dealing with the strong political opposition in the south. In 1751 Denmark had been given a monopoly over Agadir's foreign trade which was to last only a few years, and in 1765 the opening of the rebuilt town and port of Essaouira dealt a blow to Agadir even before the forced closure of the latter (see also section 2.3). For the rest of the 18th century, and during the whole of the 19th, Agadir stagnated as a small fishing village at Founti, with the port being used in that period only in exceptional circumstances of drought to import cereals. Péré quotes the accounts of a French traveller (Cochelet) in 1819²¹ who described the deserted ruins of the town, and of Charles de Foucault²² in 1884 who painted a similarly desolate picture of a town without people and without commerce.

18. Abun-Nasr, *op.cit.* p. 206 and 215

19. Valéro, *op.cit.* p. 122

20. and not, as Kininmonth (*op.cit.* p. 329) suggests, in 1752 under another Abdallah, the Sultan Abdallah ben Ismail.

21. Péré, M., *Découverte d'Agadir, La Porte*, Rabat 1976. p. 15

22. *ibid.* p. 16

2.2 Agadir and the Souss in the 20th century (up to 1960)

2.2.1 General description

Morocco at the end of the nineteenth century and in the first decade of the twentieth was increasingly feeling the effects of diplomatic and economic intervention by the rival European powers, and of growing financial indebtedness to them. Britain, under the terms of the Anglo-French treaty of April 1904 (the so-called *entente cordiale*), agreed to give France a free hand in Morocco in return for similar treatment on its own behalf in Egypt, and after this agreement the principal competition for the country was between France and Germany. Following an offer by Wilhelm II to the French that they, too, end their friction, an accord was reached in January 1909 under which the Germans agreed to pursue only economic interests in Morocco and recognized the special political interests of France.

Apart from its own serious internal problems, the south of Morocco was affected by the European wrangling over the country. Mineral prospecting in the south by Europeans had begun in the late 19th century²³, and in 1909 one of the leading concerns in the field, the German Mannesmann brothers, opened an office at Taroudant. In March 1911 the French marched on Fes, the Moroccan capital, and occupied Meknes (8 June) and Rabat (9 July) as well²⁴. The German response was conducted on 1 July 1911 in a famous incident which appears in every popular history of Agadir. On the pretext of protecting their supposedly endangered mineral enterprises in the Souss they sent a gunboat, the Panther, into Agadir harbour. Following the Franco-German treaty of 4 November 1911 the Germans, too, were bought off, receiving parts of the Congo. France now had a completely free hand and on 30 March 1912 the French

23. Péré, Michèle, 'Agadir, ville nouvelle' in *Revue de Géographie du Maroc*, No. 12, 1967, pp.43-90. The Souss had apparently in the 1860s acquired a legendary reputation for being an 'Eldorado', with gold flowing in the banks of the Oued Souss.

24. Julien, Charles-André, *Le Maroc face aux Impérialismes*, Paris 1978. p.85

established their protectorate over the major part of Morocco, with the Spanish taking the northern portion of the country including the Rif, as well as the area around Tarfaya in the far south²⁵.

The town of Agadir, numbering barely 700 inhabitants at the turn of the century, was occupied by 100 French soldiers in 1913. The town itself as well as the region around it, or whatever part of it the French were intermittently in control of, stayed under military control and was removed from free trade until 1930; up to 1925, as well, Europeans were forbidden to settle there. Although they easily occupied Agadir and the Souss plain, the attempts of the French to control the whole region were bitter and protracted; it was only in 1934, twenty-two years after the establishment of the protectorate, that they finally completed their 'pacification' of the dissident areas in the High and Anti-Atlas and thereby controlled the whole of southern Morocco.

In the first decades of the 20th century - both before and after the establishment of the protectorate - several pretenders to the Moroccan throne sprang up throughout the country. In the south they were represented by Moulay Ahmad Haybat-allah - better known as El Hiba - the fourth son of the great tribal leader of the Western Sahara during the end of the 19th century, Shaykh Ma al-Aynayn. The fame and temporary success of El Hiba, and of the radical Islamic movement in the Souss which arose around him in the spring of 1912²⁶, were due to the interaction of political, economic and social factors. The political one was clearly the

25. Spain also took over the enclave of Ifni on the coast south of Agadir (at the western extremity of the Anti-Atlas); this stemmed from the 1860 accord between Spain and Morocco under which the latter was forced to pay a crushing financial indemnity to Spain. The taking over of Ifni, though, was not implemented at the time, and was only revived in 1934, the same year that the French completed their pacification of the south. See also Burke, Edmund III, *Prelude to Protectorate in Morocco: Precolonial Protest and Resistance 1860-1912*, London, 1976. p.145

26. Burke, *op.cit.* p.199

desire to resist the French occupation, and was echoed by El Hiba's call to expel them. On the economic side, the severe famine of 1910-11 had worsened an already depressed economy in the Souss. Finally the dominance of the grands qaids, the lords of the Atlas described below, brought together both social and economic oppression, with the Tizi n'Test pass in the High Atlas, and through it control of all trade between the Souss and the northern cities, being in their hands. The tribes of the south rallied around El Hiba at his base of Tiznit where he proclaimed himself Sultan in May 1912; gathering support throughout the Souss he marched north to Marrakesh, which he captured and where he was proclaimed Sultan by the 'ulema. Marrakesh was eventually recaptured by the French and El Hiba fled to the Souss.

The grands qaids of the south²⁷ were the chiefs of Berber tribal confederations who had managed to achieve despotic control over large areas. At the turn of the century there were three principal such dominions in the south, none of any long standing. The oldest was that of the M'tougga tribe situated in the High Atlas north of Taroudant; to their east, in the central Oued Nfis, lay the territory of the Goundafa tribe, whose qaid was Si Tayeb el-Goundafi; and finally there was the tribe of the Glawa, with its mountain kasbah at Telouet in the central High Atlas. The Glawa tribe owed its rise to power in the region largely to the patronage of the Sultan Moulay Hassan (in the 1890s) and subsequently to that of Abd el-Hafid, who in 1908 appointed T'hami el-Glawi as pasha of Marrakesh. The French continued this patronage, and under Lyautey²⁸ initiated their policy of using the grands qaids to pacify the dissident areas of the south not under the control of the makhzen. With the demise of el-Goundafi in 1924 and that of el-M'touggi four years later, control of both their empires passed to T'hami el-Glawi, who, from his feudal

27. Described by Maxwell, Gavin, *Lords of the Atlas*, London, 1966, and Montagne, Robert, *Les Berbères et le Makhzen....*(1931), op.cit.

28. the first French Résident Général in Morocco

stronghold of Marrakesh, autocratically ruled the economy of southern Morocco, and who played such a leading role in the growing crescendo of political crises and intrigues of the final ten years of the French protectorate.

When the French occupied Agadir in 1913 it was a village with no port facilities and with only two small areas of habitation - Founti, above the area where the port was later built, with around 300 fishermen, and the Kasbah on the top of the hill (at a height of 216m) overlooking the bay, where about 460 people lived. Some 160 of the population were Jewish. The first port works, for strategic purposes, were started in 1917, and work was also begun on an aeronaval base²⁹. It is interesting to note that even at this early stage of the protectorate, with the Souss effectively cut off from the rest of the country and Agadir a mere village, the aeronaval base served as a military staging post for the French colonies in west and central Africa; some years later it similarly linked the aero-postal service between Toulouse in France and Dakar in Senegal³⁰. By 1933 Agadir also lay on the civil and postal air route from France to South America, and was used by Spain as a port of call, by air; within Morocco it was the 'army flying headquarters' of the south³¹. A place does not need any significant population or economic activity to be an important link, as Agadir then was; conversely, Agadir today with its demographically booming metropolis, being blocked to the south by the Sahara conflict, does not link anything very much on a north-south axis along the west coast of Africa over any distances of more than a couple of hundred kilometres.

29. Péré, *op.cit.*.

30. The hazardous and solitary flights across the Sahara by the postal air couriers in those days were popularized by the pilot-writer Antoine de Saint-Exupéry in books such as the magnificent *Terre des Hommes*, 1939.

31. British Foreign Office document (at Public Records Office), file F.O. 371/18554, document W9447/33/28 (report of December 1933).

In 1925, when the town was opened to Europeans to live in, the first solid constructions were built in what was to become the quarter of Talbordjt; there was still no electricity, nor proper road network in the town. In 1928 the decision was taken to create a municipality of Agadir, and by the year 1930, when the municipality was set up and Agadir became the administrative centre of the region (as opposed to a purely military establishment), the population of the town numbered around 2,000 (see images 6 to 8 showing Agadir in 1930). The dahir dated 1 February 1930, signed by the Resident General Lucien Saint, retrospectively opened the port of Agadir to international commerce and the region around Agadir, extending some 36 km inland, to settlement by Europeans³². Around the same time Agadir municipality was authorized to seek a loan of 1 million francs at 5%³³. The opening up of Agadir had a further impact on Mogador (Essaouira) which in 1930 was already suffering a decline due to a series of bad crop years and generally depressed world conditions³⁴.

Formerly the Souss region had received all its imports via Mogador and had sent the bulk of its produce through Marrakesh; after 1930 the town of Agadir assumed both these roles for the area of the Souss³⁵.

In February 1931 the process of registering land around the town of Agadir began; the French protectorate authorities had originally, in 1930, planned to expropriate all land within the municipal boundaries, but in the face of strong opposition from both French and other foreign claimants who had bought land there the authorities gave up this plan, reserving instead the right to

32. The dahir read: 'Le port d'Agadir est ouvert au commerce international à compter du 1er janvier 1930'.

33. F.O. 371/15000 document W1985/277/28.

34. F.O. 371/15745 document W4189/4189/28, report dated 1 March 1931 from Vice-Consul in Mogador, Major F.A.L. de Gruchy. p.3

35. F.O. 371/18554 document W9447/33/28.

Agadir in 1930

Image 6 A view southwards along the coastal road from near the port

Image 7 The bay as seen looking southwards from near the old Founti



Image 8 The site of the port and the quarters of Founti and part of old Talbordjt

Sources for above images: **Agadir: Revue d'information générales**, No. 4, Sept. 1979

expropriate land needed for roads and administrative construction³⁶. By 1938 there was already speculation in land in Agadir³⁷, with often extreme confusion, as in the case of rural land purchasing in the Souss in the 1930s, over its ownership and registration, some land being sold several times over to different buyers.

The first developments in the 1930s were in the local fishing industry and in transport, and in the settling of local traders and employees of the protectorate. Activity at the port of Agadir, which before its opening to international trade in 1930 had been limited to coastal shipping trade, increased sharply, with the installation there of a customs office. The volume of exports in particular shot up, boosted for a short while by consignments of tizrah which had previously been exported from Mogador, before the depletion of that commodity and a falling back of the level of exports (see table 13). Development plans for the town and its region in the early years of colonization were ambitious, and were described with some disbelief in a report of the time³⁸:

"... In addition, they talk of developing Agadir in the south as the port of the "rich productive area of the Sus", where it is intended to grow bananas and develop mines. Various opinions are expressed as to the possibilities of mining and banana growing in the Sus, but nothing which seems to justify the rosy prospects which are being held out".

"At present there are few signs to be seen of the promised development at Agadir beyond a grandiose piece of town planning, which is on view at the estate agents' offices, the beginning of a breakwater about 100 metres long and a large new hotel overlooking the deserted sands of the bay..:"

36. F.O. 371/15745 document W4189/4189/28, p.8

37. F.O. 371/22584 document W7244/1629/28, dated 27 May 1938.

38. F.O. 371/18554 document W33/33/28, (report by C.N. Stirling)

With sceptical distrust of the possible benefits of development, all the more so, clearly, that it was being carried out by the French, the author of the report continued:

"If the present plans are proceeded with, Agadir will be a gross example of the tendency which the French have shown to develop Morocco by means of the "boom". This method, familiar during the development of Canada and United States of America, consists in providing the adjuncts of prosperity, in the shape of railway, roads, public services and utilities on the basis of a speculative estimate of productive capacity and trusting that prosperity will follow through the power of suggestion".

After the Souss had been opened to French colons in 1930 there was a rush for good land, and a similar confusion and speculation as was the case with urban land in Agadir. Again the entry of French buyers into the market pushed up land prices, and there was a rush among Moroccans to stake out claims to every bit of unused land and to produce land titles. Stewart³⁹ has noted throughout Morocco in general under the protectorate the existence of a dual economy in agriculture, with sharply differing sizes of holdings, locations, agricultural techniques, crops, credit systems and marketing facilities as between the European and indigenous sectors. Certainly among crops cultivated, citrus fruits, which became the mainstay of modern agriculture (rather than bananas) in the Souss, had hardly existed on any scale in Morocco before the protectorate period; the development of citrus cultivation was further encouraged in the early 1930s by the finding that the produce of the Souss could be sold in Europe six weeks before that from other countries⁴⁰. In 1938 the grain harvest recorded in the south, in the Agadir and Ouarzazate regions, showed barley still to be the predominant cereal with a production of 450,000 quintals, against 30,000 quintals of hard wheat and 25,000 quintals of maize⁴¹. In the same year it was reported that 20

39. Stewart, Charles F., *The Economy of Morocco 1912-1962* Cambridge, Mass. 1967. p.71

40. F.O. 371/18554 document W9447/33/28

41. F.O. 371/22584 document W11998/1629/28, dated 5 August 1938.

million francs had been allocated for investment in hydraulic development in the south generally⁴². Mineral prospecting, too, which had ceased in the region of the Souss with the advent of the protectorate, was resumed. Colonial agriculture developed in the Souss in the 1930s and 1940s, but it was not really until the late 1940s that it took off. A report of 1948 claimed that despite problems of water many French colons were "taking up land, irrigating it and creating rich orchards of olives, oranges and even bananas"⁴³. Péré⁴⁴ records an eight-fold increase in rural taxes from colonial holdings in the Souss between 1947 and 1952 (compared with only a doubling in the rest of Morocco in the same period).

In 1930 the first firm statement went around that a railway was to be built in the south to Agadir, something that over the following fifty years became a part of the planning liturgy of the region (cf. ch. 6.2). In an interesting report⁴⁵ from a Mr. Nigel Black Hawkins, a British citizen living in Morocco at the time, who had a considerable interest (mainly as regarded land) in Agadir and whose correspondence with British diplomatic representatives in Morocco and with the Foreign Office in London on matters dealing principally with land disputes and actual or threatened expropriations now fill the Foreign Office archives on Morocco of that period, a worried description is given of the rumoured French scheme for the railway. As always in these matters, the concern stemmed entirely from the expropriation of land that the scheme apparently was to entail. It seemed that in March 1930 the Comte de Bourbon Busset, the director of a French bank (called either 'Banque Immobilière' or 'Crédit Immobilier') had visited Agadir, apparently to inspect the concessions in land there that might be given to his bank. The bank had recently recovered from Brazil the sum of 20 million francs, 'an old and troublesome claim', and

42. F.O. 371/22584 document W7554/1629/28, dated 27 May 1938.

43. F.O. 371/73022 document Z2626/73/69, dated 15 March 1948.

44. Péré, (1967), *op.cit.* p.47

45. F.O. 371/15007 documents W5943 and W10967/5943/28, of 1930.

this was done mainly with the help of the French government. In return for this favour the French government informed the bank that they would wish this money to be re-invested in a French colony or protectorate, adding that, as it happened, they planned to construct a 'strategic railway' which would run south of the Atlas mountains from Agadir, via Bon Denib, to Algiers. The government had insufficient funds for this purpose and they hoped that private enterprise would step in; in return for undertaking this scheme, a private company or consortium would be given 'valuable concessions' of land, apart from the benefits of the undertaking that they might in any case obtain. Apparently Comte de Bourbon Busset was not impressed by the concessions of land he stood to gain and it was immediately after his visit, according to the report, that the protectorate government completely altered its plans for the new town of Agadir, thus arousing Mr Black Hawkins's suspicion and concern. The original plan contained some 400 to 500 acres⁴⁶ which were to be expropriated and developed, an area quite sufficient, according to Mr Black Hawkins, for the purpose, whereas the revised plan included some 8,000 acres⁴⁷. The efforts of Mr Black Hawkins to enlist concerted diplomatic support for his battle with the French protectorate authorities succeeded, and, as was mentioned above, the protectorate government, under heavy pressure from both private individuals as well as two of the principal capitulatory powers (Britain and America) of the Act of Algeciras⁴⁸, eventually dropped the plan for large-scale expropriation.

46. equivalent to around 160 to 200 ha.

47. equivalent to approximately 3,240 ha, roughly the area of the whole municipality.

48. The treaty of Algeciras of April 1906, under which the 12 signatory powers agreed to safeguard the territorial integrity of Morocco and the authority of the Sultan. Although the treaty was effectively a dead letter after 1912, it could still be invoked when convenient, as on this occasion, by those co-signatories who had not been on the losing side of the first world war.

This change of plan was by no means the end of the railway project. A report in 1933⁴⁹ stated that the laying of at least a narrow gauge track seemed imminent following an agreement between French smelting corporations, shipping companies and local mining concerns. Five years later the British Consul in Marrakesh wrote that a decision to begin work on the southern section of the Algiers-Agadir railway had been taken⁵⁰, and a report of 1946 mentioned a plot of land in Agadir, of 5,760 m², which had been reserved for the railway station and which was the object of expropriation procedures⁵¹. The railway project in the south, then, began early and had a long and involved progression.

In demographic terms, by 1936 the population of Agadir had risen to over 5,500; of the 4,000 Moroccans, about an eighth were Jews, and of the 1,500 Europeans the majority were French (and over a half of these were soldiers). By 1939, the quarter of Talbordjt alone had acquired, in the fourteen years since its creation, some 6,000 to 7,000 inhabitants. The town of Agadir in general maintained a rate of growth at a steady level of over 10% per year from 1925 right through to about 1952 (the average rate for the whole period being 11.8%), when the departure of Europeans from the area caused the rate to drop (cf. fig. 26); this rate of growth up to 1952 represented a doubling of the population in slightly more than every six years. In the same period Tiznit was growing at only some 2% per year and Taroudant at a half of that rate.

The economic basis for the growth of the town of Agadir in the 1940s was principally the sardine canning industry, particularly after 1945⁵². The decade saw the number of motor boats used for

49. F.O. 371/18554 document W9447/33/28

50. F.O. 371/22584 document W7244/1629/28, dated 27 May 1938.

51. F.O. 371/60115 document Z2626/2626/69; the plot of land concerned was numbered T3598.

52. Montagne, Robert (ed.), *Naissance du Proletariat Marocain*, Paris, 1950. p.147

sardine fishing increase from one to ninety, and the number of canneries from one to fifty-nine⁵³. By 1950 there were some 1,500 indigenous fishermen in addition to another 350 who were Spanish or Portuguese, and some 8,000 workers, mainly women, were employed in the canneries. In the period of 1947-1950 sixty canneries were opened in Agadir, and the volume of fish that was caught trebled, making Agadir the second fishing port in Morocco after Safi⁵⁴ (cf. table 12). Montagne⁵⁵ describes the large influx of women at the time, mainly from the tribes of the south, to work in the canneries. He mentions how the quarter of Talbordjt was insufficient to deal with the massive increase of seasonal workers, and describes the growth during this period of the 'semi-bidonvilles' of Anza and Yachech (see figure 25), of the settlement of Ben Sergao outside Agadir, and of the temporary quarters for seasonal workers set up outside Anza.

The crucial period for the 'great leap forward', then, for Agadir, was between around 1947 and 1953; in this period, as has already been noted, modern colonial agriculture took off, as well as the exploitation of minerals in the region (with that of manganese beginning in 1951). With a rapid development in the canning industry as well in this period, the total volume of exports from the port leapt dramatically (see table 13). In the 1950s, too, tourism in Agadir began - on a modest scale by present-day standards. By 1960 there were four large hotels⁵⁶ with a total

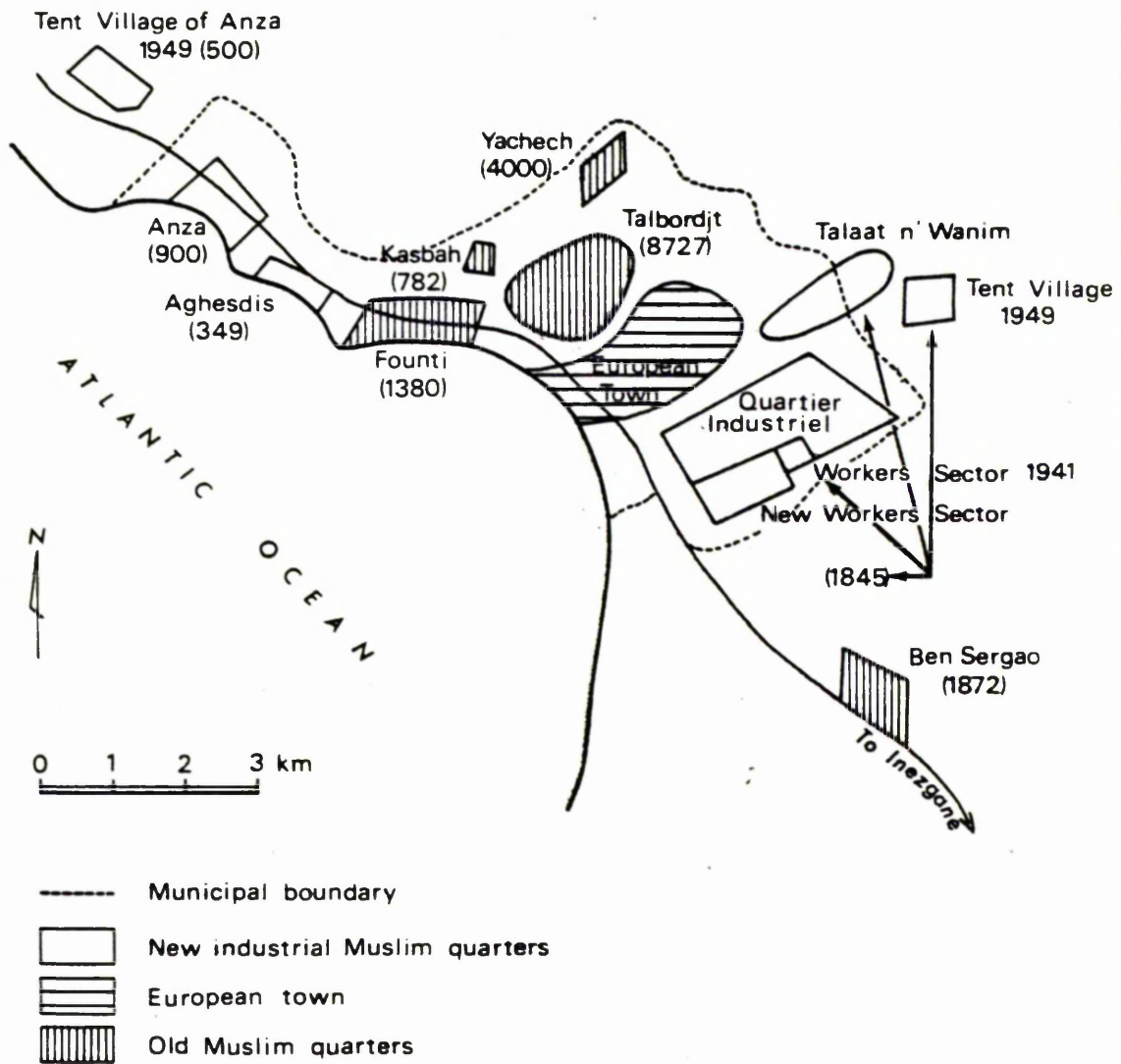
53. *ibid.*

54. Baroudi, Abdallah, (1971), *op.cit.* p.51

55. Montagne, (1950), *op.cit.* p.148

56. The Marhaba, on the site of the present Marhaba, the Saada, on the site of the present Atlas Hotel, and the Gautier, all of which were destroyed, and the Mauritania (which survived the earthquake of 1960). source: interview with M. Kroni on 27.8.79 (Chairman of the Association of Travel Agencies of Agadir). These figures can be taken as upper limits. Péré, (1967), *op.cit.* gives figures of some 200 rooms for the larger hotels (about 400 to 500 beds) and 60 rooms (about 180 to 250 beds) for the small hotels.

FIG. 25 THE QUARTERS OF AGADIR (1948-49)
WITH THEIR INDIGENOUS POPULATIONS



source: Montagne (1950), *op.cit.* feuille XXIII planche 52

note: This map, reproduced from Montagne's work, is more of a sketch map; the locations and relative scale of the various quarters are not accurate. The overall scale of the map is only approximately 1:100,000 as given above. For a more precise map of the quarters of Agadir before the earthquake, see fig. 36.

FIG. 26 POPULATIONS OF MAJOR SOUTHERN URBAN CENTRES
UP TO 1960

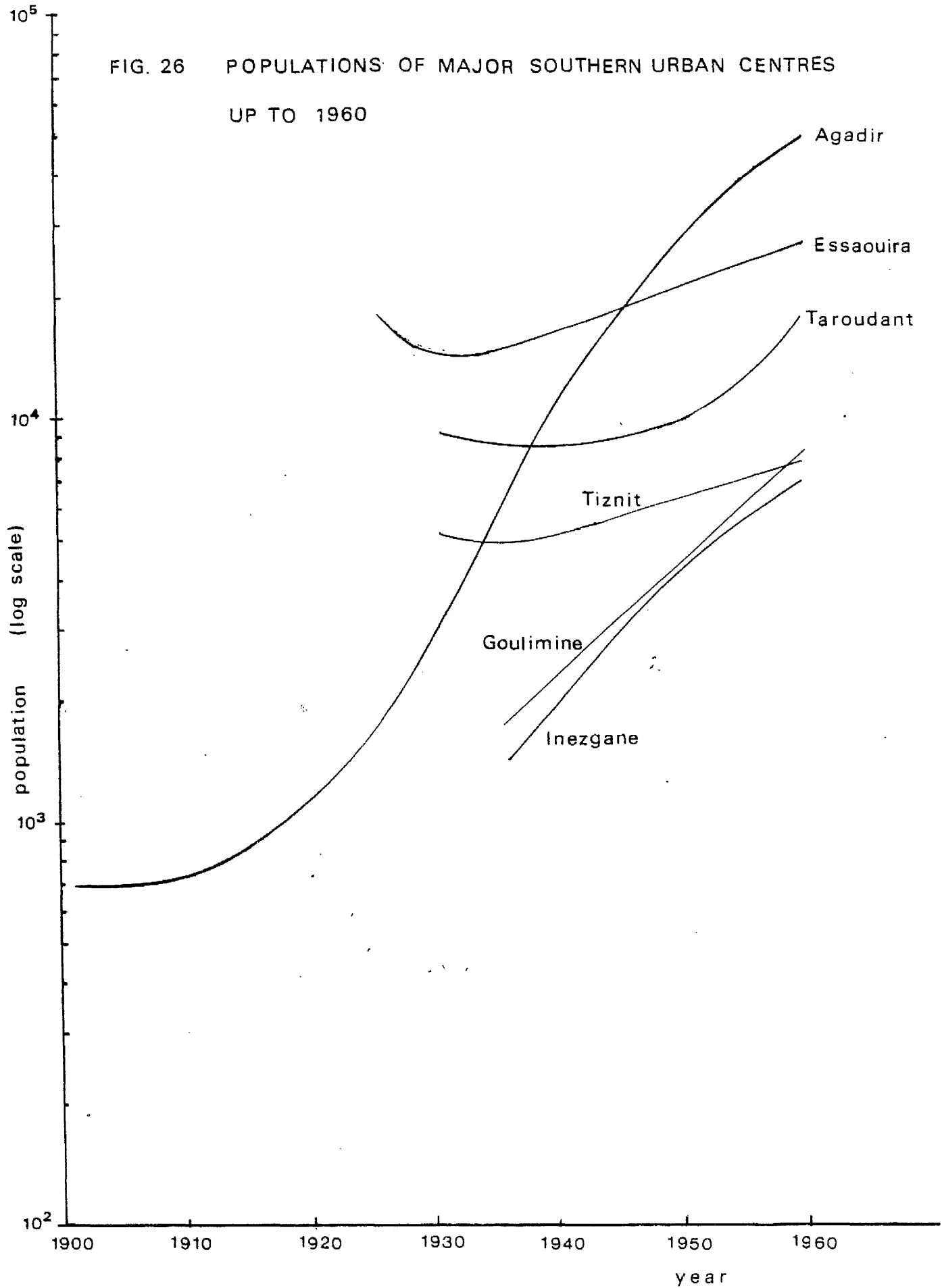


Table 12: Volume of fish caught in Moroccan ports (French zone) in 1935 and 1950-55

Port	1935	1950	1951	1952	1953	1954	1955
	(by value, '000 francs)							(by weight, in tonnes)
1. Agadir	605	30,555	26,587	35,558	55,784	37,845	30,137
2. Safi	2,100	51,139	37,343	52,622	41,828	34,860	22,320
3. Mogador (Essaouira)	706	22,299	5,195	12,206	10,020	6,968	13,257
4. Casablanca	10,857	11,850	16,181	16,552	15,039	8,995	11,620
5. Port Lyautey (Kenitra)	923	2,129	1,032	1,068	1,342	773	1,826
6. Fedala (Mohammedia)	2,921	1,117	1,789	1,071	1,267	857	1,059
7. Mazagan (El-Jadida)	927	3,356	2,395	2,592	2,229	2,438	903
8. Rabat	1,323	739	216	300	488	285	578

Sources: Annuaire Statistique 1935 (Zone Française)
Annuaire Statistique 1955-56 (Zone Française)

Table 13: Volume of trade through the port of Agadir, 1929 to 1959

	1929 1	1930 1	1934 2	1935 2	1949 3	1953 4	1959 5
	(tonnes)						
<u>Exports</u>	2,258	25,888	2,122	2,705	3,218	80,000 ⁷	102,192
including:		including:				including:	including:
1,603 <u>tizrah</u> ⁶	24,760 <u>tizrah</u> ⁶					7,630 citrus & vegetables	49,302 citrus
						30,562 manganese	13,219 vegetables
						8,152 canned fish	10,297 manganese
							2,460 iron
							797 copper
							521 lead
							5,990 canned fish
							6,257 frozen fish
<u>Imports</u>	34,373	59,946	14,114	16,576	47,945	70,000 ⁷	57,149
including:	including:	including:			including:	including:	including:
20,737 cereals ⁸	44,377 cereals ⁸				13,444 cereals	foodstuffs, fertilizers, construction materials	48,014 hydrocarbons plus fertilizers, construction materials, soft drinks, coal and only 3/4 of sugar ⁹
2,310 lime & cement	2,413 lime & cement				6,625 sugar ⁹		
6,596 sugar ⁹	7,184 sugar ⁹						

Notes:

1. source: 'Report on Mogador and the Souss for the Year 1930' by British Vice-Consul (Major F.A.C. de Gruchy) in Mogador to Foreign Office (1 March 1931), F.O. 371/15745, document W4189/4189/28.
2. source: Annuaire Statistique 1935 (Zone Française).
3. source: Montagne, R. op.cit.(1950) p.103, quoting, in turn, from La Porte des Vaux, L'Emigration dans le Souss (1950); although Montagne does not give the year for which the figures apply, it would appear to be 1949 (or else 1948).
4. source: Péré, op.cit.(1967) p.48; the port had been rebuilt and enlarged between 1950 and 1953.
5. source: Péré, op.cit.(1967) p.56.
6. with the export of tizrah coming to an end in the early 1930s, the volume of exports fell to about a tenth of their level of 1930.
7. approximate figures.
8. Almost all the imported cereals were barley, much of it from Roumania. Competition among importers was strong, and prices were often lower than at Casablanca (source: report quoted in note 1 above, p.35).
9. after 1958 sugar was brought by road from Casablanca into which it had been imported.

capacity of around 600 beds (see image 9), and a fair number of small hotels existed (with a comparable total capacity) occupied mainly by local people or visiting Moroccans from outside the town.

By 1954 the acute national political crisis of the period was affecting the growth and development of Agadir and the efflux of the European population was under way, accompanied by a flight of capital which accelerated after independence in March 1956. At the same time, though, the rural exodus continued and the new arrivals of this period crowded into the growing bidonvilles; in 1957⁵⁷ there were some 320 'tents' in the bidonville of the Quartier Industriel (south east) and 3,140 in Anza. By 1960, on the eve of the earthquake, the population of Agadir was estimated at around 45,000 to 50,000 (see figures 26 and 27) of whom some 6,000 were Europeans and some 2,000 to 2,500 Moroccan Jews. Apart from the map of Montagne⁵⁸ (cf. figure 25) of the various quarters of Agadir in 1949 with their estimated populations, Baroudi⁵⁹ similarly makes estimates for the populations and densities of the various quarters in 1960 before the earthquake (see image 10). A combination of these two sets of figures is given in table 14.

2.2.2 Rural migration in the south

Even before the protectorate⁶⁰ there was emigration from the south to the northern cities and also to Algeria. When migration to France began, southern migrants went to work in the factories, the mines and the fields of France. In the European war (1914-18) some 40,000 Moroccans are estimated to have enlisted to fight on the Western front⁶¹.

57. Baroudi, *op.cit.* p.53

58. Montagne, (1950), *op.cit.* feuille XXIII, pl. 52

59. Baroudi, (1971) *op.cit.* p.55

60. Stewart, *op.cit.* p.57

61. *ibid.* quoting as reference Bernard, Augustin, *L'Afrique du Nord pendant la Guerre*, Paris, 1926.



Image 9 Agadir before the earthquake: the hotels Mauritania and Gautier



Image 10 Agadir before the earthquake: a square in the old Talbordjt

FIG. 27 THE POPULATION OF AGADIR
FROM 1900 TO 1960

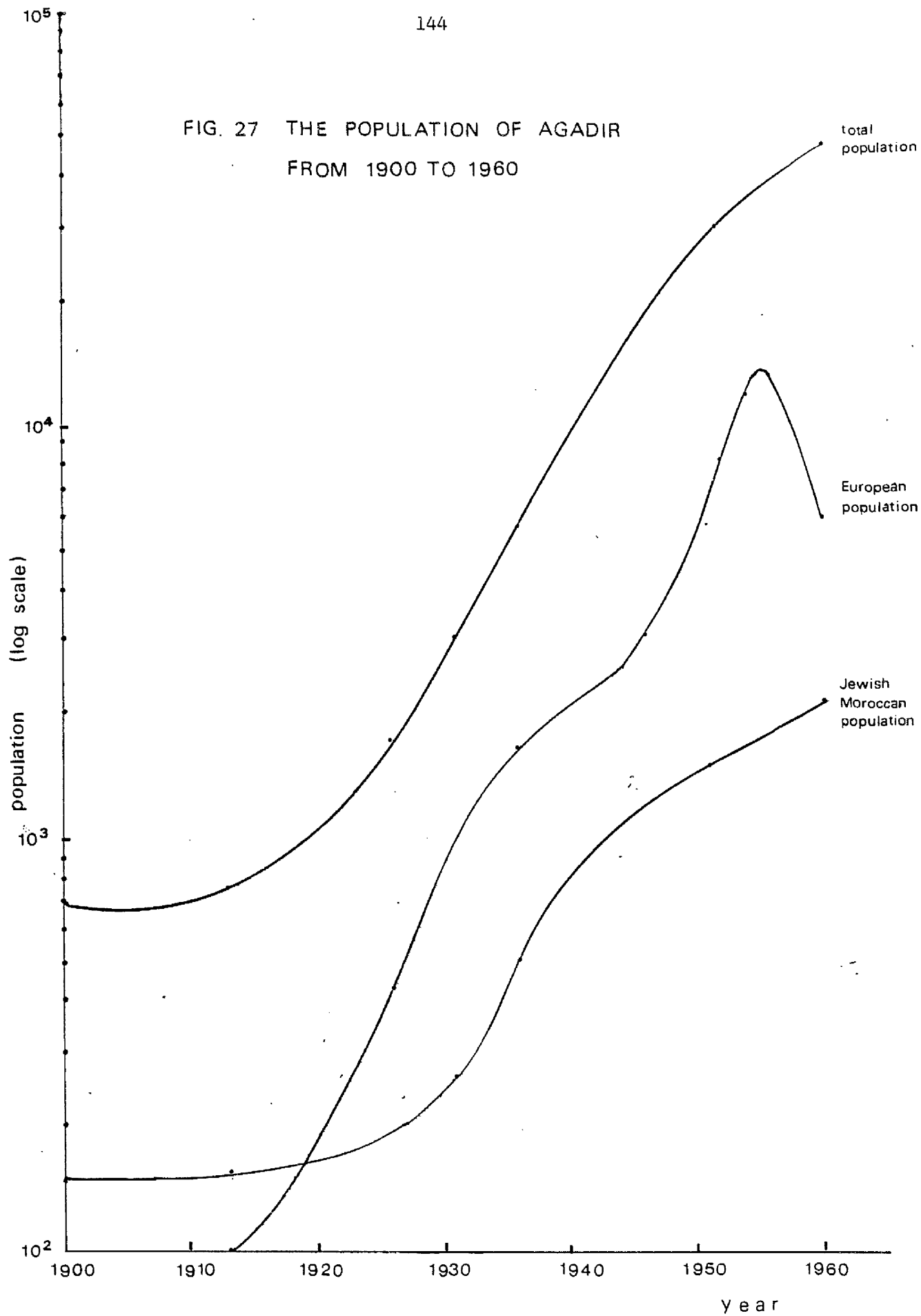


Table 14: Estimated populations of the various quarters of Agadir in 1948-49 and in 1960 (before the earthquake)

Quarter	population (1948-49)	population (1960)	growth 1948-60 (%)	area (ha) occupied (1960)	density per ha (1960)
Talbordjt	8,727	14,480	65.9	25.85	560
Kasbah	782	992	26.9	2.60	382
Founti	1,380	2,278	65.0	3.40	670
Yachech	4,000	6,802	70.1	7.20	940
Khiam	(1,845	4,320	(580.8	15.00	288
Quartier Industriel	(	8,240	(	37.75	218
Anza-Aghesdis	1,749	6,558	275.0	35.00	187
European town:					
Fer à cheval ('Horseshoe') & Mixed sector	((3,000 ⁽¹⁾	3,248	((18.9 ⁽¹⁾	136	24
Administrative plateau	( (	320	( (	32	10
TOTAL	21,483	47,238	220 %	272.8	174

Note 1: these figures, for the European town in 1948-49, are not given but are reasonable estimates to make

Sources: Montagne (1950), *op.cit.* feuille XXIII, planche 52

Baroudi (1971), *op.cit.* p.55'

In the High Atlas and Anti-Atlas, in some areas of which resistance to the French continued through the 1920s and up to 1934, those who might otherwise have emigrated often stayed back out of group solidarity. Some mountainous areas, though, such as the Ida ou Tanane region of the western High Atlas, and parts of the Anti-Atlas, did continue to provide migrants throughout the period, who would remit money through the French postal service to post offices in areas of French control, making arrangements for relatives or friends to collect it⁶².

What brought about the original pattern of migration from the south? Montagne⁶³ lists several factors which he groups into primary and secondary ones. As might be expected of someone employed by the protectorate who was always prepared to defend its policies, Montagne plays down European colonization of the land after 1930 as a major factor, relegating it to a secondary cause, and instead suggests that there already existed a 'traditional' pattern of migration northwards, for land, water and pasturage. There undoubtedly were involved a number of what, today, would be termed 'push' factors towards migration from the rural areas, and among these would figure European colonization in the plain, over-population, over-grazing, famine and epidemics. These last two were particularly drastic ones in certain years. The famine in the Souss of 1910-11 has already been noted; there were further famines in 1913, 1921, 1928, 1937 (together with an epidemic) and 1945. In 1945 whole tribal areas had to be abandoned due to the famine⁶⁴. In those parts of the mountains under the control of the grands quids, the exactions of these overlords would also often drive people to emigrate. The 'pull' factors, on the other hand, included the expectation of employment in the towns, the mines and the ports. The seasonal migration of women from the southern tribes to work in the canneries of Agadir in the late 1940s and after, where they were accommodated in temporary bidonvilles, has already been noted.

62. Montagne, (1950), *op.cit.* p.100

63. *ibid.* p.81

64. Péré, (1967), *op.cit.* p.27

The enquiry conducted between 1948 and 1950 in the south and documented by Montagne revealed some interesting and sharply differing patterns of migration from the various regions of the south. Montagne listed them as follows⁶⁵. Firstly there was a pattern of non-specialized emigration, usually for labouring or mining. This occurred both in the High Atlas among the Ida ou Tanane tribe (in the region of Imouzzer), further east and north around Argana, and also in the Anti-Atlas around Anezi and Ait Abdallah. Montagne describes the Ida ou Tanane tribe as having strong family ties. They did not emigrate far; 50% of their migrants, in fact, were in Agadir. The second type of migration pattern was the diversified, or semi-specialized one, found mainly in the Massa and Chtouka areas of the plain. Thirdly, there was specialized migration, that mainly, of the well-known small traders - a large proportion of whom were grocers. Grocery trading was particularly pronounced among migrants from the Ammiln valley (where Waterbury's case study is set⁶⁶) and the Ida ou Gnidif area, both in the Anti-Atlas, as well as other Anti-Atlas areas - Ait Baha, Ait Mzal and Amanouz, for example.

The fourth type of migration was what Montagne termed a traditional, or archaic mode - a small group of artisans, solely in the region of Igherm, who were cobblers; they would emigrate north to Marrakesh for several months, often with their families, to carry on their craft there. Along the valley of the Oued Souss itself there was a mixed behaviour of migration; among the tribes east of Taroudant, such as the Oulad Yahya, the rates of migration were moderately high (around 4%) and were of the non-specialized type. Among the Haouara tribe, on the left bank of the river and west of Taroudant, the rates were lower, around 2%, and about 60% of migration was in families. To their west, near the coast, the Ksima tribe had an even lower rate of migration (1.6%); being close to Agadir the women of the tribe could go to work in the canneries there without any rural exodus following (see Appendix IV for the location of the main tribes in the region).

65. Montagne, (1950), *op.cit.* pp.48-74

66. Waterbury, John, (1972), *op.cit.* 67. Montagne, *op.cit.* p.175

Finally, among the Haha tribes north of Agadir, in the extreme west of the High Atlas and along the coastal areas between Agadir and Mogador (Essaouira), there was very little migration.

The northern cities absorbed a large amount of southern emigration, and prime among these, of course, was Casablanca. In 1948-50 some 23.7% of its population were Chleuh⁶⁷, 11.2% being from the Anti-Atlas, 4.3% from the plain and 8.2% from the High Atlas.

67. Montagne, (1950), op.cit. p. 175

2.3 Jewish communities in the south of Morocco

Jews have existed in North Africa generally, and in Morocco in particular since at least the time of the destruction of the Second Temple by the Romans (in the year 70 of the Christian era), and possibly even for several centuries earlier, after the destruction of the First Temple in 581 before the Christian era. Certainly they had lived and intermixed with the Berbers for several centuries before the arrival of the Arabs and Islam in the 7th century, and their relationship with their Muslim neighbours in the south after that time should be viewed, as Harvey Goldberg has suggested, as a mosaic, a pattern of cultural and economic interaction, rather than either a perpetual conflict of two hostile groups or the existence of a weak one dominated by a powerful one. This account is not primarily concerned with the flourishing urban life of the northern cities at various periods; Fes for instance, had a large and important Jewish element for several centuries after its founding (at the beginning of the 9th century) maintaining close links with similar centres such as Tlemcen to the east and the cities of Andalusia to the north. In the rural areas, particularly the more isolated ones in the south, to the extent that orthodox Islamic practice was adopted and remoulded into local Muslim custom, it touched on the indigenous Jewish groups, whose Judaism in turn, having particularly diverged over the centuries of separation from the mainstream orthodoxy, often influenced local Muslim practice.

One of the key differences between the two religious groups (whether bourgeois, urban artisan or rural), apart from their religious practices and beliefs, was that Jews were not allowed, under Islam, to carry arms. They also had (from the 13th century onwards) to pay a tax, the *jiziya*, levied on non-Muslims. The arrangement made for their security was that they were under the protection of the Sultan, and the Jewish quarter⁶⁸ in the medinas

68. called the 'mellah' after the original Mellah, the separate Jewish quarter in Fes established in 1438 by order of the Sultan.

of the imperial cities was placed next to the palace for that purpose. Whereas they may have been subject to greater daily harassment in the cities, the Jews there, in times of crisis, were probably more secure than their rural correligionists; conversely, in the communal struggle for survival in the harsher life of rural areas there would have been greater solidarity and less friction between the two groups, though in periods of conflict the rural Jews were more exposed.

Turning more specifically to the south of Morocco and to the period from the 16th century onwards, the following observations can be made. Apart from those still living off the land, the Jews were principally artisans (in small villages as well as in towns) or engaged in small-scale trading or money-lending. They would be involved in the sale of precious metals or wine, and, in the ports (which in the 'south' meant, at alternating periods, Safi, Mogador and Agadir), were active in maritime trade. A process for extracting sugar from sugar cane was brought from the New World to Morocco, and to the Souss in particular, by the Marranos (Jews who had converted to Christianity in Spain under the Inquisition but who still considered themselves Jewish and who later reconverted; some had left Spain and gone to North America, the Canaries and the Azores) and made Morocco a leading producer and exporter of sugar in the 16th and 17th centuries. During this period a shift had already begun among the Jews in the south away from rural areas and towards the urban centres and the ports.

The major urban centre of the 'south' has always been, in terms of numbers, Marrakesh, and it would be difficult to describe Jewish communities in the south without mentioning it. However, Marrakesh is in many ways an oversize southern Berber village; furthermore it lies outside the domain of this study. In qualitative terms it has many similarities - or had, up to recent times - with Taroudant in the Souss, which Flamand⁶⁹ has

69. Flamand, Pierre, *Les Communautés Israélites du Sud-Marocain*, Casablanca, 1959. p.111

perceptively described as a 'miniature Marrakesh'. The remarks which follow will be confined to Taroudant, as the 'traditional', southern (south of the High Atlas), inland Jewish centre, as well as to Agadir and Mogador on the coast.

The fortunes of the Jewish communities in Mogador (now Essaouira), Agadir and Taroudant tended to fluctuate over the last four hundred years as their respective towns would rise and fall in relation to one another. At the beginning of the 16th century, when the Portuguese established their trading counter at Founti (see chapter 2.1), Jews came to Agadir from the Anti-Atlas to be involved in the commercial activity of the port. In 1765 Mogador was rebuilt by decree of the Sultan, Sidi Mohammed ben Abdallah, who encouraged, not to say forced, Jews to settle there, and who soon after closed the port of Agadir to foreign trade. Agadir declined, together with its Jewish mellah; when the French occupied Agadir in 1913 they found 136 Jews in the mellah of Founti (out of a population of some 760 in Agadir, in Founti and the Kasbah). Many Jews from Agadir subsequently went to Mogador, the principal southern port for foreign trade in the second half of the 18th and in the 19th centuries, and its population then, and well into the 20th century, was heavily Jewish. Trade between Mogador and England (as well as with France and Holland) was particularly important; tea was imported from England, and wool and almonds were among the commodities exported to that country from Mogador. Towards the end of the 19th century, with a deepening financial crisis affecting all of Morocco, Mogador began to decline, and with it, in particular, the fortunes of some of its Jewish traders.

The growth of Agadir under the French brought Jews to Agadir from other parts of the Souss plain and from the High and Anti-Atlas mountains, a process which continued steadily throughout the 20th century. In addition, many Jews from a Mogador in decline went south to Agadir (some of them from families that had originally gone to Mogador from Agadir in the 18th and 19th centuries). Jews

in Agadir became involved in commerce, in modern activities (such as the agro-industry from the 1940s onwards), and in property. A Jewish quarter was established in Talbordjt, which, with its synagogues and a school, became the principal focus of Jewish life in Agadir; those poorer Jews in Founti tended to move out to Inezgane where a small mellah had previously existed. By 1955 two groups of Jews thus existed - an urban, Europeanized group, living in Talbordjt and in the European section of Agadir, and a poorer, peripheral group in Founti and at Inezgane (see figure 28). The Jewish community in Inezgane had by then grown to 350⁷⁰; in Agadir itself it was 1,655.

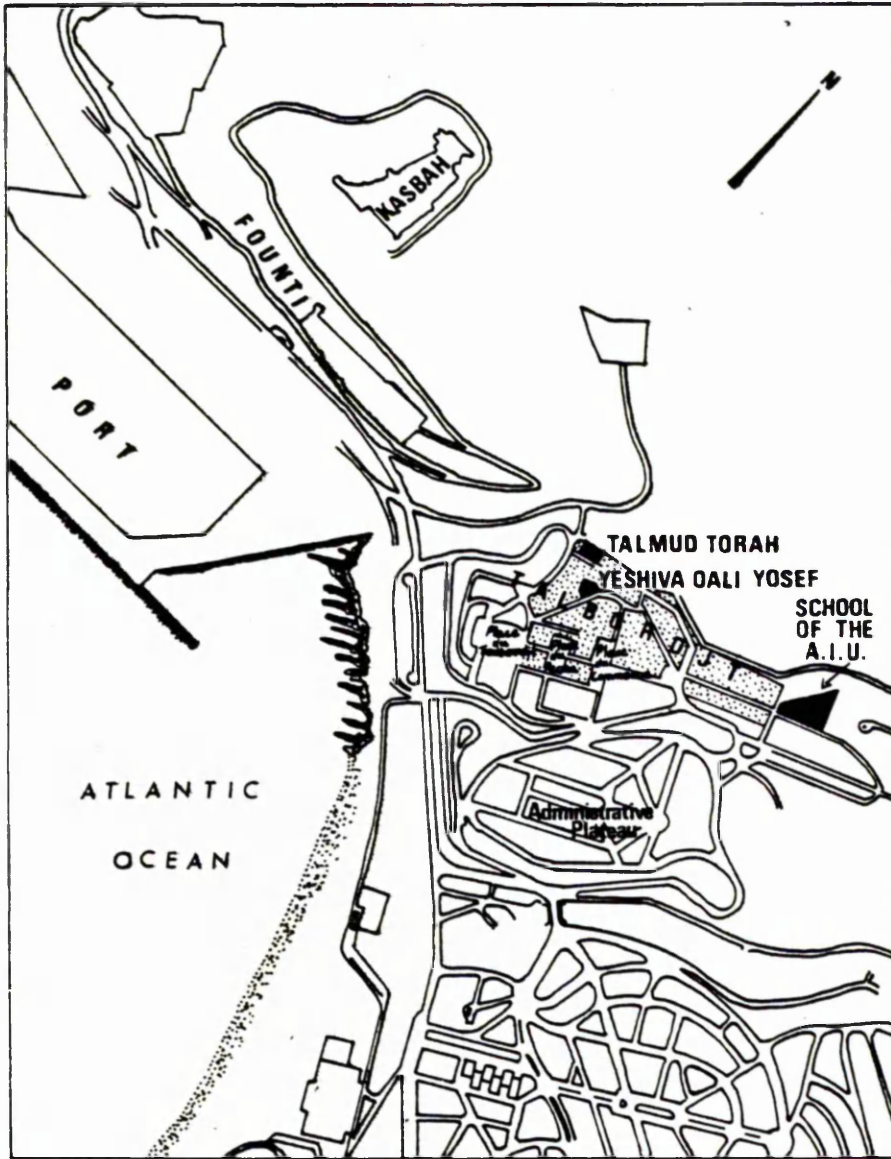
Taroudant is thought to have had a Jewish population at the beginning of the Christian era. A local tradition traces the origin of the community to refugees from the destruction of the Second Temple. Certainly in the 11th century Jews were trading there in grain and cattle, and in the middle of the 16th century a permanent Jewish quarter was established in the medina (see figure 29). In its flourishing periods the community numbered 2,000 or more, the last such period being the reign of Moulay Hassan (1873-94), where conditions of calm and of relative prosperity, as well as religious learning, existed; it was apparently known at the time as the 'little Jerusalem'⁷¹.

With the growth of Agadir, Taroudant's Jewish community declined, but existed up to the 1960s; even in the present day some Jews in Agadir recall its thriving past and long line of notable rabbis. In 1955 there were still several Jewish schools in Taroudant. The Jewish population of the town in early 1960 was slightly over 1,000, while that of Agadir on the eve of the earthquake something over 2,000 (cf. figure 27). Some 1,500 Jews died in the earthquake of Agadir and some of the survivors moved north to Casablanca or emigrated. The Jewish population of Agadir after the

70. There are about 20 Jews in Inezgane today. The rabbi of Agadir officiates there at ceremonies in the small synagogue.

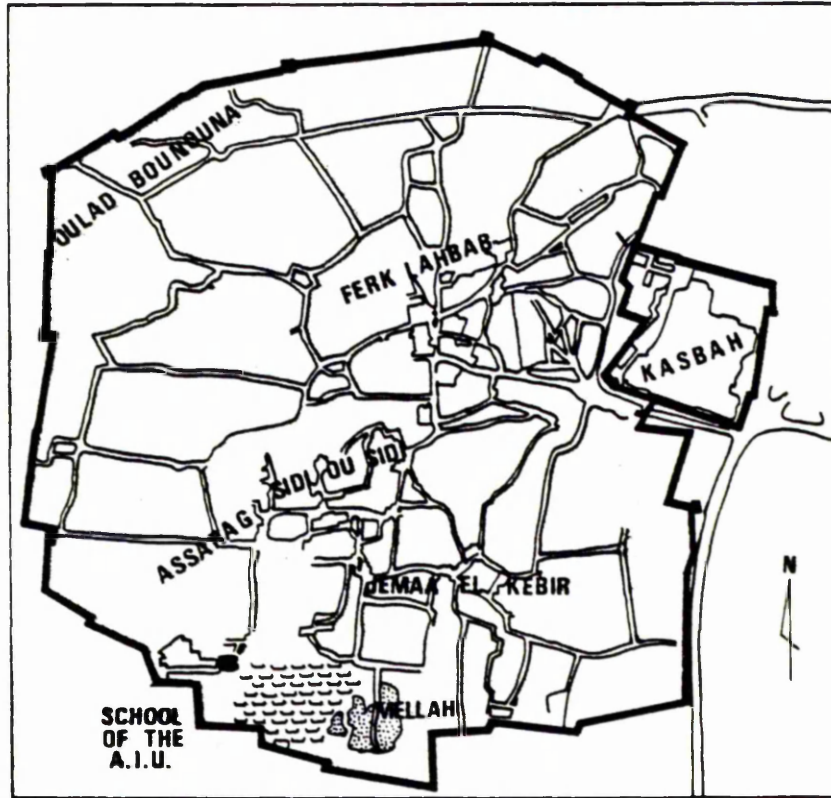
71. Flamand, *op.cit.* p.117

FIG.28 AGADIR BEFORE 1960,
WITH THE JEWISH QUARTER IN TALBORDJT

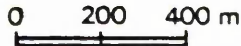


Source: Flamand, op.cit., p.125.

FIG. 29
TAROUDANT IN 1958,
WITH THE JEWISH MELLAH



 Jewish cemetery

0 200 400 m


Source: Flamand, *op.cit.*, p.110.

earthquake dropped to below 200 and recovered slightly subsequently to reach around 300 in 1979. A new synagogue was constructed in 1964⁷² adjoining a small schoolroom of the Alliance Israélite Universelle (for both Jewish and Muslim children). Those Jews that lived there at the end of the 1970s tended to be involved in business, or in professional activities such as insurance or accountancy. All the other Jewish groups south of the High Atlas - whether the solid and ancient Taroudant community, or the possibly equally old mountain communities, many of them existing still in 1951 and numbering some dozens or hundreds then - had disappeared (see table 15).

From a 1948 peak of a quarter of a million the Moroccan Jewish population in 1980 numbered some 25,000. The movement of population that occurred during this period was three-fold: from the rural areas to the towns (almost completely so), from the towns to Casablanca (containing some 13% of Morocco's Jews in 1931, 40% in 1955 and probably 80% in 1980), and from Morocco, in many cases, abroad. The first movement had already begun in the 19th century (in fact, to some extent, in the 17th), the second was a product of Casablanca's phenomenal 20th century growth, while the third is a more difficult factor to analyze. One could assume that it was related to the effect of the French protectorate on the Moroccan Jewish communities, uprooting and alienating them, and destroying the previous cultural-economic balance between them and Moroccan Muslims, as well as to other factors.

72. The information on Jews in Agadir and the south in the recent period was provided in interviews in March 1979 with Judah Benichou (the rabbi of Agadir), and Ernest Corcos and Mordechai Sebat, two prominent members of the community there.

Table 15: Jewish populations of some Moroccan centres in 1931 and 1951

	1931			1951		
	n	%1	%2	n	%1	%2
Mogador	5,468	<u>37.4</u>	3.5	5,466	24.8	2.5
Agadir	266	5.8	0.2	1,650	5.7	0.8
Inezgane (a)				300	7.1	0.1
Taroudant				953	9.7	0.4
Marrakesh	21,607	11.0	14.4	16,392	7.6	7.5
Safi	3,288	12.5	2.2	4,399	7.3	2.0
Casablanca	19,960	12.4	13.3	74,783	11.0	<u>34.3</u>
Morocco (total)	155,000			218,000		

Notes: (a) the Inezgane figures are for 1950
n in the tables denotes the number of Jews in a particular centre
%1 denotes that number as a percentage of the total population of that centre
%2 denotes that number as a percentage of the Moroccan Jewish population of the time

Other Jewish communities in the region of the Souss in 1951:

area of Taroudant: Ait Oussi 101; Ait Yahya 127; Aoulouz 136; Oulad Abbou 197;
Oulad Berrehil 180
area of Tiznit: Tiznit 244; Anezi 150
area of Tafraout: Tafraout 171; Illigh 240
others: Goulimine 113; Quarzazate 110

sources: the figures are taken from Flamand (1959), *op.cit.* and other authors; they are for the most part based on the censuses carried out by the French authorities (both by the Bureaux des Affaires Indigènes and the Services Municipaux), and in some instances by the Centre d'Etudes Juives.

2.4 The earthquake of Agadir of 1960

The earthquake of 29 February 1960 at Agadir struck at the south westernmost point on land of a band of high seismicity which spreads from the Tellian Atlas and the Rif south and then south westwards along the line of the High Atlas, to the Atlantic and beyond towards the Canary Islands. Figure 30 is a simplified version of the map produced by Professor Rothé on the zones of probable seismicity of Morocco, based on empirical and geological data⁷³. A second map, figure 31, shows the main mountain features in the west of Morocco and off the Atlantic coast, and their correspondence with centres of (geologically) recent volcanic and (historically) recent seismic activity⁷⁴.

Clearly earthquakes, in the long historical term, do not leave the sort of physical imprint that volcanoes do, and, evidence for their past occurrence relying mainly on surviving written descriptions by eye witnesses, a dependable record for Morocco does not go back very much before the 20th century; what is recorded for earlier centuries is both very incomplete and is concerned more with the more populous areas of the north, particularly around centres of literacy such as Fes. Certainly the Mediterranean coasts of Morocco and southern Iberia, encircled by the oval formation of the Rif to the south and the Andalusian

73. from Rothé, J.-P., 'Séisme d'Agadir et séismicité du Maroc', Annexe III, p.29, in Royaume du Maroc, Ministère du Commerce, de l'Industrie, des Mines, de l'Artisanat et de la Marine Marchande, Direction des Mines et de la Géologie, Division de la Géologie, Le séisme d'Agadir du 29 février 1960, Notes et mémoires du service géologique, No. 154. Rabat, 1962.

This excellent report contains five contributions, as well as a number of photographs and supplementary maps (an introduction by F. Duffaud, the article mentioned above by Professor Rothé, and three articles by J. Debrach, P. Erimesco, and by G. Choubert and A. Faure-Muret), and is the basis for the brief description in this section.

74. based on Erimesco, P., 'Le tremblement de terre dans la baie d'Agadir', in Le séisme d'Agadir du 29 février 1960, op.cit. p.50

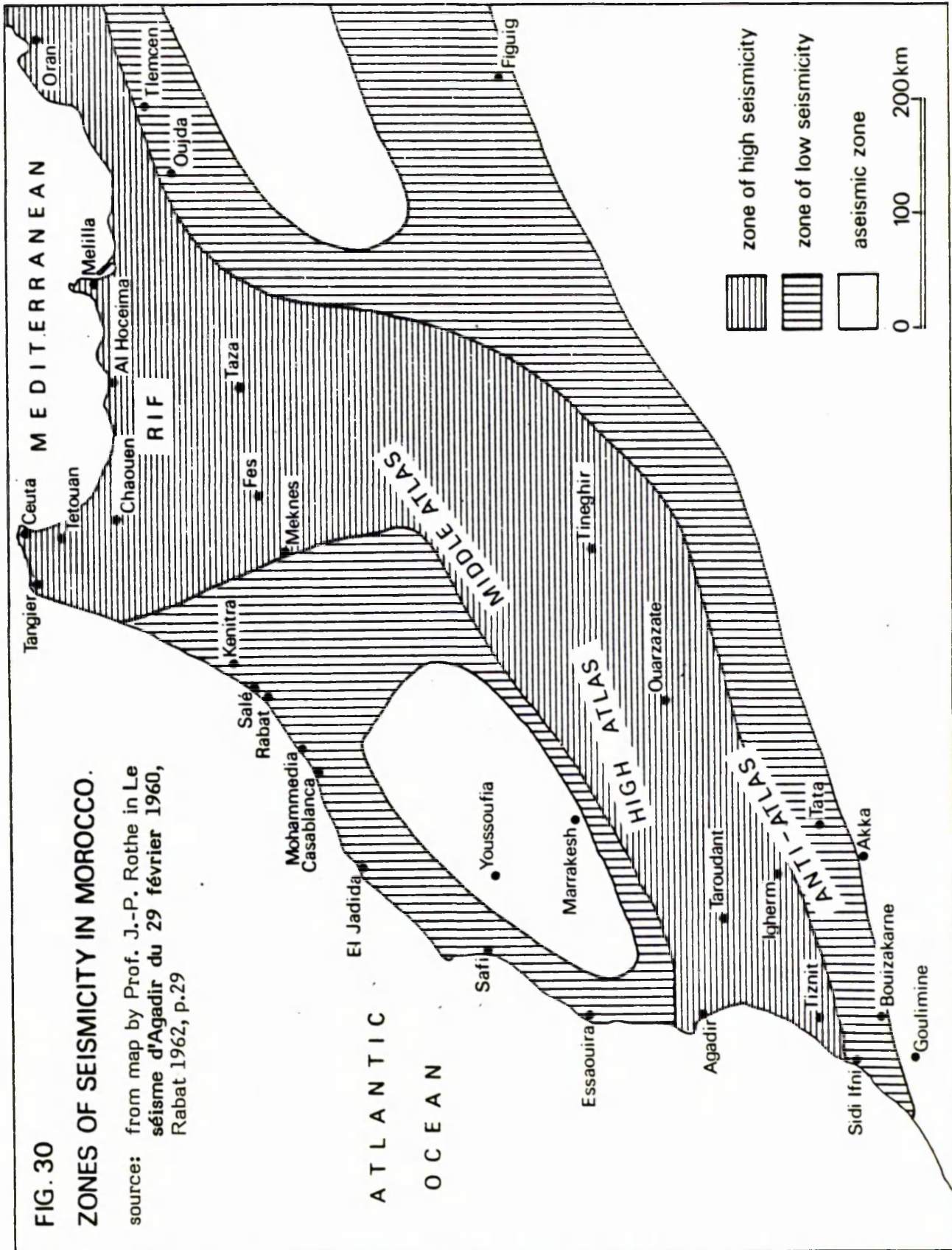
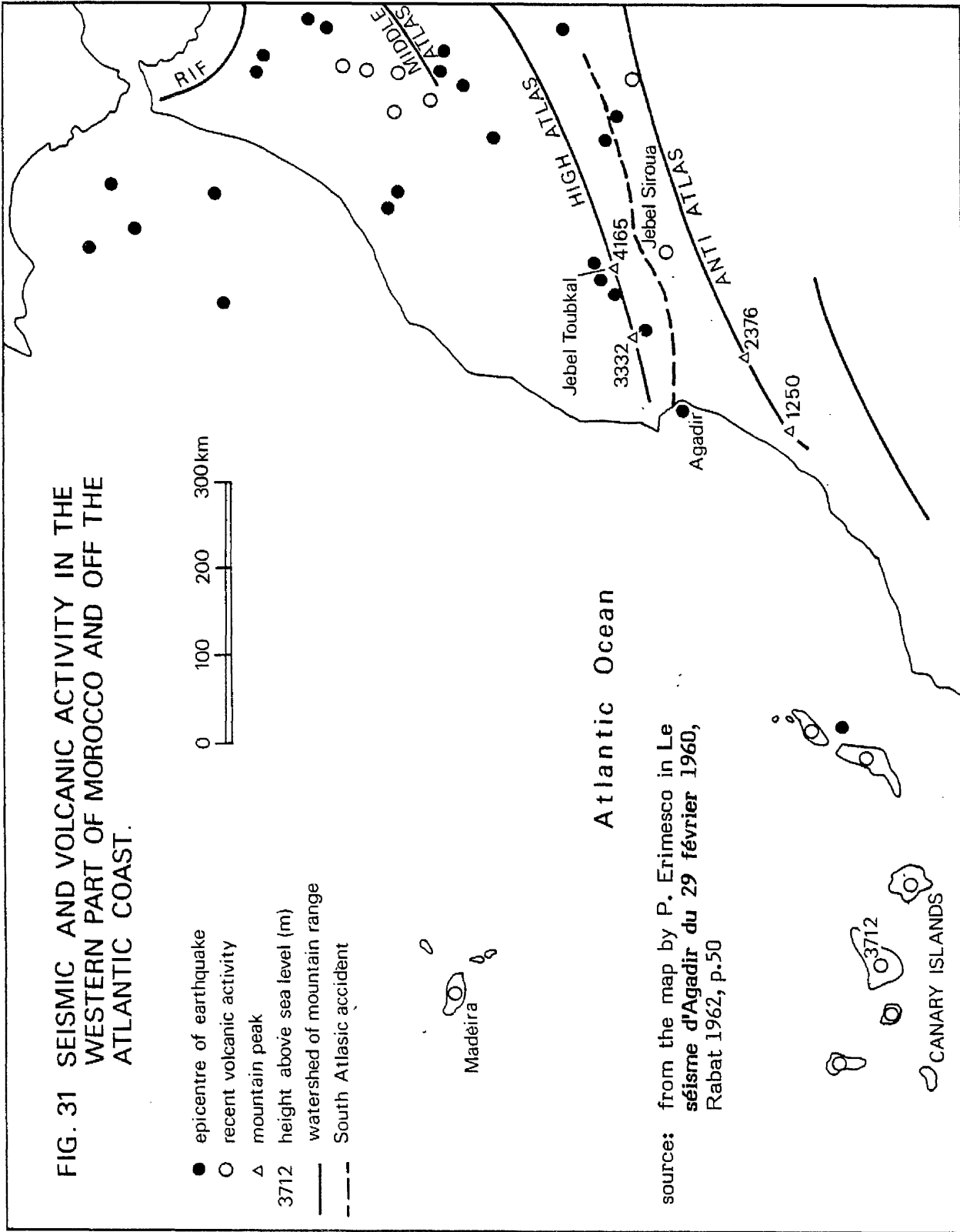


FIG. 31 SEISMIC AND VOLCANIC ACTIVITY IN THE WESTERN PART OF MOROCCO AND OFF THE ATLANTIC COAST.



- epicentre of earthquake
- recent volcanic activity
- △ mountain peak
- 3712 height above sea level (m)
- watershed of mountain range
- - - South Atlantic accident



source: from the map by P. Erimesco in Le **séisme d'Agadir du 29 février 1960**, Rabat 1962, p.50

range to the north, have been a zone of high seismicity in the past, and Al Hoceima, Tangier, Tetouan and especially Melilla (Rothé mentions the dates of 1579, 1660, 1682, 1791, 1792, 1821, 1848, 1887, 1910 and 1915 when this last town alone was affected, and in some cases destroyed, by earthquakes⁷⁵), seem to have been frequently hit by tremors. Fes was supposed to have been destroyed by an earthquake in 1522 and again in 1624, and badly damaged by quakes in 1755 and 1773, and further south Marrakesh was ravaged in 1719 in a quake that was felt as far north as Fes. Without doubt the largest and most damaging earthquake in the vicinity of Morocco in recent centuries (and one of the largest ever recorded in a semi-scientific way) was that of Lisbon of 1 November 1755, with an estimated magnitude of between 8.6 and 9.0 on the Richter scale; the quake caused widespread damage and loss of life throughout Morocco, as far south as Agadir. Other than the Lisbon quake, the one recorded instance before the 20th century in which Agadir is thought to have been seriously affected by a tremor was in 1731, when the small town of Santa Cruz (by which name Agadir was then still known, at least to Europeans) was apparently destroyed⁷⁶. Rothé⁷⁷, though, considers the one source of this report somewhat dubious; it is found in von Hoff (1840) who wrote⁷⁸: '1731: Ein Erdbeben verwüstet die Stadt Sainte-Croix in Marocco', and even there the association of Sainte-Croix with Santa Cruz is uncertain. A reference is also made⁷⁹ to another quake in 1733 (assuming it was distinct from the earlier one mentioned) which caused serious damage in the Souss valley. Morocco's seismicity is considered by Rothé to be comparable with

75. Rothé, J.-P., *op.cit.* pp.20-21

76. *ibid.* p.20

77. *ibid.* p.18

78. von Hoff (cited by Rothé), 'Natürliche Veränderung der Erdoberfläche' in *Chronik der Erdbeben*, Part IV. Gotha, 1840. p.390

79. Erimesco, P., *op.cit.* p.44

that of Algeria; although in the 20th century Morocco would appear to have suffered less major earthquakes than Algeria and certainly less than some other countries in the Mediterranean belt of high seismicity, such as parts of Italy, Greece, Turkey and Yugoslavia, it nonetheless presents a long-term history of severe quakes.

The major earthquake which struck Agadir on 29 February 1960 had been preceded by a weak tremor in the area, of intensity III to IV, on 23 February at 12.15 hrs⁸⁰. Two days earlier, on 21 February, the villages of Melouza and Beni Ilmane in the Hodna mountains in Algeria had been destroyed by an earthquake of magnitude 5.6, and 47 people killed⁸¹. Less than a year earlier as well, on 1 April 1959, there had been a quake in the Canary Islands⁸². On 29 February itself, in the morning at around 11.46 hrs, a tremor reached an intensity of VII macroseismic degrees at Agadir; the main, and devastating earthquake occurred at 23.41 hrs in the night of 29 February to 1 March and reached an intensity of X to XI, with an estimated magnitude⁸³ of between 5.5 and 5.75.

80. Choubert, G. and A. Faure-Muret, 'Séisme d'Agadir: Effets et interprétation géologique' in *Le séisme d'Agadir du 29 février 1960*, op.cit. p.54

81. article by Perera, Judith, 'On the eve of destruction' in *The Middle East*, London, October 1979. pp.25-33 and *Le Monde* 2.3.60

82. Erimesco, P., op.cit. p.43

83. The intensity of a quake is a somewhat imprecise quantity. It is a parameter which corresponds to the degree of estimated damage and varies from one point on the ground to another, with a maximum value at the epicentre of the quake (the projection to the surface of the actual hypocentre, or focus, of the tremor). The scale now used is that of Medvedev, Sponheuer and Karnik (M.S.K.) of 1964, which modified the previous Mercalli scale, and which has 12 degrees of intensity from I to XII. The magnitude of a quake, as defined by Richter, is the logarithm of the maximum amplitude, measured in microns, recorded on a standard seismograph with a period of 0.8 seconds and a magnification of 2,800, at a distance of 100 km from the epicentre. It has theoretically no upper limit, though the largest known magnitude (retrospectively estimated) was that of Lisbon of around 9. (source: Rebeyrol, Yvonne, 'Le risque sismique et les centres nucléaires' in *Le Monde*, 26.9.79, and Rothé, J.-P., op.cit. p.13)

It lasted 10 to 12 seconds and was followed by a weak quake at 01.30 hrs on 1 March, and by numerous other small quakes of varying intensities over the following weeks. The principal quake was recorded at 156 stations, from the Averroës observatory at Berrechid 378 km away, a few seconds later, to Byrd in Antarctica, some 13,700 km distant, 18 minutes after the quake⁸⁴. Its depth was estimated at between 1.6 and 3 km below the surface. Choubert and Faure-Muret note various effects that accompanied the quake⁸⁵, notably a loud noise heard at more than 50 km away. At Agadir itself this noise was apparently synchronic with the quake, to the north in the mountains it preceded it, while in the Souss and to the south it was reported to have followed the tremor. Various luminous optical effects were also reported, in the sky over the mountains, at sea and in the town itself, though in this last instance they could have been caused by electrical short-circuiting. Atmospheric pressure showed sharp oscillations on the barometer at the local meteorological station, varying between 1012 and 1039 millibars (around the pressure existing before of 1022 millibars).

No tidal waves at Agadir or elsewhere were observed which lends weight to the hypothesis of a land-based epicentre, as opposed to the first estimates which put it on the South Atlasic fold but off the coast. J.-P. Rothé chose the centre of the isoseismic curve of degree VII as the epicentre, giving the point 30°27'N, 9°37'W, one lying about a kilometre north of old Yachech, while R. Ambroggi placed it at the Kasbah or slightly to the south west, the two estimates differing by some 4 km, but both lying basically within the zone of maximum destruction⁸⁶. Choubert and Faure-Muret, however, postulate a twin epicentre, with one centre lying within the area already mentioned and corresponding to the southern branch of the South Atlasic fold, and the other, synchronic with

84. Rothé, J.-P., *op.cit.* pp.25-26

85. Choubert, G. and A. Faure-Muret, *op.cit.* pp.55-56

86. *ibid.* pp.62-63

the first, lying in the syncline of the Oued Assersif about 8 or 9 km to the north, on the northern branch of this fold, the two branches separating some 15 km north east of Agadir near the fault of the Oued Lahouar. It was in the area of this second postulated epicentre that an intensity of IX was locally recorded, and some 400 people were killed in the nearby mountain villages of Aourir, Taourirt Oufella and Idourane. Figure 32 shows the isoseismic curves of the earthquake and the main geological features of the Agadir region. It is seen that it was this pre-Atlasic zone, bounded to the east by the Oued Lahouar fault, which suffered the greatest damage, containing as it did most of the areas of degree VII or higher in intensity.

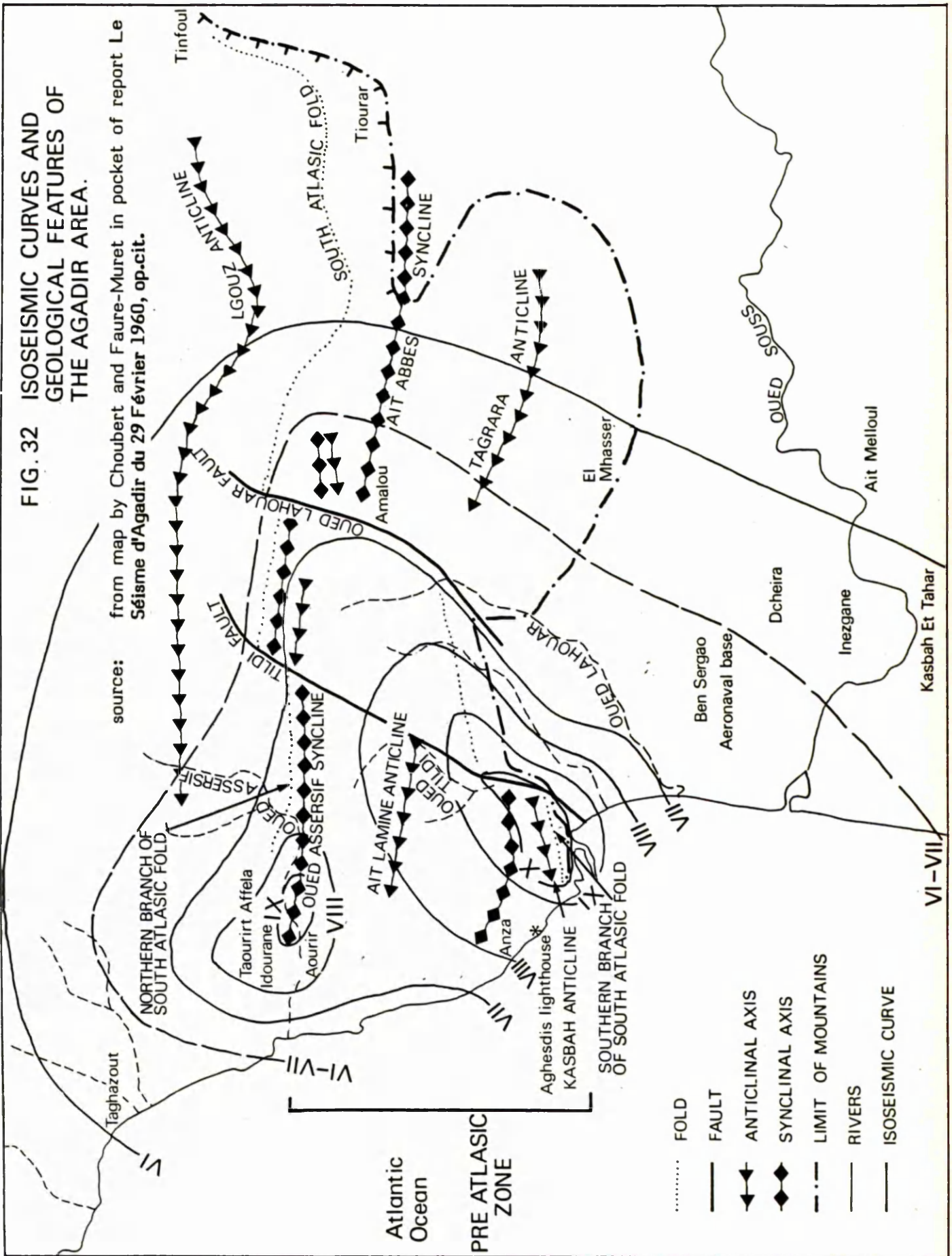
At the local level of the town itself it was the dense and poorly constructed quarters on and around the hill, to the north of the Oued Tildi, which were most affected. As already noted, the epicentre of Agadir proper (as opposed to the one on the Oued Assersif) lay to the north of the Tildi, and it has been commented⁸⁷ that the Tildi fault acted as a brake on the waves of the earthquake and that that of the Lahouar dampened them almost completely. As such, the European and administrative quarters south of the Tildi (which in any case were of more solid construction than the other quarters) and the Industrial Quarter were hit much less severely than areas immediately to the north of the Agadir epicentre. South east of the line of the Lahouar fault only two people were known to have been killed (at the village of Amalou in the mountains, close to the Lahouar fault). In the Souss plain damage caused by the quake fell off sharply to the east and to the south; at Inezgane it was relatively slight, and it was already minimal by Ait Melloul.

In the mountain hamlets to the north and north east of Agadir, within the pre-Atlasic zone and within the isoseismic curve of degree VII, some 600 people were killed, about 400 of them within around 3 km of the epicentre at Oued Assersif. In Agadir itself

87. Rothé, J.-P., *op.cit.* p.15 (citing R. Ambroggi)

FIG. 32 ISOSEISMIC CURVES AND GEOLOGICAL FEATURES OF THE AGADIR AREA.

source: from map by Choubert and Faure-Muret in pocket of report Le Séisme d'Agadir du 29 Février 1960, op.cit.



the human losses were never accurately estimated, the likely total being somewhere between 15,000 and 20,000 out of an original population that was of the order of 45,000 to 50,000. The quarter of the Kasbah suffered an intensity of X to XI and was totally destroyed, as was the small village of Adouar to its west. In the quarter of Talbordjt the intensity felt was IX to X, and the destruction was of the order of 90%. Yachech and Founti suffered intensities of degree X and were destroyed totally in the former case and 85% in the latter. The European town and administrative quarters were partially destroyed (50% to 70%), with intensities varying from less than IX in the south east to around X. The lesser amount of damage in this area, as against that suffered in Talbordjt was probably more due to the more solid nature of the buildings than to the lower intensity of the quake (see image 11).

The industrial quarter felt an intensity of between VII and VIII and was partially destroyed (around 20% to 30%). At 7 km from Agadir, Ben Sergao felt the intensity of the quake at degree VI to VII, and the aeronaval base there was damaged, the control tower being rendered unusable, while at Inezgane (degree VI) some house walls were slightly cracked.

At Anza the rate of destruction varied between 0 and 20%, diminishing along a northerly axis up the coast. The oil reservoir was damaged, while the cement works and electrical power station were slightly cracked. Other installations, including some fish processing factories, were more heavily damaged. In the port itself there was considerable damage caused by the quake, in the concrete pylons of the jetties, in the embankments, the pipelines and cranes, and in most of the buildings.

In the aftermath of the earthquake there was a large-scale mobilization of Moroccan rescue operations and of international aid. For four days the search for survivors was continued, with more than 100 people being found alive trapped in the ruins⁸⁸. On

88. Le Monde 6-7.3.60

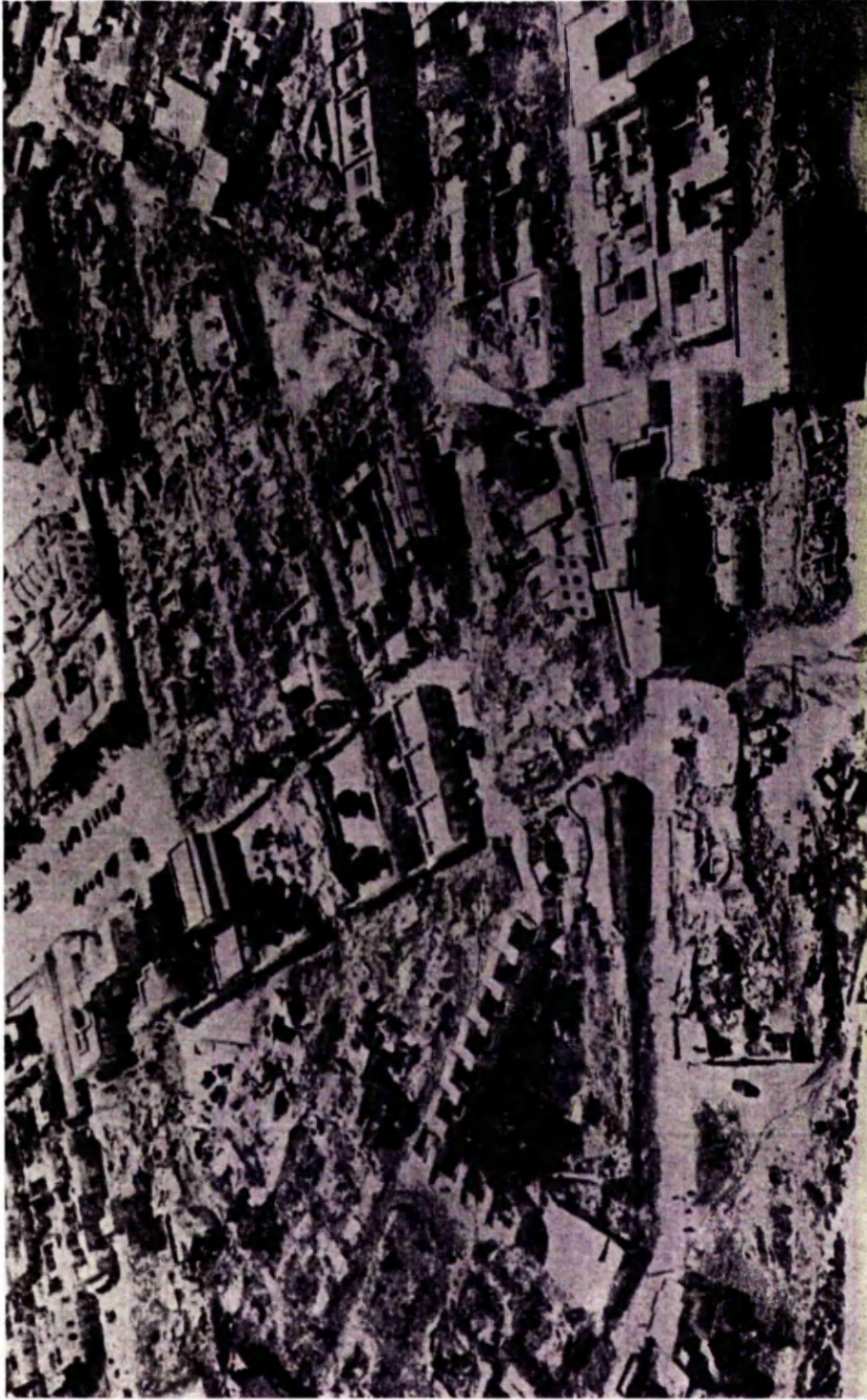


Image 11 An aerial view after the earthquake of the destruction in Agadir
Source: **The Times** (London) of 2 March 1960

Friday, 4 March at midnight, access to the town was forbidden because of the risk of epidemics, to all except those involved in the operations, but the decision was taken, against earlier expectations, not to raze the town for a month⁸⁹. Temporary camps were set up for survivors of the quake in Inezgane and Ait Melloul, and those injured who could not be treated locally were airlifted to other towns in Morocco. Ships carrying aid from abroad were able to deliver it directly into the bay of Agadir, and French sailors and American troops joined the Moroccan forces involved in rescue operations, in bulldozing, and in spraying DDT and depositing lime around contaminated areas, tasks made even more difficult by the abnormally high temperatures (of over 33°C) in Agadir for that time of the year⁹⁰.

Of the 15,000 to 20,000 probable victims of the Agadir earthquake some 1,500 were members of the local Jewish community which had previously numbered around 2,500 people. Some 2,000 to 2,500 foreign residents or visitors were amongst those killed, of which perhaps 1,000 to 1,400 were from the Spanish colony of formerly 2,000 people, and around 1,000 were French citizens⁹¹.

The question arises of whether an earthquake could recur at Agadir, and the experience of other places, notably of Al Asnam (in 1954 and 1980) suggests that this is certainly feasible. Rothé, however, points out⁹² that recurring earthquakes in the same zone rarely happen at precisely the same point and that in some instances successive tremors move regular, large distances along a certain axis (he cites the five major tremors along the 'north Anatolian scar' from Erzincan in 1939 to Yenice-Gönen, 1,000 km distant to the west, in 1953). The problem, though, is

89. *ibid.*

90. *The Times* (London) of 4, 5 and 7.3.60 and *Le Monde* 6-7.3.60

91. *Le Monde* of 6-7 and 8.3.60

92. Rothé, J.-P., *op.cit.* p.18

ville) where seven less severe quakes (after the major one of 9 September 1954) are listed up to the end of 1958, each differing from the others by a few minutes of arc in latitude and longitude. The major quake of 10 October 1980, though, occurred close enough to where the same town had been rebuilt to cause severe and tragic damage for the second time within a generation.

CHAPTER 3

THE PREDOMINANCE OF AGADIR, 1960 TO 1980

3.1 The reconstruction of Agadir

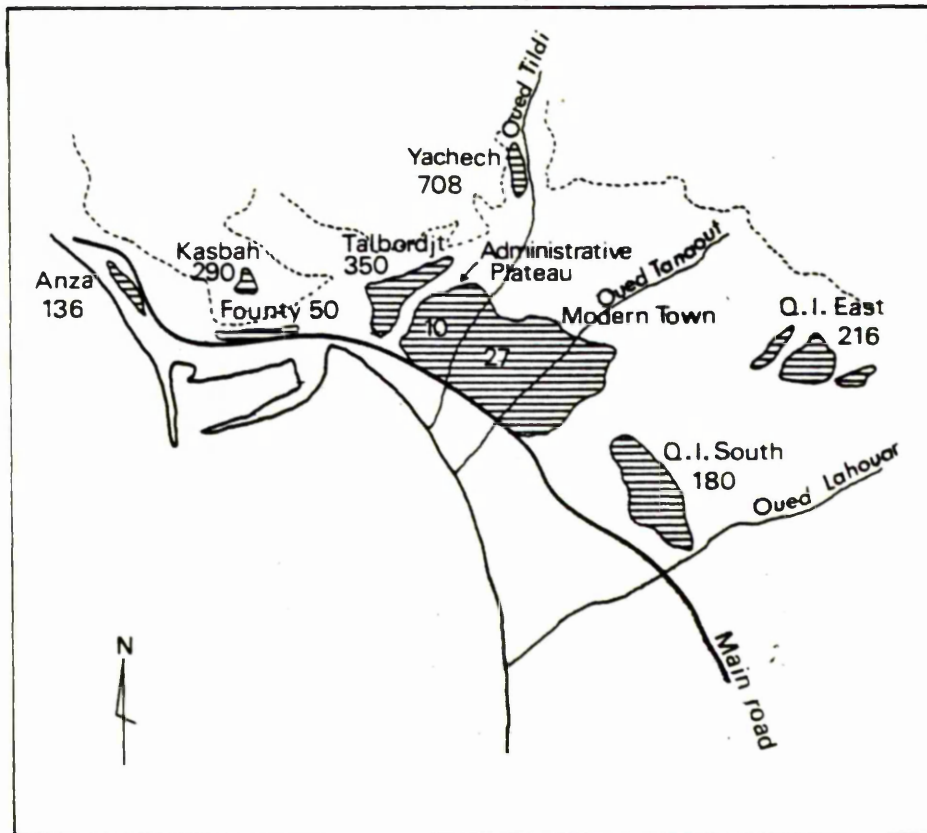
3.1.1 General

In the wake of the earthquake (as mentioned in ch. 2.4) the areas to the north of the Oued Tildi, on or near the hill, were severely damaged or destroyed; that is, the quarters of Founti, the Kasbah and Yachech, all overcrowded and poorly built sectors, and Talbordjt, the commercial sector. The quarters of Anza and the Industrial Quarter (south), both including industrial zones, were less badly damaged, as was the 'European' new town of low population density (see figure 33). Many of the survivors fled the town after the earthquake to seek shelter with relatives in the villages of the Souss or the mountains; those that remained behind (around 17,000) either had no relatives to go to or else lived in the relatively lightly affected quarters of Anza or the southern Industrial Quarter. All these were regrouped into the camps set up, either in Anza or the Industrial Quarter, or in Inezgane and Ait Melloul where a large part of the survivors from the Kasbah, Founty, Yachech and Talbordjt went. At Inezgane there were two camps of army tents (totalling some 6,000 people) and Ait Melloul housed some 8,000 people in two camps, including one run by the U.M.T. (Union Marocaine du Travail, the main Moroccan trade union)¹.

The decision was reached early on that the city should be rebuilt, and was announced by Mohamed V on 3rd March 1960 on his visit to the destroyed town. It was decided subsequently to reconstruct south of the Oued Tildi (the main fault line on which the earthquake was concentrated), and to abandon and prohibit reconstruction on the 250 ha between the Tildi and the Kasbah. What had been damaged or destroyed in Anza and the port was rebuilt, and the Kasbah, Founty, old Talbordjt, old Yachech and the former administrative plateau were razed and afforested.

1. Much of this information is from Baroudi's detailed account, (1971), *op.cit.*, of the aftermath of the earthquake, pp.86-94 in particular.

FIG. 33 QUARTERS OF AGADIR
BEFORE EARTHQUAKE



----- 100m contour
136 Density of quarter per sq. km.



source: Revue africaine d'architecture et d'urbanisme, op.cit., 1966

Three cemeteries were placed in the area which was formerly Yachech on the steep slopes of the right bank of the Tildi (a Muslim, a Jewish and a Christian cemetery).

The zone chosen for the new town was thus that between the Oued Tildi and the Oued Lahouar, which became the area gradually filled in in the period 1960-1980 (with the sector of new Founty being constructed south of the Lahouar in the early 1980s).

In between these two streams was a third, the Oued Tanouat; in the course of the reconstruction this ravine was filled in, using débris from the earthquake, and the stream canalized and covered over. The Tanouat thus disappeared from view (except where it reappeared by the beach) and its undulation was smoothed over. Some folds, though, in other parts of the terrain, were deliberately kept, including the dunes in the southern part of the beach strip, the projection of new Talbordjt over the urban centre and bay, and the hills of the modern residential villas.

The position of land ownership in Agadir before the earthquake had become a complex one, aggravated not least by continuous speculation over thirty years. It is difficult to summarize the development after the earthquake, but put briefly, the state intervened directly, in the domain of land ownership as in most other aspects of the reconstruction and, in conformity with the plan for reconstruction, expropriated all land, whatever its nature, which was either in the zone prohibited to construction, or was not in that zone but was badly damaged or destroyed by the earthquake, or else was not badly damaged but was required under the plan for some public use (such as roads, parks, schools or administrative buildings).. Only those owners who possessed property in the constructible zone, which was both easily reparable and the terrain not required for other use, kept their property, and the state thus acquired some 400 ha from around a thousand privately owned properties². After allocating the new

2. Much of this information comes from the articles of Robert Janin and Pierre Mas in *Revue africaine d'architecture et d'urbanisme*, No. 4, Rabat, 1966 and from Péré, (1967), *op.cit.*, whose information on this subject was taken from those two articles.

land thus acquired for the various public uses intended, the rest was divided up on paper into the new quarters and put at the disposal of the survivors of the earthquake.

The regulations elaborated for private reconstruction were designed to benefit the survivors and to avoid all speculation. The survivors had first option on a title deed for land in a new section in a new quarter; they could, if they wished, renounce it (a few did so, mainly Europeans who had lived in Agadir), or they could sell it (but the land could only be sold once and then had to be built on). If they took up the option they had to carry out various formalities, including lodging an application to construct, finding an architect, having plans made and eventually building, all within a certain period laid down (2 years for repairs to existing property and 4 years for new constructions). Aid from the state in the case of repairing damaged property amounted to 50% of the estimated value of the damage (which created difficulties for those whose accommodation had been meagre) plus a 2% interest loan for up to an amount which, taken together with other capital aid received, could come to the total cost of the reparations. In the case of the new constructions, the title deed specified an amount up to which the state would pay for reconstruction (within a period laid down) and also, within certain limits, for the costs of studies and architectural plans. There was also a provision for a 2% interest loan for up to 15 years as in the case of those repairing damaged property. In addition all heads of families of damaged property were given a grant of 1,000 dirhams. The financial aid given by the state was only for those who had been victims of the earthquake and undertook to repair or reconstruct at Agadir; it treated Moroccan nationals and foreigners equally.

The almost total intervention of the state after the earthquake was a powerful tool in erasing the confused situation caused by previous intense speculation (whereby, according to accounts, large parts of the former European town had lain open, unconstructed or

barely so, for long periods, a hotch-potch of unfinished buildings), and in creating a clean sheet on which a rational and planned reconstruction could take place. The state intervened in aspects other than those purely financial or landed. A High Comissionership for the Reconstruction of Agadir (H.C.R.A.) was set up on paper in June 1960 and took up work in Agadir in January 1962, after which date the first title deeds for property were handed to survivors and the first work begun on 'grouped reconstruction' (in which groups of victims joined together to share new apartment blocks) in the Industrial Quarter. The HCRA was charged with undertaking the construction of infrastructure and public amenities and of building state and municipally owned apartment blocks. It was to help the victims not only financially and with title deeds, but also in giving advice on legal and technical matters, and was empowered to supervise private construction, fix the scale of payments of projects, acquire material needed and, as already noted, expropriate land. A special tax was created in July 1960, known as the 'national solidarity tax', to help pay for the state's effort in the reconstruction of the town (as opposed to the financial aid to victims), and a separate budget fund was included in all budget plans (right up to the mid-1970s) to cover the cost of the reconstruction. Most of this fund (some 220 million dh out of a total of around 260 million dh) was allocated up to the end of 1967, that is, up to the end of the first, and main phase of reconstruction (see table 16).

The town, then, was reconstructed, with a set of strong anti-seismic building regulations being enforced (dealing with materials used, the type of construction, the ground built on and the height, weight and other parameters of the building). The period up to the end of 1961 saw the provisional repair of the port (which was open again by May 1960 and was finally completed in 1961) and the reconstruction of the water, electricity and sewage networks. Prefabricated huts were put up in Anza and in the section of Amsernate (north east of the Industrial Quarter)

which remained a bidonville throughout the 1970s. At the same time a provisional administrative sector was set up in what was to eventually become the definitive 'cité administrative' a few years later, adjoining the former municipal headquarters building, which, alone in that area, had withstood the earthquake. That building, having been repaired, still stands, and serves as the provincial headquarters building. In 1962, with the instalment of the HCRA, the first public works were begun, including the main road network and the filling in of the Oued Tanouat. The following year work began on the provincial hospital, the health centre and the souk of new Talbordjt, as well as some schools.

The quarters first embarked on were thus what was to become the urban centre and new Talbordjt (see images 12 and 13), and the public sector led the private one considerably in the first two and a half years. By the end of 1962, 560 title deeds had been given out³ (a figure which rose to 3,335 by the end of 1966); of these 560 some 300 were in new locations (and not on their former site) and over half of these were in Talbordjt. Eventually, in the period 1964-65 the pace of private building picked up. In this period too the major interurban road network was completed as well as the main sector networks of Talbordjt, the urban centre, the tourist sector and Anza. The Oued Tildi was canalized and the major work on the Tanouat completed.

By the end of 1966, Talbordjt had its major infrastructure (in the way of a market, roads and a health centre) finished, and the souk of the Industrial Quarter, the fire station and its look-out tower and some 10,000 m² out of 14,000 m² of the administrative quarter were being worked on. Also under construction at the time were the large mosque of the urban centre and the imposing 'Immeuble A' block which dominated the urban centre horizontally (as the mosque does vertically); this block, standing over where the Oued Tanouat used to flow, is 183 m long, and on split plaza levels, contains two floors of shops and restaurants, one of offices and two of

3. Péré, (1967), *op.cit.*, p.62

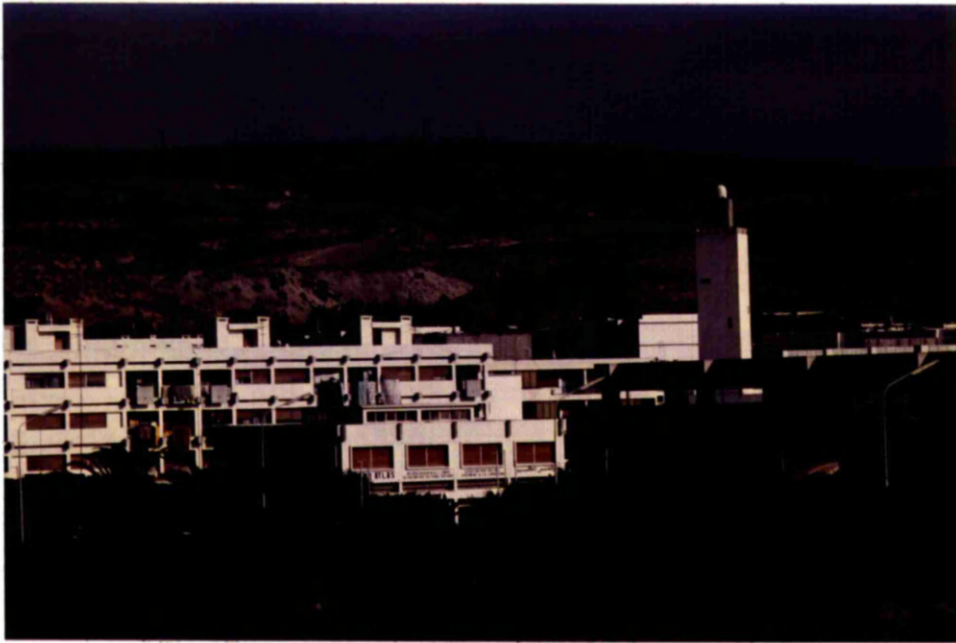


Image 12 The urban centre of Agadir and its central mosque
in 1979
(summer 1979)



Image 13 A street in the new Talbordjt
(summer 1979)

apartments. Péré⁴ states that by the end of 1966 some 1,100 of the owners of the 3,335 distributed title deeds had finished their constructions and another 1,700 had started work; only a small percentage (3%) had remained inactive. Eight per cent of titles had apparently been sold (around 60% of these by Europeans). A reasonable part, then, of Talbordjt, which was eventually to acquire some of the character of the mixed sector of residences, commerce, and small-scale artisanry that the old Talbordjt had, was finished by the end of the first phase of reconstruction, and so was nearly all the Industrial Quarter and the industrial part of Anza (both lightly damaged), as well as about half of the urban centre and the residential (villa) sector.

The second phase, from 1967 to 1973, saw the consolidation of this first central nucleus, and the extension of the town eastwards with the construction of the new Yachech (see image 14), a residential sector in Moroccan style. In this period, the municipality took over the role of conducting local affairs from the state. This phase, too, saw the continuation of the rapid growth of population which had been a feature of the first, the mass exodus from the countryside. The rate of growth averaged some 13% in the first six years after the earthquake and around 11 1/2% per year in the five years from 1966 to 1971, the date of the census. Also at this time a crusade for tourism was launched in Agadir, which was first 'thought of', or at least envisaged in a major way, in the 1965-67 triennial plan⁵.

The third phase, 1973-1980, saw a continuous extension of the Moroccan residential areas to the east and the south; with Talbordjt and the Industrial Quarter saturated, and Yachech filling up, the quarter known as 'Les Amicales' was embarked on. The opening in 1973 of the new R.P. 40 road from the port, around the north and east of the town, stimulated this development of the residential part of the town which had now begun to reach as far

4. *ibid.* p.65

5. Baroudi, (1971), *op.cit.*, p.73

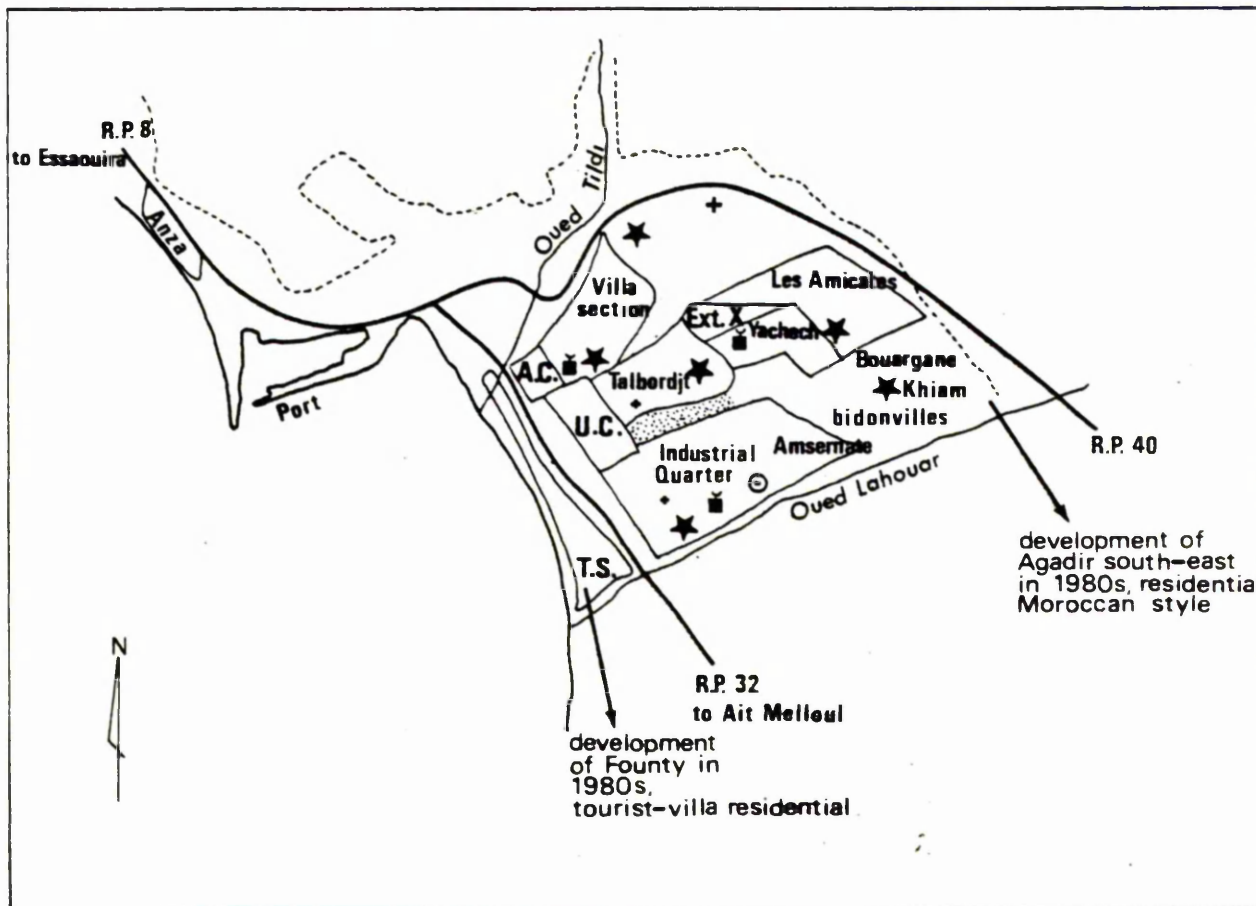


Image 14 The new quarter of Yachech
(summer 1979)



Image 15 A view from the site of the old Kasbah on the top
of the hill, looking south eastwards over Agadir
(summer 1979)

FIG. 34 SKETCH-MAP SHOWING QUARTERS
OF AGADIR, 1960-1980



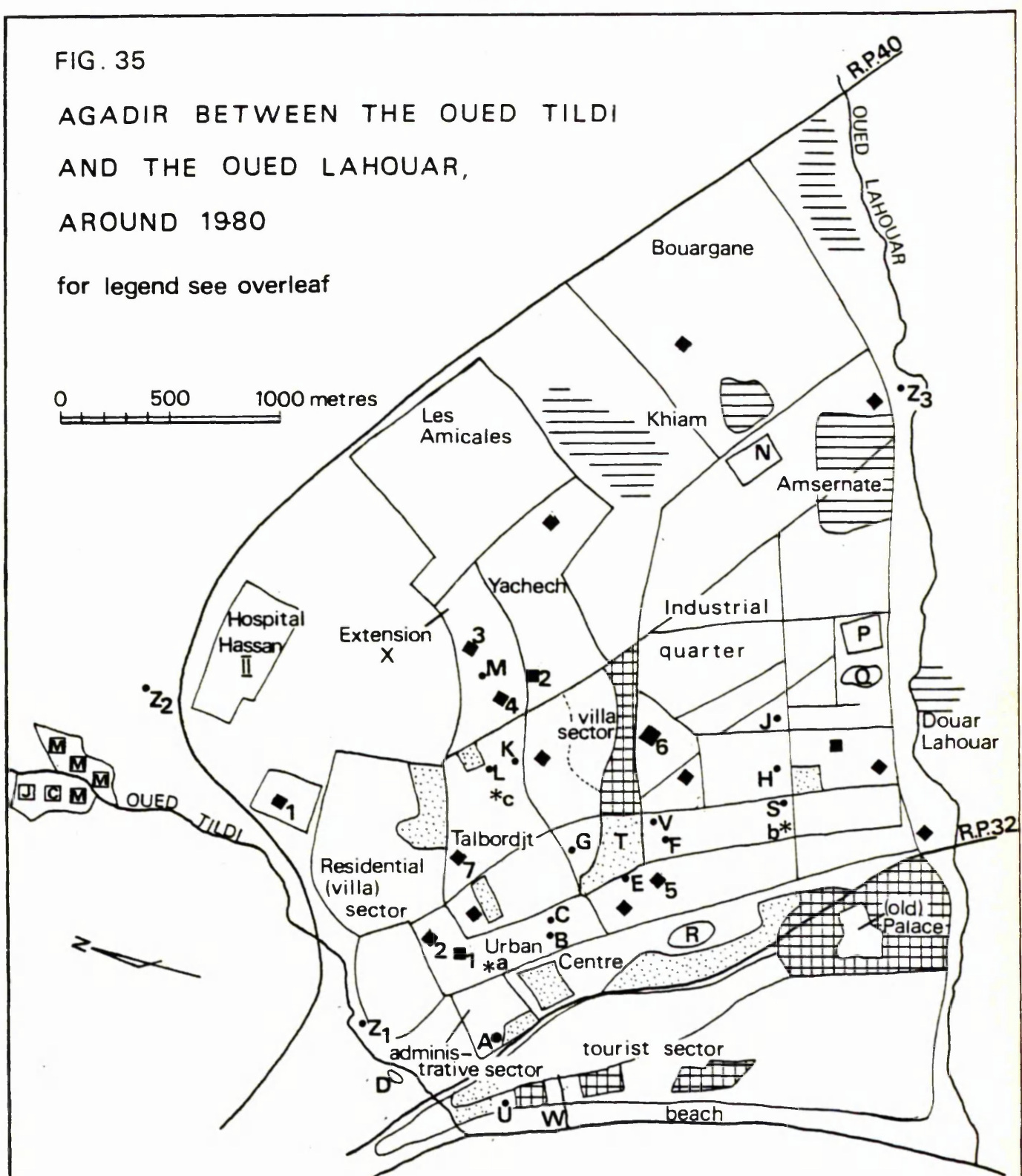
- | | | | |
|-------|---------------|--------|---------------------|
| ★ | School | U.C. | Urban centre |
| ■ | Mosque | A.C. | Administrative city |
| + | Hospital | T.S. | Tourist sector |
| • | Health centre | Ext. X | Extension X |
| ⊙ | Main souk | | |
| ▨ | Park | | |
| ----- | 100m contour | | |



FIG. 35

AGADIR BETWEEN THE OUED TILDI
AND THE OUED LAHOUAR,
AROUND 1980

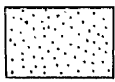
for legend see overleaf



sources: a. Ministère de l'Agriculture et de la Réforme Agraire, Direction de la Conservation Foncière et des travaux Topographiques, **Plan Urbain, Agadir 1:10,000** Rabat 1977

b. Agadir, 1:10,000 Editions Gauthey, Casablanca 1979

c. groundwork

legend for figure 35

park, public gardens



squatters sectors (bidonvilles)



wooded area

■ mosques

those specifically numbered are:

- 1 Louban mosque
- 2 Sidi Mohamed mosque

◆ schools, colleges, training centres

those specifically numbered are:

- 1 Lycée Youssef ben Tachfine
- 2 Collège Princesse Lalla Meriam
- 3 Collège Prince Héritier Sidi Mohamed
- 4 professional training college
- 5 hotel school
- 6 professional training college
- 7 Ecole Gauguin

□ cemeteries:

- M Muslim cemetery
- J Jewish cemetery
- c Christian cemetery

* cinemas:

- a Rialto
- b Salam
- c Sahara

- A province headquarters
- B municipal headquarters
- C central post office
- D camping area

- E synagogue
 - F fire station (and observation tower)
 - G health centre 'Lalla Meriam'
 - H church
 - J wholesale market
 - K bus station
 - L orphanage
 - N military barracks
 - P **souk** (Saturdays and Sundays)
 - Q sports stadium of Q.I.
 - R Al Inbiat sports stadium
 - S health centre
 - T Ibn Zaidoun park
 - U municipal swimming pool
 - V police headquarters
 - W re-emergence of Oued Tanouat
-
- Z₁ electricity station Tildi
 - Z₂ electricity station Talbordjt
 - Z₃ electricity station Amsernate

Table 16: Special budget allocations for the reconstruction of Agadir

(in '000 dirhams)

<u>year</u>	<u>amount</u>
1960	15,000
1961	59,400
1962	42,475
1963	41,000
1964	31,730
1965	16,000 *
1966	8,000
1967	15,900
1968	5,950
1969	2,450
1970	2,565
1971	-
1972	880
1973	4,500
1974	5,450
1975	2,200
1976	2,895

*note: there is some uncertainty about the 1965 figure which could be between 16,000 and 22,000. The total would then be between 256,395 and 262,395, that is a figure of the order of 260 million dirhams.

source: various Annuaire Statistique du Maroc, and the Plan Triennal 1965-67.

as the R.P. 40 itself (see figures 34 and 35). Part of this road branched off northwards as the new road to Marrakesh; the rest, a sort of ring road around Greater Agadir, swung round in a circle towards the bridge at Ait Melloul and similarly stimulated developments of those satellite villages (notably Tikiouine) which lay near it (see section 3.2 below). Population growth continued at a high level, around 6% per year in the period 1971 to 1980, down considerably from the earlier rate which could not possibly have been maintained for long, but still a considerable strain on a town which had just been rebuilt and was still seeking to consolidate its physical and social aspects. Image 15 is a view in 1979 from the top of the hill over the rebuilt town.

3.1.2 A critical assessment of the reconstruction period

A town of 50,000 people was almost utterly destroyed and within a decade, with a vast mobilization of resources and effort and thought, was rebuilt in a way which gave those who partook in the reconstruction some cause for pride; it would thus be misplaced to criticize too much, especially on points of detail where it is always easy to find fault. Some general observations may be permitted, though, on the process of reconstruction, twenty years on.

The official Moroccan planning viewpoint, at least of the mid-1960s when the first phase of reconstruction was almost completed, is summed up well in a paragraph in the introduction to the special issue of the *Revue africaine d'architecture et d'urbanisme*⁶ on Agadir. It is instructive to examine a few of the points made in this paragraph.

6. *Revue africaine d'architecture et d'urbanisme*, No. 4, op.cit.

"Agadir has been reconstructed according to plans perfectly adapted to local conditions, applying the most recent principles and drawing on the best known projects of highly developed and industrial countries. This has been made possible by the will of the Administration, which has not left any room for a chance of improvisation. We cannot insist too strongly on the role of a determined central administration in matters of urban planning. More and more urban planning must stake out its claim as a means of governing." (translated from the French; the last two sentences were printed in heavy type to underline their importance).

Passing over the immodest claims of 'perfectly adapted plans', the first sentence refers to Western, industrialized concepts and methods. This is something which is striking about Agadir, its faith in Western techniques, in Cartesian methods for Cartesian cities. But it could hardly have been otherwise, with the young post-independence state an inheritor of a European means of governing, and with the architects and engineers concerned with the reconstruction either having been trained in France or Belgium or else coming from those countries. There is a rectangular grid to each quarter of the town (though this is broken up between quarters and even sometimes within a single sector) and there is also a lot of concrete, especially in the urban centre (but then there was much use of concrete in contemporary developments in Western Europe which were also much hailed), but at the same time there is some imagination and originality in the use of the naturally folded terrain and of open spaces. Perhaps Agadir is still too new to have acquired much of a character, and possibly one should not expect the instant acquisition of a character, a style, in any newly built town. Talbordjt, and parts of the Industrial Quarter are exceptions, and, possibly because they are older than most of the rest and more densely inhabited, with a good sprinkling of small industries and commerce, they have become more 'Moroccan' in character.

The reference in the second sentence to not leaving anything to improvisation is a telling one. Presumably the meaning intended here was that nothing was to be makeshift or temporary, but on the contrary solid and properly thought out. The implication, though, is one of an absolute faith in town planning and town planners, leaving no room for spontaneity or 'anarchic order' (which in a social sense is said to exist, or have existed, in the segmentary Berber societies in the mountain areas of Morocco⁷), but instead relying on an imposed order from outside, and from outside Morocco at that. At its worst - and Agadir is far from the extreme case - this philosophy leads to a standardization and a banality which can be found, for instance, in Casablanca's luxury Mohamed V airport opened in 1980.

The last point from the above paragraph is the reference to the 'will' of the administration and how this should become a 'means of governing'. Now this seems slightly arrogant and suggests that far from humbling man, the experience of the earthquake, in fact, made him rather defiant. The attitude was first struck by Mohamed V in his almost hubristic challenge ("if destiny has decided the destruction of Agadir, its reconstruction depends on our faith and will"⁸), an assertion that man will be able to dominate his environment after all. The main point, though, with reference to the 'means of governing', is that the use of planning in the reconstruction period, and its obvious and undoubted successes, have led to an excessive faith in the power of town planners. In the early 1980s there exists in Agadir a mentality of plans, schémas directeurs, studies and consultancy reports, and they are seen as both a cure-all for the many social, economic and political problems facing the town and region, and also as a substitute for doing anything. There were in 1980 four studies in the pipeline on aspects of Agadir, costing a total of 20 million

7. cf. Gellner, Ernest, *Saints of the Atlas*. London, 1969

8. This pronouncement is engraved in Arabic on a prominent wall opposite the central post office in the avenue du Prince Moulay Abdallah, between the urban centre and Talbordjt.

dirhams and each taking one to three years to complete⁹. Far too many studies are being and have been conducted on Agadir town, and virtually none on the other towns and villages from which so many immigrants come to Agadir and which have been in a stagnant or declining state.

There are and must be urban problems beyond the reach of urban planning. The bidonvilles of Amsernate and the south east of Agadir (and elsewhere, such as Anza and the satellite towns) existed, some of them, before the earthquake¹⁰ and have continued to exist since; they have never been eliminated in Agadir, for all the costly studies conducted. The problem lies beyond the compass of standard urban planning and has something to do with the unanswered question of why so many people come to Agadir and prefer the urban misery of the bidonvilles there to the rural one left behind. Agadir's population is currently increasing at the rate of some 7% for the whole urban agglomeration; with a current population in Greater Agadir of 200,000 people this implies an increase of 14,000 per year. (Of this, about 3% is 'natural' increase, the rest net immigration.) Some 2,400 new houses per year are thus needed (at 5 people per house), but at the most a half this number are being provided. The result must be either overcrowding or squatting, and both are occurring, in increasing amounts, in Agadir, where a quarter of the housing overall (a much higher proportion in the satellite towns) is considered to be 'substandard'. It is in national economic policies and political choices and in the economic priorities accorded within the region that one might begin to find an answer.

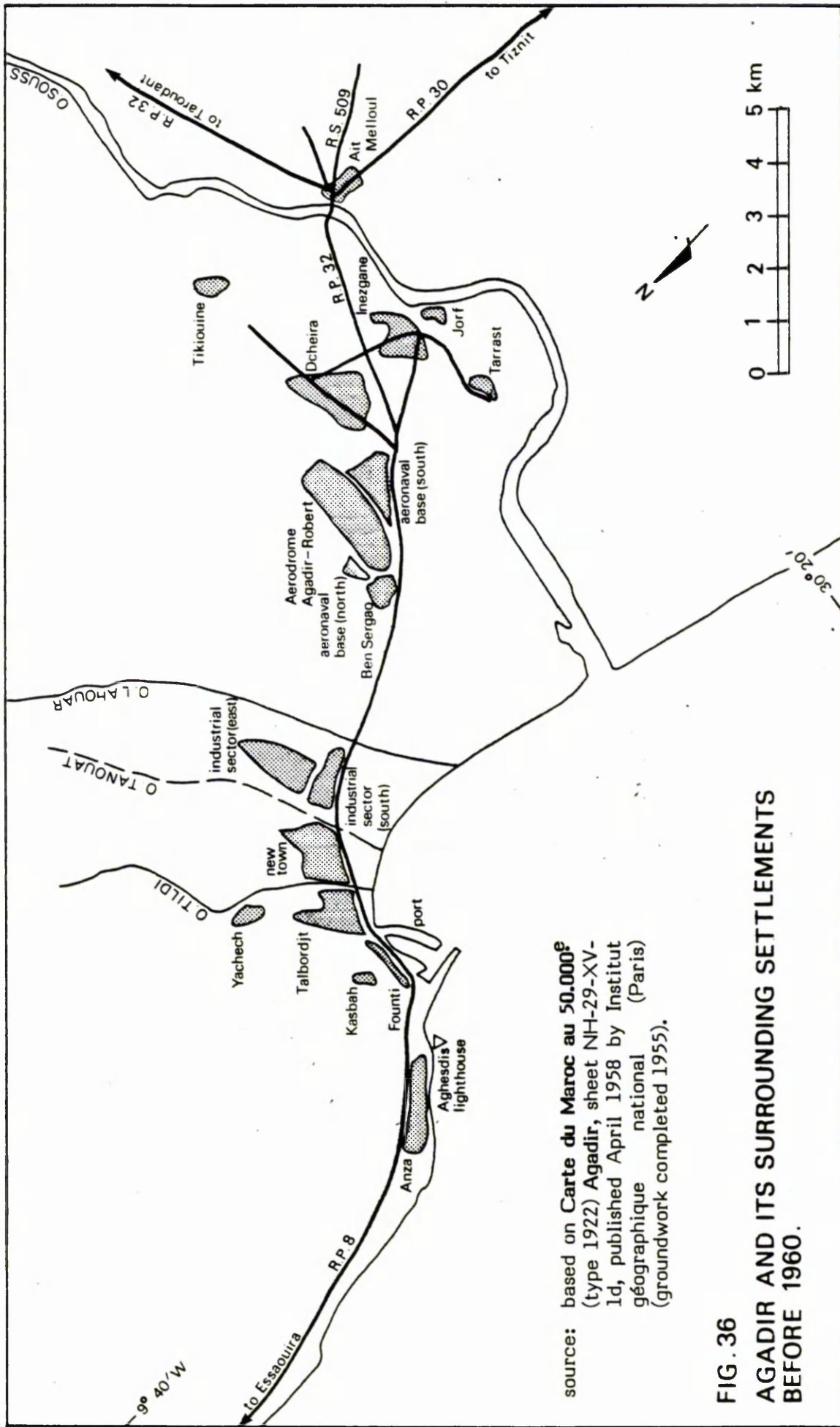
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9. from conversations during the summer of 1980 with B. Mohlinger, an engineer working at the Province headquarters in Agadir.
 10. Baroudi,(1971), *op.cit.*, p.53, refers to the rural exodus towards Agadir of the 1940s and 1950s and to the bidonvilles of 320 tents in the old industrial quarter, of 3,140 tents in Anza (in the section called Aghesdis) and also in Khiam in south east Agadir as well as in the old Yachech.

3.2 The growth of the satellite towns

A feature of the demographic rise of Agadir in the period 1960 - 1980 was the explosive growth, mainly in the second part of that period, of the so-called satellite towns to the south and south east of the main part of the town, between the Oued Lahouar and the Oued Souss (or just across the Souss in the case of Ait Melloul). Before 1960 the villages of Dcheira and Ben Sergao already existed, but were of the order of only a few hundred inhabitants each. Ait Melloul had a population of a thousand or so while Tikiouine was little more than a hamlet. The main centre in the area was undoubtedly Inezgane. Before the second world war it probably had a more important existence than Agadir (though smaller in population than the latter throughout the 1930s), mainly because of the nearby French military base and airport, and its regionally important souk. Dcheira and Ben Sergao originally thus grew up as satellites of the military base, the former to the south and the latter to the west of it. In the 1960 census (see table 17) Inezgane was recorded as having just under 7,000 inhabitants, Ait Melloul 1,560 (both of these perhaps slightly swollen still from the influx of refugees from the earthquake a few months earlier), and Dcheira (then censused as a rural douar rather than an urban centre) around 350¹¹. Figure 36 shows the location and extent of these centres of settlement around the mid-1950s.

Ben Sergao is the first of the satellite towns on the road south east of Agadir, just before the airport (which used to be the military airfield) and military base, and its growth occurred principally in the period 1960 to 1970; by then it had already

11. Much of the information on the historical development of the satellite towns is taken from conversations with Mr E. von Hoff (on 18.7.80 and other dates around that time), an architect working in the office of urban planning in Agadir (délégation régionale de l'habitat et de l'aménagement du territoire). Of written sources, the IAURIF report of 1979 (see note 12 below) has considerable detailed information. Baroudi, (1971), *op.cit.* pp.106-112, deals with the period before, and shortly after, the earthquake.



source: based on **Carte du Maroc au 50.000^e**
 (type 1922) **Agadir**, sheet NH-29-XV-
 1d, published April 1958 by Institut
 géographique national (Paris)
 (groundwork completed 1955).

FIG. 36
AGADIR AND ITS SURROUNDING SETTLEMENTS
BEFORE 1960.

become fairly saturated (it has by far the highest density of the satellite towns) and it subsequently grew at a 'lower' rate (by comparison with the rest of the urban area; 'only' 5.1% between 1970 and 1978). It is also a less sought after area in which to live, suffering as it does from the noise of the airport (far more than does Dcheira which, though equally close to the airport, is situated in a line where it seems to be less affected). An indication of this is the fact that land in Ben Sergao is apparently the least expensive of the satellite towns. The town contains many small artisans and in particular blacksmiths.

Dcheira's population more than quadrupled in the period 1960 to 1971 to reach almost the level of Inezgane (taken together with Tarrast and Jorf), and, with a higher rate of growth than the latter in the 1970s (8.8% compared to 7.9%), overtook Inezgane by the end of the 1970s. It is a dormitory town, housing workers for both Inezgane and Agadir (see image 16). Apart from the initial burst of the 1960s, the period around 1974-75 saw a great momentum in Dcheira, as in the satellite towns generally, and land prices rose around this time. The town also has various small artisans (blacksmiths and those in mechanical trades), several storage buildings for construction materials and a factory (dating from 1959) for producing wooden packing cases. Like all the satellite towns it is poorly equipped in domestic and social amenities; only 55% of the houses in 1978 were estimated to have electricity (70% in Ben Sergao, 53% in Inezgane-Jorf-Tarrast, 52% in Tikiouine and 44% in Ait Melloul, against 72% overall in Agadir proper), and only 15% had running water (1% in Ben Sergao, 24% in Inezgane, 21% in Ait Melloul and 55% in Tikiouine, against 64% overall in Agadir)¹². These figures illustrate the severely unequal

12. estimates from Royaume du Maroc, Ministère de l'Habitat et de l'Aménagement du Territoire, Schéma directeur de l'aire urbaine d'Agadir et de son arrière-pays, Rabat, March 1979. This study was carried out by the consultancy IAURIF (Institut d'aménagement et d'urbanisme de la région d'Ile de France, 21-23 rue Miollis, 75732 Paris) and is generally referred to hereafter as the IAURIF report.



Image 16 A view of Dcheira from the R.P. 32
(summer 1979)

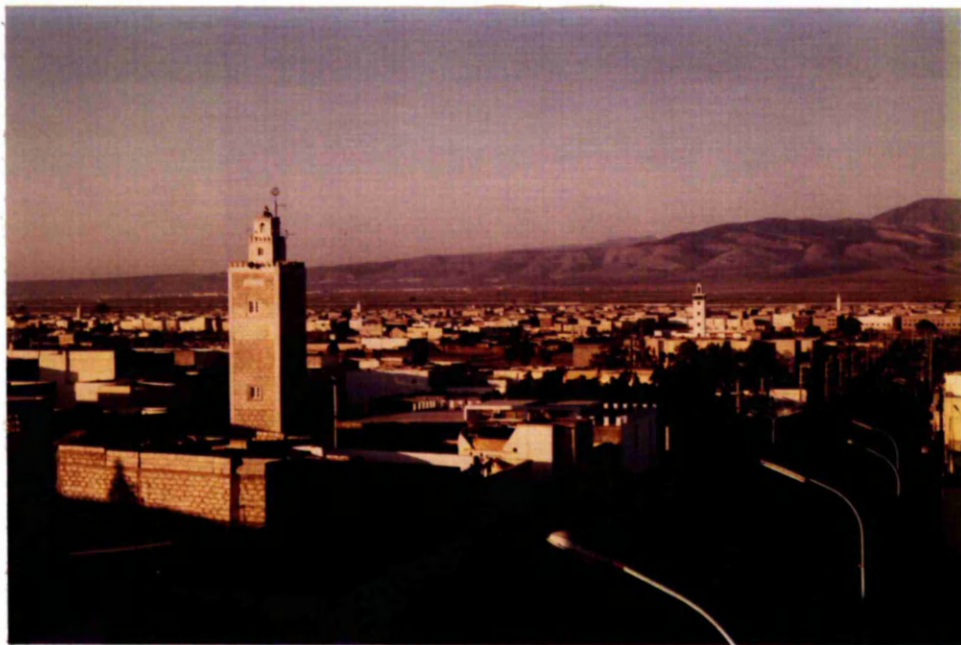


Image 17 A view over Inezgane in the evening, facing northwards;
the foothills of the High Atlas are in the background
(Jan. 1981)

Table 17: The growth of the satellite towns

year	Populations				
	Inezgane (with Jorf & Tarrast)	Ait Melloul	Dcheira	Ben Sergao	Tikiouine
1936	1,000				
1940	1,600				
1956	4,800				
1960	6,917	1,560	350	450	
1971	16,879	6,021	16,078	6,619	2,943
1978	28,691	11,207	28,971	9,390	5,683

Growth rates per year:

1960-71	8.5%	13.1%	42.0%		
1971-78	7.9% *	9.3%	8.8%	5.1%	9.9%

* (of which Inezgane proper was only 2.6%; Jorf was 9.5% and Tarrast 24.7%)

Estimated density (1978) in inhabitants/hectare:

	78.9	25.3	84.9	200.7	35.5
--	------	------	------	-------	------

Note: By 1978, Jorf and Tarrast, the 'periphery' of Inezgane accounted for almost half the population of Inezgane-Jorf-Tarrast, just as the periphery of Greater Agadir accounted for almost half of that agglomeration's population.

Sources: IAURIF report, *op.cit.*; Baroudi (1971), *op.cit.*

development of the 'periphery' of Greater Agadir as against the centre. Even including the bidonvilles, the squatters' towns, of the centre (in fact, on the periphery of that centre), Agadir has better facilities, both in domestic comfort, and in amenities such as schools, hospitals and cinemas, than do the satellite towns.

The formerly important centre of Inezgane (see image 17) slowed down in its growth during the 1970s, having reached saturation level by then, and recorded a growth rate of only 2.6% in the 1970s; its own two peripheral settlements of Jorf and Tarrast, originally separate villages on the bank of the Oued Souss, but now fast growing centres (of poor quality, virtual shanty towns), have become inseparable parts of Inezgane, and both of these experienced high growth rates in the 1970s (particularly Tarrast with 24.7% per year). Inezgane is still important for its souk, and as a staging post for heavy goods lorries (and also as a place where such vehicles can be repaired and obtain spare parts). For historical reasons, as having long been the headquarters of the administrative cercle of Inezgane and more recently having been raised to the status of a municipality, it has much better social amenities than the other peripheral towns (in the way of schools and a new college and a hospital) and experiences more activity than a place such as Dcheira.

Ait Melloul, situated across the bridge over the Souss, consists of various types of settlement; some recent agro-industry along the road to Biougra, a busy bus station area with mechanical repair shops, an old sector with its local market and mosque and a new residential area. It experienced a steady high growth rate throughout the period 1960-1980, by the end of which it had higher land prices than any of the other peripheral towns.

Around Ait Melloul land is publicly owned, but by the Ministry of Water and Forests, a body which can sell only to the state (that is, to the Ministry of Finance), and acquisition of its lands for development is thus more difficult than it otherwise might be (since the former ministry is usually highly reluctant to part with its land).

Finally, Tikiouine, slightly displaced from the string of other peripheral settlements, started to develop rapidly after 1973. The construction of the R.P. 40 road which passed by it undoubtedly contributed to its rapid growth, since it was then linked more closely to both Agadir and Ait Melloul. Like Dcheira it has also become a dormitory town. With plenty of space unused there and land prices relatively low it would seem likely to continue to grow at a high rate for some time, especially since other, as yet undeveloped sectors along the R.P. 40 between Agadir and Tikiouine have been earmarked for the principal growth areas of the whole agglomeration in the 1980s and 1990s.

The 'periphery' of Greater Agadir, then, as it became during the period 1960-1980, saw an overall very high growth (8.1% in the 1970s as against 6.3% for Agadir proper, and 7.1% for the whole agglomeration), with its total population almost on a par, by the end of the period, with Agadir itself. However, growth within the peripheral area was unequal, with mini-centres and their local peripheries (such as Inezgane with Jorf and Tarrast) experiencing different developments and with some parts reaching saturation (particularly Ben Sergao, restricted by the proximity of the airport, as well as Inezgane proper). Between Agadir and the other towns there, too, were considerable differences in the standards of domestic and social amenities. Figure 37 shows the position of Agadir and its satellite towns towards the end of the 1970s.

For the development of the agglomeration in the 1980s and 1990s three options were considered by the planners in Agadir; the first was to concentrate development along the existing R.P. 32 axis, that is, Agadir-Ben Sergao-Dcheira-Inezgane-Ait Melloul, the second was to develop the empty areas of the R.P 40 'ring road', and the third was to have a bipolar development around Agadir and Ait Mellou. The second option has recently been chosen and will entail particular developments in Agadir south east and at Tassila (north east of Dcheira, on the other side of the airport), on both

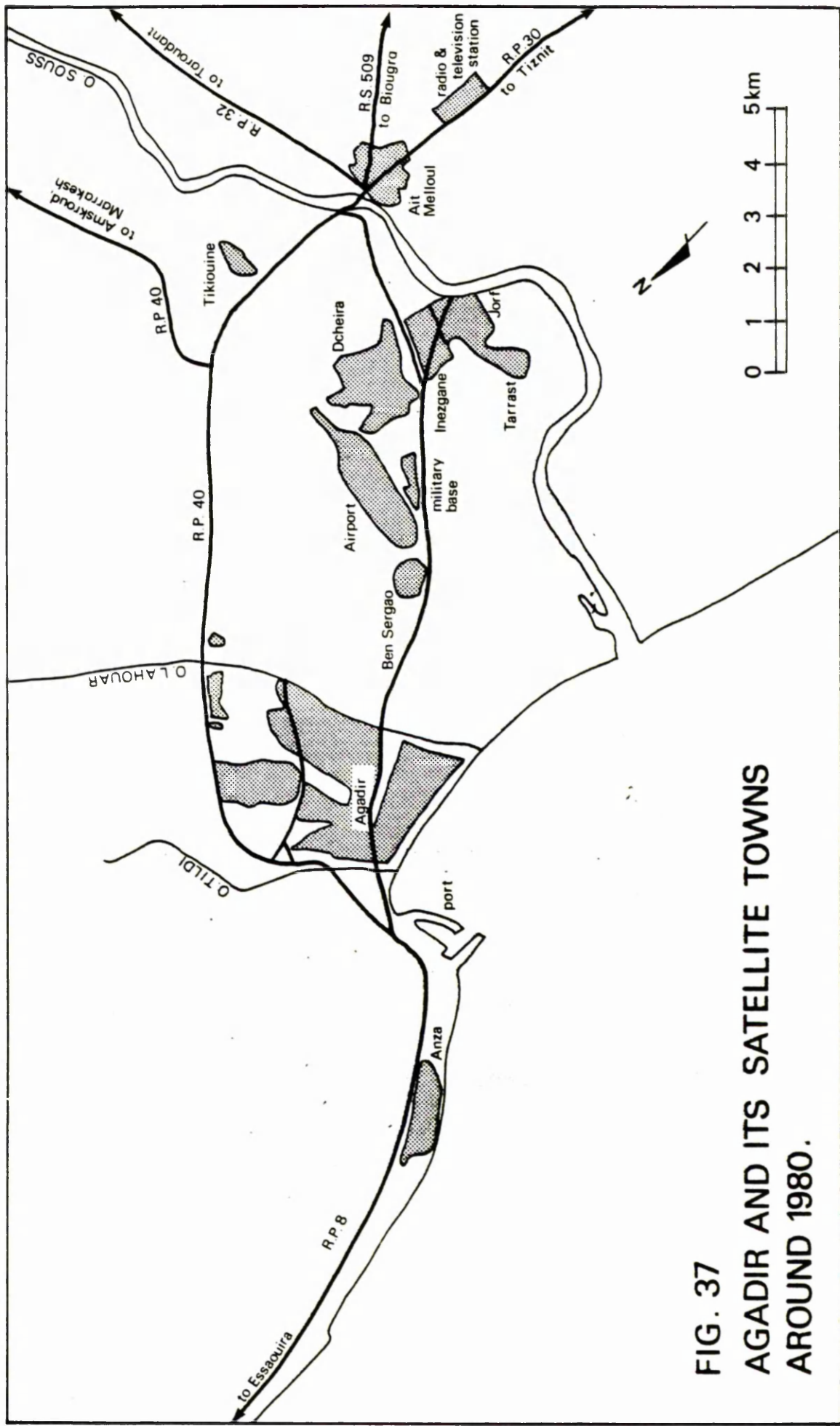


FIG. 37
AGADIR AND ITS SATELLITE TOWNS
AROUND 1980.

sides eventually of the R.P. 40, where industrial as well as residential expansion is envisaged (see chapter 5.2).

The airport, as mentioned elsewhere, will have to be resited, probably to the south east of Ait Melloul, as the remaining usable sites of the agglomeration start to fill in the space and join up what were formerly disjoint units. A new bridge over the Souss at Ait Melloul, slightly to the west of the present one, will also be necessary in this period.

To the west of the satellite towns, nearest the coast, the new sector of Founty (see chapter 5.1) is being built, extending roughly half the distance between the Oued Lahouar and the Oued Souss. In the remaining area south of Founty, on the right bank of the Souss, there is a wooded area of some 250 ha where the new royal palace is being built, together with a golf course. It is one rare example of a case where no difficulty was had in obtaining permission from the Ministry of Forests to develop the land and is apparently a vast undertaking (planned to hold a garrison of 5,000 people and temporarily accommodating at least another 2,000). It is uncertain what will become of the old palace (which before 1960 was the residence of the provincial governor) situated near the present tourist sector north of the Lahouar (and last visited by the king in November 1975 at the time of the Green March).

Other developments for the agglomeration include a possible university, which is still under discussion (the World Bank is currently financing three projects for higher education, one in the south east corner of the new Founty, one to the west of Agadir south east and one east of Ait Melloul), and, of course, the railway project, which is discussed in chapter 6.

3.3 Communications

3.3.1 The port of Agadir

The port of Agadir was reconstructed after the earthquake, enclosing an area of water of 42 ha up to depths of 10 m; it was divided into the fishing port and the port proper. Though its facilities were developed during the period of the 1960s and 1970s (in the way of storage facilities, repair yards and shops) it remained a restricted port which would eventually have difficulty in coping with the fast growing volume of imports (over half a million tonnes per year by the end of the 1970s) and the planned growth of exports in the 1980s and 1990s. It is thus not surprising that the creation of a new port at Agadir, to the north of the present one, should have been talked about for several years, making obligatory appearances in all good consultancy studies, and even in the 1978-82 national plan (which was abrogated in 1980).

The volume of traffic through the port of Agadir (cf. table 18) increased sharply (roughly trebling in terms of number of ships and multiplying by more than eight in terms of merchandise handled). Most of the increase in terms of ships calling, though, occurred in the period 1960-1973; since then the fast increasing trade, especially in imports, has been taken up by larger ships rather than by more of them.

Agadir's shipping traffic, accounting for 5 to 6% of the national figure in terms of number of ships and 10% in terms of volume of exports (if phosphates are excluded; only 2% of all exports including phosphates), reflects on a smaller scale the same pattern and evolution as the national one over the period in consideration; indeed, the lack of phosphates, specific only to Casablanca and Safi, are the principal difference. It is distinguished, on the import side, by a growing intake of cereals and fertilizers, but above all by a rocketing volume of hydrocarbons; of exports, citrus and vegetables (mainly tomatoes)

Table 18: Merchandise in the port of Agadir from 1960 to 1980

year	number of ships		imports ('000 tonnes)		exports ('000 tonnes)	
	n	%	I	%	E	%
1960	221	2	50	2	43	1
1964	508	4	103	3	184	1
1969	699	6	152	4	293	2
1973	660	6	299	5	327	2
1974	556	5	245	4	286	1
1975	661	6	338	5	228	2
1978	606	6	517	5	320	2
1979	581	6	564	5	394	2

Notes:

n denotes the approximate number of ships calling

% denotes the share of Agadir port of Morocco's overall port trade

I denotes imports (in '000 tonnes)

E denotes exports (in '000 tonnes)

In 1978, of Morocco's 20,568,000 T of exports, 17,346,000 T were of phosphates (84.3%); if one excludes phosphates, Agadir's share of exports was around 9.9%.

Source: Annuaire Statistique du Maroc for various years.

have been the main items, with minerals and processed fish following (in terms of weight). Around 1977 the local balance of trade became negative in terms of weight. Table 19 reflects the heavy swing between 1966 and 1978 into a deficit in terms of tonnage; hydrocarbons, which came to 41,700 T in 1960, rose to 67,000 T in 1966 and by 1978 totalled 267,000 T, though the proportion they represented of Agadir's imports remained fairly steady at around 50% between 1966 and 1978. The volume of cereals imported trebled in that period (though it dropped in terms of percentage share) as did similarly that of fertilizers. The double irony of a leading citrus producing area importing wheat, and of the world's largest phosphate exporter importing fertilizers has been noted before. Morocco does, to do it justice, now export a growing amount of chemical fertilizer; in 1978 it imported fertilizers to the value of 82 million dh, while exporting them to the value of 133 million dh. Also notable in the late 1970s among imports were clinker (unground cement), iron, other metals and wood. On the export side the amount of citrus and vegetables increased strongly, both in absolute and proportional terms; by 1978 they totalled together over 70% of the tonnage exported, ten times that of processed fish, though in terms of value the ratio was probably nearer to 4:1, the fish being more valuable on average per unit weight. It is noteworthy that of the considerable amount of official statistics relating to trade at Agadir port, especially the tomes produced on the numerous varieties of citrus, all deal almost exclusively in weight and not in value (fish statistics are a notable exception). The compulsion of the local bureaucracy to issue statistics is matched only by their abhorrence of making them useful to others. It can be stated, though, that in 1978, 181,000 T of citrus (to an approximate value of 220 million dh) were exported from Agadir port, representing 57% of that port's exports by weight and 27% of Morocco's citrus exports; tomatoes at some 40,000 T from Agadir netted around 45 million dh, representing 13% of Agadir's exports by weight and 37% of Morocco's tomatoes. Though the calculation

Table 19: Progression of exports and imports at Agadir port

(by weight, in '000 tonnes)

produce	1966			1978		
	exports	imports	balance	exports	imports	balance
total	216	134	+82	320	517	-197
citrus	73.6 (34%)			181 (57%)		
vegetables	34.9 (16%)			42 (13%)		
processed fish	43.0 (20%)			23 (7%)		
barytes				24 (8%)		
hydrocarbons		67 (50%)			267 (52%)	
cereals		33 (25%)			91 (18%)	
clinker					67 (13%)	
fertilizer		9 (7%)			29 (6%)	

principal countries:

1.	France	France (50%)	France	Spain (25%)
2.	Portugal	FR of Germany	FR of Germany	France
3.	Belgium	DR of Germany	USSR	USA
4.	USA	USSR	Holland	Canada
5.	FR of Germany	Sweden	Yugoslavia	Belgium

Sources: *Annuaire Statistique (Région économique du sud)*, 1978, and Péré, *op.cit.* 1967.

is problematical¹³, given the lack of information on values, it would seem that the 267,000 T of imported hydrocarbons that year would only have cost around 125 million dh and the 91,000 T of cereals some 50 million dh. Thus 70% of Agadir's exports in 1978 by weight (citrus and tomatoes), though outweighed considerably by 70% of the port's imports, hydrocarbons and cereals (by 358,000 T to 223,000 T), nonetheless still outbalanced the imports in financial terms (by 265 to 175 million dirhams approximately).

Before 1965 some goods destined for export from the Souss were routed to Casablanca¹⁴, though with the nationalization of the means of foreign trade in that year under the O.C.E. (Office de commercialisation et d'exportation) all the principal produce of the region was subsequently exported from the port of Agadir, which may in part explain the large rise in exports between 1964 and 1969.

The progression of the export of citrus is shown in table 20. It increased over the 20 years between 1960 and 1980 largely in step with new areas in the Souss plain being brought under irrigation (and the same, on a reduced scale, is true of the volume of tomatoes, in this case coming more from the Massa sector opened to irrigation during the mid-1970s). It is to be assumed that, soon after the irrigated areas of the region attain their maximum extent, during the 1990s, the production of oranges and vegetables will also reach a maximum level.

13. Using national import and export figures for 1978 (giving both weights and values) taken from B.M.C.E. information reviews, particularly issue no.23, March-April 1979, and from *Le Maroc en Chiffres* for the relevant years. The specific figures (of weights) for Agadir port are assembled from the *Annuaire Statistique (région économique du sud)* 1978, from figures obtained at the O.C.E. office in Agadir (summer 1979), from various *Annuaire Statistique* for Morocco, from the Serete report, *op.cit.* 1978, and from Péré's article, *op.cit.* 1967.

14. Péré, *op.cit.* 1967. p.79

Table 20: Evolution of citrus exports from Agadir port

(all citrus, in tonnes)

Season	Agadir	%(1)	Morocco	%(2)
1963/64	78,588	42%	473,069	16.6%
1967/68	131,884		596,719	22.1%
1969/70	129,455		617,871	21.0%
1973/74	113,000	40%	584,000	19.3%
1975/76	125,024		459,960	27.2%
1977/78	151,858	47%	672,239	22.6%
1978/79	181,672	57%		

Notes:

1. the season for citrus exports is October to June
2. %(1) denotes the percentage of citrus exports of all Agadir exports, where known (and is approximate, given the discrepancy between the citrus season and the calendar year)
3. %(2) denotes the percentage of Agadir citrus of all Moroccan citrus

Sources: Annuaire Statistique du Maroc for the various years, and statistics obtained at the O.C.E. office in Agadir (summer 1979)

Table 21: Evolution of export of fish produce from Agadir port

(in '000 tonnes)

year	canned fish	fish meal	total
1966			40.0
1971	11.7	12.3	24.0
1973	16.7	30.1	47.7
1975	9.0	17.1	26.1
1977			22.0
1978			23.0

Note: the total figures for 1966, 1978 and 1979 (where the breakdown is not known) are approximate.

Sources: Serete, *op.cit.* 1978 pp.I-39; Péré, *op.cit.* 1967;
Annuaire Statistique (région économique du sud) 1976 and 1978

As regards fish exports these have fluctuated considerably (see table 21) over the period since 1966 and it would be difficult to make a case that there has been any expansion in volume over 14 years (and even more difficult to see how a recent report¹⁵, commissioned at great expense, could 'predict' an export volume for Agadir of 90,000 T of fish produce for the year 1990 from the 1977 figure of 22,000 T; in 1966 the figure had been around 40,000 T - the correct extrapolation would thus seem to be nearer to 10,000 T for 1990. There will be more, though, to say on the predictions and hypotheses of the railway study report in chapter 6).

3.3.2 Agadir airport

Of the growth of traffic at Agadir airport there is relatively little to explain. Rapidly expanding tourism (cf. especially chapter 5.1) since the mid-1960s has increased the volume of air traffic by a factor of over 10 in 20 years (see table 22). Air freight, too, increased rapidly there, though more in the period 1960 to 1973 than subsequently (when, if anything, it declined somewhat).

In the late 1970s the airport facilities were enlarged and modernized, in keeping with its position as an international airport. There is a limit, though, to the expansion that can take place, particularly as regards runways, which are restricted by the airport's position in the midst of urban and industrial developments, and with the current rate of increase of tourism, and with the delay time in bringing a new major airport into operation (perhaps ten years altogether) the need to start work on the new site (probably just outside Ait Melloul) has become pressing.

15. from the railway report: Royaume du Maroc, Ministère des Transports, Office National des Chemins de Fer, Rabat, February 1979, (study carried out by GEFMA), Ligne Ferroviaire Marrakech - Laayoun; Etudes préliminaires. 1. Rapport du synthèse; 2. Etude de transport: ressources. pp.18-19 are referred to here.

Table 22: Evolution of air traffic at Agadir airport

year	number of planes		freight (tonnes)	
	n	%	F	%
1959	450	5	54	1
1964	950	8	14	1
1969	750	6	229	3
1973	4,350	7	3,200	17
1974	4,200	7	1,668	9
1975	4,500	7	1,038	6
1978	5,450	8	1,027	4
1979	6,530	11	1,220	4

Notes:

1. n denotes the approximate number of planes arriving
2. % denotes the share of Agadir out of the Moroccan total (approximate, rounded to the nearest integer)
3. F denotes the freight handled in tonnes

Source: Annuaire Statistique du Maroc for the relevant years

3.3.3 Roads

The basic infrastructure of major roads within the Souss and connecting the Souss to the outside has not altered much since 1960. The one major addition, the R.P. 40, has had the effect within Greater Agadir, of altering the urban balance (cf. sections 3.1 and 3.2) to the south east; in terms of the region it has strengthened Agadir's central position. The previous route used to connect the Souss with Marrakesh (the R.S. 501 over the Tizi n'Test pass) at least linked Taroudant with the principal road network; after 1973 this latter place was bypassed by the main commercial road traffic between the Souss and Marrakesh, and lay only on the less important Souss - Draa Valley (Ouarzazate) - Tafilelt axis.

The other main entry to the Souss from the north remains the coastal road (R.P. 8) crossing the mountains at their lowest point near the coast and arriving in the Souss via Agadir. From the south the principal axis, strengthened by increased military transport in the period after 1976, is the road from Goulimine to Tiznit to Agadir (R.P. 30).

3.4 Tourism

In Chapter 5.1 dealing with Agadir in the 1980s a detailed study is made of the hotels in Agadir, their locations and capacities, with particular reference to probable development during the 1980s; in the course of the section a description and analysis is also presented of the development which took place between 1960 and 1980. That section deals with hotel capacity, with direct and indirect employment in hotels, with tourist numbers and with the location of tourist areas, so that this brief section will concentrate on other aspects of tourist development.

The first hotel to appear after the 1960 earthquake opened in 1965, followed by a spate of others of all categories and sizes over the next five years. Writing in 1967, Péré¹⁶ thought that the "principal problem (was) that of the distance (of Agadir) from the European sources of tourism. That distance (1,000 km from the Straits of Gibraltar) could create an obstacle for the development of mass tourism. But, for de luxe tourism this geographic displacement poses no problems." It is interesting to note how the very reverse, almost, occurred; in the 1970s Agadir became increasingly a centre for mass tourism, with the relative proportion of both 5-star hotels as well as the small 1-star and 2-star hotels (mainly in Talbordjt) decreasing with respect to 3-star and 4-star hotels (see fig. 62). From the early 1970s onwards Agadir became a growing target for the West European 'package' holiday companies (tending to frequent 3-star and 4-star hotels).

After the initial boom of the period 1966 to 1973 (see fig. 61), there was a decline for two years, possibly related to the general economic depression in Europe around that time. However, the after-effects of Mediterranean conflicts of the period (in the Middle East and Cyprus) turned a part of the tourist market

16. Péré, *op.cit.* 1972 p. 83

towards Agadir. This was particularly the case with the Scandinavians who, from the winter of 1973/74 onwards, came to Agadir in rapidly increasing numbers. with some 830 of them only in 1971¹⁷ their total reached 45,000¹⁸ eight years later; ten direct charter flights a week from Scandinavia were bringing them to Agadir - 1,500 each week - in the period almost exclusively between early October and the end of april. Certain studiotels¹⁹ ('résidences', self-catering apartments), which also started to flourish from 1974 onwards, were reserved entirely for Scandinavians during the winter period.

Direct charter flights (and there are no other international flights now direct to Agadir, not stopping over at Casablanca, other than charters) became suddenly popular towards the end of the 1970s; apart from the 10 from Scandinavia, there were (in 1980) three or four a week from France, four from Germany, three or four from England (going up to around ten in 1981) and around one each from Switzerland, Holland and Belgium²⁰. Table 23 shows the number of tourist arrivals by nationality; the features that stand out are, firstly, the rapid rise of the Scandinavians, secondly, the fall in the position in the table of the North Americans, and thirdly the fall in percentage terms of the French; while still dominant in Agadir they accounted in 1979 for just under a third of all tourists, as opposed to over a half in 1971 (part of the reason for this being that in 1971 the Club Méditerranée, which has around 80% of its clientèle from France, accounted for 18% of hotel beds in Agadir, whereas by 1979 its percentage share had fallen to 6%.

17. Péré, Michèle, 'Quelques aspects du tourisme au Maroc à travers l'exemple d'Agadir' in *Revue de Géographie du Maroc*, No. 22, Rabat, 1972 p.18

18. interview with Hassan el-Kroni, chairman of the Association of travel agencies of Agadir, (23.7.80).

19. notably the 'Nouzha'

20. from interview with Kroni (23.7.80)

Table 23: Evolution by nationality of tourists arriving in Agadir

	1971			1979		
	n	%	ρ	n	%	ρ
<u>Nationality</u>						
French	41.0	55	1	96.4	31	1
Germans	10.0	13	2	34.4	11	3
N. Americans	6.0	8	3	4.1	1	8
Belgian/Dutch	4.0	5	4	19.4	7	4
Swiss	4.0	5	5	10.8	4	5
British	2.0	3	6	10.6	3	6
Italian	2.0	2	7	5.4	2	7
Spanish	1.0	1	8	1.6	1	9
Scandinavian	1.0	1	9	45.2	15	2

Notes:

1. n denotes the number of arrivals (in '000)
2. % denotes the percentage share of that nationality of the total of arrivals
3. ρ denotes the rank order
4. the figures for 1971 are approximate (to the nearest thousand), and all the percentages given are rounded to the nearest integer.
5. the order of nationalities, for the whole of Morocco in 1979 was: French (30%), Spanish (13%), British (10%), North Americans (10%), Germans (9%), Scandinavians (6%) and Belgians/Dutch (6%) (source: BMCE Information Review, no. 30, Sept/Oct 1980).

Sources for table: Péré, op.cit. 1972 p.17, and Statistiques d'évolution touristiques (1977 - 1979), Ministère du Tourisme, délégation d'Agadir

A second trend, to some extent linked with the changing distribution of nationalities (particularly with the Scandinavians' preference to visit Agadir in the winter) and one which is of greater consequence for Agadir, is the changing pattern of seasonal distribution of tourist arrivals. The trend has been towards a more marked presence in the winter months. Table 24 shows the evolution of the percentage shares of the tourist arrivals in each calendar month, and although there are some irregularities, an overall movement towards the winter and away from the summer is indicated.

The trend in hotel building, from zero in 1964 (that is, of hotels which were open) to 3,000 beds in 1970 to over 10,000 in 1980, as analyzed in detail in chapter 5.1, has made Agadir the leading hotel centre in Morocco, with 20% of the country's tourist capacity. The stated plans for the 1980s and 1990s, particularly those stemming from the Minister of Tourism, are ambitious, to state it mildly. How feasible such proposals are (e.g. 20 million tourists annually in Morocco and 400,000 hotel beds nationally by the year 2000²¹), and what they imply for Agadir and the region will be examined in closer detail in chapter 5.4.2. ;

21. the Minister of Tourism, Moulay Ahmed Alaoui, quoted in *Le Matin* of 22.7 and 23.7.80.

Table 24: Distribution, by calendar month, of percentage shares of tourist arrivals (by air) in Agadir, 1971 to 1978

	1971		1975		1976		1977		1978	
	%	ρ	%	ρ	%	ρ	%	ρ	%	ρ
January	8.5	5	8.3	5	10.4	4	9.1	4	8.4	5
February	9.0	4	10.1	3	10.1	5	8.8	6	11.4	1
March	8.5	5	12.1	1	11.1	2	12.6	1	10.7	3
April	13.5	1	7.8	6	8.3	7	7.5	7	9.6	4
May	10.0	3	7.7	7	4.6	11	6.7	10	6.3	11
June	5.5	10	6.4	11	3.9	12	4.1	12	6.2	12
July	8.0	7	6.9	10	12.0	1	7.4	8	6.5	9
August	13.0	2	7.4	9	8.1	8	7.3	9	6.4	10
September	5.5	10	6.4	12	5.0	10	6.0	11	7.5	8
October	6.0	9	8.9	4	7.3	9	10.0	3	8.1	7
November	5.0	12	7.6	8	8.7	6	8.9	5	8.3	6
December	8.0	7	10.3	2	10.7	3	11.6	2	11.3	2

note: In the period 1975 - 1978 there are only three instances of any of the six months from October to March not being in the first six according to rank order: they are: October (in 1976 and 1978) and November (1975). In two of these instances it was April which appeared in the first six instead, and in the third it was a freak appearance of July at the top of the list. Note also the way that May and August, more frequented in the early 1970s, dropped down in position, while November and December both moved up.

% denotes the percentage share of tourist arrivals by air of the corresponding calendar month

ρ denotes the rank order of that calendar month

The arrivals dealt with are only those by air, though it is reasonable to suppose that this is a fair reflection of the overall position.

sources: for 1971, Péré, op.cit. 1972; the figures here are read off a graph and are therefore approximate;

for the other years - Annuaire Statistique du Maroc, as well as figures from the Ministère du Tourisme, délégation d'Agadir.

3.5 Fishing in Agadir

3.5.1 General

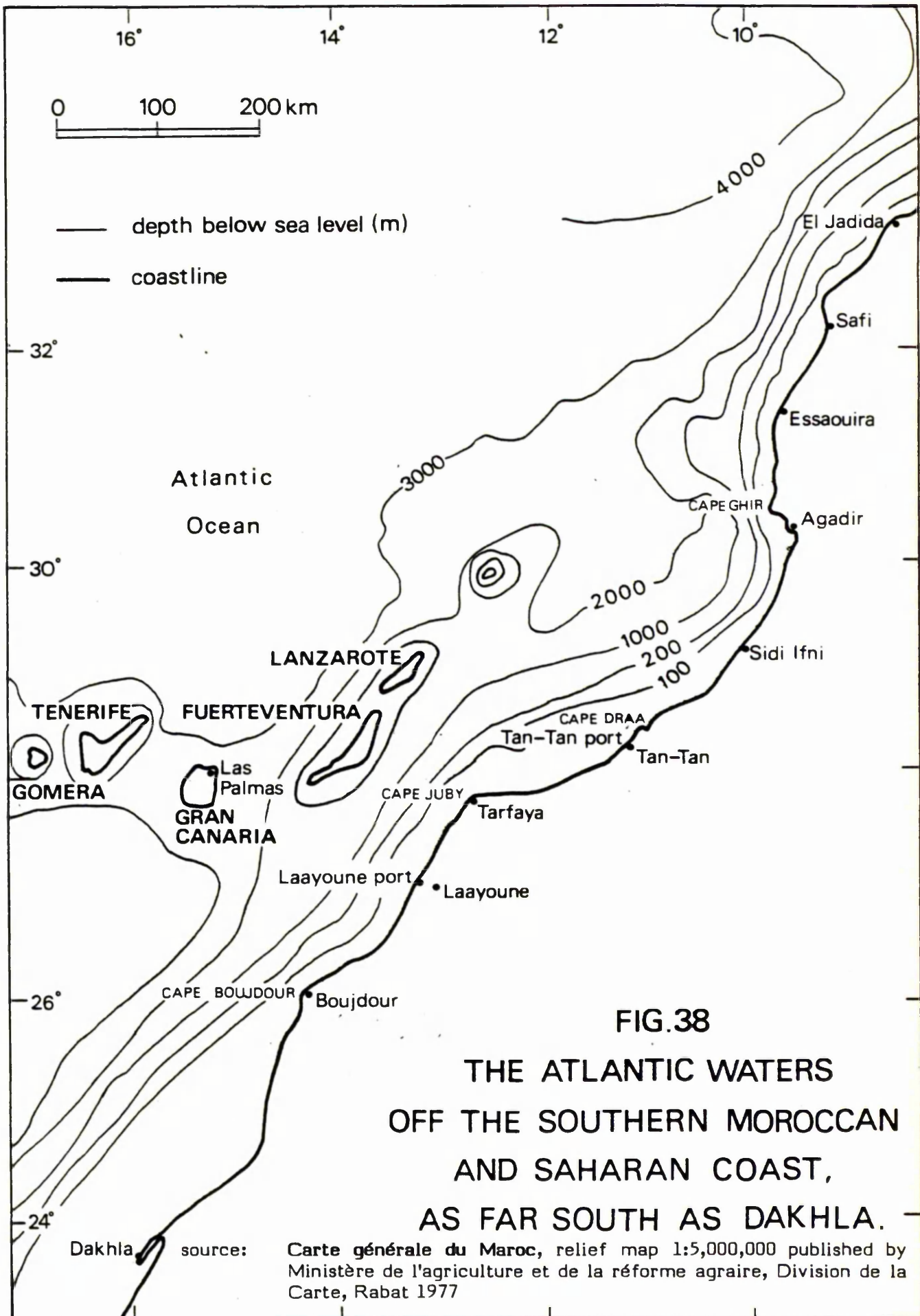
By world standards, and even against many developing countries (such as India, Korea, Thailand, Indonesia and Peru), Morocco's annual catch of fish is not large, though together with Angola, Senegal and Nigeria it ranks among Africa's main producers²². Of Morocco's two coasts (of some 3,500 km) its Atlantic one is preponderantly the better in terms of fish, and the southern part of this coast, south of Safi, is the area currently producing the bulk of Morocco's fish (see figures 38 and 39). Recent estimates²³ have apparently shown that Morocco could produce some 3 million tonnes of fish annually from these waters (more than 10 times its current production), two thirds of this from the Saharan waters south of Tarfaya at 28° N. However in the past, as will be seen, despite continually optimistic forecasts and a moderate investment, production of fish in Morocco lagged behind, hardly rising at all during the 1970s, and one would have to be cautious before accepting some of the more exuberant forecasts of vastly increased production and revenues.

Within Morocco, Agadir rose in the period 1960 - 1980 to become the largest fishing port in Morocco²⁴ (see images 18 and 19) in terms of fish landed, though Safi, which had earlier been a larger producer, remained ahead of Agadir in terms of industrial capacity for canning fish (though not for producing by-products). Over a

22. Royaume du Maroc, Office national des pêches, *Situation des produits de la pêche dans le monde*, document presented by the F.A.O. at 11th session of Fishing Committee, Rome 19-26 April 1977

23. 'Survey: the fishing sector' in *BMCE Information Review*, No.22, January/February 1979

24. In 1967 Safi was ahead of Agadir in fish caught (114,241 T to 85,249 T); since that year Agadir has been Morocco's leading producer



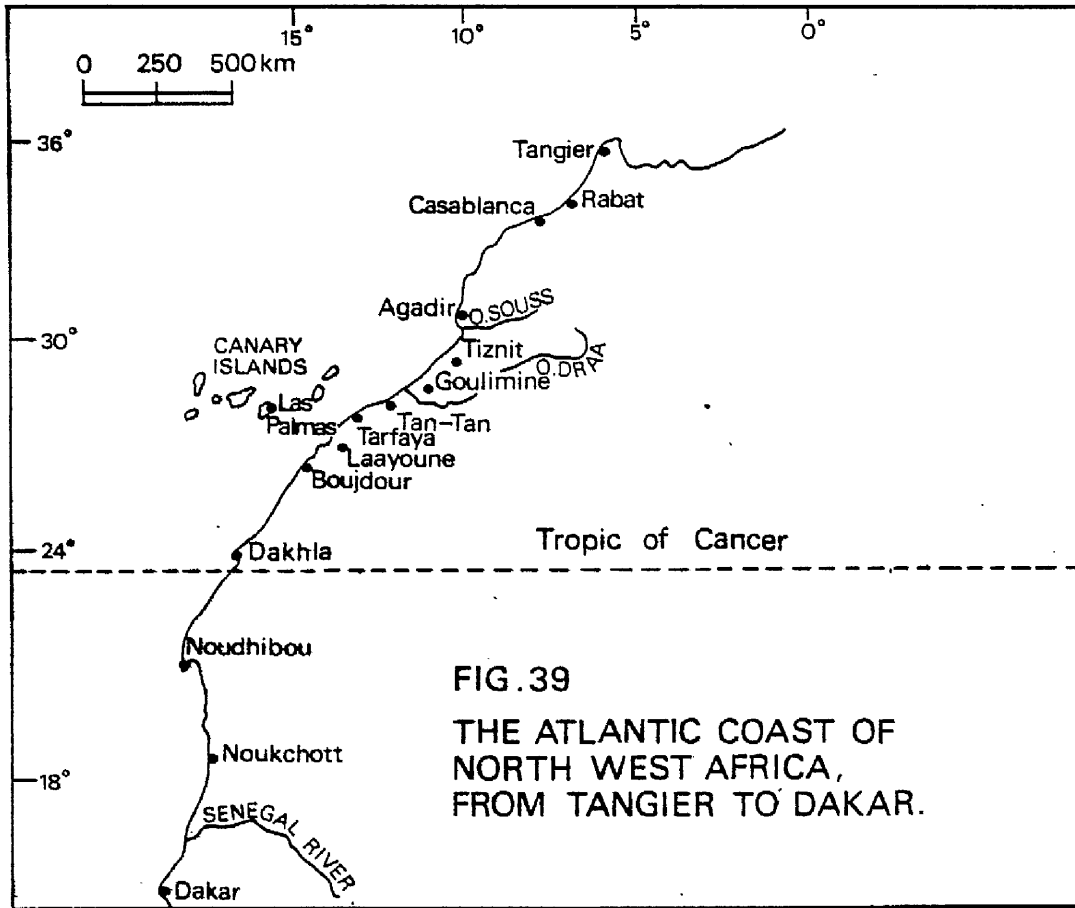




Image 18 Repairing nets in the fishing port of Agadir
(summer 1979)



Image 19 A scene inside
the fish
hall at the
port
(summer 1979)

longer period, since the 1930s, a continuous shift southwards along the Atlantic coast can be detected, though it is difficult to say whether this occurred simply because of a decentralization of activity away from the expanding industrial centre of Casablanca (which in the 1930s was leading in fish production) or whether the shoals of fish tended to shift to the south; in the latter case it is not clear whether such a hypothesized migration occurred 'naturally' or whether the fish moved south ahead of the fishing fleets and port developments; that is, whether their apparent disappearance further north may not have been due to overfishing. In any case, Agadir is at present at the centre of Morocco's fishing activity, though whether the trend will continue southwards, leaving Agadir to join Safi, Casablanca and Tangier as an ex-fishing centre, is an open question. Certainly much investment is planned (on paper) for the development in the 1980s of ports further south, such as Tan-Tan, Tarfaya and Dakhla, which plans are heavily dependent on the course of the Saharan conflict.

The development of Agadir's fishing industry during the period 1960 - 1980 is a continuation of a process that had started some 25 years earlier and had particularly taken off in the late 1940s and early 1950s with the development of the port and the construction of a number of canneries. The earthquake, in fact, made little difference to this process; with the factories situated either in Anza or in the old industrial quarter, both of which were less strongly hit than other parts of the town, and with those that were damaged being repaired quickly, there were 12 factories functioning two months after the earthquake, compared with 16 immediately before²⁵.

There are two distinct types of fishing practised in Agadir, as indeed elsewhere; the first, the more established type, is that of 'industrial' fishing (that is, of fish destined for the factories)

25. Péré, M. *op.cit.* 1967 p.75 Péré points out that in the 1940s and early 1950s many small canneries sprang up (reaching 61 in number in 1950); after 1952 there was a policy to concentrate these into larger and more economic units, so that the number of factories fell to 16 in 1958

which is now usually called pelagic (after Greek *pelagos*, 'sea') referring to the fact that it is practised near the surface and in the middle depths, as opposed to the second type, called benthic (Greek *benthos*, 'deep') which is deep sea fishing. The former is mainly of sardines (with some mackerel and anchovies) and is carried out in small boats, near the coast and not far from Agadir; the latter is carried out some miles off the coast, mainly in the Saharan waters and is for the so-called 'white fish' (sole, sea-bream, whiting, red mullet), 'cephalopods' (such as squid and octopus) and shell fish.

3.5.2 Industrial Fishing

This is the main fishing activity of Agadir and accounts for nearly all the fishing establishments and most of the employment there. It is primarily concerned with sardines, and Agadir in recent years has emerged as the largest sardine port in Morocco, and, according to some accounts, in the world. The fishing is near the coast, with short trips of usually a night away from the port, and is carried out in sardine boats or small trawlers. Table 25 shows the evolution of Agadir's fishing fleet in the period of the 1970s.

Some 6,200 people are currently estimated to be involved in fishing, though many are part-time. This represents a doubling since 1966 when Péré²⁶ estimated there to be around 3,000 fishermen, many of them 'peasant fishermen' from the nearby Aneur and Chtouka tribes. Given that the 1966 catch, both for Morocco and for Agadir, was actually higher than the catches of 1977, 1978 and 1979, it is not surprising that the price of fish should have risen considerably in this period. Figure 40 shows the declining returns of industrial fishing in the 1970s.

26. Péré, *op.cit.* 1967 p.75

Table 25: Evolution of fishing fleet at Agadir port during the 1970s

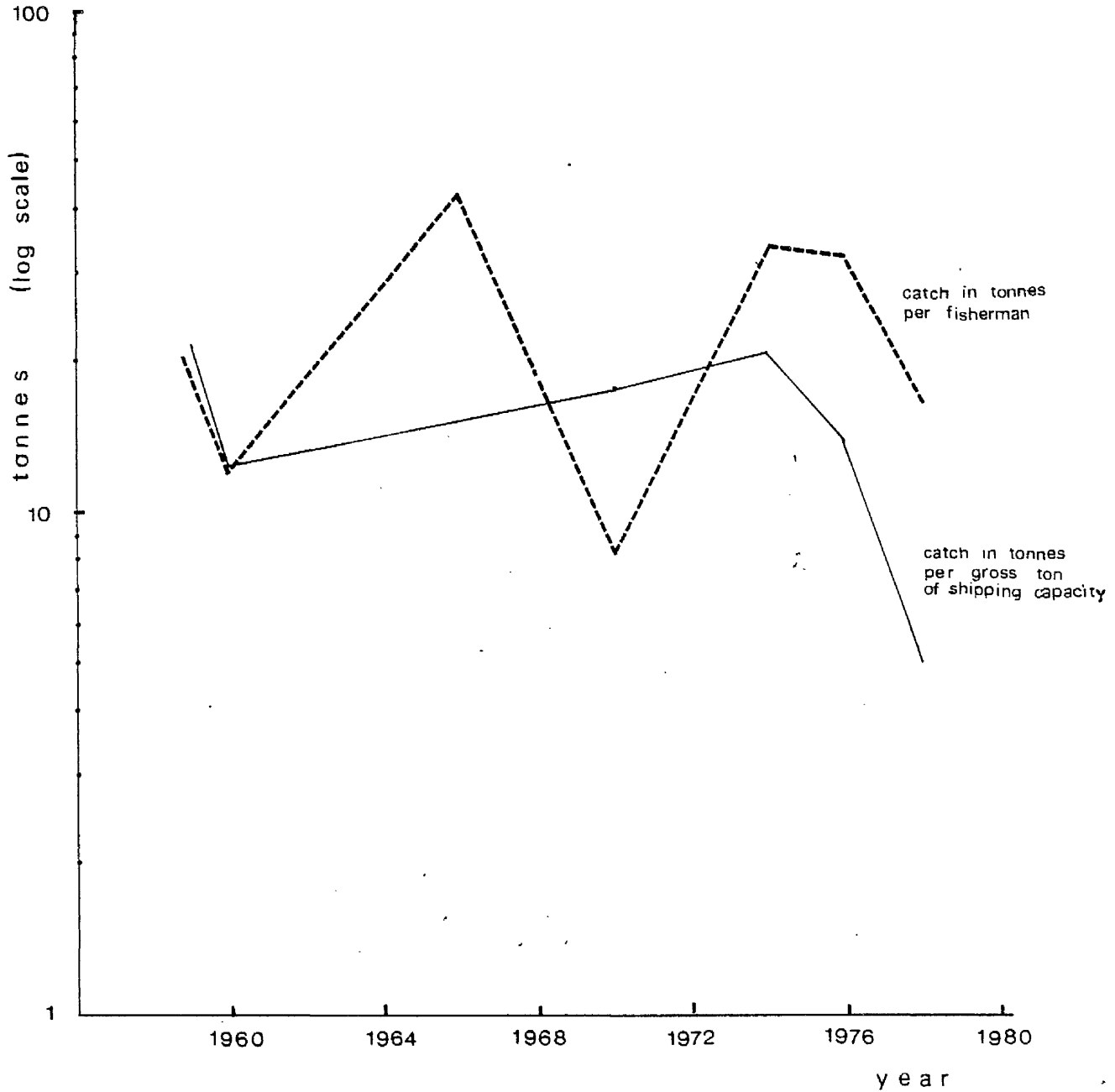
	numbers of boats			tonnage ⁽¹⁾ (in gross tons)		
	1970	1974	1978	1970	1974	1978
Motor boats						
trawlers	21	135	82	574	1,613	8,700
sardine trawlers	35	33	15	1,239	1,174	1,430
sardine boats	103	113	113	2,496	4,048	8,166
lobster boats	33	35	38	228	297	431
Non-motor boats	867	456	1,216	928	513	1,367
Total	1,059	772	6,250	5,464	7,645	20,094
Estimated number of fishermen						
	5,274	4,705	5,389			

Note:(1) 1 gross ton is equivalent to 2.83 m³, or 100 ft³, of the capacity within the hull and the enclosed spaces on the deck available for cargo, stores, fuel and crew.

Sources: *Annuaire Statistique du Maroc* for the various years

FIG. 40

Evolution of return per fisherman and per tonnage of shipping at Agadir, 1960-1980



source: **Annuaire Statistique du Maroc** (for various years), and Serete report (1978) *op.cit.* p. I-101

Catches vary considerably from one year to the next, but a glance at figure 41 shows that they have hardly increased substantially in two decades. Not only is there a great yearly variation, but also considerable monthly variation throughout the year (and even large daily fluctuations). In the period 1966 to 1979 the total catch in Morocco of industrial fish averaged 230,000 T; the highest in that period was in 1973 (with 369,000 T) and the lowest in 1977 (with only 185,000 T). Agadir's share of this varied from 36% to 68%, averaging around 123,000 T (or 53% of the national catch); for the three years 1977 to 1979 it was very close each year to 50% of the Moroccan total. Figure 41 shows the erratic evolution of the Agadir and national catches. (If one considers 50% of the national catch to be at Agadir, about another 25% is from Essaouira and Safi, and most of the rest from Nador, Casablanca, Al Hoceima, Larache, Tangier and M'Diq). An approximate breakdown of the destination of industrial fish in Morocco (based on figures from 1969 to 1979²⁷ is shown in table 26.

Of the 100,000 T going into by-products, this ends up as one tenth its weight in fish meal (and fish oil) for animals, after it has been evaporated, dried and powdered, that is, as 10,000 T of the finished product. Table 26, though, is only a rough guide to the proportions of fish going into each category; these proportions can vary considerably from year to year (and from place to place).

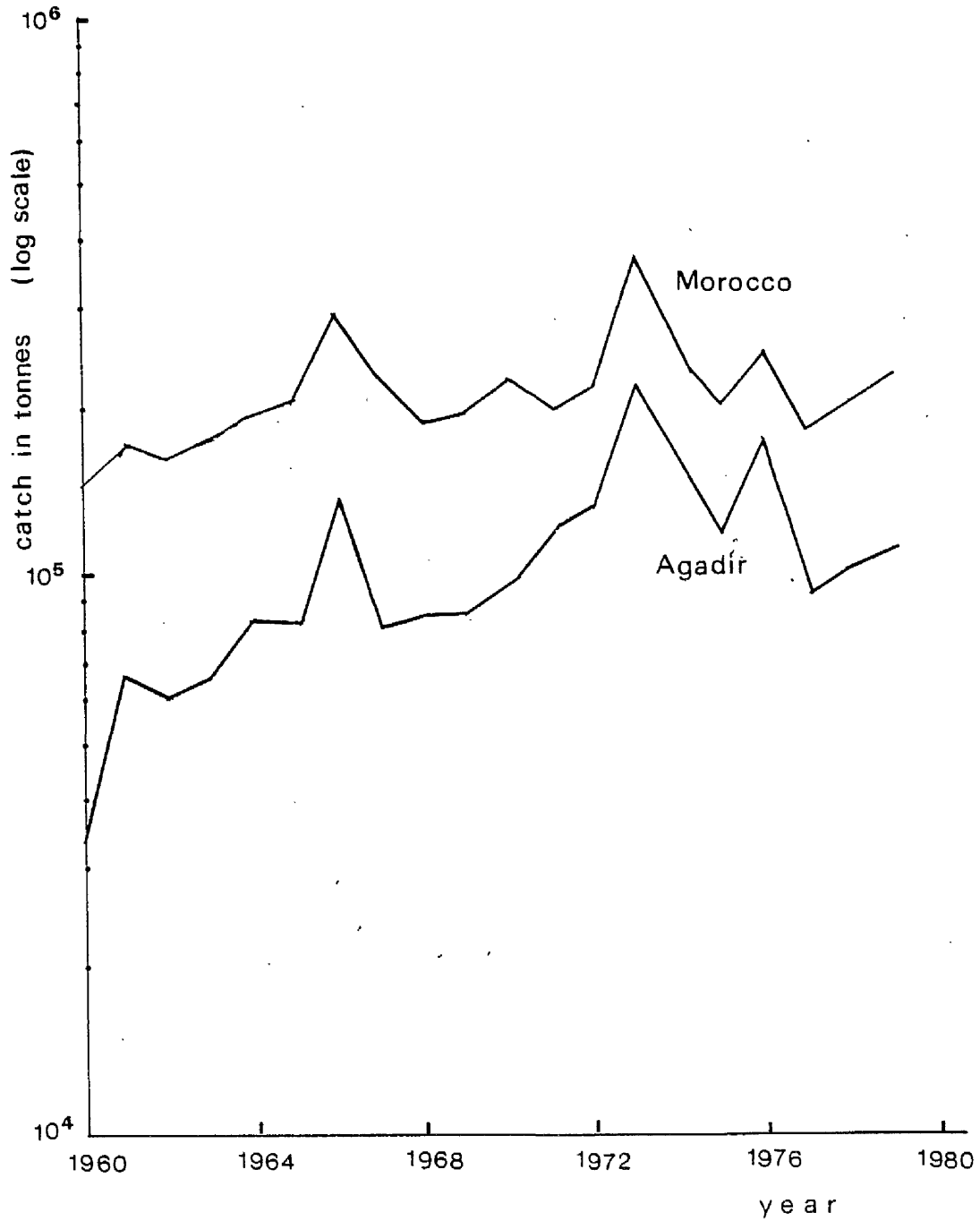
For an approximate guide to the value of the industrial catch in the first half of 1979²⁸ the average value of this catch in Agadir was 0.40 dh/kg; for canned sardines it was 0.85 dh/kg. By-products were sold at around 185 dh/tonne.

27. BMCE Review, No.17, May 1978, and No.22, January/February 1979

28. ONP document on situation of first semester of 1979 in port of Agadir

FIG. 41

Evolution of Agadir and national fish catches (pelagic fish), 1960-1979



source: **Annuaire Statistique du Maroc** (for various years), and Serete report (1978) *op.cit.* p. I-101

Table 26: Approximate breakdown of destination of industrial fish in Morocco

(tonnes)

	Morocco	Agadir
Total	230,000	115,000
Destination:		
canned fish	85,000	34,000
frozen fish	10,000	6,000
by-products	100,000	58,000
fresh fish	35,000	17,000

Of the 29 factories (in 1977) processing fish at Agadir²⁹, about 19 were involved in canning, 4 in freezing and 9 in sub-products (some performed more than one function); 16 were located in the industrial quarter of Agadir and the rest, including nearly all the fish-meal plants, in Anza (where their strong odours were removed from the main part of the town). The fish canneries in Agadir had a total capacity³⁰ of some 350 T/day, and with no more than 50,000 T of fish going into canning in Agadir in 1979 this represented a very low usage of capacity - in fact, less than 40%. It is thus necessary for quotas to be established for the amount of fish that can go to each factory, and this is done by the local office of the O.N.P. (Office national des pêches); there is considerable competition, not to say some corruption, over these quotas. The freezing plants were reported to have a capacity totalling 100 T/day - a usage of less than 20% of their capacity - and the factories producing by-products (with a total capacity of 2,000 to 3,000 T/day), used their capacity to a similarly sparse degree.

An analysis of the 29 factories³¹ in Agadir shows that they employed (in 1977) 2,118 people; if one adds to that the ice factory at the port (38 people) and those involved in factories making tin cans (around 1,000 people), the total industrial workforce connected with fishing was around 3,150 (compared to between 2,000 and 2,500 in 1966). Added to the approximate total of 6,200 fishermen in 1978³², this gives an overall number of around 9,350 people in Agadir, at the end of the 1970s, benefiting from fishing.

29. Much of this information from Royaume du Maroc, Office pour le Développement Industriel, Zones Industrielles au Maroc, Rabat, April 1980

30. Information from Mr Quezzani, regional delegate of the ONP in Agadir (in summer 1979)

31. Zones Industrielles au Maroc, *op.cit.* 1980

32. the figures for number of fishermen cited here and in table 24 are taken, for the most part, from Annuaire Statistique du Maroc and differ somewhat from the estimate by Serete, *op.cit.* 1979

Since internal consumption of fish in Morocco is low (though it rose perceptibly during the 1970s to reach 4.3 kg/inhabitant by 1977), most of the produce is exported. In 1977 some 43,000 T of canned fish was exported; 36,000 T of this was sardines and 5,000 T mackerel. France took about a quarter of the sardines and the next largest shares went to Nigeria, the F.R. of Germany and Britain; Italy bought most of the mackerel and France the canned anchovy. The total value to Morocco of its canned exports in 1977 and 1978 were each around 225 million dh, the third largest single export item up to 1977 (after phosphates and citrus), though fourth in 1978, with carpets overtaking it. Refrigerated and frozen fish earned Morocco another 40 million dh in 1977 and crustaceans and shell fish another 33 million dh (the major customers here being France, Italy and Japan), and finally exported fish meal and fish oil (to principally Yugoslavia, F.R. of Germany, France, Belgium, Netherlands and Britain) came to nearly 30 million dh. Thus overall, exported fish produce earned Morocco some 330 million dirhams in 1977 and the share of Agadir towards this revenue would have been around 50% (perhaps somewhat less, since its production was biased more towards the less profitable fish meal and oil and less so towards canned fish).

Information on investment in industrial fishing is scanty; one report³³ states that 700 million dh were invested in fishing in the period 1973 to the end of 1976, though much of this, possibly, went into trawlers for deep sea fishing.

The perceived shortcomings of and the perspectives for the fishing industry will be discussed in more detail later, but it may be briefly stated here that, even in the most official of Moroccan reports (in general, uncritical in the extreme), where fishing is concerned there are many hard words for the lack of progress that has been made in the industrial fishing sector. The sizes of the main fishing ports and their lack of infrastructure (particularly

33. BMCE Information Review, op.cit. No.22, 1979

of refrigeration facilities) are one recurrent complaint, and pledges to double or treble existing capacity (at, for instance, Agadir, and within 5 years) are de rigeur in such reports (though needless to say, unacted upon). The antiquated nature of many fishing vessels, both in equipment and in the attitudes of their crews are also often remarked on; the incapacity, or unwillingness, of boats to venture out for more than about 10 hours means that they can not follow schools of fish as far as might be necessary to catch them. Despite the obviously well-intentioned but nonetheless as yet unsuccessful undertakings to modernize and enlarge the port of Agadir and its fishing vessels, the worrying thought must occur to those concerned that, the resource being a moving one, it may continue its seeming migration southwards, leaving Agadir one day with good fishing facilities but no fish.

3.5.3 Deep sea fishing

Introduction

Deep sea fishing is a recent innovation in Morocco, having been introduced only after 1972, and, apart from the fact that it also involves fauna of the sea, is a very different phenomenon from pelagic fishing. Like pelagic fishing, though, it is industrial, only the industry is carried out on the trawlers themselves, floating factories. The enterprise as a whole is a far more capital intensive one than is sardine fishing, and the returns from the sale of cephalopods, shell fish and white fish far more lucrative. It is not surprising therefore that large international companies have become involved in it, both for the profits involved and to satisfy a demand (in the case of Japanese firms) in their own countries which can not (or can no longer) be adequately met domestically.

The waters fished in are not Moroccan waters properly speaking, or at least are only so in a politically contested sense. The warm depths off the Saharan coast (south of the former border at 27°40'N down to La Guera at 21°N), a part of the rich fishing grounds between Tarfaya and Dakar in Senegal (14°30'N), are where the Moroccan-registered trawlers make their catches, and the harassment, capture or destruction of a number of trawlers in the area from 1976 onwards by the Polisario has created an atmosphere of insecurity about present fishing and uncertainty as to the future.

The Moroccan statistics for benthic fish refer generally only to the catches landed in Moroccan ports (see table 27), usually of white fish, and exclude in general the activities of the so-called 'mixed companies' fishing in the Saharan waters and usually unloading their hauls at Las Palmas in the Canary Islands. These latter enterprises form the bulk of deep sea fishing, and their virtual shunning of Moroccan ports (including Agadir) represents, as will be seen, a heavy loss by the Moroccan (and local Agadir) economy.

A case study of a leading deep sea 'mixed company'

To illustrate the evolution and current position of deep sea trawling in Morocco, the particular case of one company, SOGEP (Société générale marocaine des pêches) and of one of its trawlers (the 'Azaiz') will be presented here³⁴.

34. The material in this section is drawn from extensive interviews during the summers of 1979 and 1980 at the SOGEP office in Agadir, with the kind assistance of its co-director, Mr Satoru YOSHIDA, and his assistant, Mr. Hideo ONO, from a visit to the trawler Azaiz in September 1979, and from various documents and articles, including:

'La pêche hauturière au Maroc: dynamisme et extraversion' in Maghreb-Développement, No.13 July- August 1978

'Dossier - Maroc: les sociétés mixtes' in Afrique Agriculture, No. 2, October 1975

Table 27: Evolution of deep sea fish landed at Agadir, 1973-1979

(tonnes)

year	Agadir	Morocco	%
1973	10,173	33,235	31
1974	11,506	28,514	40
1975	12,282	29,441	42
1976	16,059	42,474	38
1977	37,343	68,262	55
1978	49,806	80,574	62
1979	15,713	50,895	31

Note: % denotes the percentage share of Agadir port out of the whole Moroccan deep sea catch.

Sources: Serete report, op.cit. 1978; and Le Maroc en chiffres for various years.

SOGEF was founded in 1972 and was the first of the mixed companies in Morocco (which now number around 20) and is still the only one to have its headquarters at Agadir (others are based at Casablanca or Safi). It was founded with a share capital of 500,000 dh, with a Moroccan participation (the semi-state O.N.P. and two private groups) of 50% and a Japanese participation (the international Marubeni corporation) of also 50%. Moroccan law states that Moroccan participation in such mixed ventures must be at least 50%, and the same is theoretically true of the number of Moroccan (as opposed to foreign) nationals that such companies employ, though this latter stipulation is almost wholly ignored. Other mixed companies now operating in Morocco have Spanish, French or also Japanese participation. SOGEF, in a sense, were pioneers of the activity in Morocco and they chose Agadir as their base in the then current belief that its waters contained abundant fish of the sort they were seeking.

SOGEF's first boat was the Okba (of 300 gross tons capacity, 1,000 horsepower, with a storage capacity of 120 T of frozen fish) bought from Japan at a cost of 15.3 million dh. The company subsequently acquired three other boats, including the Azaiz, to give it a fleet of four trawlers totalling 1,350 gross tons with powers between 1,000 and 1,800 hp each (one boat was eventually sold off in 1980). In terms of employment, fleet tonnage and catch it represented roughly 10% of Moroccan deep sea (Saharan) fishing in 1979, catching and treating around 2,000 T of cephalopods (its only interest) per year, out of some 20,000 T caught annually by the Moroccan fleet and landed at Las Palmas. The zone of action of the fleet is entirely within western Saharan waters (between 21° and 28°N) and the trawlers venture out for two or even three months at a time. The routine of fishing, treating and freezing the fish is a non-stop one while the boats are out at sea.

The trawler Azaiz

The Azaiz (of 349 gross tons - though by the British deadweight scale of reckoning it would be nearer to 600 tonnes dwt) is Japanese-built, of 1,800 hp, and like other trawlers contains large working space and cramped and barely adequate human facilities (accommodation, kitchens, toilets). (The word 'Azaiz' is Berber for 'octopus'). Of its crew of 30, a half ought to be Moroccan, though only 10 are, the rest being Koreans (from South Korea, mainly from the southern maritime port of Pusan). The ship stays out at sea for two to three months and then calls for about a week at Las Palmas, for discharging, refuelling and repairs, before setting off again³⁵.

Its catch (for 1976) was 653 T of cephalopods, sold for \$739,000 in Las Palmas (roughly equivalent at the time to 3.2 million dirhams). (For all four boats the figures were 2,178 T of fish for \$2.92 million, and for the 50-odd total Moroccan fleet the approximate figures would have been 20,000 T for \$30 million.)

35. Of the string of difficulties that have beset the Moroccan deep sea fishing industry in the past five years, a large part of them are connected with the Sahara conflict. In September 1980, after a Moroccan vessel was captured and destroyed by Polisario and its Moroccan and Korean crew captured, the whole deep sea fleet converged on Las Palmas where they stayed, blocking the port, on strike in protest against the lack of security in their work. After urgent and worried negotiations with representatives from the ministry (dealing with the merchant navy) in Rabat, the sailors agreed to return to work, having been promised extra vigilance by the Moroccan armed navy in the Saharan waters (Source: S.Yoshida, in personal conversations, September 1980).

A later difficulty, though was of a different nature. Negotiations over the renewal of their mutual fishing agreement having broken down, and the Spanish fleet in March 1981 being prohibited from fishing in the Saharan waters, they, the Spanish fleet retired en masse to Las Palmas where they dropped anchor. The Las Palmas authorities retaliated by refusing to allow Moroccan boats to discharge their fish at Las Palmas, so that both fleets became effectively paralyzed. (Source: communication received from Mr. H. Ono, deputy manager of SOGEP, 7.3.81). The trawler Azaiz had been at sea for four months up to the end of February 1981, not having called at Las Palmas since 28 October 1980 (communication dated 28.2.81 from Lee Kang Hun, a Korean sailor on board the Azaiz).

The market for SOGEP's produce (and of several other deep sea trawlers) is entirely Japan; with a total national annual consumption of 100,000 T, that country thus obtains some 20% of its squid (the large variety, as opposed to the smaller Spanish type) and octopus from north west Africa. (It no longer can find much of these varieties in its own waters due to past overfishing; the assured continuation of the Saharan catch is thus important for Japan).

Working conditions are extremely hard on the Azaiz and other trawlers, with cramped living conditions, extreme heat and noise in the engine section under the deck and difficult hours (shifts of 6 hours on, 6 hours off, each shift involving 15 of the 30 crew, with six of them handling fish and six the machines). Sailors will generally not work more than 12 years on the trawlers. The pay of Moroccan trawlermen (who represent perhaps 500 of the 1,500 fishermen overall) is (and has to be) much higher than those engaged in sardine fishing - around 1,500 dh per month compared to 750 dh/month for sardine fishermen; including food and 'lodging' the overall salary of Moroccan trawlermen might work out at nearer 2,000 to 2,400 dh/month. The non-Moroccans (nearly all Koreans now, replacing formerly Japanese and other crews) are paid on a piece-work basis; the captain is paid a lump sum according to the catch and distributes it among the crew according to his own agreement with them. A Japanese worker in the same position would be able to demand some three times the amount that a Korean receives; the Koreans are there - as opposed to Japanese or European workers - because the others either are not prepared to do such work and/or would demand more than the company is prepared to pay them, and they outnumber Moroccan nationals because the latter generally do not have the trained skills for this sort of work. There is thus a division of labour (Moroccan/Korean, unskilled/skilled) on the boats which adds to existing cultural and language divisions and can result in severe tensions, given the conditions of work there.

Las Palmas and Agadir

Finally, the role of Las Palmas, and the minor part played by Agadir (and other Moroccan ports) for the trawlers is discussed (SOGEP's ships generally call at Agadir once a year for a few days to complete obligatory registration and other formalities). As there exists something of a conflict, between Agadir and Safi as regards pelagic fishing (the latter port, despite its smaller catch, having more canneries and being generally thought to be better equipped), so with benthic fishing Las Palmas completely overshadows Agadir. A large, modern port, it offers advantages and economies of scale and an efficiency which Agadir is far from being able to give. In refuelling capacity (1,000 T/hr) alone it is more economical than Agadir where it takes a day or more to refuel, even though the cost of fuel-oil is less at Agadir. It has proper cold-storage (about 100,000 m³) as against Agadir's 2,000 m³) and other storage, more and better quays, cranes, repair yards and other facilities, and it also possesses the market facilities (presence of established buyers, offices, telexes) which in Agadir are poor or lacking. It is estimated that for Agadir to catch up with Las Palmas (assuming that it could in the first place attract the market) would take, in technical terms, at least ten years if this were made a leading priority for Agadir; meanwhile the benefit to Morocco of deep sea trawling is only around 20% of total sales (through taxes on companies, dividends and employment for Moroccans), whereas if all the port activities were conducted in Morocco (a large boat can pay up to \$5,000 a day in docking charges alone at Las Palmas) it could be up to 80% (with 20% going to the foreign participants). The difference of around 60% of total sales (a sum of around \$20 million at 1976 rates, though one which is increasing rapidly) is thus lost to Morocco.

3.6 The rest of industry in Agadir

3.6.1 Location

Industry in Agadir had developed before the earthquake, as already mentioned, in two areas, Anza and the industrial quarter, and these were the locations that were to house all the industrial growth in the period 1960-1980.

Anza was, and stayed, mainly linked to port activities in its industry, with its canneries and fish meal factories and its petrol depots. It also was the location of the cement works, of the 22.5 megawatt thermal electricity generating plant, of a gas holder, a silo and an olive oil factory. By 1976 it had some 2,000 jobs in its factories of which 385 were in the cement works.

The so-called Industrial Quarter (Quartier Industriel) of Agadir is in fact a mixed area according to the usage of terrain; some 36 ha out of the total area of 110 ha were devoted to industry (in 1979), the rest being residential or commercial housing, schools or other public places. A recent report on industrial zones in Morocco³⁶ considers it to be one of the few good examples of such a mixed zone in Morocco and suggests that more local authorities might emulate it. Its industrial activities are principally fish processing, that is to say, canning and freezing (factories producing fish meal were on the whole forced to relocate in Anza by the mid-1970s), the packaging of fruits and vegetables and construction.

36. Much of the information presented here is drawn, in part, from the excellent report of 1980 (with its information dating, on the whole, from 1976 or 1977) entitled *Zones industrielles au Maroc*, produced by the consultancy 'Groupe Huit' and also 'Maroc Developpement' for the O.D.I. (Office pour le Développement Industriel), which comes under the ministry of industry (cited in note 29 above).

Unusual for a commissioned consultancy report, it is well-informed, detailed, well-presented and critical.

In the satellite towns that developed so rapidly in the period (see section 3.2 above) there was considerable specialization in what little industry grew up there. Ben Sergao, the closest to Agadir, developed a number of blacksmiths' shops and a dairy, and Dcheira a factory for wooden packing cases and a scattering of depots for building materials. In the neglected and backward state that Dcheira's inhabitants have been left, these depots have sometimes come to be regarded as communal stores freely to be made use of. In Inezgane small electrical and vehicle repair businesses exist, especially in the section of the town to the north west, and finally Ait Melloul, Agadir's gateway to the countryside, has agriculture-linked industries: repair yards for agricultural vehicles (as also for goods vehicles and cars), packaging factories for agricultural produce, a mill ('Grands Moulins el Atlas'), a cattle fodder establishment and a dairy (Halib Souss).

3.6.2 Development in 1960-1980

The report on industrial zones in Morocco³⁷ lists the 94 firms in Greater Agadir in 1976 with 20 or more employees (including construction firms and repair yards and depots). It cites dates of founding of the factories, where known, and altogether 64 firms out of the 94 (68%) are listed with dates, with a total employment of 6,958 out of 9,442 (74%) in the 20+ category. Using this information, table 28 has been drawn up showing the evolution by year of firms in Greater Agadir (1960 to 1976). It should be borne in mind that 30 firms (whose dates of opening are not listed or known otherwise) are not included, and also that the figures for those employed are the latest figures (and that when they first opened they may have had fewer - or indeed more - employees than subsequently). Also no account is taken of firms that may have opened after 1960 and closed down before 1976. Nevertheless, the table gives some idea of the progression of industry in the period. It will be seen, firstly, that in 1960 only 19 of the 64

37. Zones industrielles au Maroc, op.cit.

Table 28: Evolution of industry in Agadir, 1960-1980

	I	II	III	IV	V	VI	VII	VIII	cumulative total
in or before 1960	(1) 71	(8) 563	(3) 1,502		(2) 90	(3) 472	(2) 510		(19) 3,208
1961		(1) 104							(20) 3,312
1962		(2) 77							(22) 3,389
1963	(1) 100				(1) 100				(24) 3,589
1964		(2) 74			(1) 100				(27) 3,703
1965	(1) 25	(4) 352				(1) 26	(1) 250		(34) 4,356
1966		(1) 43		(1) 30					(36) 4,429
1967	(1) 180				(1) 50				(38) 4,659
1968		(1) 55				(1) 60			(40) 4,774
1969	(1) 100								(41) 4,874
1970									(41) 4,874
1971	(1) 150								(42) 5,024
1972	(1) 55	(1) 130		(1) 30			(1) 70		(46) 5,309
1973		(2) 197						(2) 115	(50) 5,621
1974	(1) 51	(3) 93						(2) 60	(56) 5,821

(continued)

Table 28 (continued)

	I	II	III	IV	V	VI	VII	VIII	cumulative total
1975	(1) 200		(1) 70		(1) 20	(1) 40	(1) 200		(61) 6,355
1976	(1) 483						(2) 120		(64) 6,958
Total	(10) 1,415	(25) 1,688	(4) 1,572	(2) 60	(6) 300	(6) 598	(7) 1,150	(4) 175	

The figures are those of numbers of new jobs created, while those in parentheses are of the number of new establishments concerned. Only those concerns whose founding dates are known (around 70% of all firms) are listed. The figures for 1960 include those jobs and firms existing before, as well as those created in, that year.

Key

- I food industry (except fish)
- II fish industry
- III packing cases, boxes, cans
- IV wood, furniture
- V mechanical, metallurgical, electrical
- VI construction materials, ceramic, glass
- VII construction industry (building)
- VIII carpets, textiles, clothes, leather, printing

Source: Zones industrielles au Maroc, op.cit. 1980

firms existed, though they accounted for slightly under half the employment of 1976; this implies that the firms opening after 1960 were smaller ones on average, and indeed only five firms with at least 200 jobs opened in the period - a construction firm and a cannery (each of 250 people) in 1965, a construction firm and a vegetable packing plant (each with 200 jobs) in 1975, and the 'Huilleries du Souss' in Anza (manufacturing vegetable oils and canned olives) in 1976. The other six firms with 200 or more employees all existed in or before 1960 (and there are three firms, with 200 or more jobs, listed whose dates of opening are not given or otherwise known).

Secondly, the development has been fairly even, with no year standing out for a particularly high number of firms opening. Thirdly, according to type of industry, firms producing packaging for fruits and vegetables, and cans for fish, remained almost static (with only one new small firm added), whereas the greatest development was in the food industry (excluding fish), that is, fruit and vegetable packing and canning, vegetable oils, flour mills, dairies, fruit juices and carbonated drinks. The fish processing industry also increased markedly in the period.

Table 29 gives a breakdown of all firms in Greater Agadir with 5 or more employees, according to type of industry (as of 1976). With 94 firms of 20 or more employees employing a total of 9,442 people (an average of 100 per firm), adding to the table firms with 5 to 19 employees adds another 208 establishments but only another 1,923 people; most of these small firms were in the food industry, including fish (554 jobs), and in construction (562 jobs).

3.6.3 Construction industry

Construction is clearly an important activity for Agadir, a town which was virtually reconstructed from nothing in 20 years and which during the 1970s saw steady annual growth rates (in terms of population) of over 6%, to say nothing of the boom in hotel building. Over 2,000 people were directly employed (in 1976) in building and almost another 750 in industry concerned with construction

Table 29: Breakdown of industry in Greater Agadir by size and type of enterprise

	A		B		C		D		E	
	5 to 19		20 to 49		50+		= B + C		= A + B + C	
	n	j	n	j	n	j	n	j	n	j
Food	75	854	15	496	33	3,730	48	4,226	123	5,080
Textiles, clothes	3	22	-	-	2	145	2	145	5	167
Leather, shoes	1	5	-	-	-	-	-	-	1	5
Wood, furniture	-	-	2	60	3	697	5	757	5	757
Mechanical, electrical	4	99	3	80	2	970	5	1,050	19	1,149
Construction materials	8	59	4	134	3	535	7	669	15	728
Chemical industry	1	6	2	50	-	-	2	50	3	56
Total (manufacturing industry)	102	1,045	26	820	43	6,077	69	6,897	171	7,942
Mining	11	92	1	35	1	50	2	85	13	177
Construction	66	562	7	185	12	1,935	19	2,120	85	2,682
Total industry	179	1,699	34	1,040	56	8,062	90	9,102	269	10,801
Repairs, transport, depots	29	234	3	120	1	220	4	340	33	574
Overall total	208	1,933	37	1,160	57	8,282	94	9,442	302	11,375

Source: Zones industrielles au Maroc, op.cit. 1980 p.B19

n denotes the number of establishments, j the number of jobs.

A is firms of between 5 and 19 employees, B of between 20 and 49, and C of 50 or more.

materials, and at least two large construction firms, with over 200 employees each, existed before 1960. A slightly different estimate³⁸ from that of the report on industrial zones given above puts the 1976 figure, though for the whole province, at 3,400 directly employed in building in 28 firms, with another 21 firms (5 plumbing, 4 electrical for building, 3 painting and glass, 8 carpentry for construction and 1 insulation firm) adding 889 jobs to give a total of 4,292 employed in construction or construction-related industry. Péré³⁹ puts the pre-1960 total at four large construction companies with a total of around 300 workers (though it would seem to have been higher than that), and 2 small carpentry establishments, 2 plumbing, 1 metal construction and 2 painting concerns; for 1965 the figures quoted are 12 construction firms (of which two were important), 8 carpentry, 3 plumbing and 2 painting.

Of the approximately 3,000 workers estimated at the end of the 1970s to be employed in construction in Agadir⁴⁰ some 30% were working on hotels. In general almost one third of the workforce is qualified, by apprenticeship or professional training, and there is a school for building trades in Agadir which is of importance for the region.

Building materials are almost exclusively imported from outside the region, many by road from Casablanca, but a growing amount directly from abroad via the port of Agadir (see image 20). Cement, of course, comes from Anza, though even in that case a large amount of clinker (see section 3.3.1) was imported in the late 1970s from Spain, for grinding in the cement mill at Anza.

38. Serete report, *op.cit.* 1978 pp. I-7.11

39. Péré, *op.cit.* 1972 p.74

40. interview with M. Brelet, director of the large Agadir construction company, MACOBA (on 9.9.80)



Image 20 The main part of the port of Agadir
(summer 1979)



Image 21 The cement works at Anza
(summer 1979)

Table 30: Construction in Agadir, 1960-1980

(m² constructed)

	total	residential			non-residential		
		apartment blocks	villas	Moroccan style	industry, commerce	admin	others
1959	9,500	300	4,000	2,200	1,600	1,000	400
1965	46,000	1,800	1,000	13,400	25,500	3,500	800
1966	36,470	10,423	1,215	4,295	20,115	422	-
1967	11,925	4,750	327	2,336	4,272	-	240
1968	6,291	3,500	470	788	1,533	-	-
1969	34,693	8,802	5,603	1,705	16,674	1,111	798
1970	58,503	3,714	12,459	3,015	37,889	682	744
1971	39,945	2,956	5,969	7,297	15,163	8,158	402
1972	49,286	7,529	4,272	6,122	14,242	3,370	13,751
1973							
1974	39,700	15,886	1,582	3,096	16,886	2,187	63
1975	97,788	31,100	3,181	47,161	8,658	7,508	108
1976	104,491	9,302	2,111	59,051	27,867	6,160	-
1977	38,830	11,532	6,053	4,844	16,041	340	20
1978	32,390	10,824	3,790	6,388	10,967	356	65

Source: Annuaire Statistique du Maroc for relevant years

No figures are cited for the immediate reconstruction period of 1960-1964

Table 30 (compiled from *Annuaire Statistique du Maroc* figures whose accuracy is open to question in this case) shows the total areas constructed by year between 1965 and 1979. There are considerable fluctuations in domestic building, with higher figures for the period 1974 onwards than for before in the case of apartment blocks, and with a peak in 1974 and 1975 for 'Moroccan style' houses (which is presumably when the quarters in the east of the town, in particular 'les Amicales des fonctionnaires' were opened up). The 1965 figure in the same column would refer to Moroccan blocks in Yachech (also, occasionally, referred to by its official title, the 'cité Prince Héritier Sidi Mohammed') and in the Quarter Industriel, towards the end of the first phase of reconstruction.

3.6.4 Cement

Crucial to the construction industry is the cement works at Anza (see image 21), the 'Ciments d'Agadir' opened in 1952, and production of both cement and buildings are good indicators of the overall rate of economic activity. In the years after independence and before the earthquake production of cement actually declined (see table 31) as did the volume of construction undertaken.

In the period 1960-1980 there was a steady growth in cement output with capacity at the plant increased several times. There are plans to reach a productive capacity at Anza of 1 million T/year by 1983, though like other ideas this remains a plan on paper, and with shortage of funds and other more pressing problems (including a severe drought in the Souss in the spring of 1981) such plans may have to be put off for later.

Morocco's annual production and consumption of cement was around 3.7 million T in 1980 of which the region of the south consumed about 12%, roughly equal to the quantity it produced at Agadir; the eight factories in Morocco had a total capacity of some 5 million T/year, of which Anza's capacity represented about 12%.

Table 31: Cement production

('000 tonnes)

	Agadir (Anza)		Morocco	
	production	capacity	production	capacity
1955	71			
1956	55			
1957	36			
1963		77		
1964		90		
1968	97	100		
1969	98	100		
1970	123	150	1,390	
1971	144	150	1,480	
1972	148	150	1,540	
1973	167	150	1,620	
1974	239	310	1,910	
1975	291	310	2,030	
1976	373	420	2,220	
1977	350		2,680	
1978	571		2,830	
1979	491		3,340	
1980	475	600	3,670	5,000

Sources: Péré, *op.cit.* 1972 p.48; Serete, *op.cit.* 1978 pp.I-154;
 Maghreb Développement Actualités, No.97 19.4.79;
 BMCE information reviews No.27 January/February 1980 and
 No.34 April 1981;
 Le Matin, 6.9.79
 Communiqué of the Société des Ciments d'Agadir in Agadir:
 Revue d'information, No.1 July 1976

Note: the figures for Anza are rounded to the nearest 1,000 T,
 and those for Morocco to the nearest 10,000 T.

3.6.5 Value of industrial production

The overall value of industrial (including construction) production in the province of Agadir was estimated in 1976 to be around 518 million dh⁴¹. An overall rate of value added (which includes benefits to the employees in terms of salaries, to the company in terms of profit, to the state in terms of taxes, plus loan repayments) of 29% gave a value added of some 148 million dirhams. The food sector generated some 40% of this total value added (almost 60 million dh); of this the fish processing industry's share was 33 million dh (22.5% of all industry) with canning, freezing and fish meal being represented in the proportions 9 : 6 : 7 1/2. Other food industries, in terms of their share of the total value added of the province's industry, were fruit juice (3%), abattoirs (3%), flour mills (3%), carbonated drinks (3%) and dairies (1%).

The value added of the cement works at Anza was a large one, 27.8 million dh (19% of total industry) in terms both of its work force of around 300 people that year and in terms of its value of production of 55.5 million dirhams (for 374,000 T), a rate of value added of 55%.

The construction industry itself created a value of production of 104 million dirhams, with a 36% value added rate giving a value added of 37 million dh, 25% of total industry (19.6% of this 25% being in building proper).

3.6.6 Artisanry

The term 'artisan' in Morocco is generally used to describe a worker who works with his hands, does not employ a motive force greater than 2 horsepower and does not have more than 10 assistants or apprentices. This definition thus includes both

41. Serete report, op.cit. 1978 pp.I-7.11 to I-7.14

'service artisanry', such as small bakeries and bicycle repair yards, and 'artistic artisanry' (the meaning usually associated in English with the term) such as jewellers and carpet manufacturers.

The 1973-77 national plan created provision for the establishment in different regions of artisanal units, 'ensembles' (under the ministry of social affairs and artisanry) in order to save declining artisanry (particularly the artistic variety). Such a unit was created in Agadir in 1975 and serves the whole southern region⁴². Though modest in size it aims to give information to artisans, to provide training and apprenticeships in various crafts and to provide work space and channels for distribution. It has set up a number of cooperatives, and the sale of goods produced is allowed only through the cooperatives. Materials and equipment are often provided free and artisans of the cooperatives can obtain credit from a branch of the Banque Populaire (Bank esh-Sha'abi) at the unit at a low rate of interest (of 4%).

There are two cooperatives at the Agadir ensemble at Talbordjt - one dealing with carpets (Tapis Souss) which opened in 1970 in Inezgane and moved to Agadir in 1975 when the unit was set up (with around 90 members), and a second, opened in 1977, dealing with embroidery. There is also a bakery in the town in Agadir and another in Inezgane (both founded in 1978), a tannery in Taroudant and a jeweller's business in Goulimine, all created during the 1970s and coming under the direction of the unit in Agadir. The two bakeries have the largest turnovers (around 1 million dirhams annually each). There are plans to open further cooperatives - carpentry in Agadir and Goulimine, a jewellery enterprise in Tan-Tan (unlikely under present conditions), a carpet cooperative in Taroudant and a brass foundry in Igherm (using locally mined copper from the Anti-Atlas). In places such as Agadir which are being swamped by cheap tourist-oriented artisan produce (90% of

42. Most of the information of this section was provided by M. Damani, the regional delegate, and his colleagues at the ensemble d'artisanat at Talbordjt (on various dates during August 1979).

artistic artisanry sold in Agadir is imported from outside the region, mainly from Marrakesh and the northern cities), it is important that genuine local artisanry, even if on a modest scale, can be given an environment on a cooperative basis in which it can continue.

CHAPTER 4

THE EVOLUTION OF THE REGION

4.1 Introduction of hypotheses 1 and 2

In this chapter the discussion will move away from what has (it is suggested) become the regional centre to places which, in the process of that centralization, have, from a formerly dominant position, become secondary in their economic and political role.

The central theme throughout this thesis is of spatial dichotomies: centre/periphery and the borrowed and adapted notion of 'utile'/'inutile' which was developed in chapter 1.3. The two dualisms are obviously closely linked, though they are not precisely the same thing. The former notion suggests a concentration (of political power, of wealth, industrial production, population, or whatever other index) at a point, a lack of the parameter in question at other points (and usually a falling off as distance from the centre increases) and a consequent dependence of peripheral places on the centre; the latter suggests rather a partitioning, a division of the whole space into two: a smaller, connected, 'denser' area (dense in terms of population, of production, or other parameter) and a larger, sparser area. Clearly, there is considerable overlap between these two notions. The second has an intrinsic interest for Morocco in that it derives from a historical notion, developed by early French colonialism to apply to the country as a whole (cf. ch. 1.2.1) and involving a perceived division not only in terms of resources and economic potential, but also in ethnic and cultural terms and political as well. The first has become a commonplace concept in recent years, and has been developed by a number of 'third world' economists. Both notions can be applied at different political and spatial levels. Taking the centre/periphery concept first it has been suggested that it applies at international level, and that Morocco, or more generally the Maghreb, is at the periphery of a political-economic scheme which has the industrial world, particularly western Europe (and within that especially France) as its core. The second level is the national scale with the Casablanca-Rabat-Kenitra complex as the centre, and with most of

the rest of the country as peripheral. Neither of these two levels is particularly investigated in this thesis, though both (and the second more than the first) are at times implied. The third and fourth levels - and it is these at which the hypotheses operate - are those of the region (in this case the region of the south) and the province (here the provinces of Agadir and Tiznit are examined), and these are developed below. One could examine, too, successively lower and nested levels of political organization (such as those of cercle, annexe and commune); there is not a great amount of insight to be obtained here, though the level of a large urban agglomeration, such as that of Greater Agadir, does provide an interesting example, and it was seen in chapter 3.2 that in this case Agadir proper serves as a centre vis-à-vis its faster growing periphery.

The concept of an utile/inutile partition can similarly be examined, and at parallel levels to those above (though not perhaps at the international level since it is not a spatially connected entity that is being dealt with there). It is suggested here that in cases where there is observed to be a strong centre dominating its periphery there is a corresponding strong partition, and vice versa, that an absence of any strong centre/periphery scheme at a given level would tend to correspond with the failure to obtain a strong partition. (This remark should be qualified by the observation that, in obtaining a partition as defined in ch. 1.3, the result obtained obviously depends on what parameter, such as population or industrial employment, is being measured and what particular subdivision is being used). An example of the latter case will be seen to be that of Tiznit province, that is, of a province both with a weak internal centre/periphery set-up and where only a weak demographic partition is obtained, as against the case of Agadir province, far more strongly centred within itself according to the first concept and more strongly partitioned according to the second. Figure 42 summarizes the applications of the two concepts to cases at various political levels and underlines the correspondence suggested above between the two concepts.

In the light of these observations, and the correspondence just remarked on between concepts, a possible hypothesis could have precisely been that of their interrelation, using the cases of Agadir and Tiznit provinces to illustrate two extreme possibilities (cf. figure 42). However, it is felt that more can usefully be said on the more local and less universally applicable hypotheses which were formulated early on in the course of the research for this thesis and which are presented now.

Hypothesis 1 The rapid growth of the town of Agadir, particularly since its reconstruction, and its absorption of neighbouring centres into a Greater Agadir, originally induced a relative decline or stagnation in other traditional centres of the area.

Hypothesis 2 Under the influence of and following the expansion of the modern town of Agadir, a belated but weaker modern growth began to occur in the two main traditional centres involved.

The two centres concerned, which are the subject of this chapter, are Taroudant and Tiznit.

In section 4.2 below, the case of Taroudant and its conformity to the two hypotheses is examined. In regional terms Taroudant (at 80 km east of Agadir) remains firmly within the region of Agadir (that is to say, of the south), whatever splintering of provincial boundaries occurs, though in terms of those boundaries Taroudant is poised, as has been noted, between being in Agadir province and being the headquarters of a new province. Tiznit, a similar distance to the south of Agadir, is also definitely part of the region, one of its two 'other towns', but since 1975 has been the headquarters of its own province. A separate section of this chapter (section 4.3) is devoted to the province and to a brief examination of the strength of the town as a centre within that province, as well as to its corresponding demographic partition.

Section 4.4 deals with the town of Tiznit itself, its similarities and differences with Taroudant, and its goodness of fit, or otherwise, with hypotheses 1 and 2.

Figure 42: The concepts of centre/periphery and utile/inutile

level	political level		centre/periphery		utile/inutile	
	observation	case	observation	case	observation	observation
1. international		Western Europe/ Morocco	considered by some authors to be a powerful economic dominance	-		
2. national		Casablanca-Rabat/ rest of Morocco	generally accepted (and suggested at various points in this thesis) to be strong polit. and econ. dominance	a. Morocco partit. demograph. by regions (without Sahara) b. same, but partit. by province	cf. ch.1.3 $\sigma = 0.66$ (strong) $\sigma = 0.737$ (strong)	
3. regional	hypotheses 1 and 2	Agadir/rest of region	strong dominance polit. econom. (cf. ch.1.2, 1.4, 1.5, 3, 4, and 6)	region of south partit. demogr. by province	(ch.1.3) (fairly strong) $\sigma = 0.645$	
4. province	hypotheses 1 and 2	a. Agadir town/ rest of province b. Tiznit town/rest of Tiznit province	increasingly strong dominance (cf. this chapter) since 1930s over other centres much weaker domin. than in (a) above of town over province, its 'centre' tending to lie outside province (ch.4.3)	a. Agadir province part. dem. by cercles b. by communes a. Tiznit prov. partit. dem. by cercle b. as above, by communes	(ch. 1.3) $\sigma = 0.497$ (weak) $\sigma = 0.645$ (fairly strong) $\sigma = 0.51$ (weak) $\sigma = 0.567$ (weak) (ch.4.3)	
		c. Taroudant town/ rest of a future province of Taroudant	to be examined (ch.6)			

Figure 42 (continued)

political level	centre/periphery	utile/inutile
level	observation	case observation
5. cercle		
6. annexe		
7. commune or municipality or centre autonome	a. Agadir proper/periphery of Greater Agadir	demographically, the periphery is becoming the denser part; in terms of industrial location the centre is principally in Agadir proper (though a part in the separate quarter of Anza), though its movement is towards industrial location in the periphery (cf. ch.3.6 and 5.2)
	b. medinas of Taroudant and Tiznit/ their new towns	in terms of spatial configurations, the medinas are central; demographically also, at least for some time ahead. In terms, though, of concentration of amenities, of wealth, and of future industrial location and location of new administrative offices the new towns are likely to be 'denser' (cf. ch.4.2 and 4.4)
8. fraction		
9. douar		

4.2 Taroudant

4.2.1 Brief historical outline

The early origins of Taroudant are somewhat obscure, the various travel books¹ and even monographs² produced by the present-day municipality itself containing vague and often contradictory references to an existence of Taroudant before the Islamic period. Perhaps the most useful comprehensive secondary source is Berthier³ (1966) whose two-volume study of the old sugar factories and their hydraulic networks, particularly in the Souss, is an outstanding work. Berthier quotes a number of contemporary Arab writers from the 10th century onwards, mainly to prove the existence of sugar plantations in the Souss at the time, but also showing up the importance of Taroudant and the fertility of its region. The earliest date on which there seems to be agreement is that of 1030, when apparently a Shi'ite state was founded with its centre at Taroudant and whose origins lay with the Fatimids of Ifriqia (modern-day Tunisia). In 1056 the Almoravids (who were orthodox Sunni) captured this state. Al Baidah (c. 1140, quoted by Berthier, p.46) describes the battles at the end of the Almoravid period between them and their eventual successors the Almohads. The latter came down from the mountains, attacking the former in the plain: "... we descended on the Souss with our army and successively took ... Taroudant, Timaneouine ... and finally Igli". Under the Almohad dynasty (1147-1244) whose founders

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1. (a) *Villes et Montagnes marocaines*, La Porte, Rabat 1964.
 (b) *Guide bleu* (on Morocco) Hachette, Paris 1969
 (c) Kininmonth, C., *The travellers' guide to Morocco* Jonathan Cape, London 1972
 2. Ministère de l'intérieur, Province d'Agadir, *Développement touristique dans le cercle et la ville de Taroudant*, (mimeo.) 3 April 1980
 3. Berthier, Paul *Les anciennes sucreries du Maroc et leurs réseaux hydrauliques* (2 vols) Rabat 1966

originated among the sedentary Berber tribes (in fact, the Hargha tribe, now called Arghn) of the High and Anti-Atlas (as opposed to the Almoravids, also Berbers, who came from nomadic tribes in the western Sahara), Taroudant and the Souss enjoyed a virtual independence. The town during that period was ruled by the local Yedder clan, until destroyed by the Merinids in 1306 and rebuilt by them. El Edrissi (1100-1166, quoted by Berthier, p.47) wrote that "it took four days' journey from the Draa to the Souss el Aqsa, whose principal town is Taroudant. The land of the Souss contains a large number of small towns whose houses are grouped close together. It produces excellent fruits ... nuts, figs, grapes, apricots, pomegranates, much-valued oranges, peaches ... and a large quantity of sugar cane". After being taken by the Merinids the Souss was apparently autonomous again for two centuries until the Beni Saad started their long haul in the south towards their eventual capture of the entire Moroccan state. In around 1510 the Saadians, who arose in the Souss, made Taroudant their first capital. In 1524 they captured Marrakesh, which was for thirty years from then on one of the two national capitals (the period of the 'two kingdoms', Fes under the Wattasids being the other). From Taroudant the Saadians launched their campaign on Agadir which had been held by the Portuguese since the early 16th century, and whom they eventually dislodged in 1541. In 1554 the Saadians finally captured Fes. It was under the Saadian dynasty (1554-1654) that Taroudant apparently experienced a prosperous period (though apparent 'golden' ages tend usually to be more so in retrospect); it maintained commercial relations in this period with the (western) Soudan, and its size was estimated at some 3,000 households. The walls of Taroudant in their present state date from the Saadian period (except for the kasbah which was added later) (see figure 48). The century following the installment of the Alaoui dynasty saw a sharp decline in Taroudant's status and that of the Souss as a region. Moulay Ismail, putting down an insurrection in the town in 1687 in his customary style, massacred many of its inhabitants; sugar cultivation and the sugar trade with Europe declined in the region with

the opening up of the plantations in the West Indies, and the blow to the Souss was heightened when Essaouria was opened in 1760, and Agadir port closed.

At the end of the 19th century Taroudant was a center of dissent and revolt against the central authority. The leader of a powerful revolt in the south, El Hiba, passed through the town in 1913 and it was only after the French had dislodged him that they controlled Taroudant. From 1914 to 1935 the Ait ou Mouiss⁴ (an Arab tribe to the east, up-valley from Taroudant, near Oulad Berrehil) supplied a line of pashas (mayors) for Taroudant; the French used these pashas for their political purposes, and, in the case of the first pasha, Hida ou Mouiss, for political 'pacification' of the Souss. They exiled the last pasha of the Ait ou Mouiss line and after 1935, starting with the pasha Chinguetti, the position became an administrative one rather than that of a warlord. During the whole period of French domination the influence of the Glawi (who was pasha of Marrakesh) existed in Taroudant, but was indirect and certainly less strong than in the Quarzazate region, which had always had closer links with Marrakesh.

Taroudant has had a long and rich history and it is a pity that only some periods of its past are understood properly. Although much information on its history does not exist any more there is certainly scope for some research on the town and a historical-geographical presentation of it along the lines of the work on Tlemcen (Lawless and Blake, 1976)⁵.

4. the information in this paragraph is taken from conversations with Brahim Ighachane in Taroudant (August 1980)

5. Lawless, Richard I. and Gerald H. Blake, Tlemcen: continuity and change in an Algerian Islamic town, Bowker, London 1976

4.2.2 Geographical position and description of region

Taroudant is situated about mid-way up the Souss plain, longitudinally, at a point where the plain narrows, and lies on two historic axes: the west-east one going from the Souss valley over the Jebel Siroua (the 'join' of the High and Anti-Atlas ranges) to the Draa valley oasis chain and on to the Tafilelt oases, and the axis linking the Souss valley in the south with the Nfis valley to the north via the Tizi n'Test pass (see figures 43 and 44).

The principal resource of the region around Taroudant is undoubtedly water (see images 22 and 23). As Hardy and Célérier⁶ put it, "if this plain is not a desert it is due to the reserves of water in the nearby high mountains". At 250 metres above sea level Taroudant receives an average rainfall of some 230 mm per year, though the actual variation, as elsewhere, is considerable (cf. ch.1.1.2), and the figure rises with height as one moves towards the top of the plain at Aoulouz (691 m) which receives an annual average precipitation of some 360 mm. Figure 45 shows the relief of the Souss plain; it can be seen that there is a much sharper gradient up-valley from Taroudant than below and that there is also locally around Taroudant a downwards slope from north to south, as well as from east to west, the resultant gradient line, approximately north east to south west, being the path of the Oued Ouarr which passes immediately to the north of Taroudant. This observation will have a bearing on remarks made later on the supply of water through the system of canals (seguiat) running near or through the town.

Taroudant itself is situated in the midst of an extensive and fertile olive grove in the triangular area between the left bank of the Oued Ouarr and the right bank of the Oued Souss, an area which shows up distinctly in Landsat images of the area (see image 1), and which is in sharp contrast to the arid terrain on the right bank of the Oued Ouarr.

6. Hardy G. and J. Célérier, op.cit. p.154

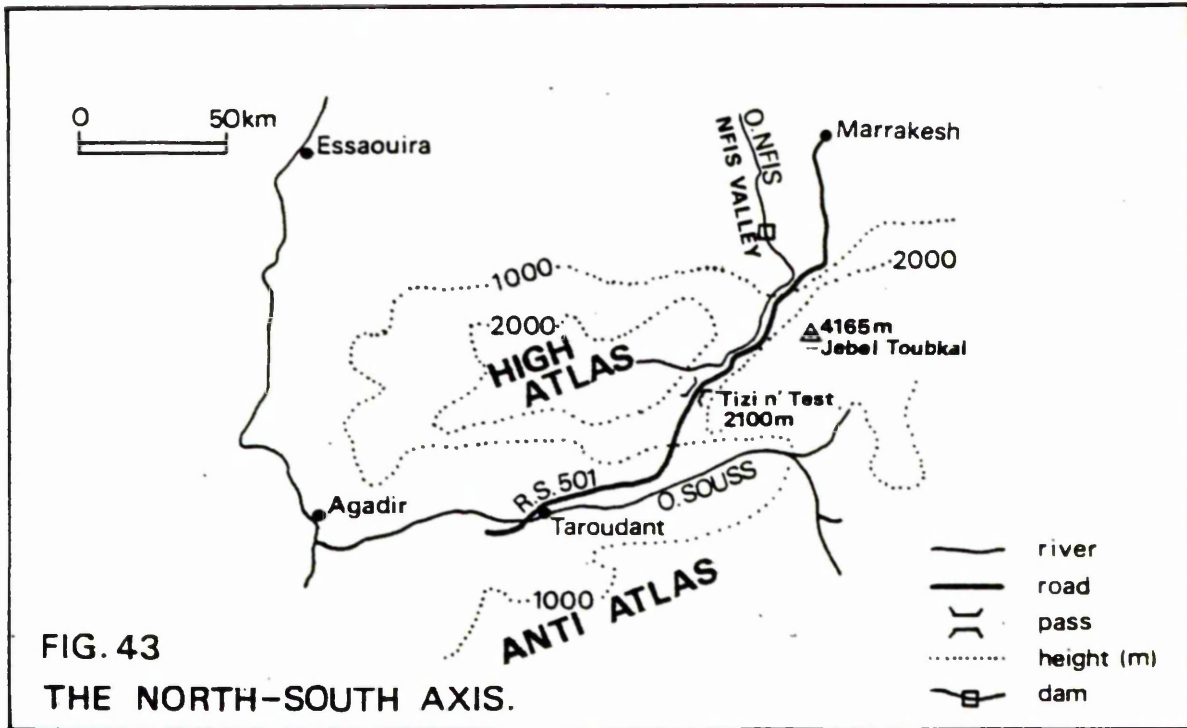


FIG. 43
THE NORTH-SOUTH AXIS.

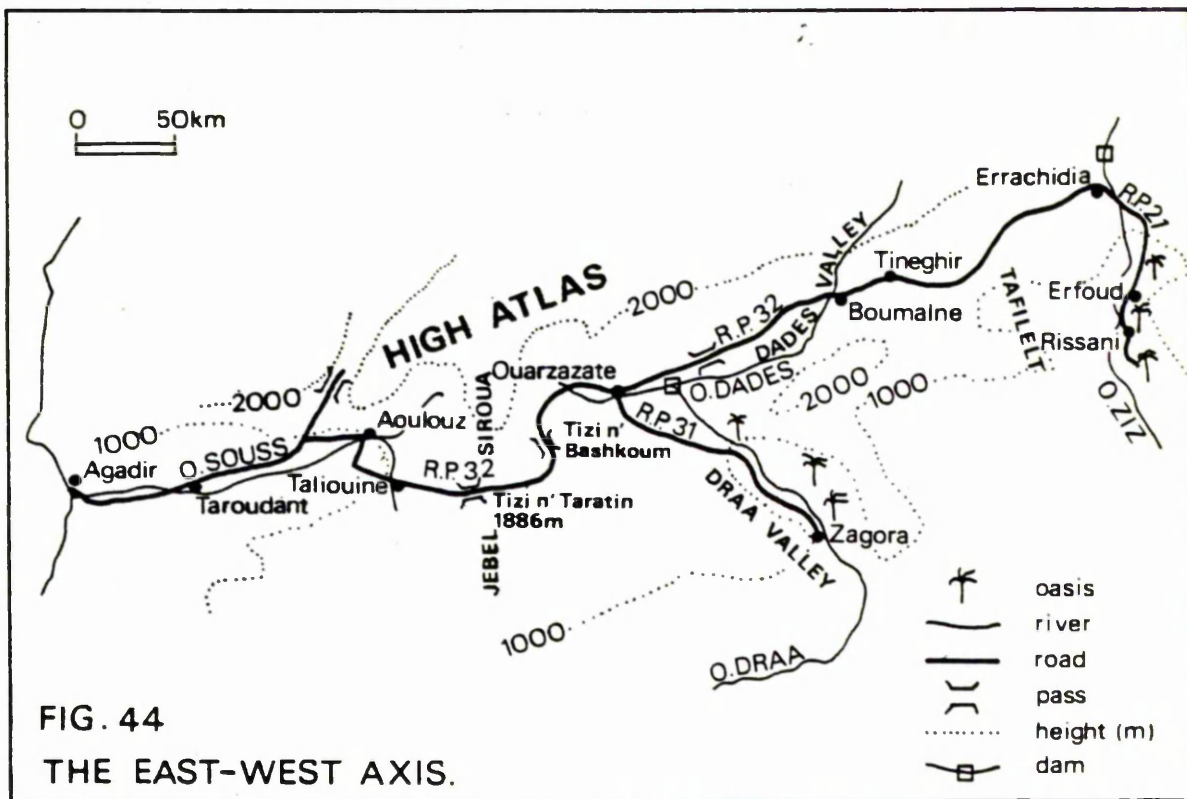


FIG. 44
THE EAST-WEST AXIS.



Image 22 Sprinkler system in a field near Tazzemourt, south of Taroudant
(August 1980)

Image 23

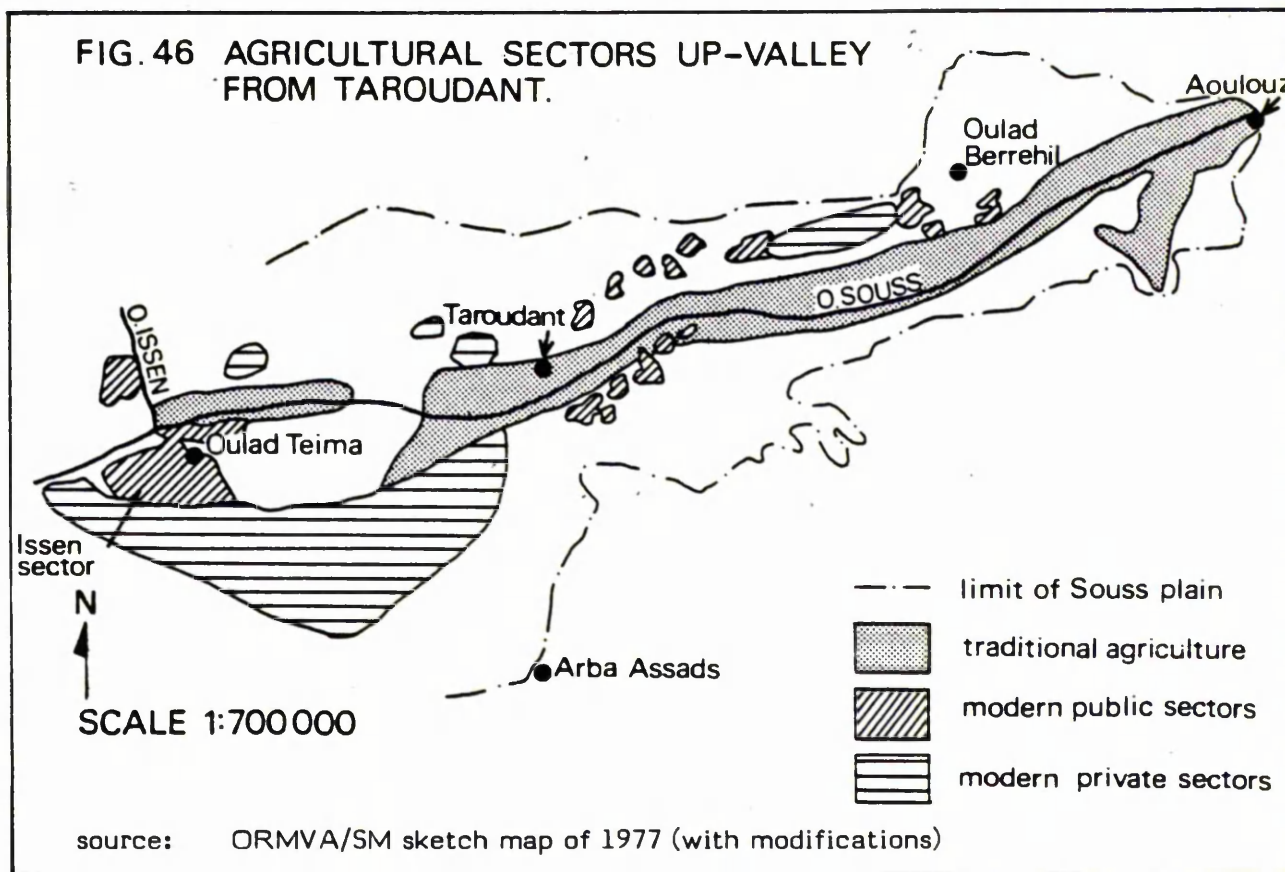
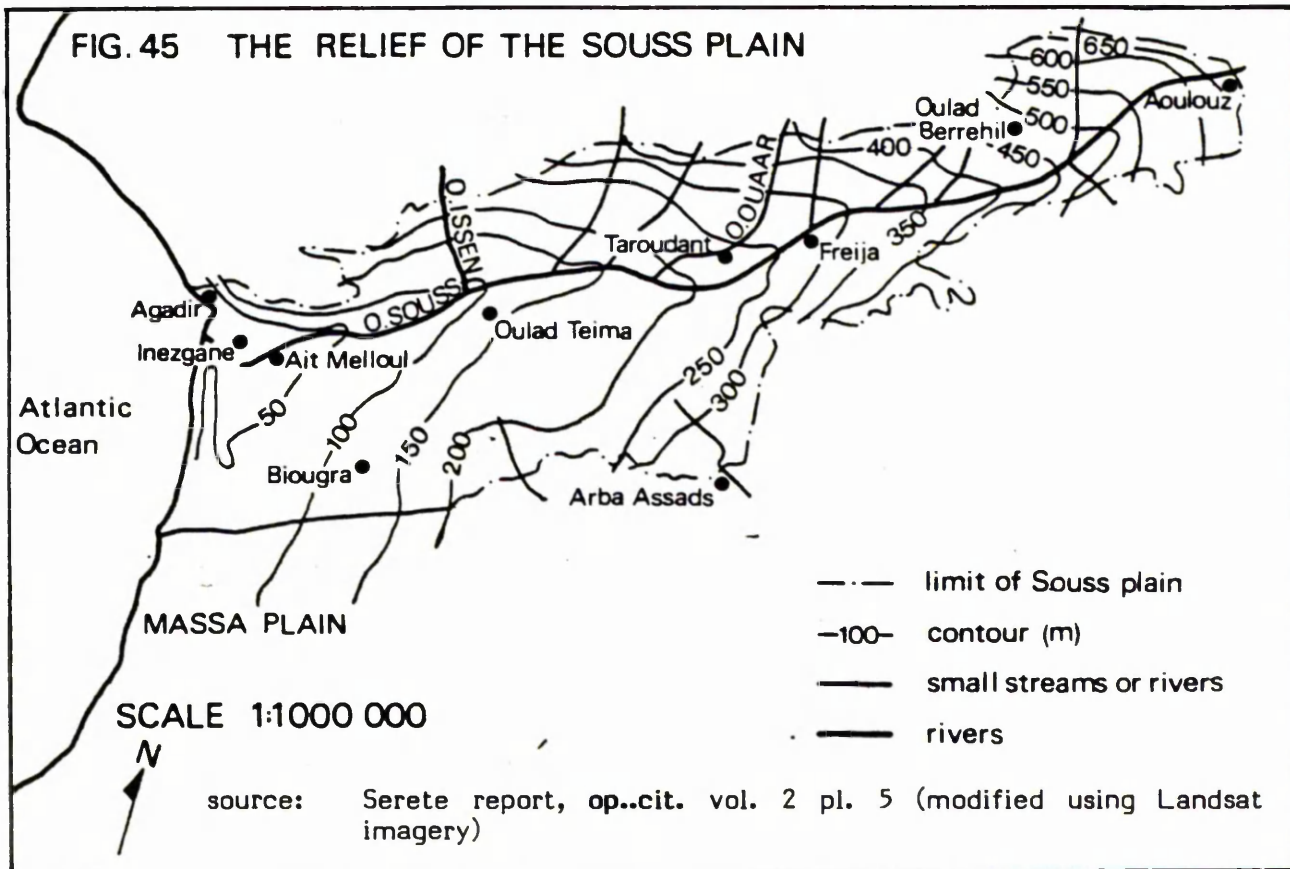
Water pump
on a citrus
farm at
Bouzoug,
a few kilo-
metres
west of
Oulad Teima
(Jan. 1981)



Olives provide the main traditional agricultural resource and activity in the *amont* (up-valley) area of Taroudant⁷, the area which naturally 'faces' towards Taroudant and for which the town acts as a weak pole of attraction. The fruits are either consumed locally or transported to the olive oil factories in Marrakesh; ironically there is not even any substantial industry connected with olive processing in Taroudant or its region, and very little other industry in Taroudant. Figure 46 is a sketch of the various agricultural sectors up-valley from Taroudant. During the period of French colonialism (after the area was opened up to European farmers in 1930) the 'modern' sector was mainly the large area downstream from Taroudant on the left bank, where the commercial citrus plantations flourished, and with the land being sold to Moroccans after independence this sector remained in private hands. The *amont* remained traditional and small-scale in its agriculture; it is an area (as can be seen from figures 45 and 46), particularly on the right bank of the Souss, which is in a more favourable position as regards water compared with the area around Oulad Teima, with its higher ground, greater slope of terrain and with several small rivers descending from the High Atlas to the north. Around Oulad Teima, to counteract a situation where the water table is lowering dangerously, the ORMVA/SM (Office régional de mise en valeur agricole/Souss-Massa) is bringing some new public sectors into operation when the Issen dam and irrigation scheme is finished. In the *amont* area, by contrast, numerous small sectors have been introduced by the ORMVA/SM for modern, publicly-owned agriculture, mainly of market gardening produce, in area which were often previously argan forests⁸. It is these sectors which are principally earmarked for a further proposed radical switch in the *amont* area in the 1980s - the introduction of sugar beet. The idea is to further stimulate areas that were somewhat depressed until recently, and to provide

7. the cercle of Taroudant, containing some 71% of the olive trees of the province, with around 650,000 trees (SAEM report) 1980, cited in note 18 below, p.10

8. cf. ch. 1.5 for a discussion of the argan tree and the uses of its fruit



at the same time some locally produced sugar (in a country that imports and consumes vast quantities of the product); a sugar mill for extracting raw sugar is also planned near Taroudant (a few kilometres to the east) to create some industrial employment. For at least seven centuries (as Berthier has demonstrated) the region was a major producer and at times major exporter of sugar cane; the wheel, it seems, has come full circle.

It is stated openly by officials in Taroudant (and suggested as well by the Serete report of 1978) that there is a growing competition for water between the modern amont sectors and the lower-lying traditional sector around the banks of the Souss near Taroudant. Expensive though it will be, this conflict will eventually have to be resolved by a dam on the Souss above Aoulouz at the head of the valley, and to avoid the occurrence of severe shortages it is calculated by ORMVA/SM in Agadir that the dam would have to be operational by around 1997. It would help to reduce the need for over-pumping which is occurring at present, especially during periods of very severe drought (such as during the latter part of 1980 and the spring of 1981⁹) when all parts of the plain were affected, the southern areas more than northern ones and western ones more than eastern.

The tribal affiliation of the people in and around Taroudant is that of the Ahl Taroudant, a basically Arab tribe on the right bank of the Souss, as are the Oulad Yahya who extend some 25 km up-valley of Taroudant on the left bank, and the Haouara tribe covering a large area on both banks of the Souss down-valley from Taroudant¹⁰. The Berber tribes and confederations start on either side of the plain in the mountains. Nonetheless there is a considerable mixture, particularly in the town of Taroudant, of

9. the rains usually begin in September, often after a spell of chergui (the hot wind from the east), followed by unsettled and stormy weather, the first rains thus being known as the 'tears of the chergui' (cf. also ch. 1.1.2). The rains last until March or April. In autumn 1980/spring 1981 there was hardly any rain in this area.

10. Maroc, Carte des tribus 1:1,500,000 Rabat 1977

linguistic and cultural styles, and whatever language preferred by its individual inhabitants the town is unmistakably Berber in its atmosphere (and with many Berber appellations for its quarters, gates and canals: Agafay, Assarag, Talmaklat, Targhount, Taffelagt, Tafoukt, not to mention the name of the town itself). An interesting observation concerns the shape of the town walls of Taroudant. The northern and southern parts of the walls (see figure 48) display a leisurely roundness, whereas the eastern and western flanks are rigid and almost squashed in. It was speculated by a member of the town council¹¹, himself a Berber, that this may have been because the northern and southern parts of the walls faced the mountains from where no threat was posed to the city by the peaceful Berber tribes, whereas the warlike Arabs to the east and west in the plain were ever looking for their chance to storm the place.

The many former Jewish settlements in the Souss region in and around Taroudant in particular, have already been mentioned (cf. ch. 2.3), and Flamand and others have described them. In the Taroudant region (as elsewhere south of the High Atlas, except for Agadir with its 300-strong community) there are no Jewish communities left today, though near Taroudant there are two instances with recent Jewish settlement which are in themselves of interest, have historic links which extend to the present day, and, surprisingly, do not seem, either of them, to have been mentioned in the fairly extensive literature on the subject (Flamand, Chouraqui, et al.). The first concerns the village of Arba Assads south of

11. Brahim Ighachane (in conversations, August 1980). Much of the information on the town and region of Taroudant in this chapter derives from several long discussions with M. Ighachane.

Taroudant, on the edge of the plain and at the foot of the Anti-Atlas (see images 24 and 25). Its otherwise arid region is made locally fertile by the Oued Assads which descends from the mountains and there are remnants of an old canal there. Berthier¹² mentions the place and its canal and suggests that sugar cane was locally grown there and that there was a factory in the area to process it. (It is a central thesis of Berthier's work that the extensive old canal system in the Souss, whose origins are uncertain and much of which remains to be uncovered, was as much constructed for the purpose of providing hydro-mechanical power for the sugar factories as for irrigation of the crops). There is no reason to suppose that there was ever a Jewish community in Assads itself, but it had, and still has, an association with Jews throughout Morocco by virtue of a fruit that grows there, and apparently only there out of the whole region. The fruit in question is a citrus, a large, lemon-like fruit, known as a citron and locally as noronj (in French cedrat, in Hebrew etrog), which is used in the Jewish autumnal harvest festival (of Succoth) (see image 26). In August and September each year, to the present day, Jews come to the village both from the north of Morocco, as well as representatives of former Moroccan communities now in the United States or in France, to purchase quantities of the fruit¹³.

The other Jewish site (which was oddly overlooked by Flamand and others) is the now uninhabited village of Azough (or Azogh) up-valley from Taroudant near Oulad Berrehil, some 4 or 5km on a track beyond the small centre of Ileta Igoudar (see fig. 47). The walled village was inhabited up to 1949; its features are long rows of small adjoining huts around the edge and an open space in the centre containing a number of tombs, the two most prominent ones being separated off from the others (see image 27). These

12. Berthier, P., *op.cit.*

13. information from visit to Arba Assads (4.1.81)

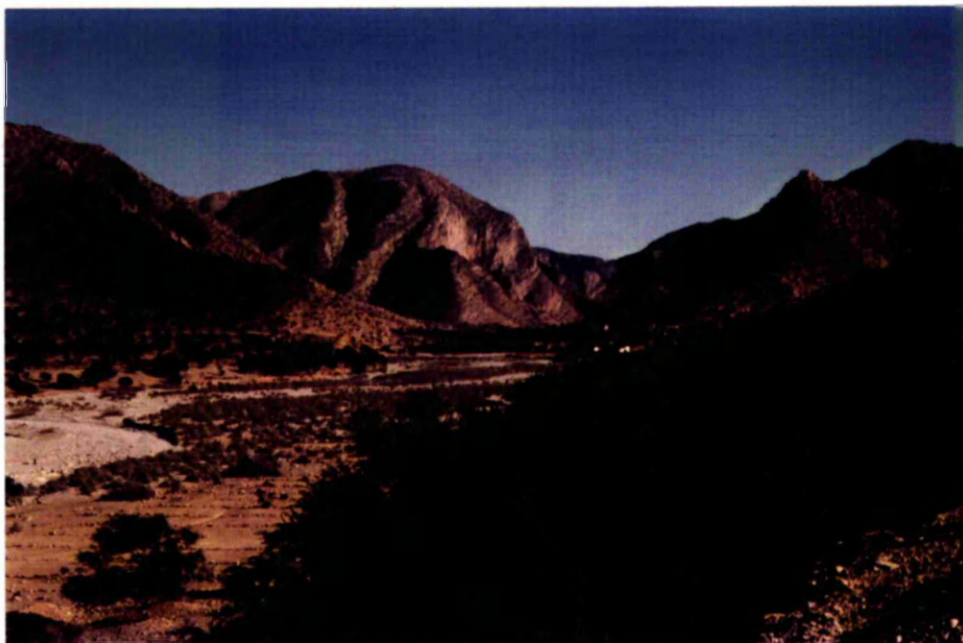


Image 24 The river bed of the Oued Assads, descending from the Anti-Atlas mountains; the village of Arba Assads is in the background at the edge of the plain and the foot of the mountains (Jan. 1981)



Image 25 A scene in the village of Arba Assads (Jan. 1981)

Image 26

A citron
(*noronj*)
tree in
Arba Assads
(Jan. 1981)

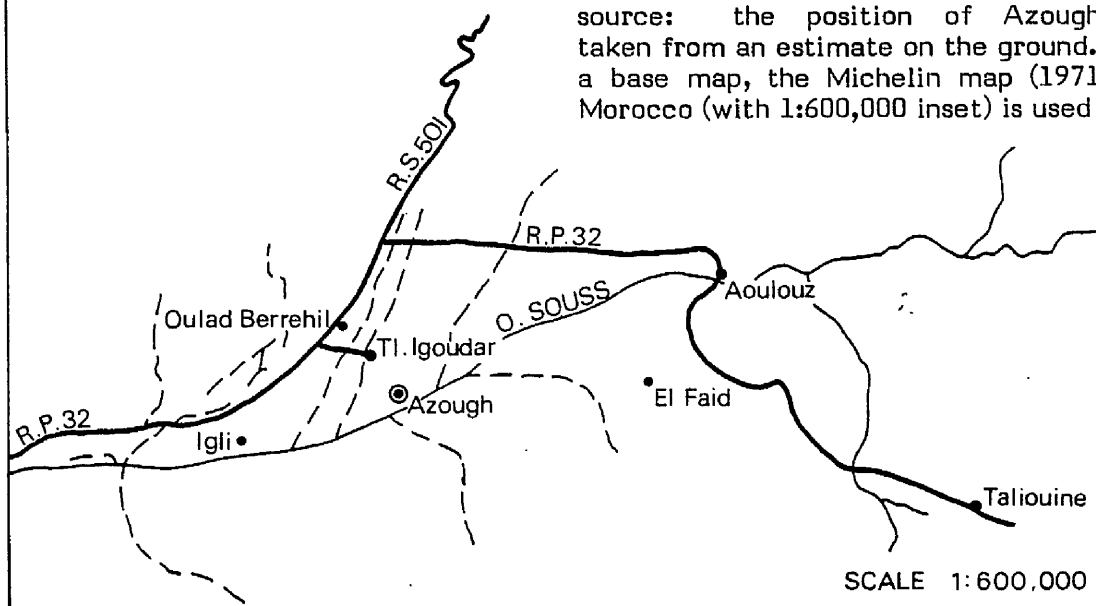


Image 27

Tombs in the walled site of Azough; the tombs of David ben Baruch and Benyamin Cohen Azogh are under the constructed shelter

FIG. 47 THE SITUATION OF AZOUGH

source: the position of Azough is taken from an estimate on the ground. As a base map, the Michelin map (1971) of Morocco (with 1:600,000 inset) is used



are of two local rabbis, David ben Baruch Azogh, and his son Benyamin Cohen Azogh, who died, according to the decipherment of the Hebrew dates on the tombstones, in December 1784/January 1785 and April/May 1831 respectively¹⁴. According to local information, Jews, from Morocco and abroad, come annually to the site on a pilgrimage for three days in April, some 1,000 or more apparently staying there¹⁵. This sort of pilgrimage to the tombs of locally revered holy men, with the placing of candles at the base of the tombs and other associated practices, is clearly closely linked with local Muslim practice (especially Berber) in the honouring of ancestral saints (cf. Gellner, 'Saints of the Atlas').

4.2.3 The town of Taroudant

Description

The town of Taroudant, within the historic walls, is shown in figure 48 (see also images 28 to 30). It has the atmosphere, with its narrow, winding lanes, its brownish, pisé-walled houses, its multitude of small shops and the smells of mint and burnt charcoal and spices, of a southern Moroccan Berber town, and in character is often said to resemble a small, compact version of Marrakesh. The two towns have other things in common, including strong historical links, particularly of the Saadian period and in the 20th century the common influence of the Glawi, and both towns have, or have had in the past, extensive gardens (in the sense of orchards or olive groves rather than in the European sense of the word). The central square in Taroudant, the place Assarag, whose space now serves, rather wastefully, as a car park (for those cars that have managed to negotiate their way towards it from one of

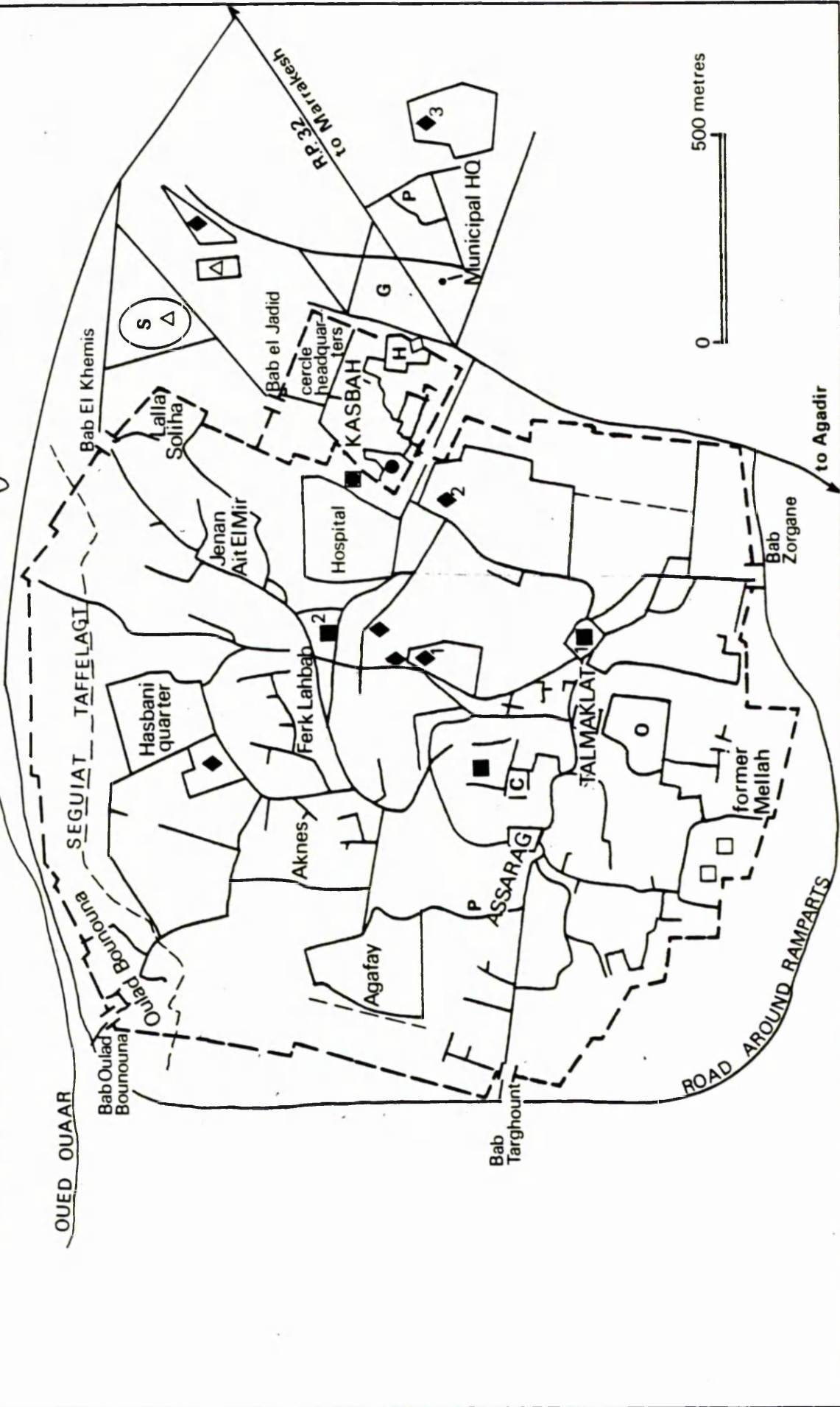
14. the date of David ben Baruch's death is given as 3 Teyet 5545, and that of Benyamin Cohen as 11 Iyyar 5591

15. information from visits to Azough (29.8.80 and 5.1.81)

source: map based on plan of town (1:5,000) held at municipality of Taroudant

FIG. 48 TAROUDANT

for legend see overleaf



legend for figure 48

- mosques
 - 1 Great Mosque (Jemaa el Kebir)

- ◆ schools/colleges
 - 1 Institut Islamique Mohamed V
 - 2 Lycée Ibn Souleiman Roudani
 - 3 Hassan I college

- △ sports facilities
- S stadium
- G public gardens
- H Salam hotel
- P post offices
- C covered **souk** area
- O open **souk**
- former prison
- cemetery of former prison

- Jewish cemetery

- ⊥ gate (**bab**)

Image 28

The walls of
Taroudant
seen through
one of the
arches of
the
Bab Kasbah
(August
1980)



Image 29

A scene in the Place Talmaklat
(summer 1979)

the gates through the maze of narrow streets), once apparently¹⁶ acted as a communal gathering point in the evenings, with acrobats and other entertainments, along much the same lines as the Jemaa el Fna at dusk in Marrakesh.

Taroudant can also be compared to Fes (which may seem at first a strange comparison) on account of a common tradition of religious learning and foundations, and there have long been close religious ties between the two places. Apart from the Saadian Great Mosque (see image 31), there is a smaller mosque in each quarter, as well as 3 or 4 zawiya in the town. The only government ministry to have a provincial headquarters (of Agadir province) in Taroudant is that of the ministry of habous (religious affairs and endowments), and the town houses a religious school, the Lycée Islamique Mohamed V, with some 1,200 pupils. A long line of well-known qadis (religious judges) came from or studied in Taroudant, including Ibn Suleiman Roudani, who was a judge at Mecca in the service of the Ottoman sultan (and who has a secondary school built in 1925, ironically a modern and not an Islamic one, named after him), and another Roudani¹⁷ qadi who, returning from the Middle East, introduced the first printing press into Morocco (c. 1820). The patron saint of Taroudant is Sidi ou Sidi, who has a mosque in his name in the town. Many terrains within the walls of the town in the past belonged to the habous and still do so today, even when built on (except for the souk in the south which was sold by the habous to the municipality); of the land within the walls, in fact, a large part belongs to either the habous or to a few rich landowners¹⁸.

16. Villes et Montagnes marocaines, op.cit.

17. the adjective from Taroudant

18. Ministère de l'intérieur, Province d'Agadir, Etudes urbanistiques et techniques des ouvrages d'infrastructure pour la réalisation d'une cité de 4000 lots à Taroudant. premier dossier: choix du terrain, programmation et schéma de structure. April 1980

The report was produced by SAEM (Société Africaine d'études-Maroc, 4 rue prince héritier Sidi Mohamed, Souissi, Rabat) and is hereafter referred to as the SAEM report.

Image 30

A public water source near the open **souk** in Taroudant, south of the Place Talmaklat (August 1980)

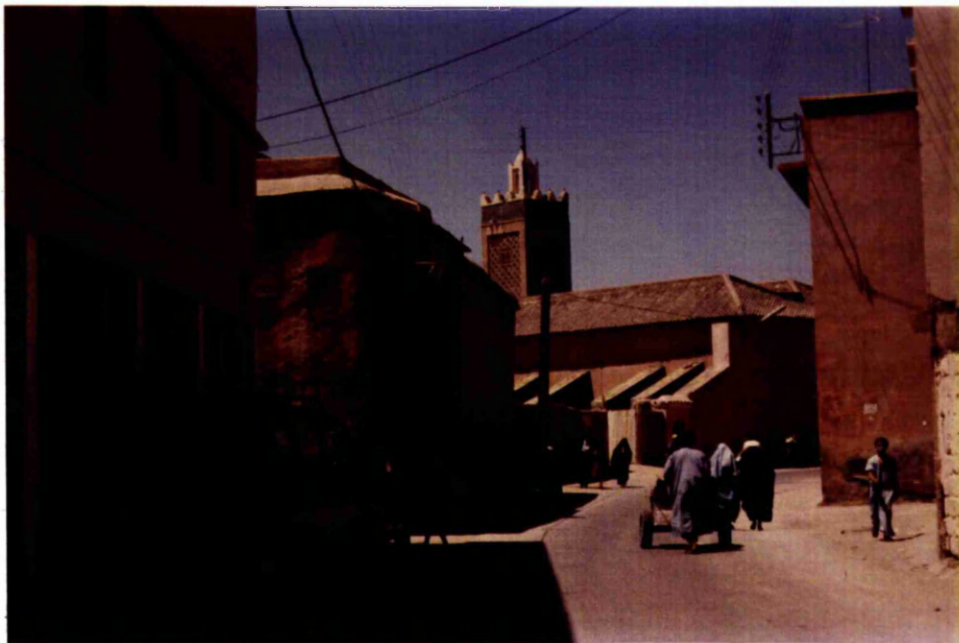
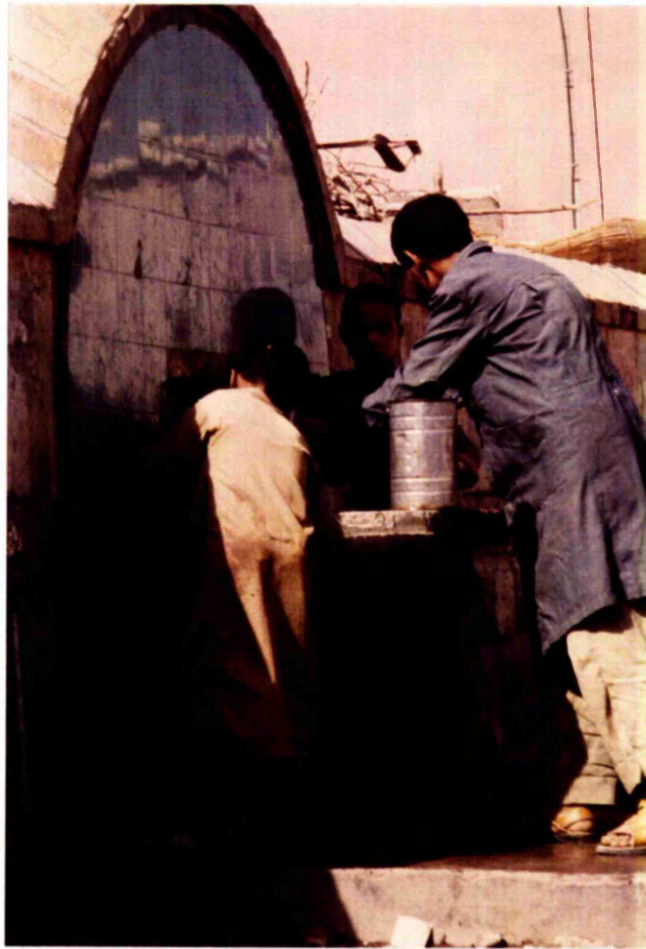


Image 31 Street scene in Taroudant; the Saadian Jemaa el Kebir (Great Mosque) is in the background (August 1980)

It is the walls and the gardens that make Taroudant, though the latter are rapidly falling into decline and being replaced by housing. The walls, too, are at some points in need of repair, and there is in this connection the question of whether Taroudant should be declared a 'historic' town and possibly benefit from special assistance, as Fes is currently doing with its UNESCO project to save its old medina.

Economic activity

With no proper industry¹⁹ as such, a large part of the economic activity of the town is commercial or artisanal, and out of a total population of some 25,000 to 30,000, some 1,783 artisans were listed in 1980²⁰, comprising largely bricklayers (600), potters (162), carpenters (148) and blacksmiths (117); the cooperative of tanners has already been mentioned (cf. ch. 3.6.6). Tourism in Taroudant is somewhat limited and restricted to travellers spending a night or two on their way between Agadir and Marrakesh (or Ouarzazate) or undertaking a short inland circuit from their base in Agadir. There are three classified hotels, the 4-star Salam (previously Marhaba) hotel founded in 1964 in what was previously the pasha's palace within the walls of the kasbah (with 148 beds); the 2-star (B) Taroudant hotel in the Place Assarag (opened in 1957, with 53 beds); and the 5-star Gazelle d'Or (1961, 42 beds) situated in a grove outside the walls with prices that put it mainly within the reach of French film stars.

19. except for the FRUSUMA (Fruitière du sud marocain) factory, on the R.P.32 road 17 km to the west of Taroudant, which produces orange juice and concentrates and by-products of citrus fruits, and employs just under 200 people. *Bulletin économique et statistique, région du sud*, 1st semester 1976

20. *Développement touristique ... la ville de Taroudant*, op.cit. 1980

The kasbah

The walled kasbah section of the town, mentioned above, was added after the walls of the rest of the town had been built (and there are visible differences in the style of the turrets between the kasbah walls and the other walls). As elsewhere in Morocco the kasbah used to house the administration of the *makhzen* and later the administration and local military headquarters of the French protectorate. In Taroudant today the administrative office of the *cercle* of Taroudant is still within that quarter, though a new municipal headquarters has been built just outside the walls to the east.

Irrigation

Around Taroudant four canals were traditionally used for irrigating the fields and groves of the vicinity (see fig. 49), all with Berber names: the Taffelagt (the longest, which flows through the north of the town), the Tamelalt (which doesn't exist any more), the Targhount and the Tafoukt (the Chleuh word for 'sun'). The Taffelagt was modernized by the French in the mid 1930s, the canal being lined with concrete and proper draining being carried out at its source, and in 1953 it was extended beyond the town to the west. Water for the canals rises under natural pressure at points near the bed of the river Souss; in the case of the Taffelagt its source is near Freija (see images 32 and 33). Figure 49 stresses a point that has been made earlier, namely that the slope around Taroudant falls from north to south (and also from east to west). In times of drought the canals are affected in order, going from south to north; in late August 1980 the Tafoukt was already dry, the Targhount contained a little water and the Taffelagt was at a lower level than usual.

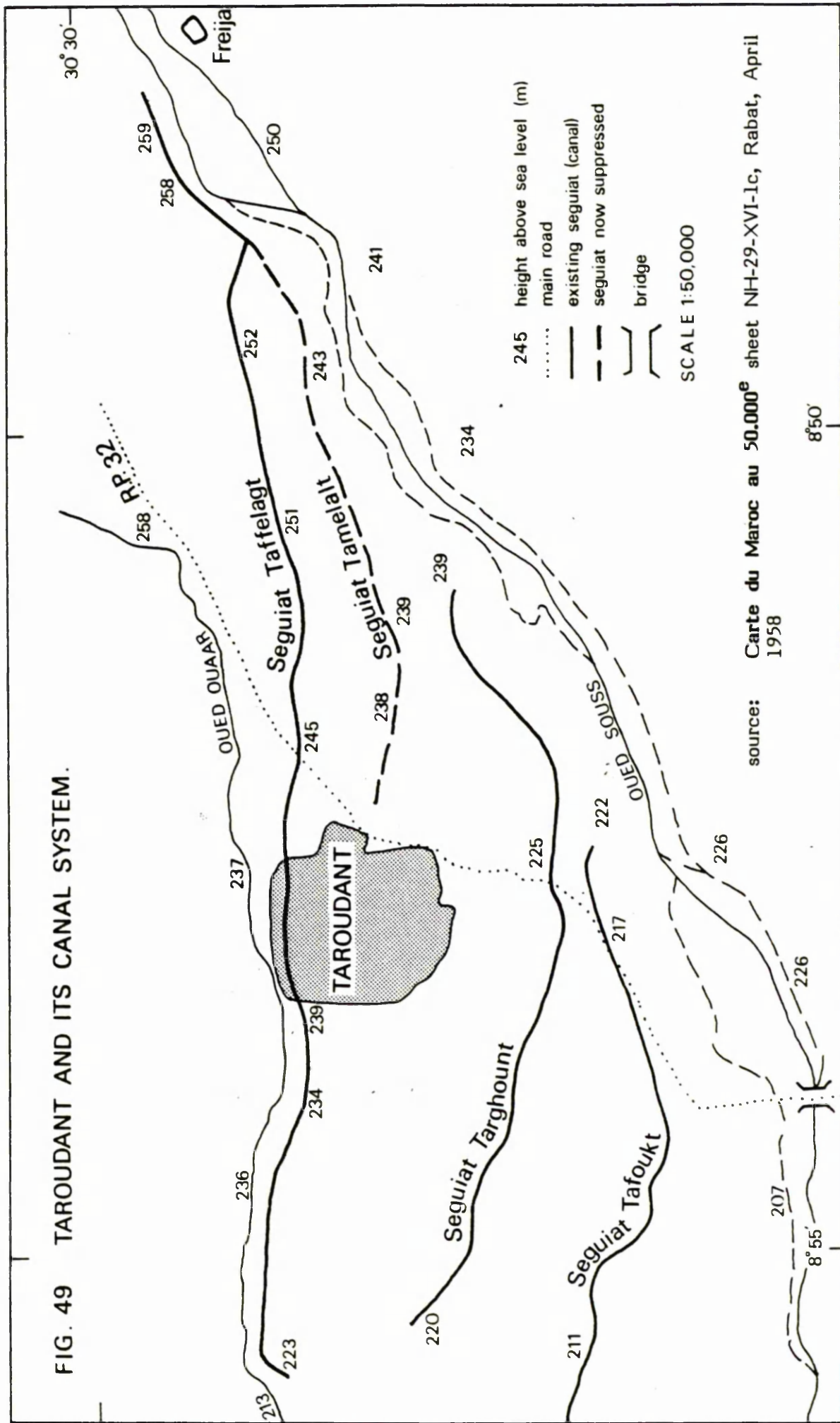




Image 32 A view of the village of Freija, as seen across the dry river bed of the Oued Souss (January 1981)



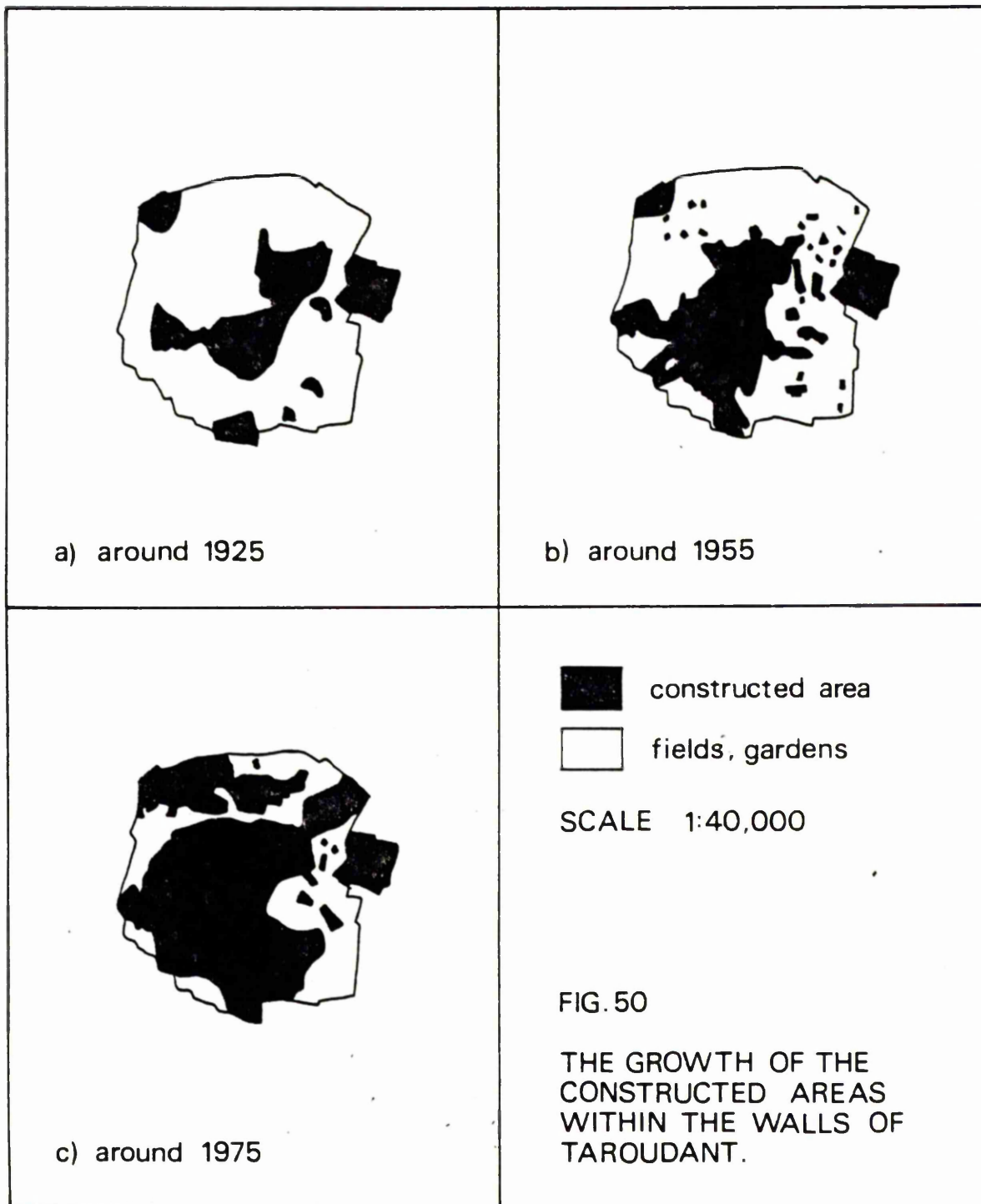
Image 33 The **seguiat** (canal) Taffelagt, between Freija and Taroudant (August 1980)

Growth of the town

The old centre of the town was in the south; the north was traditionally gardens where olives and pomegranates grew. The only old centres not in the south which were built on were Oulad Bounouna, Ferk Lahbab and the kasbah. Gradually, and especially from the mid-1960s onwards, the gardens began to be destroyed to make way for new constructions.

It is possible, in a very crude way, to reconstruct the pattern of this urban spread within a semi-rural town and the corresponding decline of its orchards. An old map of the region exists²¹ which though published in 1946 would appear to have had the surveying of the town itself carried out in 1925. Though it is only of a scale of 1: 100,000 it gives a rough idea of the extent of building in the town then. A second map²², also at 1: 100,000, dates from 1972, though the information on it is from 1955 (the same map is used in the SAEM report of 1980²³ though photographically enlarged to 1: 20,000). A third piece of evidence is an aerial photograph of the town contained in the SAEM report, which, though not dated, could be estimated to be from around 1975; it corresponds fairly well to the 1: 5,000 scale plan of the town (kept at the back of a spare cupboard in the municipal headquarters) which is reproduced at a scale of 1: 12,500 in figure 48. Though this latter plan is itself not dated, it was apparently begun in the early 1970s, and amended from time to time as a new feature appeared in the town or someone noticed that something was missing. Taking these maps and photograph together, and mapping them at a common scale of 1:40,000, figure 50 <(a) to (c)> is obtained, showing the growth of the built-on area of the town, particularly after 1955.

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21. Carte de reconnaissance au 100.000^e Taroudant, sheet LXX, 3-4, published in 1946 (with the area containing the town of Taroudant surveyed in 1925 by Lt. Larbalétrier).
 22. Carte du Maroc 1:100,000 sheet NH - 29 - XVI - 1 Taroudant Institut géographique national, France 1972 (1955 version)
 23. SAEM report op.cit. 1980



Accepting that both the dates as well as the areas marked out can only be rather approximate (and in addition that the population within the kasbah as well as some recent development of villas outside the walls to the east and north east are not taken into account), one can measure the areas concerned and obtain table 32 shown below. Information can be added to this table concerning population data, which in this case is obtained from censuses (with approximate inter- and extrapolation) (see figure 51).

Table 32: Information from figure 50 on growth of built-on areas of Taroudant

1 millimetre square = 1600 m^2 (at a scale of 1:40,000) = 0.16 ha.
The kasbah section (of approximately 8.8 ha) is not included in the calculations.

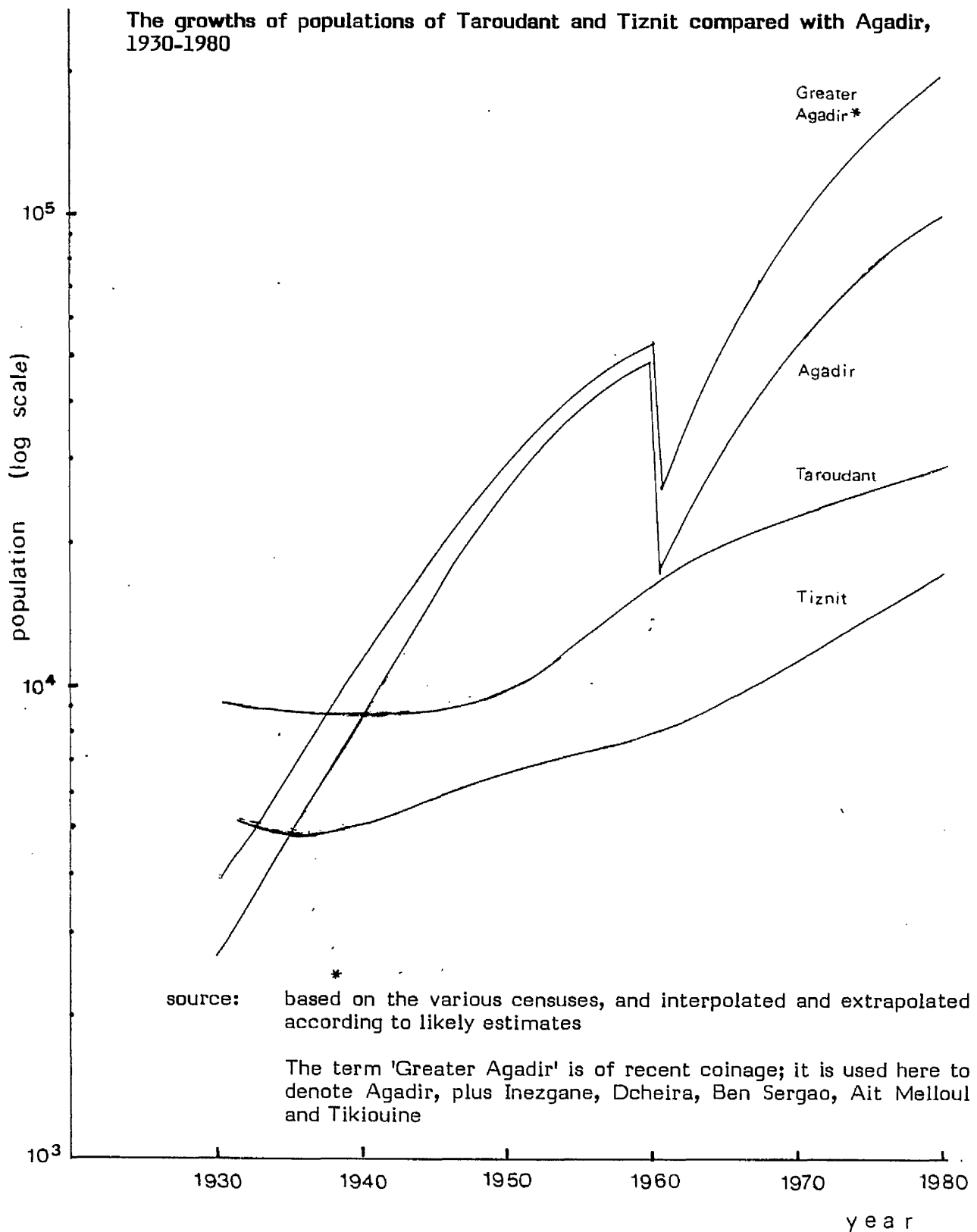
est. number of mm squares of town = 1367, giving an estimated area of 281.72 ha.

	figure (a) of c. 1925	figure (b) of c. 1955	figure (c) of c. 1975
est. number of mm squares in built-on area	366	480	949
% of town built on	26.8%	35.1%	69.4%
ares of town built on in m^2	585,600	768,000	1,518,400
area of town built on in ha	58.56	76.80	151.84
estimated population from figure 51	9,500	12,500	26,000
density in inhabitants/ha of built on areas	162	163	171

Two things emerge from table 32. The first, somewhat as expected, is that up to 1955 at least (and possibly some years beyond then), the growth of the constructed areas and the decline of the gardens was a gradual one, but at that point or some point soon after there was a much more rapid destruction of the gardens. The

FIG 51

The growths of populations of Taroudant and Tiznit compared with Agadir, 1930-1980



second point is something that was not anticipated, and that is that the actual density, not of the town overall, but of those areas solely which were built upon, remained approximately constant throughout the period, that is to say, all expansion was horizontal. (Though a slight rise is in fact shown, this can not be taken as statistically significant, since the accuracies of the populations, or dates, or both, as well as the areas involved, are not sufficient to warrant such an inference; with the order of accuracy inherent in such a rough and ready approach the only conclusion must be that the density remained constant).

The provisional conclusion regarding the applicability of hypotheses 1 and 2 to Taroudant is the following, and though the hypotheses would so far seem to be confirmed it is not quite in the way originally envisaged. It was, in fact, the early growth of Agadir after 1930, when that town and its hinterland were opened up (and especially the large citrus plantations of the colons near Oulad Teima) which saw a stagnation in Taroudant (and an actual demographic decline, in fact, if census data of the time was accurate, which was also the case in Essaouira and Tiznit in the same period). There was some picking up around the mid-1950s, as testified to by the above table and by the demographic curve (see figure 51) which was at its steepest in the mid and late 1950s, as well as some peripheral evidence of activity such as the opening of a couple of new hotels between 1957 and 1964 and the extension work on the Taffelagt of 1953. However, the pace of growth was far outstripped by that of Agadir during its reconstruction in the early 1960s and by that time Taroudant had been firmly entrenched as a secondary centre of the region. It was only at the beginning of the 1980s when four schemes of different natures - one political, one economic, one involving regional infrastructure and one a local urban project - were being discussed, that Taroudant seemed poised for a more dynamic period in the 1980s and 1990s, and it is these four projects that are discussed briefly in the next section and later in more detail in chapter 6.

4.2.4 Taroudant and the region in the 1980s and 1990s

As has been seen, a filling up of available land within the town walls (and if the present density were maintained at around 170/ha and further expansion were entirely horizontal and intramuros, then the total area of around 218 ha would be filled up by 1990 at the latest with a population of around 37,000) has led to two things. Firstly, a movement among the wealthier stratum of Roudani society to build in the villa section to the north east outside the walls has taken place, accompanied by a rise in land prices and a growth in speculation, increased by the fact already noted that a large part of land intramuros is owned by the habous or by a few wealthy landowners. Secondly, there was also from the end of the 1970s on some vertical expansion, with the hurried addition of extra storeys on some buildings, raising them, illegally, above the level of the walls (to which the pasha of the town, it seems, turned a blind eye). The need has been felt to alleviate the growing urban pressure and its associated effects of the decline of the gardens, speculation and unsightly constructions above the walls by constructing a new town. It was for this reason that the SAEM report was commissioned and the first stages of the preparation of terrain and the sale of plots proceeded with. There is no reason to dwell at length on this somewhat pedestrian report; in a few lines it sets out four available sites for the new town, then immediately eliminates three (which are, at a glance, obviously unsuitable), leaving the one which had been designated to be chosen all along. Its proposals in brief are to create a new town on 200 ha of land (slightly less than the area within the medina) to the north of the present town immediately across the Oued Ouaar (and thus on arid land and not on existing olive groves). A total of 4,000 lots are to be built on 96 ha of this area, giving 6,000 dwellings for 30,000 inhabitants. With a doubling of the population (at present almost 30,000) in around 20 years (at a rate of growth of 3%), this would seem to be a minimum that was required. The growth rate may indeed become much higher, by the very stimulus

created by the existence of the new town and the three other schemes dealt with below, so that a larger town might well have been planned for. Other provisions within the area of the new town included in the SAEM proposals are for 1,381 industrial and artisanal jobs (which are not specified, though it is implied that the industry should be agriculturally related) on a terrain of 11 ha, and four hotels on a total of 1.2 ha giving 640 jobs. Now these would have to be large hotels to give that many jobs, each for instance, a 4-star hotel with 180 rooms, and such hotels would usually need to occupy at least 1 ha of land each, though elsewhere in the report (p. 17) it speaks of small, 3-star hotels with around 100 rooms each (which would give a direct employment of around 70 jobs per hotel). It is also proposed to provide 10.2 ha for sports facilities, 12 ha for gardens and squares, 35 ha for road network and 23.5 ha for educational institutions (8 primary schools, 2 colleges and a lycée). The administrative quarter, presumably for the headquarters of the new province, is to occupy 3 ha, a large modern market 0.35 ha, and mosques and hammams another 1.45 ha. The proposals seem to have omitted sites for a bus station and a souk, and it is not clear that a site for an eventual railway station should not also have been included in the area of the new town, with the proposed railway passing some 2 km immediately to the north²⁴ of the walled town. The report does speak generally, though, and correctly, of the need to somehow ensure that the walled town does not suffer a decline as a result of the creation of the new one, in the way that other historic medinas have become impoverished vis-à-vis their adjoining modern towns, and it must be stressed here that if this is to be avoided it is important that the authorities of Taroudant, starting with its pasha, are more alert to the realities of the creeping destruction of the gardens, the makeshift overbuilding of high constructions and the lack of proper facilities in several quarters of the old town (such as of drinking water, electricity

24. Ministère de l'habitat et de l'aménagement du territoire, Délégation d'Agadir Création d'une zone d'habitat à Taroudant: note informative destinée aux auteurs d'études urbanistiques, (mimeo.) 1979

and sewage disposal) which are present today. There is a tendency to regard tomorrow's new schemes as substitutes for dealing with today's problems, but if all attention is now to be diverted to the design of the plazas and villas of the new town conditions for the Roudanis of the medina will only deteriorate.

A second scheme for the region which has already been mentioned is that of sugar beet plantations in the *amont* area and a factory some 5 km east of Taroudant to process the crop. If this does indeed materialize it will create a stimulus for the town and the *amont* area. Another industrial project (and, unlike the sugar refinery and other proposed industry such as fruit juice and tomato concentrate factories, not agriculturally based) is that of a railway repair yard for the proposed new railway. This large undertaking and its undoubted effects on the town are discussed in chapter 6.

The final major proposed project which would have an effect on the town is a political one, the creation of a new province at Taroudant. This has been on the cards since at least 1975, but at that time it was Tiznit that was chosen instead of Taroudant (for entirely strategic and political reasons) to be the seat of a new province in the south, and Taroudant received the consolation prize of being made a municipality (which Tiznit is not, at least not in name). Such a province would include the present cercles of Taroudant, Oulda Teima and Igherm in Agadir province, and the cercle of Taliouine in Quarzazate province (an area in the mountains which contains one of the sources of the Souss and which, alone in that province, tends to face west), and conceivably also the cercle of Biougra in Agadir province (see chapter 6.3 for a more detailed discussion, and annexe I.0 for a summary of the resulting administrative and demographic set-up). For the town of Agadir, such a creation, especially if it were to include Biougra, would pave the way for a compact prefecture centred on the town, with the relatively 'inutile' sections hived off into a new fledgling and subordinate province (see ch. 1.4 for

a full discussion of this political splintering, with the area containing the centre being continually adjusted into a smaller, more compact and more 'utile' unit). There are many implications for Taroudant itself in the creation of such a province - a raising of its prestige and local self-confidence (and a partial obliteration of the widespread feeling in the town that it has been 'forgotten' by Agadir), and a larger municipal budget, possibly, though the supposed overwhelming financial benefits for new provincial capitals are hailed in some regional planning circles in Agadir as like manna from heaven, and considered elsewhere as being at best transitory or even illusory. In Taroudant the feeling is that there would result a useful financial stimulus, though at the same time it is felt, with probable justification, that a town does not live off its budgetary allocation alone, and that the creation of local activity relevant to the condition of the town is in the end a more important question than whether it is the capital of a province or not.

Other places would also be affected in the creation of Taroudant province, notably Oulad Teima. With only 1,147 inhabitants in 1960, it experienced a considerable growth over the following 20 years, and was estimated to have some 6,000 to 8,000 inhabitants at the end of this period. Its links have always been to the west, with Agadir, where much of its agricultural produce goes, and a political reorientation (literally speaking) to the east might create a certain dislocation between the political and the economic links of the town. While the effect of the new railway line on the town is at present uncertain, it would seem improbable that it could continue with a growth rate of over 8% (as supposed in a 1979 planning note in Agadir²⁵), and it is more likely that the rate of growth will fall, with the town remaining a medium-sized centre of a cercle.

25. Province d'Agadir, Centre d'Oulad Teima (DRHAT, Agadir) Note de présentation, (mimeo.) 1979

4.2.5 Conclusion to section 4.2

Taroudant was in former times the centre of the Souss, in physical terms as in economic and cultural ones. The growth of Agadir after 1930 left it behind, entrenched in its 'traditional' role and somewhat forgotten. A small boom occurred after 1955 which tailed off in the wake of the greater dynamism of the reconstruction of Agadir, into which all national effort was directed. In the early 1980s, however, for a number of separate reasons - the internal pressure on land and consequent schemes to create a new town, the proposal to reshape the regional infrastructure with a railway which would pass near it, the political proposal (not for its own interest) to make it a provincial capital, as well as a radical change in local agriculture towards sugar beet - it would appear to be on the threshold of experiencing a second, belated phase of reactivation which will be, perhaps, a more dynamic one than that of a quarter of a century earlier.

4.3 Tiznit and its region

4.3.1 General

The town of Tiznit is situated in the midst of the Tiznit plain, an area at the southernmost part of a region becoming ever more arid as one travels south from Agadir through the Souss plain, the Massa plain with the exception of the modern irrigated sector there) and towards the region of Tiznit. In terms of geographical axes, Tiznit lies on one main one from Agadir, through the town, to Bouizakarne, Goulimine and the Sahara, an axis which has been of considerable importance in the relaying of military supplies during five years of the Sahara war. There is a weaker axis connecting Tiznit to the mountain centres of the Anti-Atlas to the east and to the coast to the west, as well as a mountain road to Sidi Ifni in the south west.

The province consists of that plain and of the south western end of the Anti-Atlas mountains which extend to the coast at Sidi Ifni. Though the Massa River rises in the Anti-Atlas mountains within the province, and the dam on it is also within the province before it flows north westwards into Agadir province and the sea, there are no major rivers in the Tiznit plain to relieve the low rainfall (under 200 mm per year on average, though with a considerable variation) that occurs there. The Anti-Atlas mountains, too, are both lower in height and have a lower rainfall than the High Atlas north of the Souss plain (especially on the south eastern slopes where rainfall drops off sharply to below 100 mm in the pre-Saharan provinces of Guelmim and Tata); only in one small region of the Anti-Atlas mountains south west of Tafraout does average rainfall exceed 400 mm per year.

The province was created in 1975, with originally 35 communes covering an area of 25,000 km² (see ch. 1.4 for a detailed description of the evolution of administrative boundaries in the south). Of these communes, 20 were from the former cercle of Tiznit within Agadir province. The 21st commune of that cercle, Massa commune, was kept in Agadir province so as not to split up the Massa irrigated complex within that province; given, in addition, that the river enabling that irrigation scheme to operate rises within Tiznit province as already mentioned, considerable resentment is felt in Tiznit at the way that the boundary between the two provinces was fixed so as to divide a (man-made) fertile area from a barren one, the bled bour of the Tiznit plain.

The province of Tiznit, then, a peripheral marginal area of the south (vis-à-vis Agadir province) was itself over the following four years made more 'utile' and compact by the hiving off of its own more sparse and arid lands. In 1977 the new Tata province took three communes from Tiznit, though massive one (Akka, Fom el Hassa and Tata), covering just over a half of the area of the original province (in fact, 54.8%) while containing only an eighth

of its population. In March 1979 the new Guelmim province took four communes of the cercle of Bouizakarne (Bouizakarne, Ifrane Atlas es-seghir, Taghjint and Tleta Addai communes), which in turn represented a quarter of the area of the province just before that date, but only around a tenth of its population. In two reorganizations, then, within four years of being set up, Tiznit province covered only 34% of its original area while retaining 78% of its population (on a fixed population basis, ignoring internal changes in the intervening period), thus seeing its density more than double by purely administrative means. Appendix I.2 gives a list of the administrative subdivisions within Tiznit province in 1980 and includes estimates of commune areas and populations. Figure 52 illustrates the administrative division of the province.

A more detailed examination of the demographic position within the province is illuminating. One can seek, following the methodology developed in chapter 1.3, to obtain a maximal demographic partition of the province by communes, and the resulting partition is shown in figure 53; it is a weak partition, with $\sigma = 0.567$ only. Two things stand out here. Firstly, there is not that much contrast any more, with the seven large and sparse 'outlying' communes having been discarded as described above, between densities within the province at the commune level; as homogeneous a state as could just about be obtained has been reached. Secondly, and perhaps more interestingly, the 'denser' area obtained is in no way confined to the plain or lower ground; on the contrary it spreads in a band from the coast into the mountains and almost across the province, leaving out two communes to the north of the town of Tiznit which are in the plain (see figures 53, the partition map, and 54, a relief map of the province). This position is in sharp contrast with the configuration obtained in Agadir province (see figures 12, the demographic partition by communes, and 45, the boundary and relief map of the Souss plain) where, firstly, a much stronger partition is obtained ($\sigma = 0.645$), and secondly, the 'utile' area of the province coincides closely with the boundary of the plain. Why

FIG. 52 ADMINISTRATIVE BOUNDARIES OF TIZNIT PROVINCE.

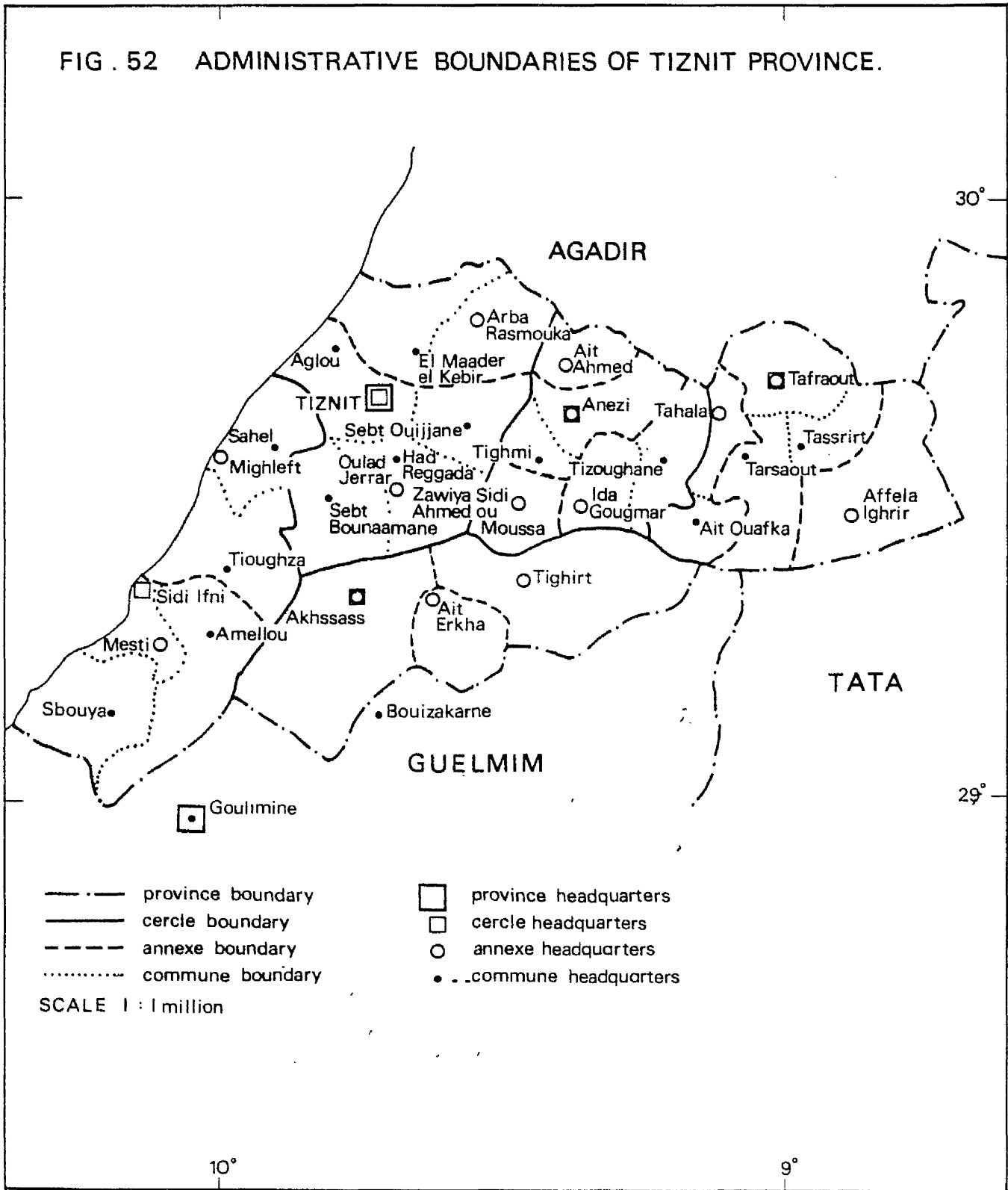
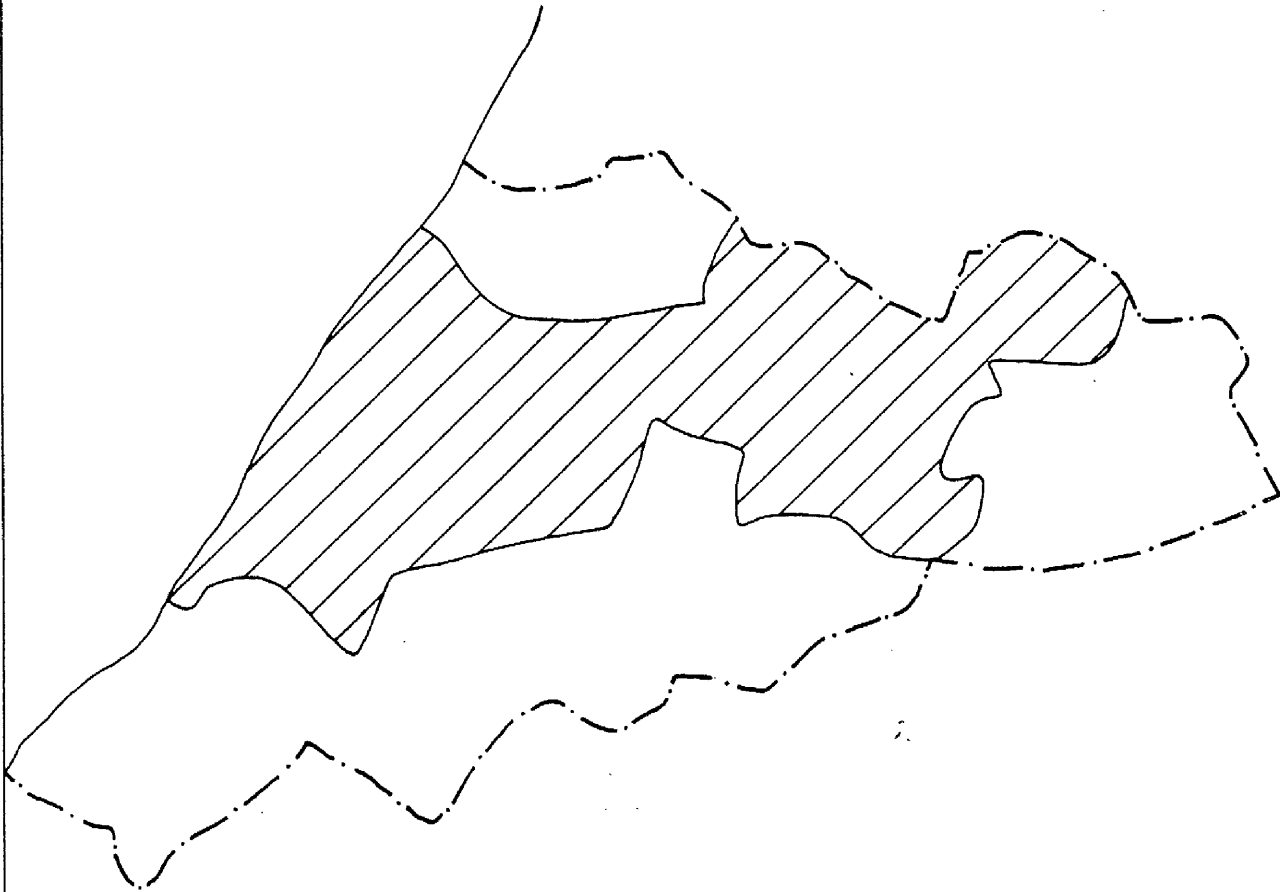


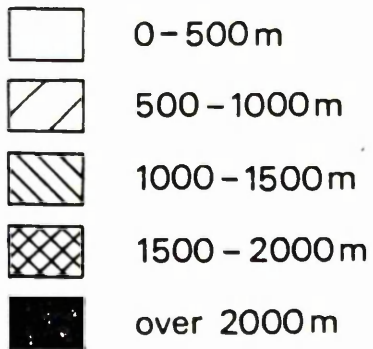
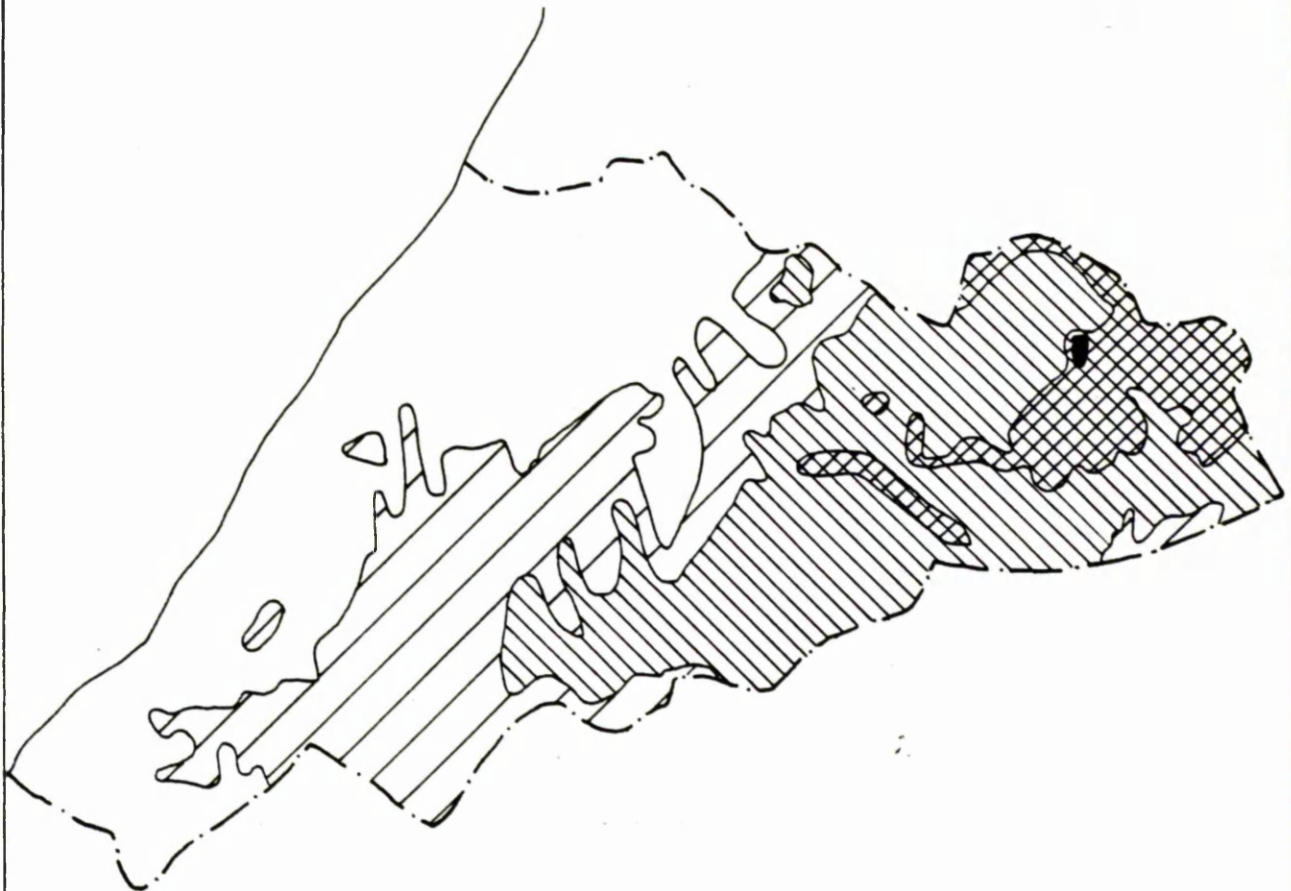
FIG. 53 DEMOGRAPHIC PARTITION BY COMMUNES OF
TIZNIT PROVINCE.



SCALE 1:1million

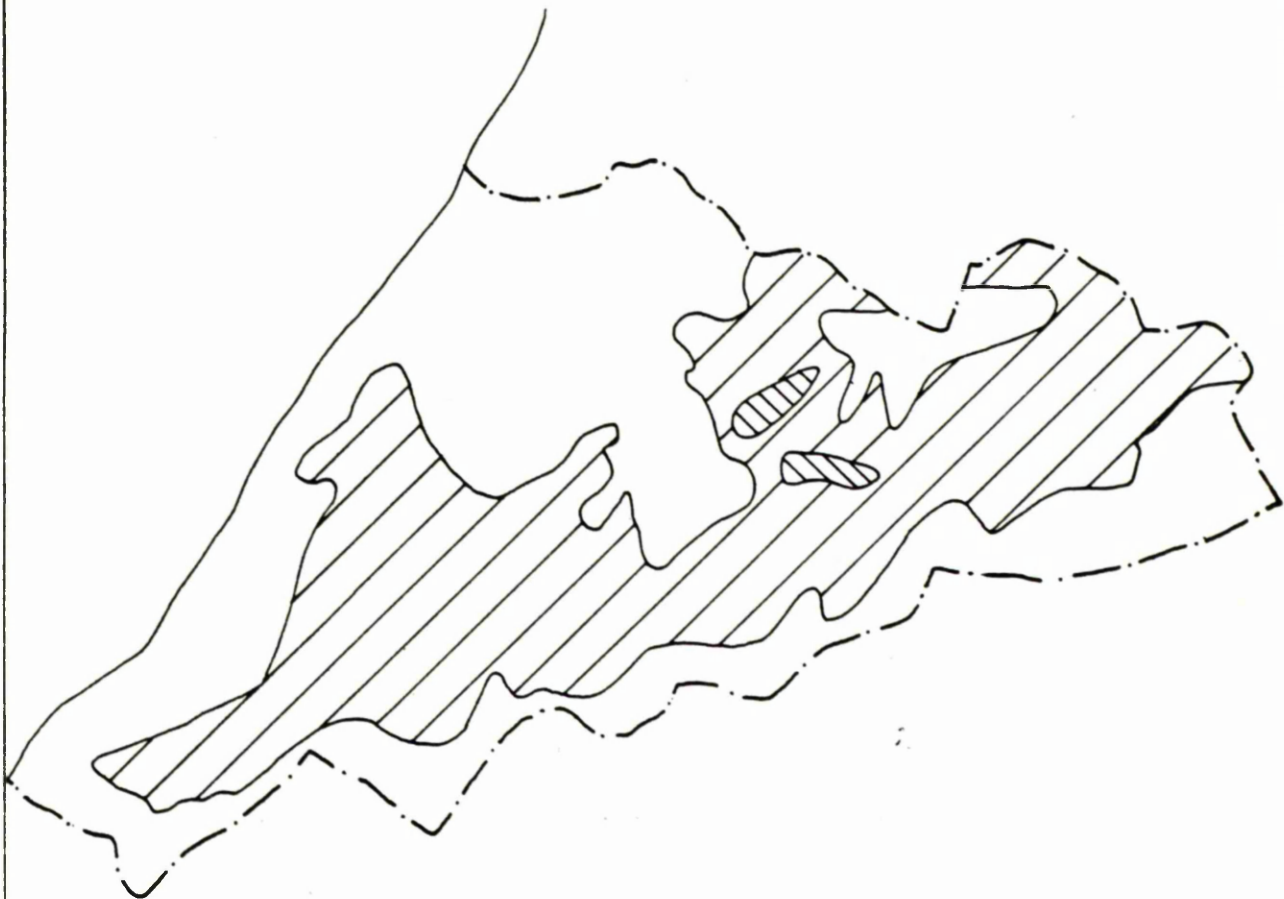
$\sigma = 0.567$

FIG. 54 RELIEF MAP OF TIZNIT PROVINCE.






SCALE 1:1million

FIG.55 RAINFALL MAP OF TIZNIT PROVINCE .



ANNUAL AVERAGE

SCALE 1:1million

-  100 to 200 mm
-  200 to 400 mm
-  400 to 500 mm

should this difference exist? Why should the Souss plain be relatively densely populated and that around Tiznit so sparsely? The reason is that people do not live in the Souss plain because it is low, but because it is fertile, something the Tiznit plain decidedly is not. The former plain has both surface and subterranean waters from the river to irrigate it as well as a rainfall between 200 and 360 mm at various points within it; the latter no major river and rainfall of generally below 200 mm. Whereas, for Tiznit province, the partition map cuts across all sections of the relief map, the former map coincides rather better, though still not exactly, with the rainfall map (fig. 55). Both maps incidentally, show up the indented area covered by the commune of Zawiya Sidi Ahmed ou Moussa, a low and arid corner surrounded on three sides by mountains which, with the second lowest density of the province, is also omitted in the 'utile' section of the partition map. There is clearly a trade-off between the benefits of higher ground within the province where there is generally higher rainfall, and lower ground with its greater accessibility (the communications network of the province is of a poor standard) and generally gentler slopes and thus less erosion (though slope and height are not exactly correlated, and if one were to assess the precise contribution of factors involved in population density, slope ought to be taken as the third factor, together with height and rainfall). The bulk of the population would seem to inhabit a compromise region between the lowest ground (which is by no means always 'plain'; the area around Sidi Ifni, the territory of the Ait Ba'Amrane tribe, is indeed extremely mountainous, though that area near the coast is below 500 m), and the highest reaches of the mountains. Denoting the shaded areas of the relief map by: region 1 (for ground between 0 and 500 m); region 2 (500 - 1000 m); region 3 (1000 - 1500 m) and region 4 (over 1500 m), and making approximate estimates from comparisons of figures 52 and 54 (with the use as well of the commune area and population figures of table 58 in Appendix I.2,) the following rough table is obtained.

Table 33: Population densities of the various areas of relief of Tiznit province

	urban area	rural area				province	
		1	2	3	4	rural	overall
areas (km ²)	20	2280	1945	2460	715	8500	8520
population (in '000 inhabitants) (1979 est.)	31.8	118.3	78.4	97.0	17.3	311.0	342.8
density (inh./km ²)		35	40	39	24	37	40

Rural areas 2 and 3, that is areas on ground between 500 and 1500 metres, are thus seen to be more densely populated than area 1 (below 500 m) and much more than area 4 (over 1500 m). Pursuing the analysis a step further, one can draw up a table showing the rough mixes of the four relief regions in each commune from an estimate by comparison of figures 52 and 54 (see table 34). Calling the density of population 'low' if it is less than or equal to 37 (the rural average), and 'high' if it is greater than 37, one can obtain, somewhat a posteriori, the four following 'rules':

1. a commune has low density if it contains 50% or more of region 1;
2. the density is also low if 35% or more of region 4 is contained in it;
3. the density is high if 60% or more of region 2 is contained in it; and

4. the density is high if 70% or more of region 3 is contained in it.

Of the 26 rural communes all but one (Ait Ahmed) are covered by one of these four rules, and of these 25 all but three fit the relevant rule. The exceptions are: to rule 1, Sahel and Aglou, the latter surrounding the town of Tiznit and containing some of its surrounding villages; and to rule 3, Akhssass, which should be more dense than it is being mainly on ground of region 2, though it is on the southern slopes of the mountains where the rainfall is lower.

Table 34: Estimated percentage of area in each relief region

rural communes	region				density	
	1	2	3	4		
Aglou	100				53	H
Ouijjane	80	20			31	L
Reggada	30	70			75	H
Bounaamane	40	60			39	H
Rasmouka	100				28	L
Maader el Kebir	100				27	L
Sahel	95	5			46	H
Tioughza	90	10			37	L
Mesti	100				23	L
Amellou	50	50			26	L
Sbouya	90	10			29	L
Tafraout			70	30	56	H
Tarsaout			65	35	25	L
Tassrirt			5	95	23	L
Tahala			100		40	H
Ouafka			80	20	46	H
Ighrir			55	45	11	L
Anezi	10	70	20		57	H
Tighmi	40	60			100	H
Ait Ahmed	35	45	20		47	H
Ida Gougmar		15	80	5	72	H
Tizoughane			90	10	54	H
Sidi Ahmed ou Moussa	50	50			18	L
Akhssass		90	10		28	L
Ait Erkha		20	80		51	H
Tighirt			100		39	H

Notes:

1. densities are in inhabitants/km², and L denotes 'low' (< 37), and H 'high' (> 37).
2. region 1 is below 500 m, 2 is 500 to 1000 m, 3 is 1000 to 1500 m, and 4 is over 1500 m.

4.3.2 Economic activity of Tiznit province

The poorness of the Tiznit plain in water and soil and the meagre resources of the mountains have led to a large-scale emigration which for many years, according to the Battelle report²⁶, has provided "one of the principal means of existence of the province". That report, of 1975, estimates 20,000 emigrants from Tiznit province in Europe alone, which (adjusting the overall population of the then province to its larger boundaries, and taking a figure in that year of 385,000 inhabitants), represents over 5% of the total population (and probably well over 10% of the population of working age) (see also sections 1.5.1, 1.5.4, 2.2.2 and figure 22). Officials at the province headquarters²⁷ have estimated the return from emigrant workers at around 60 million dh per year, a figure which is compatible with the estimated number of emigrants given above (that is, a return of the order of 3,000 dh per worker). Nearly all the return is spent on construction, or on opening a shop; very little is invested in agriculture or industry (the latter of which is virtually negligible in any case). On the question of commerce, the Battelle report stresses something which has been suggested earlier, namely that the importance of long-standing migratory patterns (in this case within Morocco, and especially, though the report does not state this, from specific valleys within the Anti-Atlas) has given certain families and tribal groups within the province "a near monopoly of small commerce in western Morocco". In fact, it is not so much families exclusively from Tiznit province that are

26. Royaume du Maroc, Premier Ministre, Secrétariat d'Etat au Plan et au Développement régional Etude d'Identification de Projets. phase I: potentialités et diagnostic, province de: Tiznit Rabat 1975. (this reference from the résumé, p.2)

This study was carried out by Battelle, a consultancy based in Geneva, and Maghreb Consult, and contained a volume on each of eleven outlying provinces of Morocco. The volumes mentioned in this thesis are those on Tiznit province (within its 1975 borders) and Ouarzazate province, and the report is hereafter referred to as the Battelle report.

27. interviews with Hassan ben Aoumar, province headquarters of Tiznit, early September 1980

concerned as those from parts of the Anti-Atlas, whether situated in Tiznit or Agadir provinces. Apart from published (or unpublished) statistics on emigration, two other things strike one in the region as testifying to the scale of emigration. One is the rather oversize and ostentatious buildings that suddenly rise up in the middle of the bled; the other is the large number of foreign cars that are seen in the region, often with a French number plate emanating from Paris or its western suburbs (with a 75 or 92 code), or else with a Belgian, German or Dutch one, and giving the appearance of being rather battered, having probably already made several round trips to and from Europe (the distance from Tiznit to Paris being around 3,000 km). A nice sketch of a Tizniti Renault worker in Paris making his annual visit home, of the non-stop 60 hour drive in a shaky car full of passengers and presents and luggage, and of the town of Tiznit and its surrounding villages, their people and their atmosphere, is presented in a recent article in a French newspaper²⁸.

Not all the emigration from the region is of people who work as industrial or service sector workers in Europe or in small retail businesses in Morocco or outside. One particular area has long practised a specialized emigration of the non-commercial and non-industrial type (similar to the traditional, archaic mode of emigration, noted by Montagne over 30 years ago and mentioned in section 2.2.2); this is the village and neighbourhood of Zawiya Sidi Ahmed ou Moussa, mentioned above for being a pocket of low relief, low rainfall and low population density, which traditionally has sent acrobats to travel and perform both within Morocco and in Europe.

Agricultural activity occupies the majority of the population of the province, some 80% of its inhabitants approximately²⁹. The main activity is dry cultivation of cereals, 80% of which are

28. Audibert, Pierre, 'Maroc: l'éternel retour de l'émigré' in *Le Monde Dimanche* 29.3.81 p.VIII

29. figures from interview with ben Aoumar, Hassan 3.9.80

barley, 15% hard wheat and 5% soft wheat, with yields generally low. The practices followed are traditional, and officials at the province headquarters bemoan the reluctance of the fellahin to switch from barley to wheat (whose yields are higher) and to adopt more modern methods. Though selected seeds and fertilizers are subsidized (up to 40%) by the state, there is a tendency not to use them. A campaign is being waged locally to improve efficiency and farming methods. Apart from cultural habits, water is stated as being a major problem; it is felt that some water could be channelled south from the Massa scheme to irrigate parts of the Tiznit plain, though clearly this would be expensive to carry out. The degradation of soils poses another problem. The areas, by cercle, of potentially arable land (as provided at the province headquarters) are given below in table 35; it is stated that only 35% of this surface is currently exploited (which would amount to some 47,000 hectares).

Table 35: Estimated arable area (in ha) of Tiznit province (1980)

cercle	arable area	total area (approx)	% of surface that is arable
Tiznit	69,535	177,000	39.3%
Anezi	16,750	119,000	14.1%
Tafraout	9,915	180,000	5.5%
Ifni	25,500	228,000	11.2%
Akhssass	12,300	148,000	8.3%
province	134,000	852,000	15.7%

Agricultural credit also poses a problem for Tiznit. Although the main institution for this purpose, the bank 'Crédit Agricole', has a branch in Tiznit, the regional headquarters are in Agadir, and it is they who decide on the regional distribution of funds. Clearly Tiznit gets very little in the process, or so it is felt in Tiznit.

Arboriculture tends to be practised in the mountainous eastern parts of the province - of argan trees and olives, and also of almonds. Tafraout, in particular, is known for its almonds and has an annual almond festival in the village. Honey is also produced in that region. The province is renowned for its local mint, a commodity which, together with sugar, mainly, and some tea leaves, goes into Moroccan tea.

The infrastructure of the province is considered to be lacking (in roads, schools, electricity, water), though it is clearly better than in the really peripheral areas - the periphery of the periphery - such as Tata. Souks are well frequented and play an important role in local exchange and also in raising local taxes; they are often distant and difficult to reach, though, and their facilities are considered to be insufficient.

Industry is hardly present in the province; the Battelle report cites only 3 firms in 1975 with 10 or more employees, totalling 35 jobs in all, all of them small construction firms. The major non-agricultural and non-commercial activity is by consequence artisanry, mainly of the service type. The 1971 census revealed that of some 7,200 artisans (in the boundaries that constituted the original 1975 province), almost a half were employed in construction or public works, 17% in metal or mechanical work, and 12% in textiles. In artistic artisanry, the town of Tiznit is known for its jewelry work and in particular for its silver objects. There is a jewelry cooperative in Tiznit and one producing carpets in Sidi Ifni³⁰. Mining, which, the Battelle

30. Province de Tiznit, Secrétariat général, Bulletin économique et social 2nd semestre 1979

report could state in 1975, provided 300 jobs within the then province, does so no longer. The enterprise in question, the largest copper mine in the south producing 6,200 tonnes of concentrates in 1978³¹, is at Ouansimi; with the creation of Guelmim province in 1979 Ouansimi (in the commune of Ifrane Atlas es-seghir, in the cercle of Bouizakarne) fell a few kilometers across the border within the new province. The only mineral concern said to be operating in 1980 (other small ones, such as the copper and lead mines at Jebel Jouad near Sidi Ifni, seem to open and close regularly) is a small privately-owned marble quarry in the Akhssass area.

Tourism in the province has remained very limited, despite often stated intentions to construct a number of small 3-star hotels or motels to provide accommodation for a few nights for tourists on a 'circuit' of the area. The spacious, old-style Grand Hôtel du Sud of Tafraout (now called 'les Amandiers') has 157 beds, and with the Hotel Tiznit in Tiznit of 78 beds (opened in 1979), these constitute the only 3-star hotels in the province. A couple of small 1-star hotels in Sidi Ifni together with a 1-star and a 2-star establishment in Tiznit, in all totalling around 100 beds, make up the rest of classified hotels in the province. The total direct employment through hotels in the province can not be much over 100.

4.3.3 Budget of the province

Much of the finance towards local development projects comes from the provincial budget allocated by the state, according to each 3 or 5 year plan. In the 1978-80 period Tiznit province received an allocation of 73.2 million dh; for the 1981-85 quinquennial plan the province requested 700 million dh but was allocated 110.6 million dh for the five years (something like one third of the national budget going towards the Sahara war). The rural projects

31. Annuaire Statistique (Région économique du Sud) 1978 p.65

proposed concern mainly the provision of drinking water, water tanks, electricity, roads or new souk or abattoir facilities³². Table 36 shows the breakdown of proposed state investments for the provinces of the south for the 1981-1985 period, compared with table 37, which shows investments for the three years 1978-1980.

National budget figures are awkward things to analyze; there are all sorts of particular circumstances, special funds and hidden factors. However, the two tables bring out a few salient features. The first is that Agadir province receives the largest share of budget investment, though one roughly commensurate with its share of population. By population standards, both Ouarzazate and Tiznit have been underrepresented, Tiznit particularly so in 1978-80, and Ouarzazate in 1981-85, whereas the three extreme peripheral provinces are overrepresented, particularly in the urban sector. One wonders, in particular, how 228 million dirhams can be spent on the urban sectors of Tan-Tan, Guelmim and Tata, where there is an urban population, properly reckoned, of only around 38,000 altogether (equivalent to 1,200 dirhams per urban inhabitant per year), though possibly some military factors may have something to do with this. Table 38 shows the particular breakdown of Tiznit province's budgetary allocations from the state. The table illustrates the three types of budget - that of state grants under the Fonds de développement des collectivités locales (FDCL) which comes to 100.6 million dh, that of state loans under the Fonds des équipements des collectivités (FEC) amounting to 46.5 million dh, and local self-financing which is supposed to raise around 6.5 million dh for projects (a total of some 164 million dh over five years). Restricting observations to the state grants, some 37% of these are for urban areas (whose population, at 34,000, is around 10% of that of the province); of the 40.5 million dh for urban areas almost 54% is for the town of Tiznit, whose population is 43% of all urban areas. The major projects in the urban sector concern sewage works (a total of 27.2

32. Province de Tiznit, Secrétariat général, Préparation du plan quinquennal 1981-1985 (mimeo.)

million dh in the general budget comprising grants, loans and autofinance) and in the rural sector, roads (33.7 million dh) and the 'opération chef-lieux' (41.9 million dh). A final comment on the budgetary provisions is that, despite the appearance of large figures in the millions of dirhams, the sums involved are not large. The total general budget of 164 million dirhams only represents some 480 dirhams per head of the population of the province, and that is over five years; at 96 dirhams per inhabitant per year the sum, even for a poor country, is a modest one. The stated figure of returns to the province from emigrant workers, that of 60 million dirhams per year, is of the order of twice the amount of the proposed overall state investment.

Table 36: Provincial budget allocations for the region of the south in 1981-85 plan (for 5 years)

province	% share of: pop. / budget	indivisible operations	public estab.	urban sector	drinking water	rural sector elec.	other	rural total	overall total
Agadir	44.7	36.8	135,550	138,680	17,700	17,700	94,150	129,550	403,780
Quarzazate	28.1	10.3		30,760	8,850	8,850	64,750	82,450	113,210
Tiznit	16.4	10.1		40,450	11,750	5,350	53,000	70,100	110,550
Tan-Tan	1.3	11.5		61,350	11,750	8,850	44,250	64,850	126,200
Tata	5.1	12.4		50,480	17,700	23,650	44,200	85,550	136,030
Guelmim	4.5	18.9		116,430	23,650	14,850	53,000	91,500	207,930
Regional total			135,550	438,150	91,400	78,750	353,350	524,000	1,097,700
National total		352,650	852,190	3,564,680	643,340	651,090	1,980,580	3,275,010	8,044,530

Source: Royaume du Maroc, Ministère de l'Intérieur, Direction des collectivités locales
Plan Quinquennal 1981-1985 Commission nationale des équipements des collectivités locales (March 1980)

(above figures all in '000 dirhams)

Table 37: State investment in region of south in the 1978-1980 period
figures in '000 dirhams

province	% regional share of: population / budget	productive sector	infrastructure sector	social sector	total
Agadir	44.7	230,617	357,830	150,692	739,139
Ouarzazate	28.1	104,947	20,554	48,977	210,478
Tiznit	16.4	9,868	28,750	34,535	73,153
Tan-Tan	1.3	4,844	190,143	40,726	253,713
Tata	5.1	2,912	19,738	8,042	30,692
Guelmim ¹	4.5	1,700	10,049	9,703	21,452
Regional total		354,888	627,064	328,675	1,310,627

Note: (1) province created in March 1979

Source: Province d'Agadir Projets prévus dans le cadre du plan triennal 78/80
Région économique du sud Etude analytique (prepared by the regional
delegation in Agadir of regional planning)

Table 38: Budgetary allocations for Tiznit province in 1981-1985 plan
all figures in '000 dirhams

	URBAN ¹					RURAL	TOTAL				
	Tiznit town S	Sidi Ifni %	Tafraout S	indiv. between three centres S	urban total						
a. State Grants											
1. drinking water	2,050	44	1,400	30	1,250	27	-	4,700	11,750	16,450	
2. sewage	6,740	38	6,800	38	2,200	12	1,960	11	17,700	-	17,700
3. roads	5,000	69	2,200	31	-	-	-	-	7,200	23,650	30,850
4. electrif.	-	-	-	-	-	-	-	-	-	5,350	5,350
5. other	7,850	72	3,000	28	-	-	-	-	10,850	29,350	40,200
Total	21,640	54	13,400	33	3,340	9	1,960	5	40,450	70,100	110,550

Note: (1) S denotes the sum allocated (in '000 dh) and % the percentage share of that urban centre among the three urban centres concerned. 'urban' refers to the town of Tiznit (which is a centre autonome, though effectively a municipality), the municipality of Sidi Ifni (which has that status by virtue of the fact that it had it under Spanish rule, up to 1969, and could not, for political reasons, be allowed to accept less under Moroccan administration), and Tafraout; their respective populations are around 14,500, 18,000 and 1,500.

Table 38 (continued)

	URBAN			RURAL	TOTAL
	Tiznit	Sidi Ifni	Taфраout all centres		
<u>B. Investment under state loans</u>					
1. drinking water	-	-	-	10,000	10,000
2. sewage	9,500	-	-	-	9,500
3. roads	-	-	-	10,000	10,000
4. electr.	-	-	-	5,000	5,000
5. other	2,000	-	-	10,000	12,000
Total	11,500	-	-	35,000	46,500
<u>c. From self-financing</u>					
1. drinking water	-	-	-	500	500
2. other projects	2,700	800	-	2,500	6,000
Total	2,700	800	-	3,000	6,500

Table 38: (continued)

Note (2): 'other projects' above refers to the following:

in Section a:

1. for Tiznit town: a wholesale market, bus station, abattoir, social centre, mobile educational unit, swimming pool and sports ground
2. for Sidi Ifni: a socio-educational complex
3. for rural areas: the so-called 'opération chef-lieux' in which each headquarters of a commune will receive an allocation for some local project. The idea is to by-pass to some extent provincial headquarters. The projects are mainly concerned with new souks, abattoirs, small social centres, sports grounds, shops, pavements, bridges and afforestation. Each rural commune in Tiznit is thus allocated on average some 1.13 million dh over the five year period under a grant, some 385,000 dh under state loans, and is expected to raise a further 96,000 dh by self-financing.

in Section b: for rural areas, as described above

in Section c:

1. for Tiznit town, a provincial assembly building and a town hall
2. for Sidi Ifni: a new town hall
3. for rural areas, as described above

Sources: a. Province de Tiznit Préparation du plan quinquennal 1981-1985

b. Ministère de l'intérieur, Direction des collectivités locales, Plan Quinquennal 1981-1985 Commission nationale des équipements des collectivités locales (March 1980)

4.4 The town of Tiznit

4.4.1 Description

Tiznit was founded as a town only in 1882, by Hassan I while on a *harka* (a military expedition to quell dissidence and raise taxes) in the south. It continued to be the centre of a region of dissidence in the 1890s, and in 1912 was the base for a major social revolt in the south of Morocco, led by El Hiba who proclaimed himself imam in the town on May 3, 1912. "A warrior saint in the style of the heroes of the Islamic past of the Maghreb, Shaykh Ma al-Aynayn was already a legend in Morocco and the Western Sahara at the time of his death [in Tiznit] in October 1912. ... It was El Hiba who succeeded to the leadership on the death of the old shaykh. The year which followed the death of his father El Hiba devoted to reestablishing the family influence around Tiznit. The severely depressed economy of the Souss had served to aggravate an already volatile political situation".³³ (See also section 2.2.1).

El Hiba moved north and captured Marrakesh for a few weeks in August 1912, before being driven out by the French, but he continued to wage his *jihād* against both the French and the *grands qaids* (the warlords of the south such as the Glawi mentioned in chapter 2.2.1) and was secure in his capital of Tiznit until 1917. After that Tiznit became a regional military centre under the French.

There is an alternative, legendary account of the origins of the town. It concerns Lalla Fatma Tiznit, a former prostitute who, repenting of her old ways, found the famous 'blue spring' in the centre of what is now the walled medina, a source of life for the people of the town she thus founded. The significance of this account, no doubt, is that the provision of drinking water is a

33. Burke, Edmund III, *op.cit.* p. 199

more fundamental service than others that may be required. In any event, the legend of the founding is an agreeably modest one, befitting the town; no epic tales of valiant heroism here, or fables involving wolves.

Figure 56 shows the medina of Tiznit (see also images 34 to 37), encircled by 6 km of ramparts, with 8 gates and 56 bordj (towers). Two of these gates are recent and have no official names as yet, both being known as Bab Jedid. That in the east of the town (between Bab Maader and Bab Oulad Jerrar) is the newer and was opened to allow flocks of sheep to come and go from the town without clashing with the traffic. Apart from the common possession of walls around the town, a more fundamental similarity with Taroudant is the importance of gardens within the medina and in an area to the north of the walls. A stream flows through the town, the Oued Sidi Abderrahman, and provides local fertility for some 5,000 olive trees and around 500 almond trees and 400 date palms to grow³⁴. The source of this oued is a catchment basin in the south east limit of the Tiznit plain whose waters are retained by a small dam some 3 km from Tiznit; part of these waters are fed by canal into the oued. It traverses the town of Tiznit where it is covered by a wide street of the same name as the stream before leaving the town in the north near the Bab Khemis to spread out and be lost in the sands³⁵. A well-researched report on the state of the medina of Tiznit (conducted by Maroc Développement and published in 1980) which will be referred to at various points in this section³⁶ describes the system of culture in the town as resembling "that which one meets in the pre-Saharan oases: an irrigated polyculture for subsistence within which trees and the

34. Ministère de l'Intérieur, Province de Tiznit, Centre autonome de Tiznit, Monographie (typewritten draft, no date, probably 1979 or 1980)

35. communication from Habib Harrar, in Tiznit, dated 24.4.81

36. Royaume du Maroc, Ministère de l'habitat et de l'aménagement du territoire, Etude de l'état de l'environnement au sein de la médina ancienne de Tiznit April 1980

This study was carried out by Maroc Développement, Rabat.

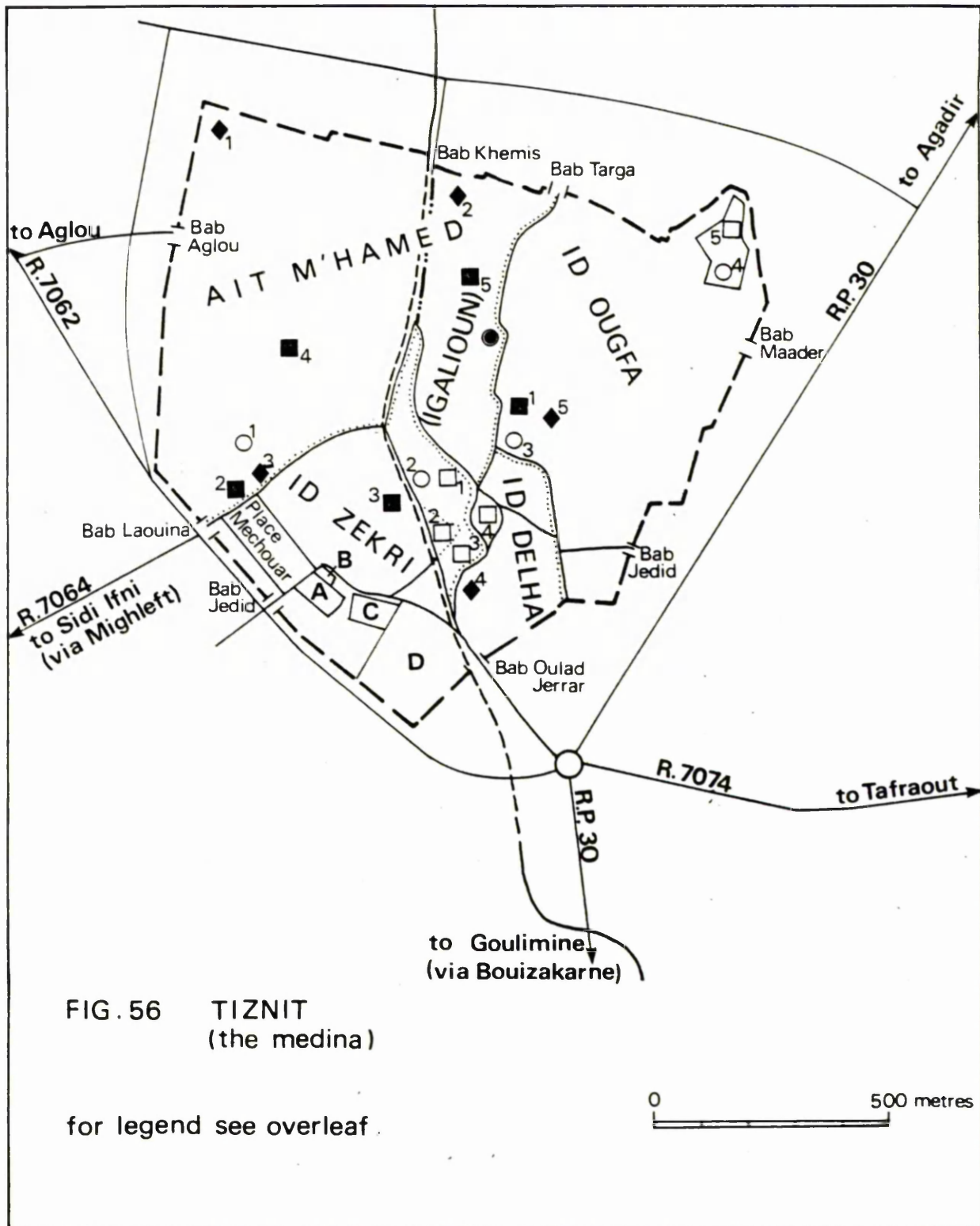


FIG. 56 TIZNIT
(the medina)

for legend see overleaf.

sources: a. as base map, plan of Tiznit by provincial architect of Tiznit (1980), at a scale of 1:5,000

b. dividing boundaries of quarters from a map in the Maroc Développement report on the old medina of Tiznit (1980)

c. location of most mosques, mausoleums and schools, and of the oued, provided by Habib Harrar (at province headquarters in Tiznit) in communications of 24.4.81 and 6.5.81

legend for figure 56

■ mosques:

- 1 Jemma el Kebir (Great Mosque)
- 2 Zawiya Tijani
- 3 Id Zekri
- 4 Ouamou
- 5 Ait M'hamed

◆ schools/colleges:

- 1 Moulay Rachid college
- 2 primary school (being constructed)
- 3 'Lalla Meriam' girls' primary school
- 4 primary school
- 5 'Ain Zerqa' institute (Islamic studies)

A province headquarters

B province library 'Mohamed Mokhtar es-Soussi'
(opened in July 1980)

C hospital

D military barracks

● blue spring

—— Oued Sidi Abderrahman

----- portion of **oued** which is covered

- - - - ramparts

⊥ gate (**bab**)

..... division of quarters of medina

- . . . - division line of former Igalioun quarter
(now part of Ait M'hamed)

○ mausoleums:

- 1 mausoleum of Ma El Ainin
- 2 mausoleum of Sidi Abderrahman
- 3 mausoleum of Sidi Yacoub
- 4 mausoleum of Sidi Boujbara

□ cemeteries:

- 1 of Id Zekri quarter
- 2 of Ait M'hamed quarter
- 3 military cemetery
- 4 of Id Delha quarter
- 5 of Ida Ougfa quarter

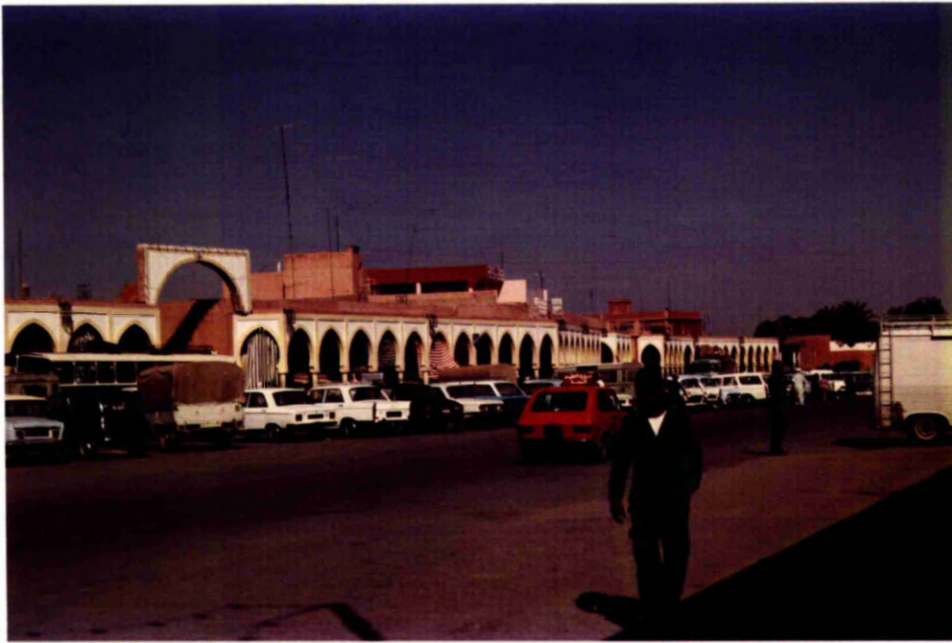


Image 34 The central square of Tiznit, the Place Mechouar
(Sept. 1980)

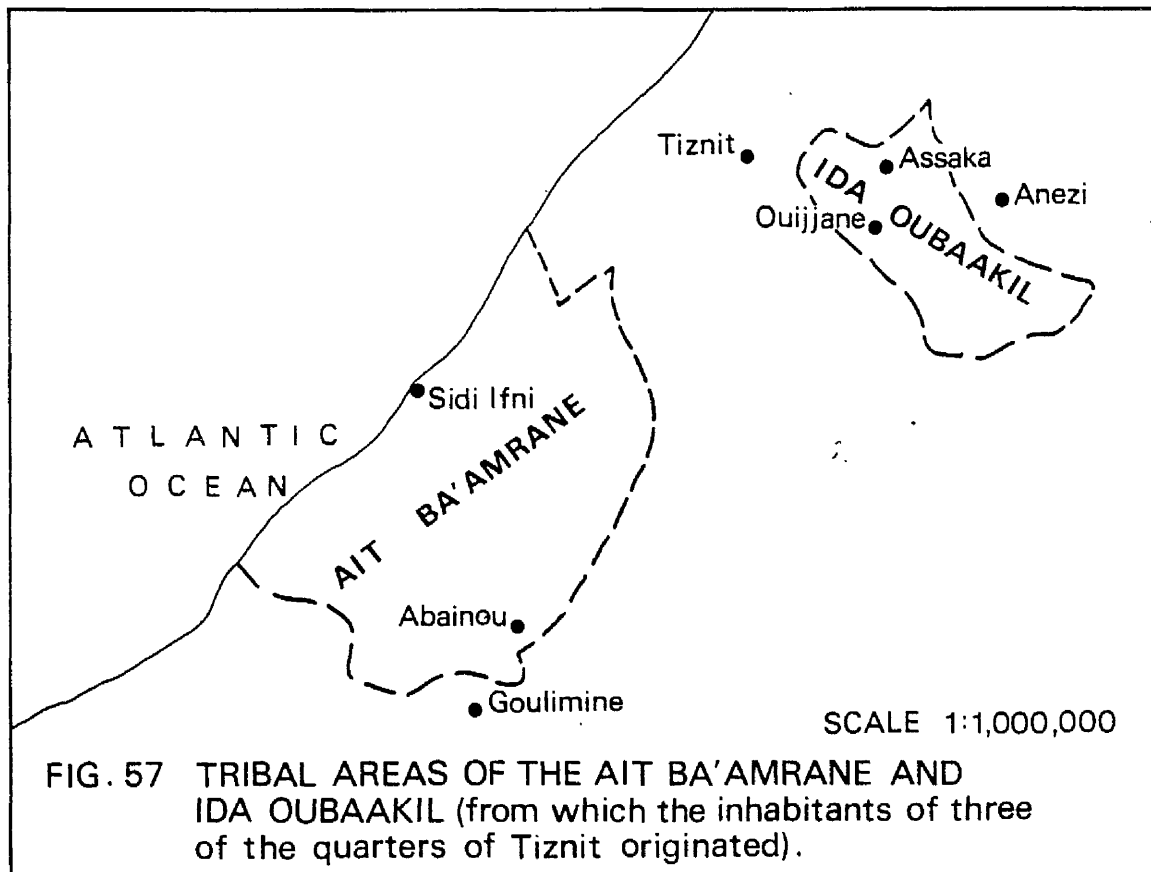


Image 35 A scene in Sidi Abderrahman street in Tiznit
(Sept. 1980)

raising of animals play a large part". As with Taroudant, an encroaching urbanization and destruction of the gardens has been a phenomenon of the period since (in the case of Tiznit) at least the early 1970s, with the accompanying problems of increasing shortage and pollution of water sources, and with new quarters being developed outside the walls, threatening the old medina with a further decline and oblivion (a reason for the commissioning of the above-mentioned report).

There are considerable differences as well with Taroudant, the principal one being the idiosyncratic social structure of the town. The Maroc Développement report speaks of a 'rural agglomeration' within the medina. Tiznit possesses in the present day four distinct quarters (see figure 56) representing originally separate Chleuh Berber tribes from the mountains or edge of the plain - the Ait M'hamed, Ida Ougfa, Id Delha and Id Zekri - who maintain a separate identity within their own walled quarters with gates that used to be closed at night. Each quarter as well has its own cemetery and mosques. At one time there was a fifth quarter, that of the Igalioun, which has since become absorbed into Ait M'hamed. What can be established about their origins is that the oldest quarter is that of Id Zekri, named after a founding ancestor called Zakaria (or, to give him his full name, Zakaria ben Ali b. Abou Bakr b. Ouliyou Allah Sidi Souleimane b. Lahoucine) whose tomb is at Abainou, near Goulimine (see figure 57). The first inhabitants of the Ait M'hamed quarters came from the region of the Ait Ba'amrane confederation of tribes in the mountains around Sidi Ifni. As for the quarters of Ida Ougfa and Id Delha their inhabitants originated from the tribe of the Ida Oubaakil in the plain and foothill region around Quijjane and Assaka (cf. fig. 57)³⁷. The maintaining of distinct cultural identities of each quarter, and in particular of possible present-day links with their respective original tribes, would provide an interesting topic for further research.

37. information in communication from Habib Harrar, in Tiznit, 24.4.81



sources: a) **Maroc Carte des Tribus** 1:1,500,000, Rabat 1977

b) Michelin, **Maroc** 1:1,000,000, 1971 (for base map)

The general consequent appearance of the town is one of a much more spread out and heterogeneous area than Taroudant, with wide open spaces between areas of habitation; Taroudant, by comparison, is more compact and coherent, more of a single unit despite having different quarters dating from different periods. Though the effect exists to some extent in Taroudant as well, there is a far greater feeling in Tiznit of a spontaneous randomness, an arbitrary patchwork of housing, fields, walls, gardens, roads, lanes, small canals and cemeteries, which is heightened by the recent rapid growth of housing on plots corresponding to former gardens and with tortuously winding lanes between plots corresponding to former paths around the gardens. The housing in Tiznit is poorer and simpler than in Taroudant and far from what the Maroc Développement report describes as the "classical medinas of the north" and even Marrakesh.

The destruction of the gardens clearly results in a sharp diminution of local resources to support a growing population. Water, too, is a problem, perhaps the major one. The 'blue spring' (fitted up by the French in 1927) has long since been unable to supply the drinking water needs of the town apart from having become extremely polluted. Most of the town's drinking water now comes from a source some 10 km south of the town, near the R.P. 30 road, though there is a need for more³⁸. A recent memorandum from the leader of the town council³⁹ asks for the town to receive drinking water from the Youssef ben Tachfine dam on the Massa River (a reiteration of feelings already mentioned regarding the 'possession' by Agadir province of that river, dam and irrigation scheme), and a modernizing of the existing canalized network of drinking water.

38. much of the information here comes from visits to the town and discussions with officials in the local administrative offices in September 1980 and January 1981, particularly Habib Harrar and Hassan ben Aoumar, as well as from the Maroc Développement report already mentioned.

39. memorandum entitled 'Organisation administrative' on the centre autonome of Tiznit by the chairman of its elected council, Brahim Lehiany, 1980. p.5

Image 36 Unloading meat
at a shop
outside the
Bab Jedid
(to the south
west of
the medina)
(Sept. 1980)



Image 37 Houses in a narrow
lane in Tiznit
(Sept. 1980)



4.4.2 Economic activities of Tiznit

The agricultural activity within and outside the walls has already been noted; some 1,280 people within the 7 km² of the centre autonome are involved in agriculture, and there are estimated to be some 1,460 sheep, 560 goats and 540 head of cattle⁴⁰.

Other than the construction firms already mentioned there is no industry proper in the town. A privately owned flour mill employing around 100 people was expected to commence production in 1981⁴¹. The relative importance, as a consequence, of artisanry has already been noted in section 4.3, and in particular of the reputation of Tiznit for its silver and other ornamental objects. Otherwise, Tiznit lives off small commerce and its emigration, both already discussed. In a survey on emigration from the town, the Maroc Développement report estimated that 32.5% of men of working age were temporarily working away from Tiznit, and of these 38.7% were working in Europe (the rest mainly in the north of Morocco).

Construction work received a boost in the late 1970s, particularly with developments in the new sectors of the town outside the walls, with accompanying rises in land prices and speculation, as was seen to have been the case in Taroudant. The director of a large construction company in Agadir⁴² singled out Tiznit as the most active area for construction in the region, outside Greater Agadir, in recent years, to a greater extent than Taroudant, and attributed this activity mainly to large sums of repatriated money from emigrants.

40. Monographie on the centre autonome of Tiznit op.cit.

41. interviews with Hassan ben Aoumar, 2.9 and 3.9.80

42. interview with M. Brelet, directeur général of MACOBA, 9.9.80

4.4.3 Administration

One sector which has been expanding since the mid 1970s is that of the administration; the growing number of functionaries has also boosted the construction of houses in the new quarters such as 'les Amicales des fonctionnaires', outside the walls to the west south west.

Tiznit has been a *centre autonome* - a sort of half-way station between an urban centre within a rural commune (such as the small town of Tafraout is at present) and a municipality - since 1958⁴³, and its overdue promotion to municipality is foreshadowed by the intention in the plan to construct a town hall (at a cost of 1.2 million dh) during the 1981-85 period. The boundaries of the *centre autonome*, the 'urban commune' of Tiznit, include a couple of douar (hamlets): Igourar n'Ait M'hamed, 4.5 km to the west, and Tamdghoust 2.5 km to the south west. There is a suggestion to transfer the former of these to the commune of Aglou, and in return to transfer the douar of Dou Targa 1.5 km to the north from that commune to Tiznit, as its inhabitants apparently wish.

As a headquarters of a province since 1975 Tiznit has attracted a number of provincial 'délégations' of national ministries, not all of these local offices being especially successful. The administration locally, at all levels, remains very weak and it is difficult to find suitable cadres to fill positions in new government departments in places such as Tiznit (and even more so in remoter areas such as Tata). Often young university graduates are drafted in to spend two years working in a local administration to fulfil their (civil) national service (instead of serving it in the military), though the problem there is persuading them to stay on when their obligatory period of service is ended. Of the various *délégations* in Tiznit, those concerned with youth and sports, with education, with artisanry and with

43. memorandum 'Organisation administrative', *op.cit.* p.1

social facilities are considered to work reasonably well; that concerned with agriculture is said to be achieving rather little, while the single-man office of tourism is considered no less than a waste of time. The story of the provincial office of urban planning in Tiznit is a revealing one. A young Moroccan architect, freshly graduated from a Belgian university and eager to apply his ideas in Morocco, was transferred, against his own wishes, from his office at the *délégation* in Agadir where he had been only a few months, and appointed as the *délégué*, the head of a new urban planning office of the ministry in Tiznit. His lack of experience with the blunter aspects of Moroccan bureaucracy coupled with his zeal to apply radical ideas in his field led to clashes with the governor of the province and, through several other conflicts, to his eventual resignation from his post, already disillusioned with the system. The office in Tiznit closed, and the province reverted to its former position of coming under the urban planning office in Agadir. In practice, provincial autonomy, even where local departments do exist, is limited and control, to a large extent, lies in Agadir, certainly in matters of regional planning as well as, as has been seen, in urban planning.

4.4.4 Growth of the town

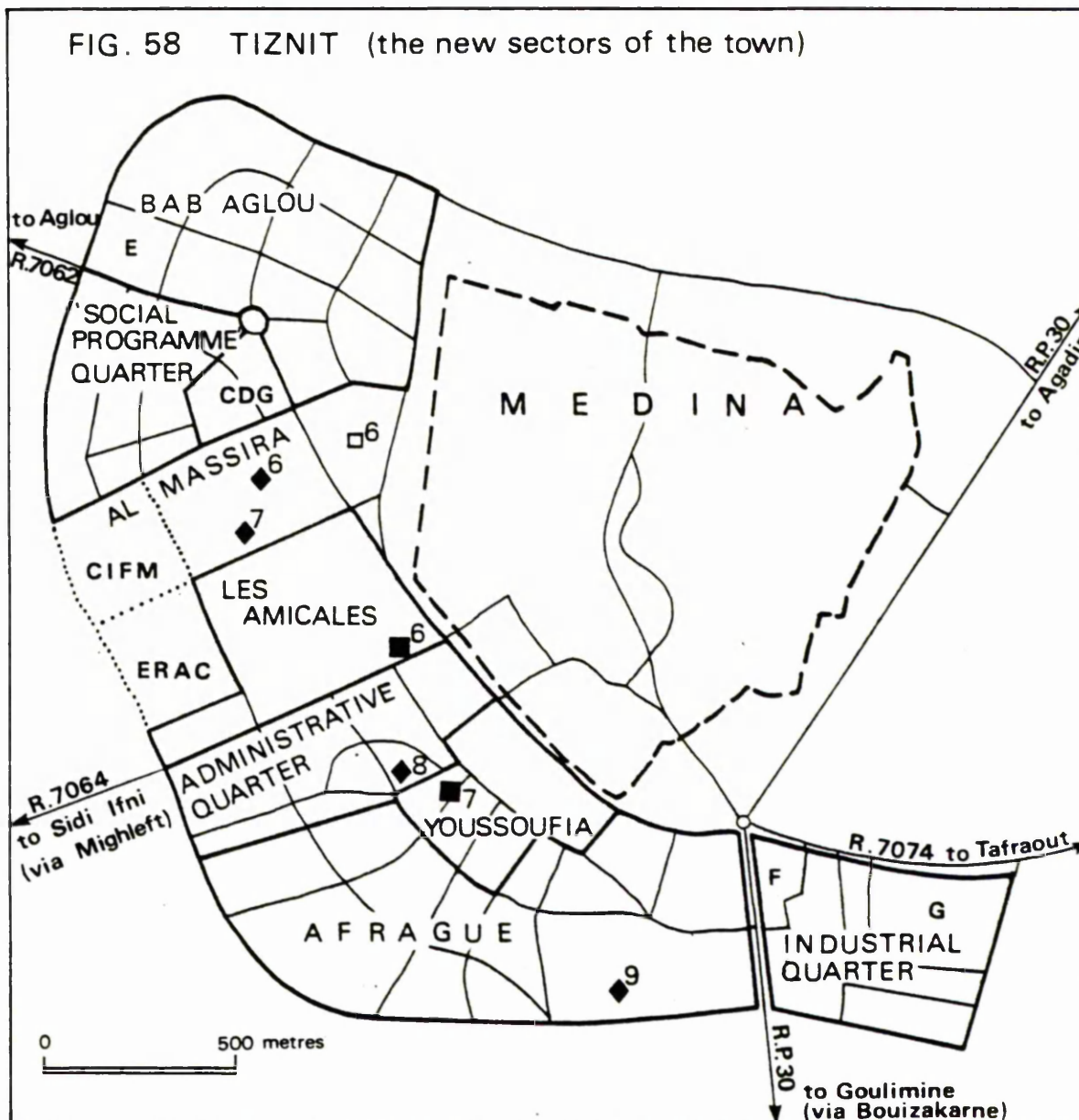
The demographic trend of the town is illustrated in figure 51, and it can be seen that the town has followed an approximately similar pattern of low to moderate growth as that of Taroudant, with perhaps a lower growth rate in the 1950s, a similar rate in the 1960s and a possibly somewhat higher rate towards the end of the 1970s. Up to 1968, the whole population lived within the walls⁴⁴; after that date constructions in the new quarters began and in the 1971 census 1,570 of the 11,391 inhabitants of Tiznit lived outside the walls (some 14%). The new quarters concerned, which grew up during the 1970s but in which construction was

44. *ibid.*

temporarily suspended in 1980 awaiting a decision on the construction of the railway (which was scheduled to pass by the west of the town) were scattered in an arc of about 135°, from west north west to almost due south, covering the sectors of Bab Aglou, Al Massira, Les Amicales, Youssoufia and Afrague (see figure 58). These new quarters of the town contrast sharply with the medina not only in their lower density of population, but in the regular, repeated pattern of their streets and blocks and houses which are, for a particular quarter such as the Amicales, all from an identical mould, precisely as with Les Amicales or new Yachech in Agadir; the houses of the medina, by contrast, are haphazard in location and individual in design. That is not to say that housing in new sectors such as Les Amicales is not 'traditional'; it is a standardized traditionality maintaining features such as the inner courtyard.

The report on the condition of the old medina went to some lengths to investigate conditions in the separate quarters. In this respect they found a reasonable homogeneity between quarters (in contrast, as they point out, with a medina such as that of Essaouira where there are much stronger disparities), though the sector of Ida Ougfa, on the right bank of the Oued Sidi Abderrahman, has tended to be less well-endowed than the quarters on the left bank. A brief summary of their findings (based on their 1980 survey of 10% of households) would include the following observations. Some 71% of dwellings were owned or jointly owned in Tiznit, and 29% rented (compared with the national urban figures of 38% and 53% respectively); there was a reasonable homogeneity between quarters in this respect, except for Id Delha where the figures were 48% and 52%. The average levels of rent were 122 dh/month for a dwelling and 51 dh/month for a room, with Ait M'hamed considerably higher than the average, with figures of 173 and 69 dirhams per month and the other quarters being around or below average. In amenities, the overall percentage of dwellings with running water rose from the level of 34.3% in the 1971 census to the 1980 survey figure of 45.3%; Ida

FIG. 58 TIZNIT (the new sectors of the town)



sources: a. plan of Tiznit (1980) designed by provincial architect, scale 1:5,000 (this map has no specific locations named on it)

b. location of some of the individual features (as in fig. 56) by Habib Harar

The three large housing estates in Al Massira quarter are being constructed by:

1. CDG - Caisse de Dépôt et de Gestion
2. CIFM - Compagnie immobilière foncière marocaine

and 3. ERAC - Etablissement régional d'aménagement et de construction

for legend see overleaf

legend for figure 58

■ mosques:

- 6 Sounna
- 7 Amir el Mourinin
(the largest and most recent in Tiznit)

□ cemeteries

- 6 new cemetery

◆ schools/colleges

- 6 primary school
- 7 Lycee 'Al Massira'
- 8 primary school 'Hassan I'
- 9 college (being constructed)

E new hospital (being constructed)

F Hotel Tiznit (opened in February 1979)

G souk on Wednesdays (sale of livestock)
and on Thursdays (mainly fruit and vegetables)

Ougfa stood out here as being markedly lower than average with figures of 28.1% in 1971 and 34.7% in 1980. As regards electricity, the figure for the town rose from 58.6% to 72.6% in nine years, and again Ida Ougfa was below average with figures of 47.2% and 53.0%, the other quarters being above average and at an approximately similar level. Finally, Ida Ougfa had the lowest population density in 1971 (the 1980 survey did not attempt to measure populations) at around 73 inhabitants per hectare, compared with an overall average figure of 95 inhabitants/ha. The report concluded (p. 37) that Ida Ougfa gave the appearance of a rural quarter, less dense and less well provided for than the other quarters. It backed this conclusion up with an interesting measure, the distribution by quarter of traditional Moroccan collective amenities, namely the hammam (Turkish baths) and the communal bread ovens, which it described as an 'index of a certain urbanization'; the finding here again was that the right bank of the oued (the eastern portion of the town, roughly speaking) had only two hammams and two ovens (for about 40% of the population of the town), against the left bank where there were seven hammams and five ovens (three of each being in Id Zekri, the densest quarter at 163 inhabitants/ha in 1971, the density measured over constructed and agricultural and other open land, but excluding the cemeteries and the military barracks).

There are no maps at hand, as there were for Taroudant, to chart the evolution of the filling up of constructed space within the walls of the medina, but it would seem that an approximately comparable process has taken place over the past half century. The similar evolution of population has already been noted; in fact, the ratio of populations of Taroudant to Tiznit, which was around 1.8 in 1930 (9,000 to 5,000), was almost exactly maintained in 1980 (around 27,000 to 15,000 approximately, including those outside the walls of each place). It is interesting to note that the ratio of overall surfaces contained within the walls of each of them is also of the same order, in fact around 1.9, the area within the medina proper of Taroudant being estimated (cf. section

4.2) to be 218.7 ha and that of Tiznit (from figure 56) to be 114.9 ha. Although information on the past distribution of population in Tiznit and its density solely within constructed areas is lacking as already noted, it would seem that the density of population within constructed areas in 1980 was around 173 per hectare, a very similar figure to that of Taroudant, and that a proportion of a similar order of some 30% of the area of the town remained to be constructed on. These two figures should be explained or qualified as follows. The density of 173/ha for Tiznit is obtained by assuming that the population within the walls was 12,000 and the area of the town built on in 1980 was 69.2 ha⁴⁵. (With only approximate estimates of population, particularly, and area built on, the density figure should not be regarded as having accuracy better than within 10%.) The figure of 30% (in fact, 32.8%) of area remaining to be built on represents for Tiznit the proportion of available land in 1980 (that is, under agriculture or abandoned or waste land) out of all constructed or available land; land used for cemeteries or military barracks is excluded. In the case of Taroudant it was estimated in section 4.2 that around 151.8 ha out of the total area of the medina proper (excluding the kasbah) of 218.7 ha was constructed on in 1975, leaving 66.9 ha or 31% of the area. Adjusting this last figure to take into account land not available for construction and updating to 1980 the proportion of land left available would be considerably less, possibly only around 15%.

45. Maroc Développement report, *op.cit.* 1980 p.36

Table 39 shows the estimated areas and densities of the various quarters of Tiznit and the estimated spaces available for construction.

Table 39: Areas and densities of the quarters of Tiznit

(areas in hectares; densities in inhabitants/ha)

quarter	area built on	area built on plus avail. land	unbuilt on area avail. for constr.	est. density (1971) over built on and avail. land
Id Zekri	8.1	10.9	2.8	163
Id Delha	6.5	13.4	6.9	96
Ida Ougfa	18.6	30.6	12.0	73
Ait M'hamed	36.0	48.1	12.1	94
Town	69.2	103.0	33.8	95

Note: some 11.9 ha is land not available for construction, since the total area within the walls is 114.9 ha.

Source: Maroc Développement report on the medina of Tiznit *op.cit.* (1980), p.36

The urgent need to limit further development and to actively prevent a stagnation or decline of amenities within the walls, especially with attention being diverted to developments outside the walls, would appear to apply to the town of Tiznit as much as to Taroudant.

4.4.5 Conclusions to section 4.4 and to chapter 4

The province of Tiznit has been seen to be a rather dormant and traditional part of the region, peripheral as regards Agadir province, though because of its relatively accessible position vis-à-vis Agadir and established family and commercial links with that province, less so than the sparse pre-Saharan provinces beyond the Anti-Atlas. It has traditionally provided, and continues to do so, a strong emigration from the region, given its low average rainfall, particularly in the dry plain area. Tiznit as a town has a weak centrality; only through its position as a local centre for commerce and in recent years as the provincial headquarters does it have a central position. There is less evidence of a centre or periphery within the province itself than there is, for instance, in Agadir province; if there exists a centre in political or economic terms it tends to lie in Agadir rather than in Tiznit.

The town historically had an importance in the south after its founding towards the end of the last century, and acted as a link for organized opposition to the French protectorate in its early period and to the power of the grands quids in the south. After the opening up of Agadir in the 1930s it stagnated or, like Taroudant, showed only a low rate of growth. In the 1970s it revived somewhat in its position showing a greater growth and local activity, reflected mainly in a considerable amount of construction, both within its walls and in new sectors to the south and west outside them, while remaining, politically and economically, firmly subordinate to and within the orbit of Agadir. The local boost could be attributed to the influence of Agadir's own rapid development in part, to the large amount of money returned by emigrant workers outside the region, and to Tiznit finding itself again a strategic point on the 'supply line' to the Sahara.

The effect on the town that the creation of the province had is still open to question. Undoubtedly there was an initial financial boost in the first two years up to the end of 1977, and the fact that the first governor of the province in 1975 came from the royal family and could wield more influence nationally could also have played a part at the time. Certainly the town and the province would not seem to have been especially favoured vis-à-vis other parts of the region after 1977, though it is difficult to estimate what would have been the urban allocation to Tiznit town, for instance, had it remained part of Agadir province. As for the rural parts of the province, it is unlikely that their being part of Tiznit province, as opposed to Agadir province, has made much difference in financial terms.

The town of Tiznit, like that of Taroudant, can be said to have substantiated hypotheses 1 and 2, with the same proviso as in the case of Taroudant that it was the original growth of Agadir in the 1930s and 1940s, more than that of the 1960s, which made these centres into secondary ones within the region.

As a medina Tiznit, like Taroudant, has seen a progressive destruction of its gardens for the purpose of further construction. As available terrains have become scarcer land prices have risen and speculation has become rife. Tiznit, particularly, depended in earlier times on its own agricultural produce to help support its population, but with fast decreasing agricultural terrain and a growing population the equilibrium has been destroyed. Though the densities of both medinas, compared with some other ones in Morocco such as those of Essaouira and Fes, are not especially high, it would seem necessary to call a halt now to further construction within the walls of each, while at the same time improving their basic conditions and safeguarding them from neglect and rapid decline as attention is turned to the development of the new towns. Taroudant in particular (but also Tiznit, whose walls, though not old, are in many parts in an indifferent state of repair) should be considered for a special

protected status for its medina, beyond the existing laws, providing the necessary assistance in legal, financial and material terms to properly maintain it.

That point has been made before, both in the reports mentioned as well as in this chapter, but there is another danger in the creation of the new towns which is not mentioned, and that is the risk of splitting a single town, which may (in the case of Tiznit) has been divided tribally, but never economically, into two economic segments. It is already evident in the houses that are springing up in the arc of new development outside the medina of Tiznit that these are dwellings for functionaries, for officers in the army and for wealthy local families (whether that wealth was locally acquired or came from labour abroad). The danger is that the medina in Tiznit will be left with its domestic farmers, small artisans, café owners and shopkeepers, as well as the unemployed, and their families, while those that govern them, protect them, teach them and keep them in order live in more desirable surroundings in a separate and distinct town.

CHAPTER 5

AGADIR TOWN IN THE 1980s AND 1990s

5.1 Tourism in Agadir in the 1980s

5.1.1 General description of development and locational distribution

The development of the tourist industry in Agadir from 1960 to 1980 has already been partly described in chapter 3, though more details will be provided of that period here. The first hotel built after the earthquake was the small Miramar hotel, opened in 1965, on a location near the coast at the top of the bay, not far from the port, close to the sites of two of the four larger hotels which existed before the earthquake (on the boundary of the old Talbordjt). In the spate of hotel construction that followed, the Miramar was to become an isolated one on the north west fringe of the new town. The next five years saw an energetic development, led by the opening of the Club Méditerranée complex (600 beds) in 1966 and followed by nine small 1-star hotels (all but one of the existing hotels of that category, and most of those in the quarter of new Talbordjt), some 3-star and 4-star hotels, and one 5-star, so that by the end of 1970 there were some 2,750 hotel beds in the town. The next three years showed a slowing down of development, with 602 beds added (in the single Almohades hotel) in 1971, 526 beds in two hotels in 1972 and none at all in 1973. Although at first glance it might be tempting to link the zero hotel growth of 1973 with the economic crisis in the Western world of that year, it should be recalled that the construction of a large hotel takes some four years or more, so that at the most the global economic situation might have delayed by a year or two the opening of hotels already under construction. From 1974 to 1978 the rate of opening of new hotels rose sharply again, with the exception of the year 1977 (which in this case could have been the result of a reluctance four years earlier to undertake new projects). The year 1978 was a particularly prolific one, with the opening of seven new complexes totalling over 3,000 beds, increasing the total previous capacity by 50 per cent. This period saw the opening of some ten 'studiotels', self-catering apartments, which

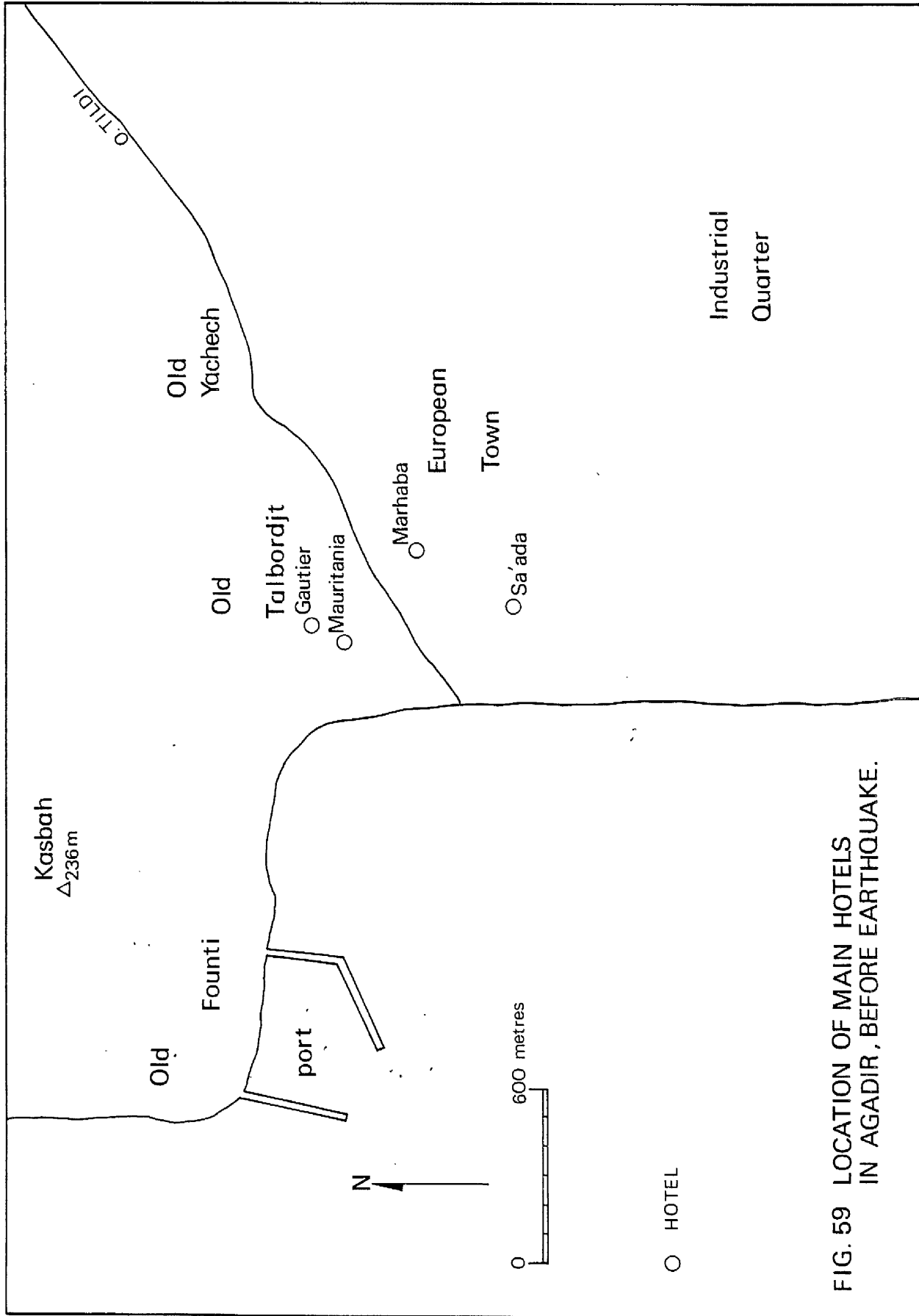


FIG. 59 LOCATION OF MAIN HOTELS IN AGADIR, BEFORE EARTHQUAKE.

had become popular, most of them located in the vicinity of the 'urban centre'. Other than those, most of the construction was in 4-star and 5-star hotels or in large 'holiday villages' (equivalent generally to 4-star hotels) such as the Dunes d'Or and Al Moggar (each with 900 beds), and these were located, with only a single exception, in the 'secteur touristique et balnéaire', the coastal strip around the bay some 250 m deep at the north end and 800 m in the south. Table 40 shows the development by individual hotel to the end of the 1970s. Figures 60 and 61 illustrate the rise of Agadir during that period to its predominant national position with respect to tourism.

Twenty years after the earthquake then, and some fifteen years after the opening of the first hotels in Agadir, there were some 10,000 hotel beds; the proportion of these that were in 1-star or 2-star hotels declined throughout the 1970s to less than 7 per cent of the total, with a growing concentration in the same period on large 4-star and 5-star establishments. Figure 62 shows the evolution of hotel beds by category of hotel. Of the five 5-star hotels in the south of Morocco four were in Agadir, and the fifth, the Gazelle d'Or (the oldest, having opened in 1961) in Taroudant. In the periphery of Agadir, at Inezgane and on the road between the two centres, there were about 250 hotel beds, and a similar number at Taroudant. The location of the various hotels in Agadir is worth commenting on. Three distinct but contiguous areas stand out. Firstly, there was the (new) Talbordjt quarter (centered about 1.5 km away from the coast), a homogeneous sector with commerce and small-scale industries (such as bicycle or typewriter repair shops), which in the twenty years of its development had acquired a certain local character and liveliness which other sectors of the town tended to lack. It was here that most of the small, cheap hotels were located. Their clientèle were often Moroccans on holiday, or else young people, possibly hitch-hiking or arriving in Agadir by bus from Marrakesh or from north along the coast (the bus station being situated at the north east end of Talbordjt). Between Talbordjt and the tourist coastal strip

Table 40: List of hotels in Agadir by year of opening and capacity

year	hotel	category (in 1979)	capacity (in beds)	new capacity for year	total capacity
1965	Miramar	2-star A	24	24	24
1966	Club Méd.	C	600		
	Petite Suède	1-star A	32		
	Royal	3-star A	150	782	806
1967	Bahia	1-star A	17		
	Select	1-star B	26		
	Mer et Soleil	R	82	125	931
1968	Marhaba	5-star	150		
	La Baie	1-star B	29		
	Moderne	1-star B	27		
	Tamri	1-star B	25	231	1,162
1969	Kamal	3-star A	230		
	Mabrouk	3-star A	80		
	Paris	1-star B	25		
	Canaria	1-star B	51	386	1,548
1970	Atlas	4-star A	392		
	Oumnia	4-star A	360		
	Diaf	1-star A	50		
	Kasbah	C	400	1,202	2,750
1971	Almohades	5-star	602	602	3,352
1972	Salam	4-star A	422		
	Atlantic	2-star A	104	526	3,878
1974	Ali Baba	4-star B	210		
	Sindibad	2-star A	98		
	Riad	R	48		
	Sacha	R	94	450	4,328
1975	Europa	5-star	424		
	Aladin	3-star B	120		
	Jamil	R	68	612	4,940
1976	Argana	4-star B	336		
	Sud Bahia	4-star B	500		
	Nouzha	R	32		
	Louban	R	76		
	Tislit	R	38	982	5,922

Table 40 (continued)

year	hotel	category (in 1979)	capacity (in beds)	new capacity for year	total capacity
1977	Talbordjt	3-star B	118	118	6,040
1978	Sahara	5-star	540		
	Adrar	4-star A	340		
	Excelsior ²	1-star A	55		
	Fleurie	R	108		
	Dunes d'Or	C (4-star)	900		
	Al Moggar	C (4-star)	900		
	Tagadirt	R/hotel(4-star)	234	3,077	9,117
1979 ¹	Palmier	3-star A	52		
	Soraya	R	90		
	Farah	R	90		
	Tafat	R	32	264	9,381

Notes: (1) up to end of August 1979

(2) the Excelsior existed earlier, but only received a rating in 1978

Table 40 (continued)

Corresponding tables for hotels in Inezgane/Dcheira, on the periphery of Agadir, and for Taroudant

year	hotel	category (in 1979)	capacity (in beds)	new capacity for year	total capacity
Inezgane					
1960	Pergola	3-star B	40	40	40
1964	Provençal	3-star B	80	80	120
1970	Pyramid	3-star B	50	50	170
1978	Issafen	2-star B	27		
	Orient	2-star B	40	67	237
Taroudant					
1957	Taroudant	2-star B	53	53	53
1961	Gazelle d'Or	5-star	42	42	95
1964	Salam	4-star B	148	148	243

There were few other classified hotels in Agadir province at the beginning of the 1980s. Outside the hotels in Agadir proper, Inezgane/Dcheira and Taroudant mentioned above, the 3-star B hotel 'Auberge des Cascades' at Imouzzer Ida ou Tanane with 28 beds (opened in 1970) would appear to have been the only one.

(C denotes club and R denotes résidence - 'studiotels', self-catering apartments)

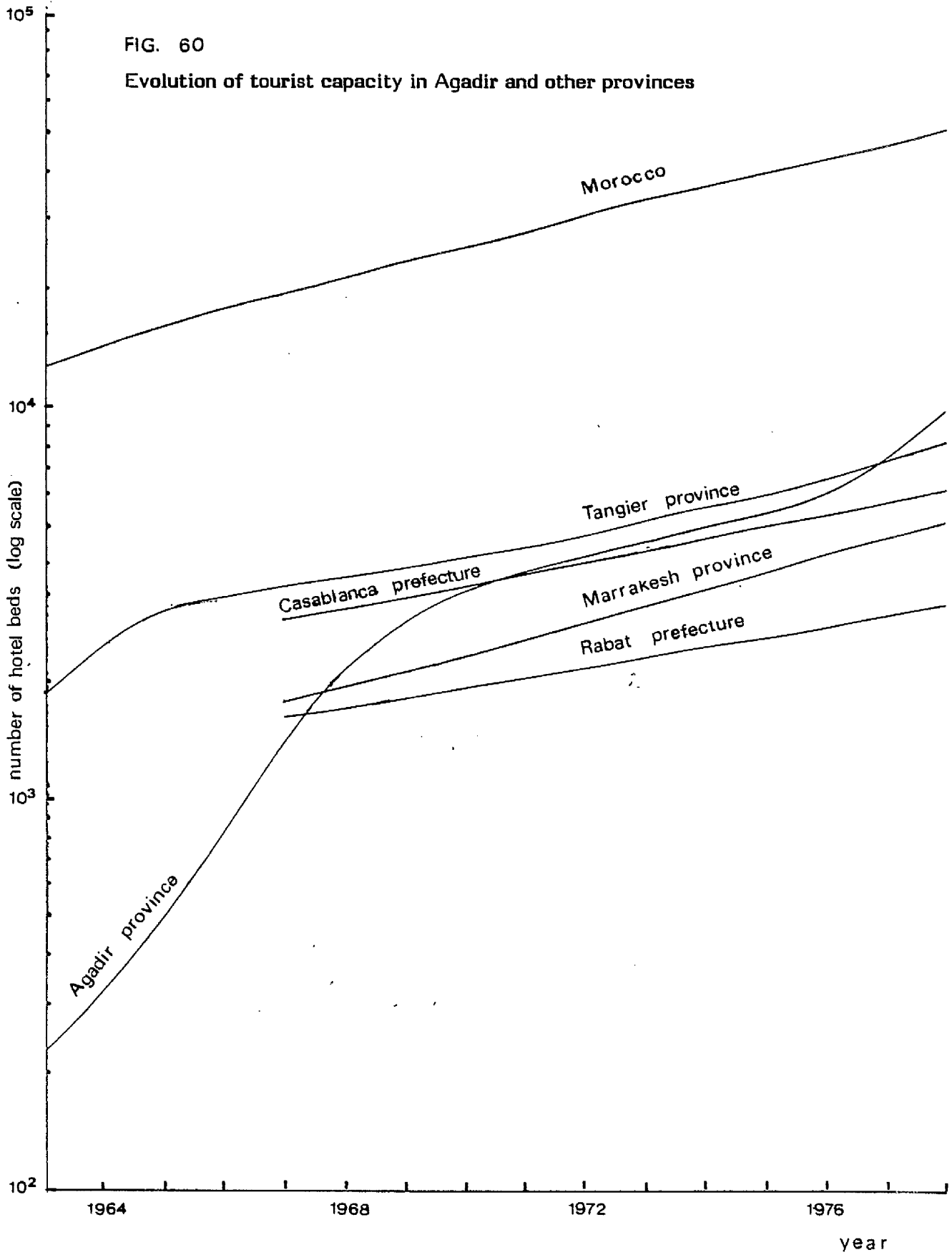
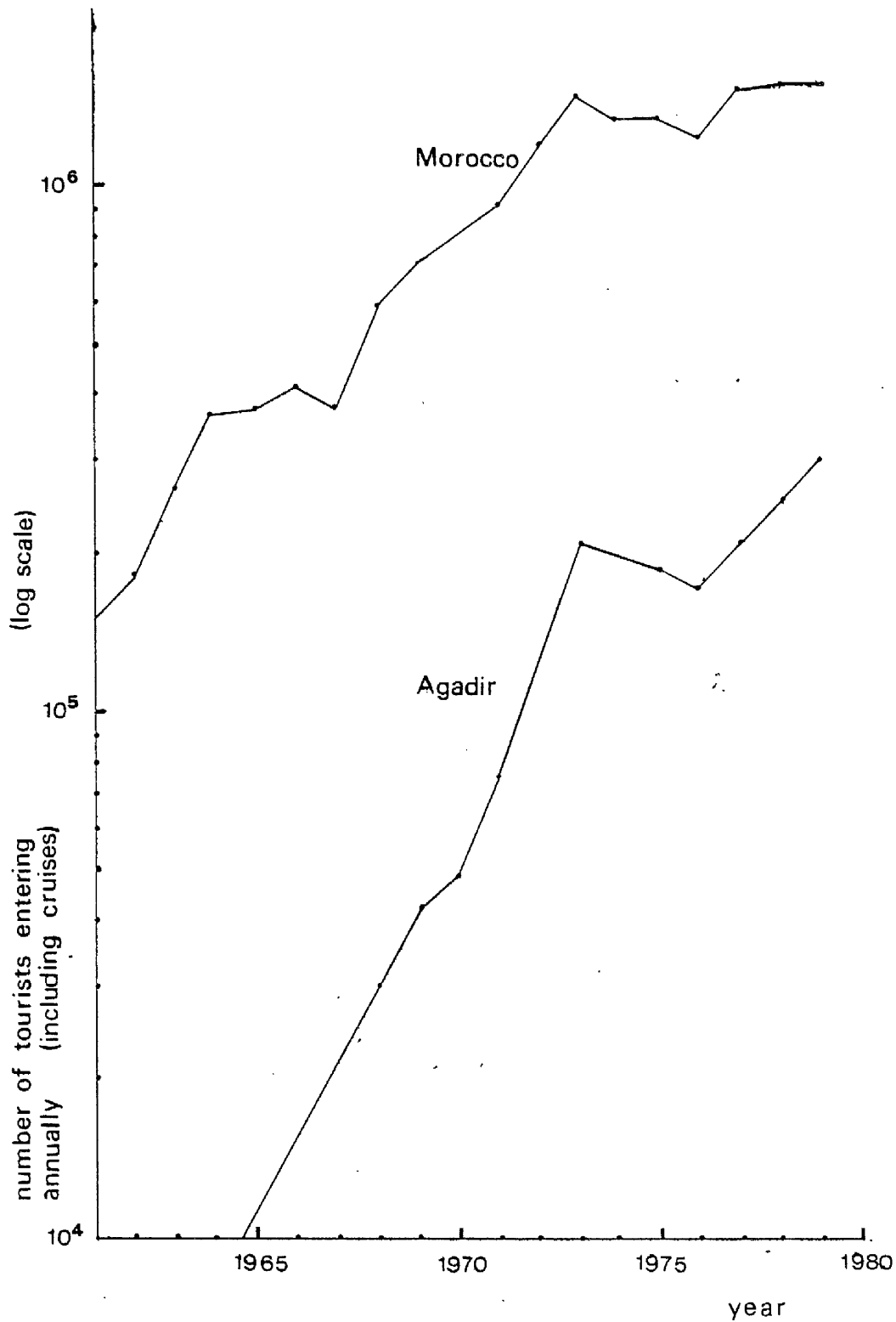


FIG. 61

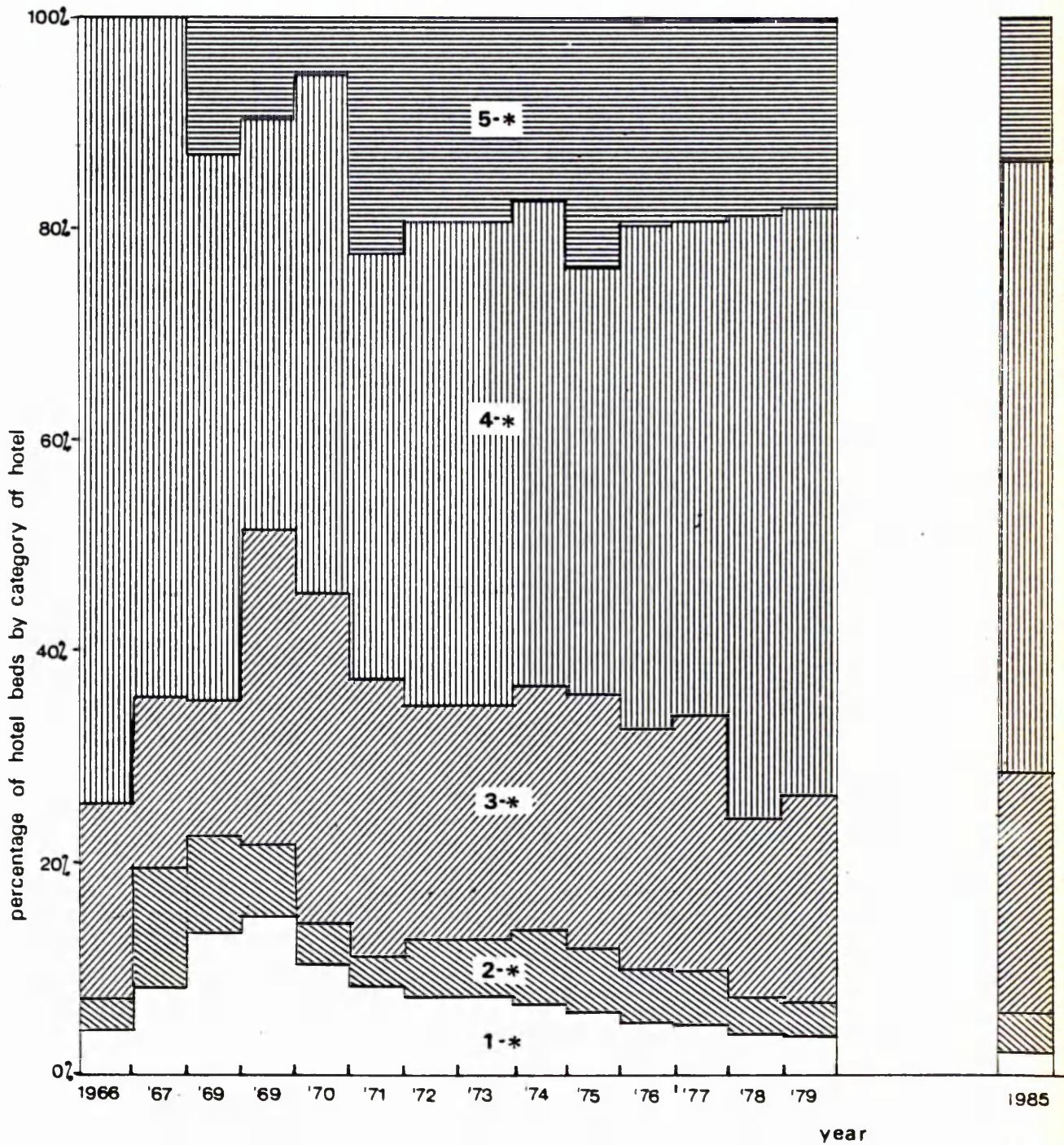
Evolution of numbers of tourists in Agadir and in Morocco



The term 'Greater Agadir' is of recent coinage; it is used here to denote Agadir, plus Inezgane, Dcheira, Ben Sergao, Ait Melloul and Tikiouine

FIG. 62

Evolution of the distribution of hotel beds in Agadir by category of hotel from 1965 to August 1979 with an estimate for the corresponding breakdown in 1985 in Greater Agadir, including the sector of Founty



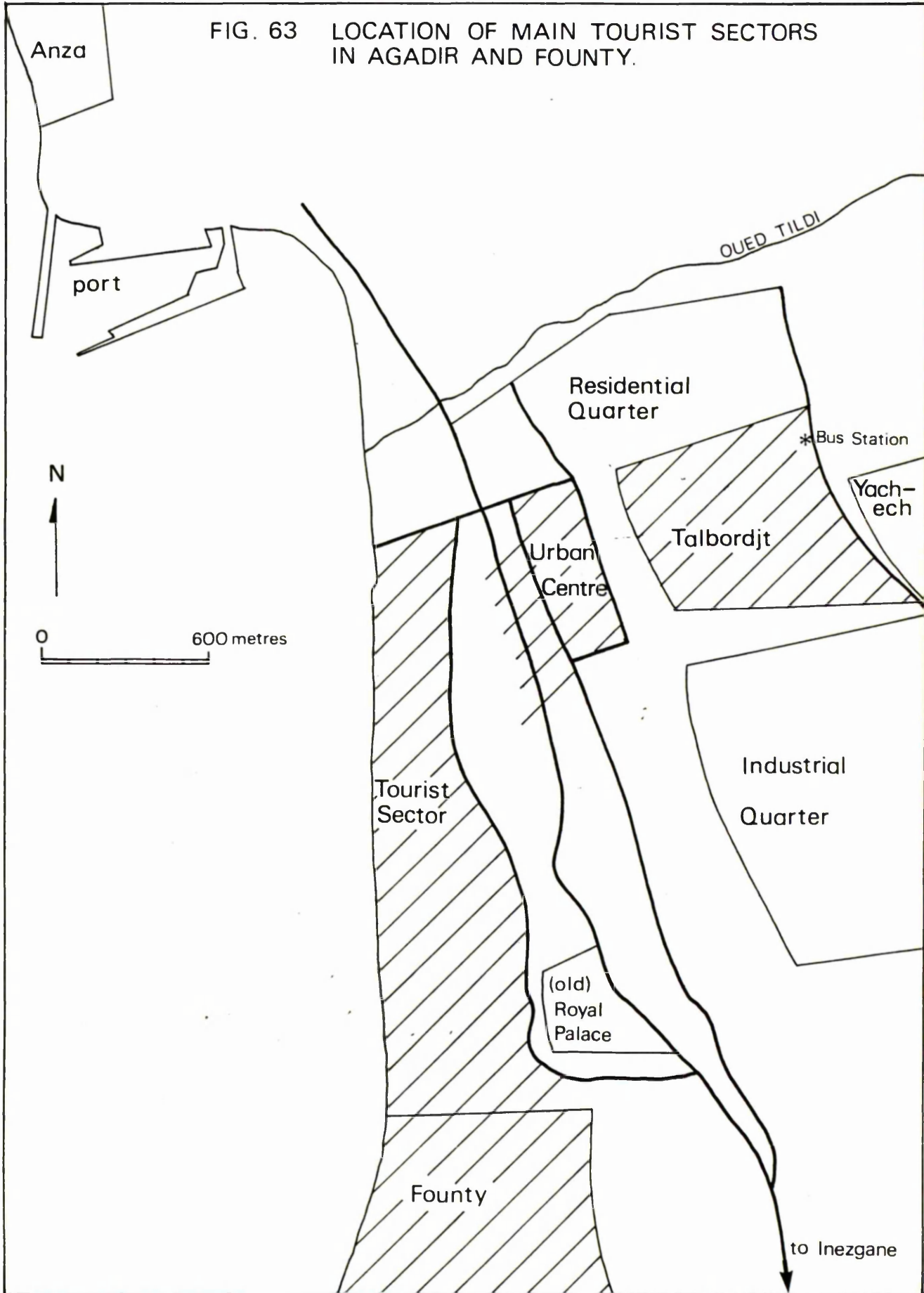
note: the various self-catering apartments (*résidences*) are included (except in one case) under 3-star hotels; the 'villages de vacances' (such as the 'Club Méditerranée') are put as 4-star (except the 'Kasbah', which is put as 3-star)

mentioned above there lay the urban centre. This was supposed to be, as its name implies, the gathering point for Agadir's tourist population, with its modern municipal market, its smart outdoor cafés, expensive restaurants, modern plazas and, in one place, two rows of identical shops selling identical tourist ware. Although there was indeed considerable activity in this area, a large and growing number of the wealthier tourists by 1980 lived in fairly distant parts, particularly in the self-contained hotel complexes or 'villages', with their own complete range of amenities including shops. The urban centre itself and its vicinity contained a few scattered hotels, but most its tourist accommodation was in the studio hotels (the self-catering apartments or 'résidences').

The third, and by 1980 the main tourist area was the 'secteur touristique', the coastal strip containing some 3-star hotels and nearly all the 4-star and 5-star ones, as well as the holiday village complexes. With most of the suitable land elsewhere having already been built on, it was this sector which in the 1970s was the target for prime development of expensive hotels, and which, it was proposed, would continue to be built on during the 1980s until all the available spaces were filled in.

Figure 63 shows the location of these three sectors. Fig. 64 illustrates how the centre of gravity of 4-star and 5-star hotels in the 1970s lay very much in the tourist sector and how it gradually moved southwards, while the centre of gravity for 3-star hotels and 'résidences' lay nearer the urban centre, and that for 1-star and 2-star hotels within Talbordjt. An addition in the late 1970s to this luxury tourist strip was the Tagadirt complex, opened in 1978. This was a 4-star hotel and studio hotel with four restaurants internally, surrounded by a complex of shops and restaurants containing a further six eating places, ranging from 'Charley's Burgers' to the luxurious 'Jardin d'Eau'. The whole complex, forming a natural unit with the 5-star Almohades across the road, the club Méditerranée, the 4-star Oumnia, the Dunes d'Or village and the Kasbah complex, provided an increasing counterpole of amenities to the established 'urban centre' 1 km to the north.

FIG. 63 LOCATION OF MAIN TOURIST SECTORS IN AGADIR AND FOUNTY.



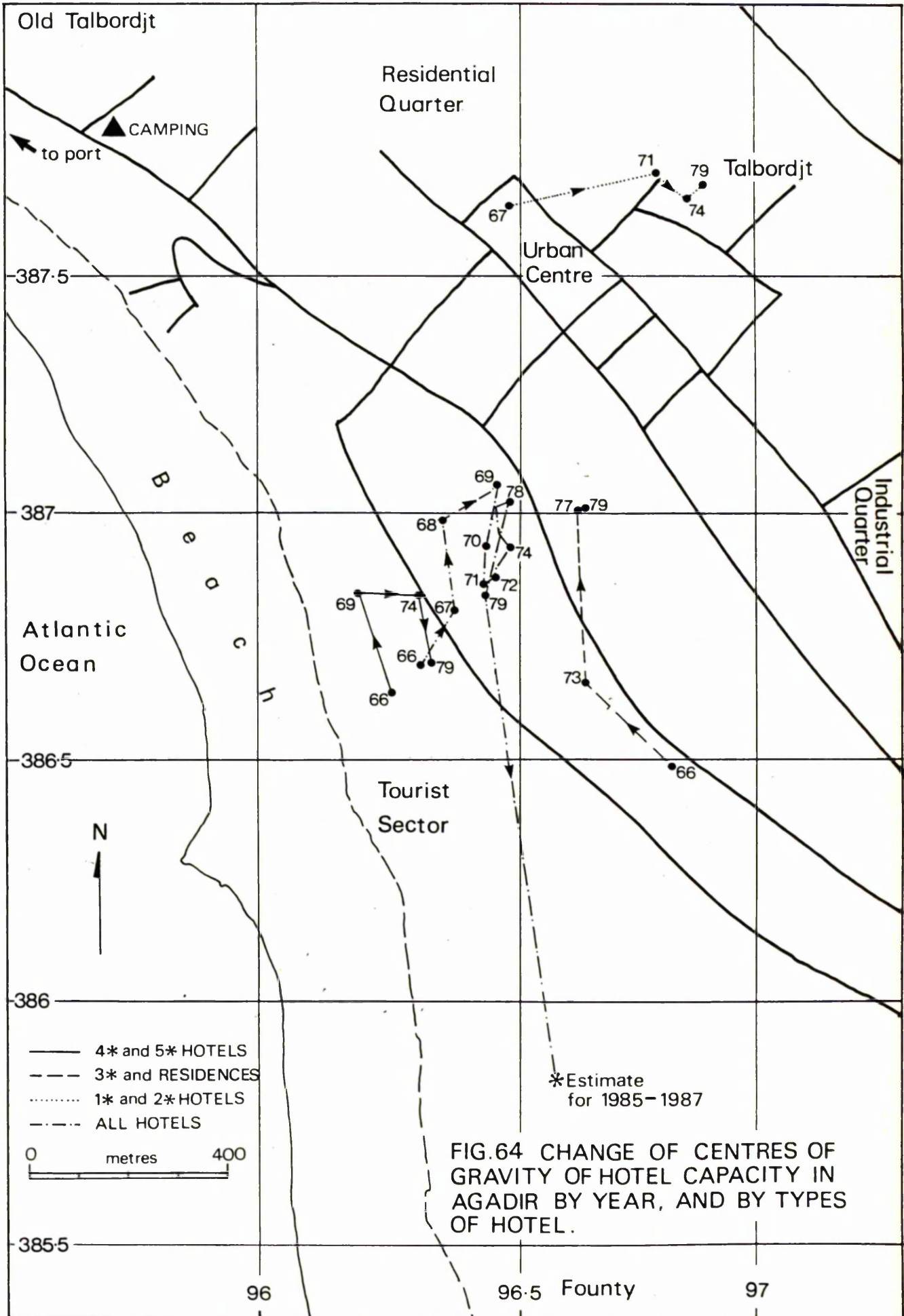


FIG.64 CHANGE OF CENTRES OF GRAVITY OF HOTEL CAPACITY IN AGADIR BY YEAR, AND BY TYPES OF HOTEL.

How would the tourist development continue in Agadir in the 1980s? Within the existing terrain of Agadir in 1980 there was not a great deal of space left for many large tourist complexes, given that those investing in them preferred them to be close to the beach. The empty space north and north west of the town (the old Talbordjt and the hill itself) were prohibited areas for any construction since the earthquake, and to the north east and south east, land within the existing boundaries was being developed for residential purposes, though in any case these areas were too far from the coast (over 3 km) for tourist purposes. What was left in the existing coastal strip was being filled in, and on one such plot the ten-storey 'Eurafrique' hotel already loomed, expecting to be opened in 1981. This hotel stood out in a particularly obtrusive fashion - it was constructed on locally high ground (25 m above sea level) less than 500 m from the coast, in the middle of the bay, and considerably marred the landscape of the area. Previous hotels tended to be lower (often to comply with the strict anti-seismic building regulations) and even the larger ones avoided such stark obtrusiveness.

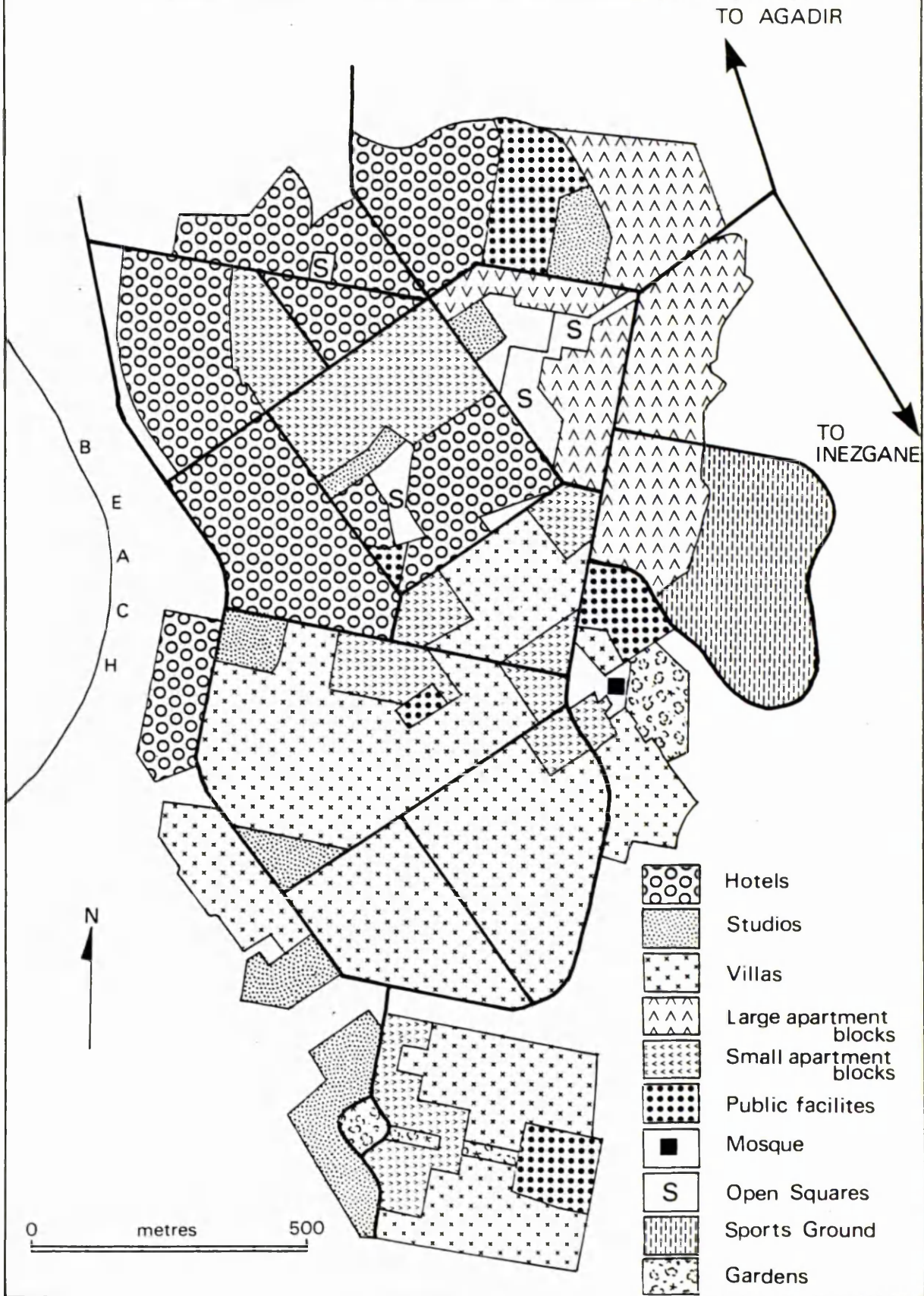
The area where the major development was to take place up to 1987 in Agadir was to the south of the existing town, in a completely new sector being built all at once called Founty (named after the sector of Founti in the old Agadir); this occupied some 300 ha stretching from the existing southernmost part of the tourist sector south towards the mouth of the Oued Souss. The plans for Founty went back to the early 1970s when the semi-state organization SONABA (Société Nationale d'Aménagement de la Baie d'Agadir) was created¹ to study the feasibility as a tourist

-
1. SONABA was formed in August 1973, for a duration of 50 years. Its share capital stood at 20 million dh in 1980. The Moroccan state is a majority shareholder and other directors on the board are from: the ONMT (the state tourist organization); the Caisse de Dépôt et de Gestion; the BNDE (Banque Nationale du Développement Economique); the CIH (Crédit Immobilier et Hôtelier); Maroc-Tourist Hotel Company; Diafa Hotel Company; SNABT - Société Nationale d'Aménagement de la Baie de Tanger - the Tangier equivalent of SONABA. SONABA was authorized under its charter to acquire all necessary land, conclude agreements with the state, local government and public and private organizations, carry out feasibility studies and produce the final plans, and fix the price of the land to be sold.

centre of this and other areas along the coast some 40 km to the north and the south of Agadir. The original plan was to build only hotels in Founty, but having witnessed the fate of 'tourist ghettos' in Spain and Italy, a decision was made to construct what SONABA called an 'integrated tourism'. After projects conducted with the United Nations Development Program and others, and consultations with the World Bank, were completed in 1976 the development of the infrastructure of this completely planned town (see figure 65) was begun under the direction of SONABA, financed jointly by the Moroccan state and the World Bank. SONABA were enthusiastic about their attempt - the first such one in the world - to construct from scratch a totally planned tourist town where hotels were scattered around, mixed with housing, recreational facilities and other amenities. From the start, the exact number of beds to be provided in these centres for tourists and for residents was fixed; in Founty it was to be 7,600 hotel beds and 22,400 residential beds (in about 3,000 houses). Four important stipulations were laid down in advance. Firstly, the beach was to be entirely public (unlike some sections in Agadir which were owned by tourist complexes such as the Club Méditerranée). Secondly, considerable use was to be made of landscaping and of pedestrianization. Thirdly, the height of buildings would be limited to six storeys, but, even there, a building would have to be staggered, so that it could not reach six storeys at every point above its base, and fourthly, all construction would be in traditional ('Moorish', Moroccan 'kasbah') style. In 1979, as the infrastructure was being completed, plots of land (both for tourist and residential construction) were put out for offer and by September of that year offers to take up hotel spaces were already three times oversubscribed (mainly by large international hotel companies and consortia), and residential land over five times so (most of these latter applications being from people in Agadir, where there existed a considerable housing shortage). The

FIG. 65 PLAN OF THE NEW SECTOR OF FOUNTY.

Source: based on plan provided at Sonaba office (1979).



sales were to be effected by SONABA by the end of 1979², and from then on construction was to proceed; houses, taking less time to construct, were to be ready from 1981 onwards, whereas hotels would only begin coming into operation from late 1983 onwards. Four other smaller areas (see fig. 66) along the 80 km coastline studied were also earmarked for similar development, though only the first of these, Taghazout, was relevant to the 1980s. The feasibility study for this project was to begin in 1981, and if it followed the same schedule as Founty did it could be materializing by the end of the 1980s (the three subsequent developments³, if indeed undertaken were to take place in the 1990s and the first decade of the 21st century). Taghazout was being planned to house 10,000 inhabitants, a third the number of Founty, though with proportionally more tourists - a planned 4,000 spaces for tourists and 6,000 for residents. Some 15 km to the north of Agadir, its site was an old fishing village with a certain charm, which in the 1960s and 1970s became well-known as a 'hippie' centre (to the embarrassment of the Moroccan authorities); they would stay there, sleeping on the beach and frequenting the row of small huts which served soup and cheap food and where there was an easy trade in kif (marijuana). Later on, Taghazout became a fashionable place for wealthy Gadiri citizens to construct their weekend villas.

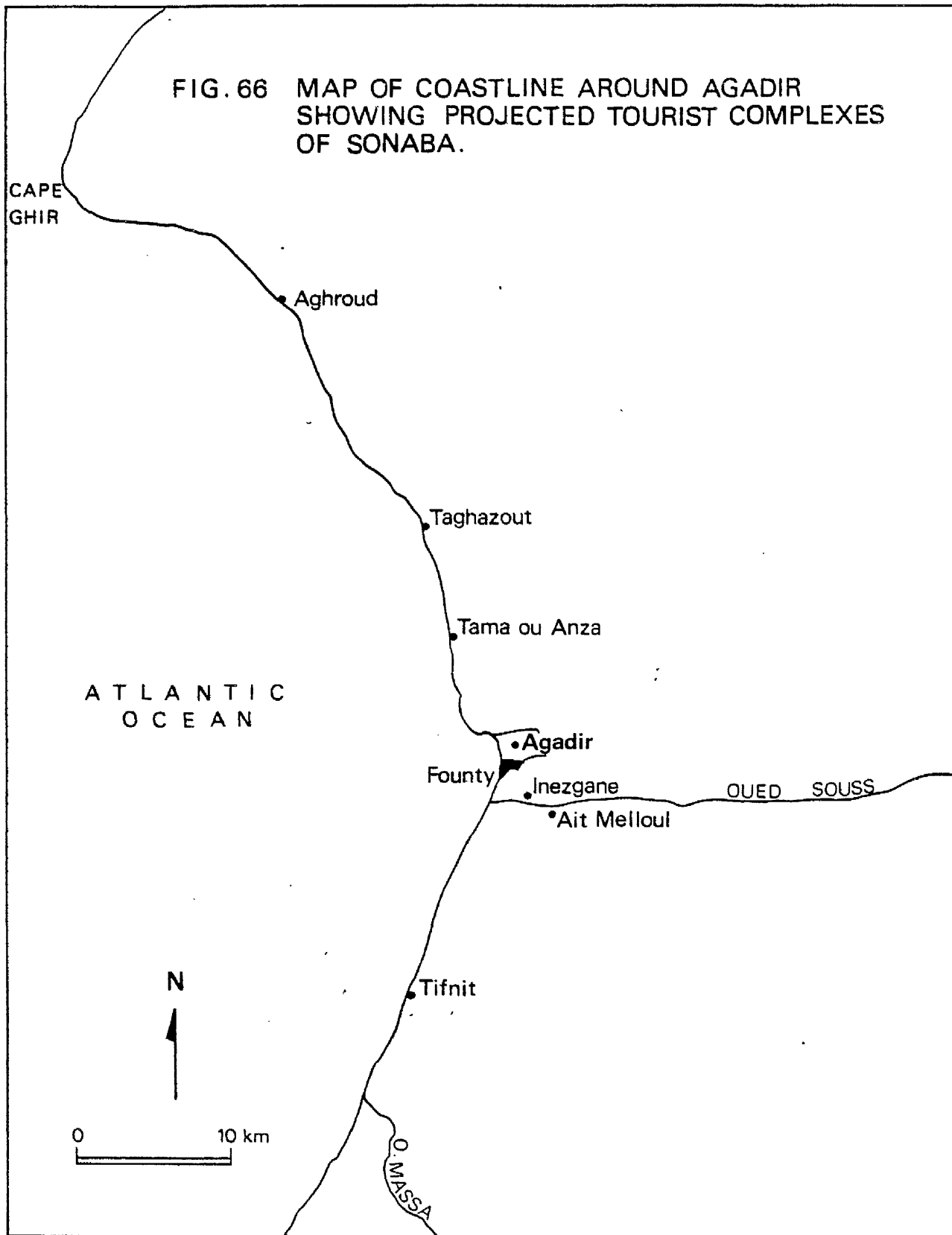
2. There were to be different prices for land in Founty, according to use. Estimates quoted at SONABA were:

	a. in August 1979	b. in September 1980 (the final estimates)
for a house:	200 dh/m ²	300 dh/m ²
for a hotel:	85 dh/m ²	200 dh/m ²
offices & shops:	500 dh/m ²	1,000 dh/m ² (or more)
block of flats:	340 dh/m ²	400 dh/m ²
tennis court:	43 dh/m ²	(not quoted)
public buildings:(not quoted)		100 dh/m ²

With an area built on of about 200 ha (2,000,000 m²) the total revenue from the sale of the land in Founty would be of the rough order of 600 million dh.

3. These were: Aghroud, with about 1,000 hotel and 3,000 residential beds; Tifnite, for about 3,000 inhabitants of which about 2,500 would be residents and 500 tourists; and Tama ou Anza, a small sector with mainly residential accommodation.

FIG. 66 MAP OF COASTLINE AROUND AGADIR
SHOWING PROJECTED TOURIST COMPLEXES
OF SONABA.

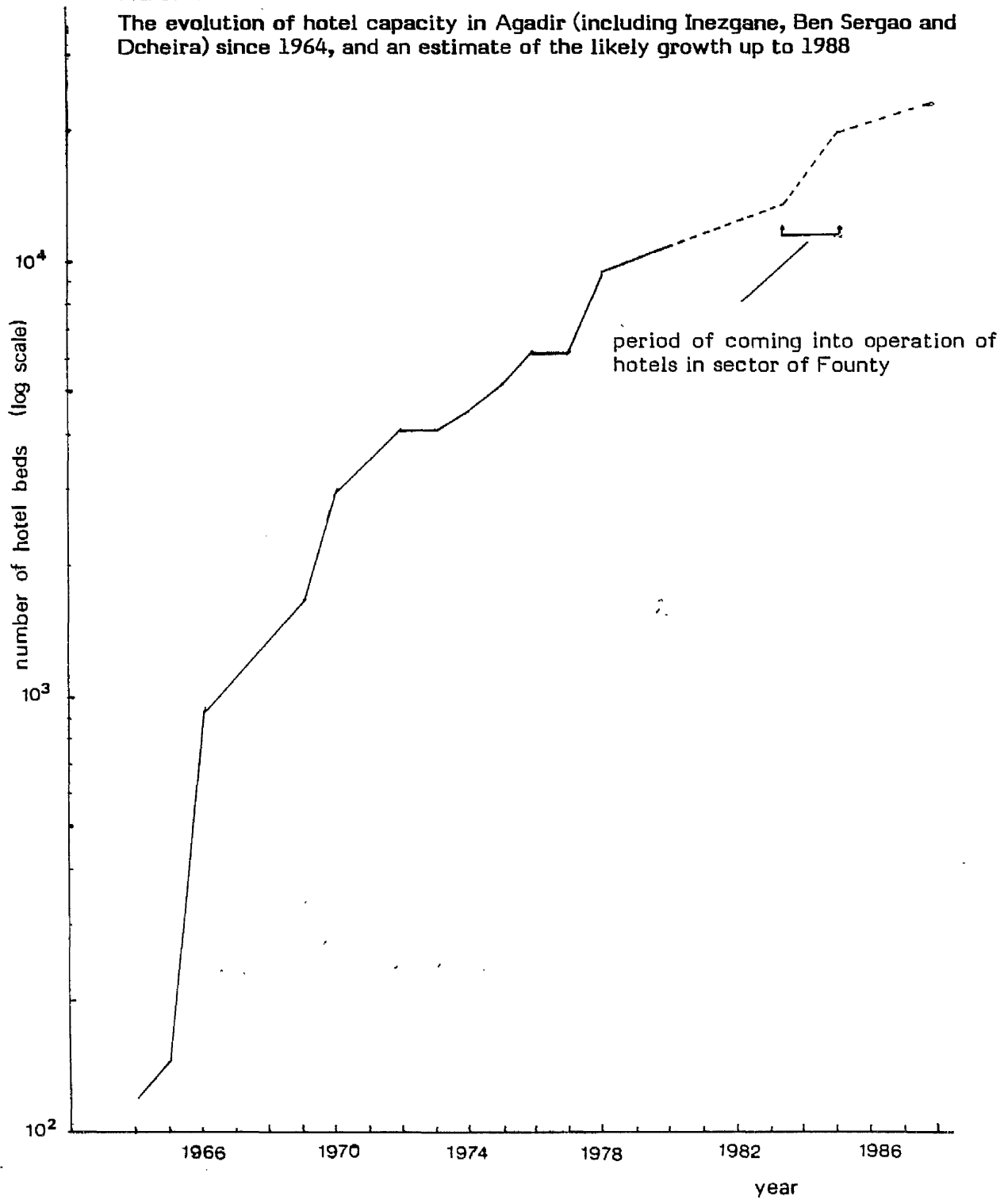


Thus by the late 1980s, given at least another 2,000 to 3,000 hotel beds in Agadir itself, the hotel capacity (including Founty), should have reached about 20,000 beds, roughly double the total in 1980 (see fig. 67). There was an uncertainty over what the final ceiling could, or ought to be. Some people spoke in terms of 50,000, but even within the tourist industry there were individuals who considered this figure, though technically feasible perhaps, quite undesirably excessive and who hoped that the total would level off at around the 20,000 to 25,000 mark.

Four final points should be made here on the question of Founty and the new developments. Firstly on the locational aspect of tourism, with some 35 to 40 per cent of hotel beds located in Founty by the late 1980s, the centre of gravity of tourist complexes in Agadir would have moved even more sharply southwards (see fig. 64). Secondly, on the distribution of hotel spaces by category in Founty, it was intended to have about 60 to 70 per cent of them in 3-star or 4-star hotels, with only one or two 5-star hotels, a few 2-star hotels and many studio hotels. Thirdly, while SONABA's aims to 'integrate' tourism with indigenous life were admirable, with competition for housing space in Founty being severe the allocation was likely to favour higher placed and better off functionaries; the place would undoubtedly be both a fashionable and an expensive residential area, with tourists not so much integrating with the local residents as the latter aspiring to the situation of the tourists. Finally, and regrettably, a glance at the plan for Founty (figure 65) shows that, in terms of locational distribution, despite SONABA's stated intentions, the proposed sites for hotels (omitting studio hotels) were still clustered together, with a sizeable proportion of them along a 200 m deep coastal strip, so that while there may have been an integration of architectural style there was markedly less one of location.

FIG 67

The evolution of hotel capacity in Agadir (including Inezgane, Ben Sergao and Dcheira) since 1964, and an estimate of the likely growth up to 1988



5.1.2 Employment stemming from tourism

Tourism provides a considerable source of employment, both directly - in the form of employment in hotels - and indirectly, in employment in restaurants and cafés primarily dependent on the tourist trade, in tour organizations, car hire firms and other services, and in construction. Whereas employment in the indirect 'linked' services will always remain above a given level provided the number of tourists does not decrease, for that in the construction industry to remain high clearly necessitates a continuous growth, and it is quite feasible to imagine a situation within ten to fifteen years where hotel capacity had more or less reached its upper ceiling and where employment in the tourist part of the construction industry had virtually disappeared.

Figure 68 shows the estimated rise of direct employment in hotels from 1966 onwards and projected to 1985. The figures are calculated on a purely theoretical basis; the usual norm employed is that there are between 1.0 and 1.2 employees per room in a 5-star hotel, 0.8 to 1.0 for a 4-star hotel, 0.6 to 0.8 for a 3-star and 0.4 to 0.7 for a 2-star. In this particular case the approximate assumption has been made that there are 1.1, 0.9, 0.7, 0.55 and 0.35 employees per room for 5-star, 4-star, 3-star, 2-star and 1-star hotels respectively, with minimum numbers of 20, 10, and 8 employees for 3-star, 2-star and 1-star hotels respectively. Holiday villages have been treated as 4-star (except the Kasbah which is considered to be 3-star), with some reductions in their totals since they tend to operate economies in certain domains; studio hotels (except the Tagadirt) have been treated separately for this purpose since they employ a relatively small number of people (not having such services as restaurants and bars). The rough estimates for the individual existing hotels are listed in table 41, giving a total at the end of 1979 of something approaching 4,000 employees. The estimate for 1985-87, when hotel capacity in Agadir will have doubled with the opening of Founty is something short of 8,000 - calculated on the basis

FIG. 68
Estimate of evolution of numbers directly employed in hotels in Agadir

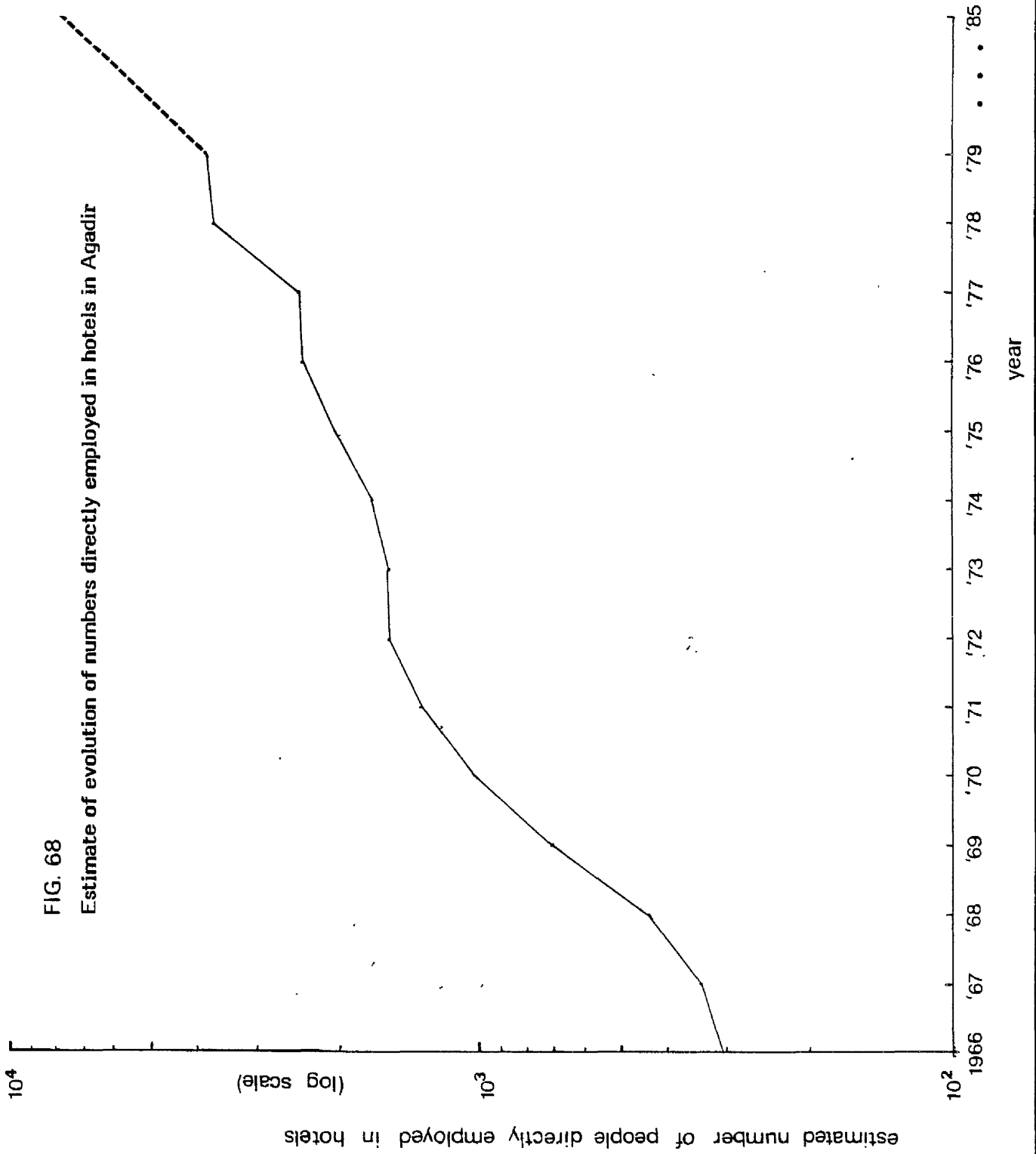


Table 41: Direct employment in hotel industry in Agadir

a. List of hotels, with number of rooms, and estimate of numbers employed in each, on the basis of the theoretical formula described in section 5.1.2

category	hotel	year of opening	rooms	estimated number of employees
5-star	Sahara	1978	286	315
	Europa	1975	240	264
	Marhaba	1968	75	83
	Almohades	1971	301	331
4-star	Atlas	1970	196	176
	Oumnia	1970	180	162
	Salam	1972	210	189
	Ali Baba	1974	105	95
	Argana	1976	168	151
	Sud Bahia	1976	250	225
	Adrar	1978	171	154
3-star	Kamal	1969	90	63
	Mabrouk	1969	40	28
	Royal	1966	74	52
	Aladin	1975	60	42
	Talbordjt	1977	59	41
	Palmier	1979	26	20
2-star	Atlantic	1972	54	30
	Sindibad	1974	49	27
	Miramar	1965	12	10

category	hotel	year of opening	rooms	estimated number of employees
1-star	Diaf	1970	22	8
	Petite Suède	1966	16	8
	Bahia	1967	14	8
	Excelsior	1978	22	8
	Paris	1969	21	8
	Select	1967	19	8
	Canaria	1969	21	8
	La Baie	1968	20	8
	Moderne	1968	17	8
	Tamri	1968	20	8
Club/	Club Méd.	1966	300	250
Holiday	Kasbah	1970	200	140
Villages	Dunes d'Or	1978	450	380
	Al Moggar	1978	450	380
Studios	Nouzha	1976	16	5
	Jamil	1975	34	8
	Louban	1976	38	8
	Tagadirt	1978	94	70
	Mer et Soleil	1967	41	10
	Fleurie	1978	54	10
	Riad	1974	24	8
	Sacha	1974	47	10
	Tislit	1976	19	6
	Tafat	1979	16	5
	Farah	1979	45	10
	Soraya	1979	45	10

b. Estimated direct employment by year in hotels in Agadir proper, based on section (a) above

year	numbers
1965	12
1966	322
1967	348
1968	455
1969	562
1970	1,048
1971	1,379
1972	1,598
1973	1,598
1974	1,738
1975	2,052
1976	2,447
1977	2,488
1978	3,776
1979	3,821
c. 1985-87	7,796

(estimated), based on an estimate of an additional 1,065 workers in Agadir proper, 2,850 in the new Founty, and 60 in hotels in Inezgane (the 1980 estimate) which were not included in sections (a) and (b) above.

of a very rough guess that the 7,600 beds in Founty will be divided up as: 1,000 in 5-star hotels, 3,200 in 4-star, 1,800 in 3-star, 900 in studio hotels, 640 in 2-star and 60 in 1-star, and that new accommodation in Agadir (other than Founty) in this period will be 1,400 beds in 4-star, 900 in 3-star, 280 in studio hotels and 200 in 2-star hotels. One can compare these theoretical estimates with two empirical studies in recent years: Péré (1972) gives an estimate of 1,630 directly employed (presumably for 1971) and 1,300 indirectly employed, and the Serete report (1977-78) gives 3,200 directly employed and 3,000 in linked employment. These two independent estimates compare reasonably with the calculations in this text - they are both slightly higher than the theoretical ones obtained here, which can thus be taken as lower estimates. Indeed, Péré suggests⁴ that in some of the large hotels in Agadir the number employed often exceeds the international hotel norm, though the example she uses to demonstrate this assertion - that, taking the 5-star Almohades and 4-star Atlas hotels together, with a combined total of 500 rooms, there are almost 500 employees in the two of them - is, in fact, in line with the norm and is not at all excessive (the 196 rooms of the Atlas give a theoretical work force of 176, and the 306 rooms of the Almohades a figure of 331, producing a total of 507).

A number of hotel personnel, particularly among the more qualified levels and the managements come from the north, especially from Tangier and the Rif. There are also some foreign, mainly European, employees; Péré (1972) quotes the figure of around 100, the majority of whom were French people working in administrative positions in the Club Méditerranée. Agadir has a hotel school (as do also Marrakesh and Casablanca), which was opened in 1973 and has some 70 to 100 students.

4. Péré, Michèle, *op.cit.* 1972 p.22

As regards indirect employment, as indicated above, the two estimates quoted suggest figures for indirect employment of the same order as, though slightly less than, direct employment, though as has been already pointed out the indirect sector includes a construction industry component which is not related to the current size of the tourist industry, but rather to the current growth. There was a considerable boom in some of the associated service sectors in the 1970s which easily exceeded the corresponding growth at the time in tourist numbers; over that decade, for example, the number of tourist agencies in Agadir increased from one to twelve, and from 1974 to the end of 1979 the number of car hire agencies grew from less than 10 to 42.

5.1.3 Income from tourism

It is difficult to give a precise figure for the tourist income for Agadir, though on the basis of the approximate total tourist revenue for Morocco in 1978 of 1.65 billion dh (1.50 billion dh in 1977)⁵, and of Agadir's share of Moroccan tourism (both in potential capacity and in actual numbers) of around 20 per cent, one could estimate an approximate annual income for Agadir of some 300 million dh around that time. The average expenditure per tourist, nationally, worked out at only about 1,000 dh (which includes the hotel bill) which was not considered in tourist circles in Agadir to be a particularly high figure.

5.1.4 Investment in tourism

From the end of 1972 to the end of 1976 some 9,188 new hotel beds came into use in Morocco involving an investment of 280 million dirhams⁶. Given that 2,044 of these were in Agadir, one can estimate on a proportional basis that the investment in hotels

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5. B.M.C.E. Information Review, No.22 Jan/Feb 1979 p.12
 6. B.M.C.E. Revue Bimensuelle d'Informations, No.16, 30 July 1977

opened in Agadir in the same period was around 62 million dh (or around 30,000 dh per bed). For national hotel projects in the course of development in 1977, 617 million dh were being invested nationally, for an additional projected capacity of 18,244 beds (making the average cost of a bed now 33,800 dh), and of this total only 16.3 per cent was from the public sector, 41.7 per cent being from the semi-public sector and 42.0 per cent from the private sector in terms of actual investment, while in terms of the number of beds the figures were 10.0%, 28.2% and 61.8% respectively.

In Agadir the state is not a noticeable investor in tourist enterprises, though it contributes indirectly through a very favourable tourist investment code⁷. A semi-state company, SOTORAM, owned by Royal Air Maroc, owns the Atlas hotel, and, other than that, the major part of the investment in hotels is private. In the larger hotels investors are either Moroccan companies⁸, or in one or two instances foreign companies (such as Compagnie Paquet, owners of the 5-star Marhaba) or mixed

7. Tourist Investment Dahir (decree) No. 1-73-411 of 13 August 1973. This provided, among other things, for:

1. a reduction of 50% in the profits tax for all new tourist establishments for the first ten years (complete exemption for some specially designated provinces, though not including Agadir);
2. exemption from the profits tax for five years for new tourist transport concerns;
3. exemption from the licence tax for ten years for new establishments; and
4. exemption from the 'tax on products' for all new equipment, machinery and materials imported or acquired locally by tourist enterprises.

Enterprises with a total investment over 30 million dirhams were not covered by the benefits of this dahir, though they could negotiate beneficial terms with the government.

8. Péré, op.cit. 1972 pp.13-14

foreign/Moroccan (such as the French-Moroccan SIM group which runs the Club Méditerranée, or the French-Moroccan ETA which owns the Oumnia hotel). The small hotels, particularly the 1-star and 2-star hotels of Talbordjt, are almost entirely invested in by Moroccan individuals, most of them Soussi.

Tourist transport, particularly air transport, benefitting strongly as it does from the 1973 investment code, has also attracted heavy investment in recent years. In the period from the end of 1972 to end of 1976 mentioned above, the investment nationally in tourist transport was 250 million dh (almost as much as that for hotels); of this, 231 million dh was for air transport (providing 272 seats) and 19 million dh for road transport (providing 3,098 seats).

Mention is made here of one rapidly growing locally-owned tourist enterprise which has developed in Agadir since the mid-1970s, namely 'Sahara Tours'. Apart from operating profitable excursions as its name implies, it has opened five studio hotel establishments in Agadir since 1975 (with a total of 442 beds), including the whole Tagdirt complex described above (the others to date are the Jamil, Louban, Nouzha and Tafat). The three proprietors are all local - Mme Anny Ohayon (who manages the enterprise; Ohayon is a local Moroccan Jewish name), her husband, and Haj Belkacem, a wealthy Gadiri who also runs other concerns in the tourist transportation line on his own.

5.1.5 Conclusion to section 5.1

The future spatial distribution of tourism then, in the larger domain around Agadir, will be restricted to a north-south axis along the coast, and within the domain of Greater Agadir to a similar narrow coastal strip, north to south from the port through the existing concentrated sector and the new Founty almost up to the Oued Souss. In Agadir, Talbordjt, with its small cheap hotels, will probably remain numerically static and thus decline in its touristic significance. The periphery, too - Inezgane,

Dcheira and Ben Sergao - will probably not increase significantly its total of a couple of hundred hotel beds. In the wider hinterland of the Souss, equally, there is little likelihood of any major touristic development behind the increase of tours there. Tourists on the whole, it seems, prefer the sea and venture into the inland only for limited excursions (the larger hotels in Agadir even provide troupes of Berber dancers so that their guests can experience authentic mountain folk without leaving their swimming pools). There are two types of excursion networks - the broader one, with a radius of some 200 km or more which usually involves a trip of a few days, with one or two nights in centres such as Tafraout, Goulimine, Ouarzazate, or even Marrakesh, and the more restricted one, up to 100 km, which takes in the Souss valley, Tiznit and the western extremes of the High Atlas (around Imouzzer) and tends to involve, at the most, a night away from Agadir.

If tourism in Agadir is strictly along a narrow north-south coastal strip, the bulk of new housing development, of urban sprawl, of bidonvilles and the siting of new industry, exist on another axis, a very different world, stretching from the Quartier Industriel in the centre of Agadir proper to the east and the south east, through the satellite towns of Ben Sergao and Dcheira to Inezgane and Ait Melloul. It is a shameful indictment that a town which has seen the opening in 15 years of four 5-star hotels and the super-luxurious Tagadirt complex (among many others) has not been able to eliminate the concentration of bidonville quarters in the east and south east of Agadir and in parts of the periphery, but then Diafa, Sofitel and other hotel chains are hardly likely to want to undertake such a project. Tourism, as has been seen, attracts private investment, for the reason that it is profitable: other urban development is left mainly to public investment, which, to say the least, is not forthcoming in the quantities necessary to deal with urban problems. The spread of urbanization along this second axis and its effects will be examined in the next section.

5.2 Industry in Agadir in the 1980s and 1990s

5.2.1 Position in 1980

The history of the development of industry in Agadir up to 1980, and in particular in the period from 1960 to 1980, has already been presented in chapters 1.5, 2.2 and, in more detail, 3.6. Some specific additional points will be made in this subsection, both on Agadir's industrial position within Morocco as well as on the two principal existing industrial sites in the town.

Agadir ranks sixth in Morocco in terms of industrial employment, in a higher position than some much larger urban centres such as Marrakesh and Meknes (cf. figure 69). As the excellent report *Zones Industrielles au Maroc*⁹ points out, the major share of manufacturing employment in most Moroccan towns is made up of artisan establishments of less than 5 employees. Two notable exceptions to this pattern are Agadir and Safi. The report estimates that in 1976 the numbers of people employed in Agadir in manufacturing artisanry and manufacturing industry (using < 5 and ≥ 5 employees to distinguish the two) were 2,000 to 3,000 for the former against almost 8,000 for the latter, and in the construction and public works sector of industry the figures were 400 to 2,700¹⁰.

The two main existing locations of industry in Agadir are the Industrial Quarter (Q.I.) and Anza, both already outlined in chapter 3.6. The Industrial Quarter of some 60 ha is situated near the centre of Agadir and being already almost surrounded by built-on areas has little scope for spatial extension. Its central location gives it the advantage of minimal travelling distances for most of those working in it, and the relative

9. *Zones Industrielles au Maroc*. Report put out by Royaume du Maroc, Office pour le Développement Industriel in April 1980.

Study conducted in 1979 by the two consultancy groups, Groupe Huit and Maroc Développement (the report referred to hereafter as Z.I.) This reference p.B18

10. *ibid.*

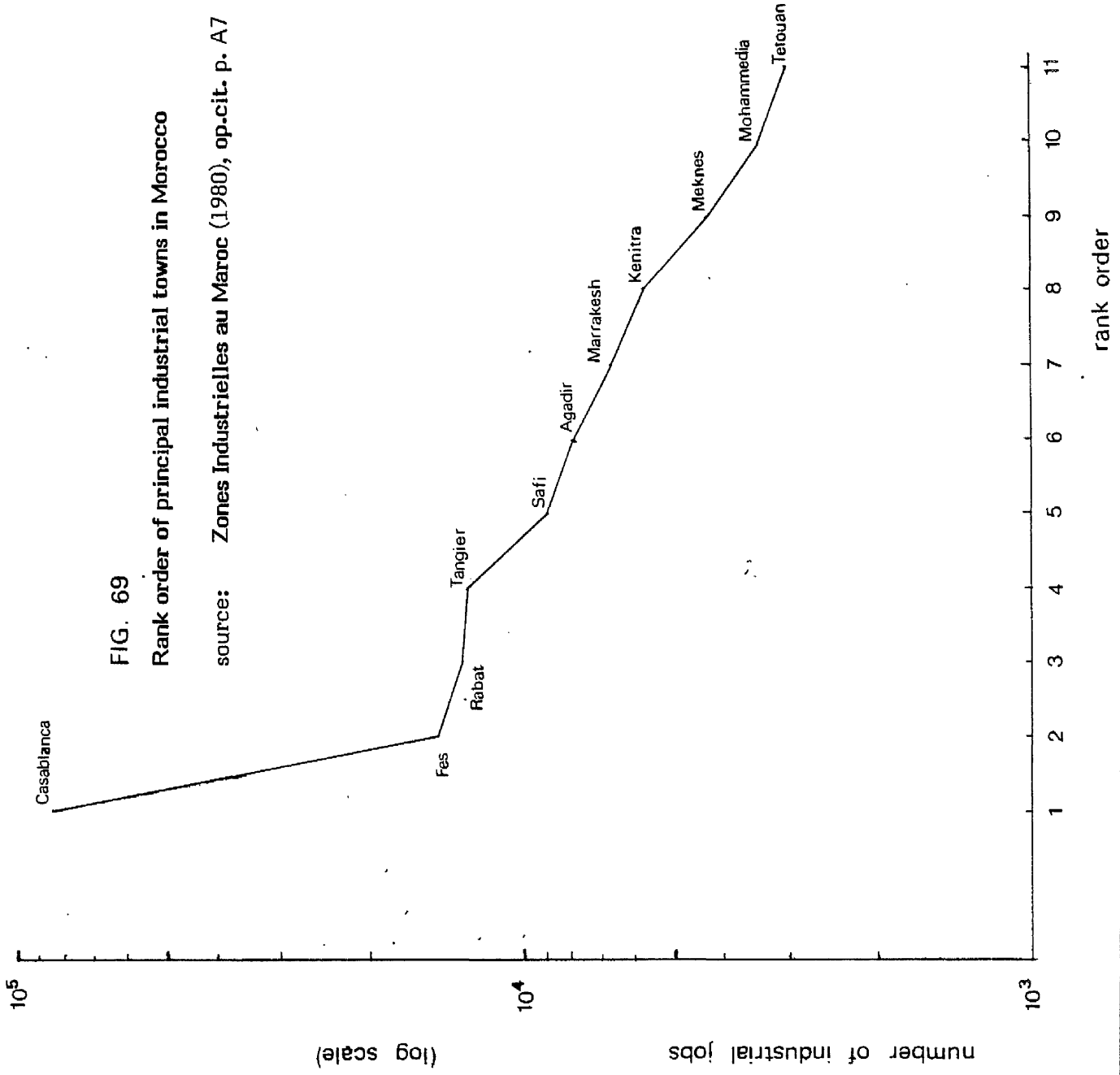


FIG. 69
Rank order of principal industrial towns in Morocco
source: Zones Industrielles au Maroc (1980), op.cit. p. A7

novelty and success of its mixed residential, industrial and commercial areas of terrain have already been noted. The 80-odd industrial establishments in this quarter are concerned mainly with agro-industry, the treatment of fish and construction, though if more of the existing fish processing factories are transferred in the near future to Anza, as is intended, to further reduce local air pollution, then some areas will be made available for new industrial use¹¹. The sector of Anza lies along the coast to the north of the town, separated from it by the hill, and covers some 200 ha of land of which 90 are unused. It could be extended to the north, though the problem here, as well as with developing unused land within the existing sector, is that of a complex situation of land ownership. Anza was hardly touched by the earthquake and its terrain, unlike the bulk of the land in Agadir, was not taken over by the state and redistributed. Much of Anza's land thus technically still belongs to former colons or French companies who, in many cases, can not be traced. Though the archaic land ownership pattern of Anza is cited as a major obstacle for further development in Anza¹², there would seem to be no reason why the state could not move to acquire land which has remained undeveloped for 20 years or more if it so wished. Another problem with land for industry in Anza is its difficult topography, with a slope from the coast to the inland of some 12%. Anza houses at present industries connected to the port, mainly to do with fishing, as well as other industries, such as those related to energy and the cement works, which are the source of pollution, and it would seem to be natural that the sector should continue to be concerned primarily with these industries. However, there is a problem, too, with the siting of new polluting industries in Anza, despite the fact that it is cut off by topography from the main part of the town, though it was in Anza that polluting industries from the Industrial Quarter were in the past encouraged to relocate (principally because there was no other established industrial zone). The difficulty here concerns

11. *ibid.* p.B23

12. *ibid.*

the prevailing winds, which are from the north west (Anza is situated in the north west part of Greater Agadir), and it would seem reasonable not to add to existing air polluting industries there at a time when two new industrial zones are being planned in more favourably located parts of the urban agglomeration (see section 5.2.2). Pollution in the form of liquid effluents can not be permitted at Anza either, given the adjacent ocean and the proximity of the town and its beaches. The conclusion of the Z.I. report¹³, justifiably it would appear, is that the existing Q.I. can not be extended in any case, and though Anza could be and has the advantage of easy access (to the port and the town), as well as existing infrastructure (especially of electricity), its topography, location as regards winds and pattern of land ownership count against it, and further industrial growth in the urban area should be almost entirely concentrated in the two new designated sectors described below.

5.2.2 Development in the 1980s and 1990s

Before considering the new sites and their potential capacities it is worth examining what the industrial needs of Greater Agadir ought to be in the period to the end of the century. The master plan for Agadir (based on the series of commissioned reports carried out by IAURIF) speaks of 2,000 new jobs a year from 1977 up to 1987 and 4,000 a year beyond that. Quite correctly, though arguably too politely, the Z.I. report objects to these arbitrary targets which it sees as quite excessive¹⁴. If they were followed, the total industrial employment in the year 2000 would be around 80,000 (not much less than the present total for Casablanca), representing almost 14% of the total estimated population of Greater Agadir in that year (of 587,000, based on an overall growth rate of 6% per year throughout the 1980s and 1990s), and around 26% of the population aged between 15 and 65.

13. *ibid.* p.B24

14. *ibid.* p.B19

This would also imply an overall industrial growth of 9.1% per year over 20 years in Greater Agadir (from 1980 to 2000, or an annual overall rate of 10.5% measured from 1977 to 2000), which rates, as the Z.I. report understatingly observes, have never been sustained in Morocco over such a period. Such figures have more in common with fantasized tourist capacity targets for Agadir (cf. section 5.4.2) than with reality.

As with employment figures, the proposed new areas to be brought under industrial use in the 'schéma directeur', though in line with the proposed numbers employed, are wildly ambitious. Some 487 ha devoted to industry are proposed for development within 20 years (at Tassila and Ait Melloul), with around half this total in the 1980s. Z.I., on the contrary, estimates that no more than 100 ha of new area are called for up to 1990 (given that there is a certain room for vertical expansion on the two existing sites), and that this figure could be as low as 80 ha. One could estimate a requirement of 90 ha up to 1990 and perhaps 200 ha for the period from 1990 to 2000 as reasonable targets. Such considerably lowered spatial requirements would correspond to industrial employments targets of around 18,000 in 1990 and 32,000 in the year 2000, giving growth rates of around 6% per year, and providing a fairly steady density of industrial employment of around 70 workers per hectare. Table 42 illustrates the difference between the wild plans of the schéma directeur and the set of more realistic proposals.

There are several reasons why the excessively high targets of (a) in table 42 should be avoided. Apart from the wastefulness of investing large sums of capital in industrial equipment which is then for a long period not usefully taken up, there are problems, for very large industrial units, of their demand on water as well as of their effective managing. The Z.I. report states ¹⁵ that the optimal size of industrial zones (for manufacturing industry) is between 50 and 70 ha.

15. *ibid.* p.B20

Table 42: Industrial targets for Greater Agadir up to 2000

a. implications of official proposals in schéma directeur (with overall annual growth rate of 9.1% between 1980 and 2000)

year	approx. industrial employment	area (ha)	new area developed in previous decade (ha)	density (employees/ hectare, rounded to nearest 10)
1980	14,000 (1)	170 (2)	-	80
1990	40,000	410	240	100
2000	80,000	657	247	120

b. alternative proposals (based on around 6% annual growth rate between 1980 and 2000)

1980	10,000 (1)	170 (2)	-	60
1990	18,000	260	90	70
2000	32,000	460	200	70

Notes: 1. the 1980 figures of manufacturing industrial employment are, in case (a), based on growths of 2,000 per year from 1977 to 1980, as envisaged at the time by the schéma directeur, and in case (b) are an estimate of the likely total in that year.

2. representing 110 ha in Anza and 60 ha in the Q.I.

The two sites to be developed are those of Tassila and Ait Melloul (see figure 70 for locations of industrial sites), and together with the housing developments described in section 5.3 they correspond to an intensive development along the axis of the R.P. 40 linking Agadir proper with Ait Melloul.

The Tassila site (on which a few isolated industrial units began to be constructed from the mid-1970s on) has a total area of 313 ha, of which 253 ha are proposed for industrial development (as noted above), 125 ha during the first phase of development (which was scheduled in a 1978 estimate to cost 27.4 million dh for the infrastructure, at a cost of 21.9 dh/m²). The plateau on which the site is situated is well connected by road to the other parts of the urban area, and it is planned that the railway should pass to the east and north of it with a station serving the residential part of the sector (see figure 73). All the terrain at Tassila is in state hands, so that the problem of land ownership that exists at Anza is not present and the site could eventually be extended southwards when the present airport has been abandoned. The Z.I. report considers the distance of Tassila from Agadir (10 km) something of a disadvantage¹⁶, though with a large residential sector being planned for development at the same time, immediately beyond the R.P. 40 to the north east, that problem should be overcome. The type of industry that could be accommodated at Tassila would reasonably include activities linked to the railway, such as shunting and repair yards for the railway itself and warehouses for goods being transported.

Ait Melloul site, of 350 ha, has the advantage of being on the far south east edge of the Greater Agadir perimeter and thus well placed for industries causing air pollution, at least as far as the inhabitants of Greater Agadir are concerned (if not for local farmers to the south east in the direction of Biougra). Of the total area some 230 ha are designated for industrial use (115 of

16. *ibid.* p.B23

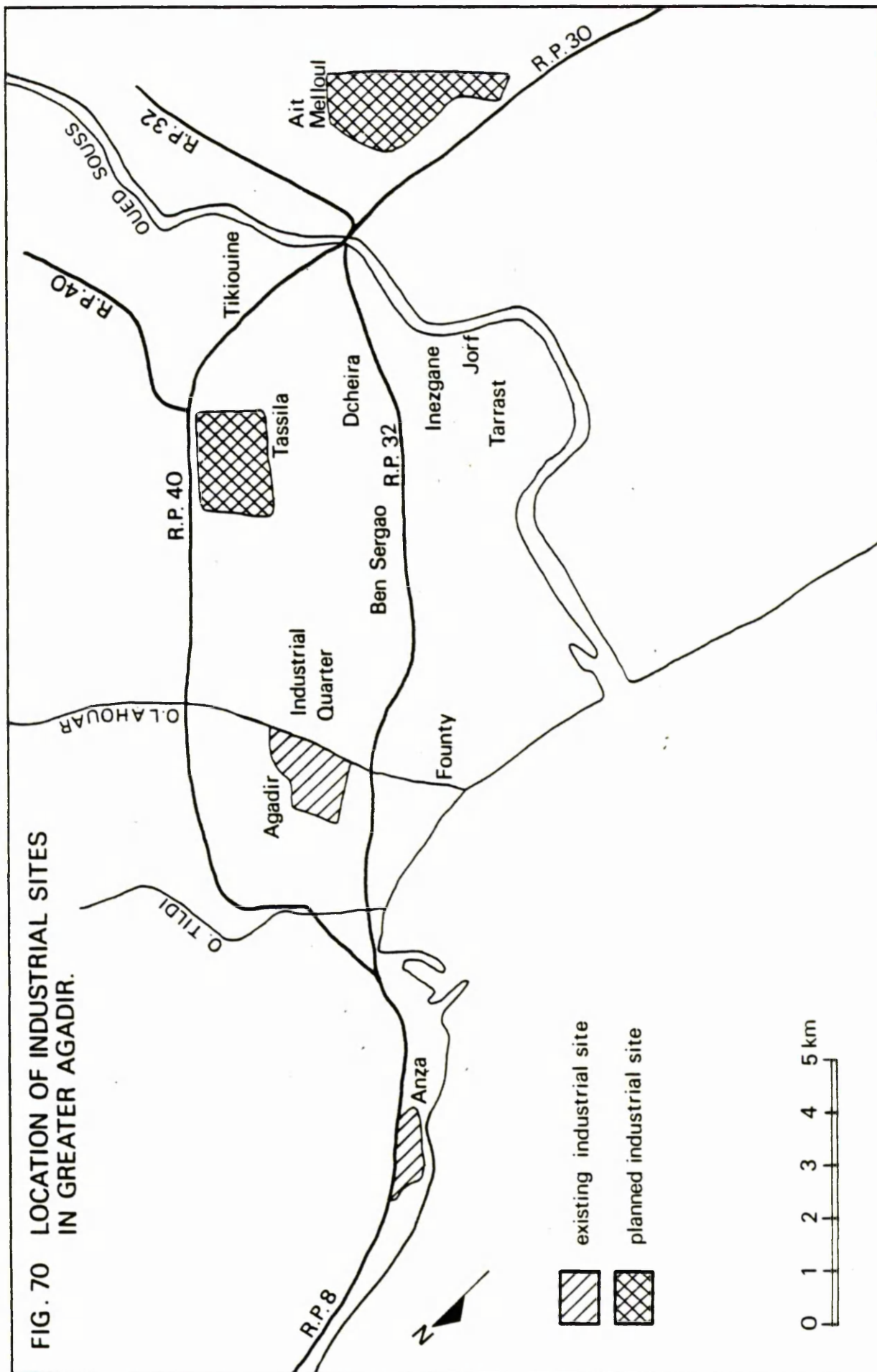


FIG. 70 LOCATION OF INDUSTRIAL SITES IN GREATER AGADIR.

these in the first phase of development), 20 ha for artisanry, 40 ha for warehouses and 54 ha for roads. The estimated cost in 1978 of the infrastructure in the preparation of the first phase was similar to that at Tassila, a figure of 24.4 million dh (19.3 dh/m²). As with Tassila the land is at present held by the state, by the Ministry of Water and Forests, and would have to be acquired from that government office, and, as is the case at Tassila, the railway is scheduled to pass close to the industrial estate, with a probable station not far away in the residential sector of Ait Melloul.

5.3 New housing estates in Agadir in the 1980s and 1990s

The urban master plan for Agadir proposed three new urban sectors in Greater Agadir for the period 1980 to 2000 (in addition to the mixed tourist/residential sector of Founty described in section 5.1); these sectors, or 'cities' almost, were Agadir South East, Tassila and Tama ou Anza. The aim was to provide Agadir with new housing for almost 100,000 occupants, apportioned between the three cities as follows:

Table 43: New housing estates in Agadir

city	lots	dwellings	inhabitants
South East	5,000	8,000	40,000
Tassila	4,000 (initially 2,700)	6,400	32,000
Tama ou Anza	2,500	4,000	20,000
Total			92,000

Figure 71 shows the locations of the three sectors. The three are to be built concurrently, with intervals of only a few months between their schedules, as opposed to the developments of SONABA (cf. section 5.1) which proceed project by project. The first of these projects, Agadir South East, is already under way (the selling of the plots began in April 1980 and the work on the infrastructure in June 1980); Tassila was due to be launched at the end of 1980 and Tama ou Anza some six months later. The acquisition and preparation of the terrain and the laying of the infrastructure, the planning of the complete layout of the city

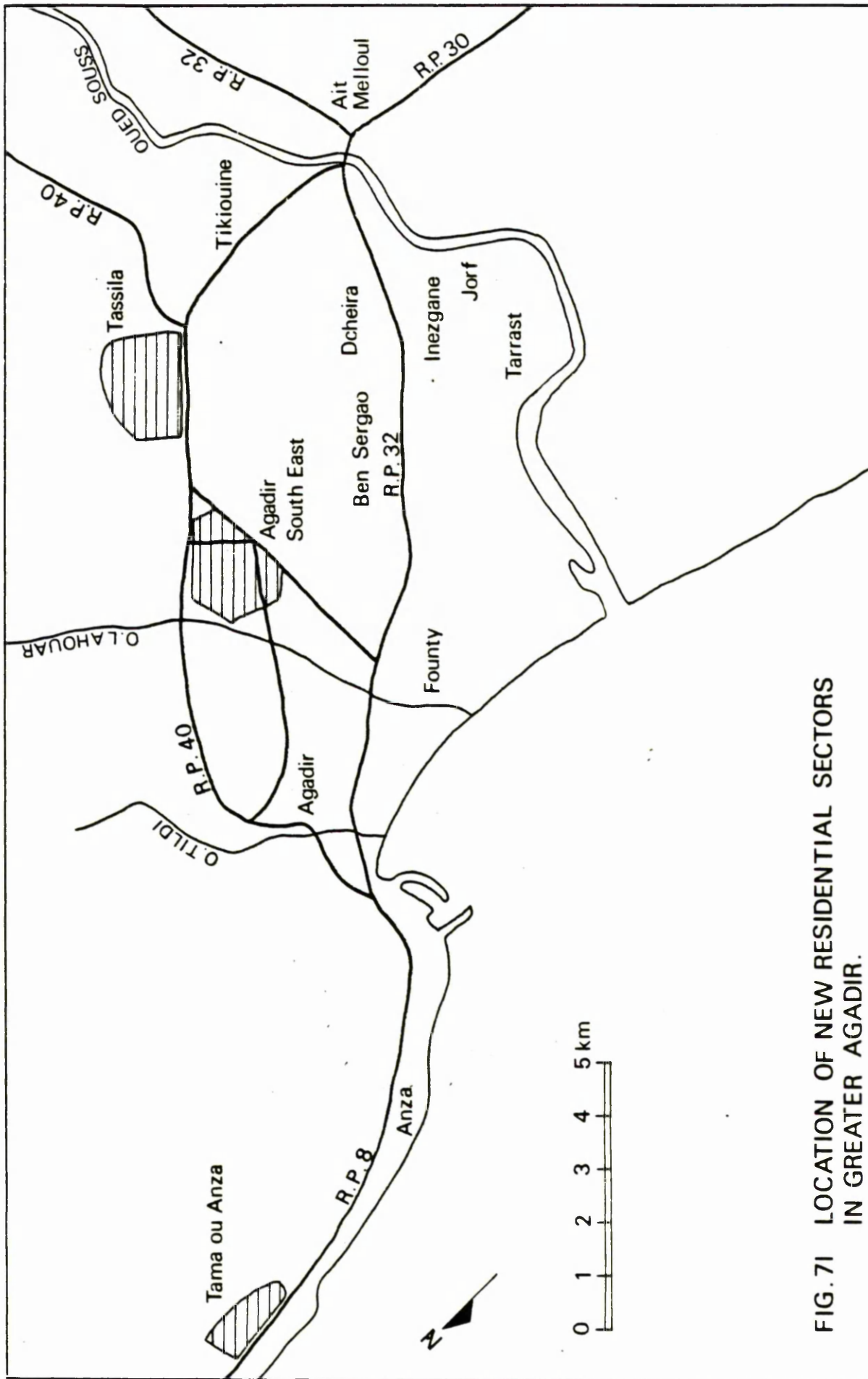


FIG. 71 LOCATION OF NEW RESIDENTIAL SECTORS IN GREATER AGADIR.

and the selling of the plots is in the hands of a state-owned corporation, ERAC (as is similarly the case for the bay of Agadir projects such as Founty, handled in that case by the semi-state company of SONABA). Some details on ERAC, and particularly on the first new venture of Agadir South East, are given below, based on an interview with the regional director in Agadir (for the region of the south), M. Hajiej¹⁷.

ERAC (Etablissement régional d'aménagement et de construction) is a state-owned company with seven regional offices (one in the headquarters of each economic region of Morocco). It has a national board, under the chairmanship of the minister of urban planning, with the other board members appointed from a number of various other ministries concerned. Each regional office of ERAC has a director, appointed not by the board nor by the minister but by dahir (that is, by decree). The corporation is financially autonomous.

Agadir South East was at first to be known as Dakhla, after the main town, formerly called Villa Cisneros, of the southernmost portion of the western Sahara (that part now known as Oued Eddahab) taken over by Morocco in August 1979. The name was dropped because of the confusion it would have raised; Agadir's 'Dakhla' of 40,000 inhabitants would have been several times larger than the fishing town of the same name almost 1,000 km to the south west.

In Agadir SE ERAC has purchased 225 ha of the 265 ha site and the municipality of Agadir the remaining 40 ha. The division is on geographical lines; the existing municipal boundary of Agadir,

17. interview with M. Hajiej at ERAC on 30.7.80. M. Hajiej became director of the regional office in mid-1979 (source: Al Maghrib, 7.8.79, article entitled '10,000 lots "anti-spéculation" à Agadir'). He had been appointed to rescue the regional office from a situation where large sums of money had been squandered and the state had eventually to step in to pay off the debts ERAC had incurred (source: an employee at DRHAT, Agadir, in discussion in summer 1980).

rather anachronistically (it has scarcely changed since before the earthquake), passes through the site of Agadir SE (see figure 72 for the existing boundaries of municipalities and rural communes in the Greater Agadir area, the map showing the north west corner of Agadir SE which falls within the municipal boundary). The municipal boundaries will before long have to be altered to correspond with the reality of the 1980s, rather than to a position more than 20 years earlier, in order to avoid further such pointless divisions of responsibility. Agadir SE is in fact the first instance of a housing development being jointly undertaken by a local authority and a state company, though that, as mentioned, is due more to historical accident than to purposeful design. Furthermore, the development of the terrain at SE is being completely financed (eventually) by those buying the plots. This is a reflection of a crisis in housing generally and of an acute shortage of funds due to the Sahara war.

The price of land at SE will be a maximum of 150 dh/m², with buyers making a certain advance payment. This figure is less than the price at Founty, though the equipment being laid down, such as that of telephones, is less sophisticated at SE than at Founty. From April 1980, when the selling of lots began, to the end of July 1980 there were more than 6,000 applications to buy, especially for the small lots of 75 to 135 m² (where there were 5,000 applications). One of the functions of ERAC developments in Morocco is to provide facilities for Moroccan workers abroad to buy houses for themselves and their families in Morocco, and in Agadir SE about 30% of dwellings are to be reserved for emigrant workers (there is a small ERAC development in the new sector of Tiznit serving a similar purpose; see figure 58). Some 40% of SE is to be allocated to local functionaries and 40% to private buyers.

One interesting feature of SE is the intention to construct a number of quarters within it, some 6 or 7 in all, each of around 30 to 40 ha and designed in the style of a Moroccan medina.

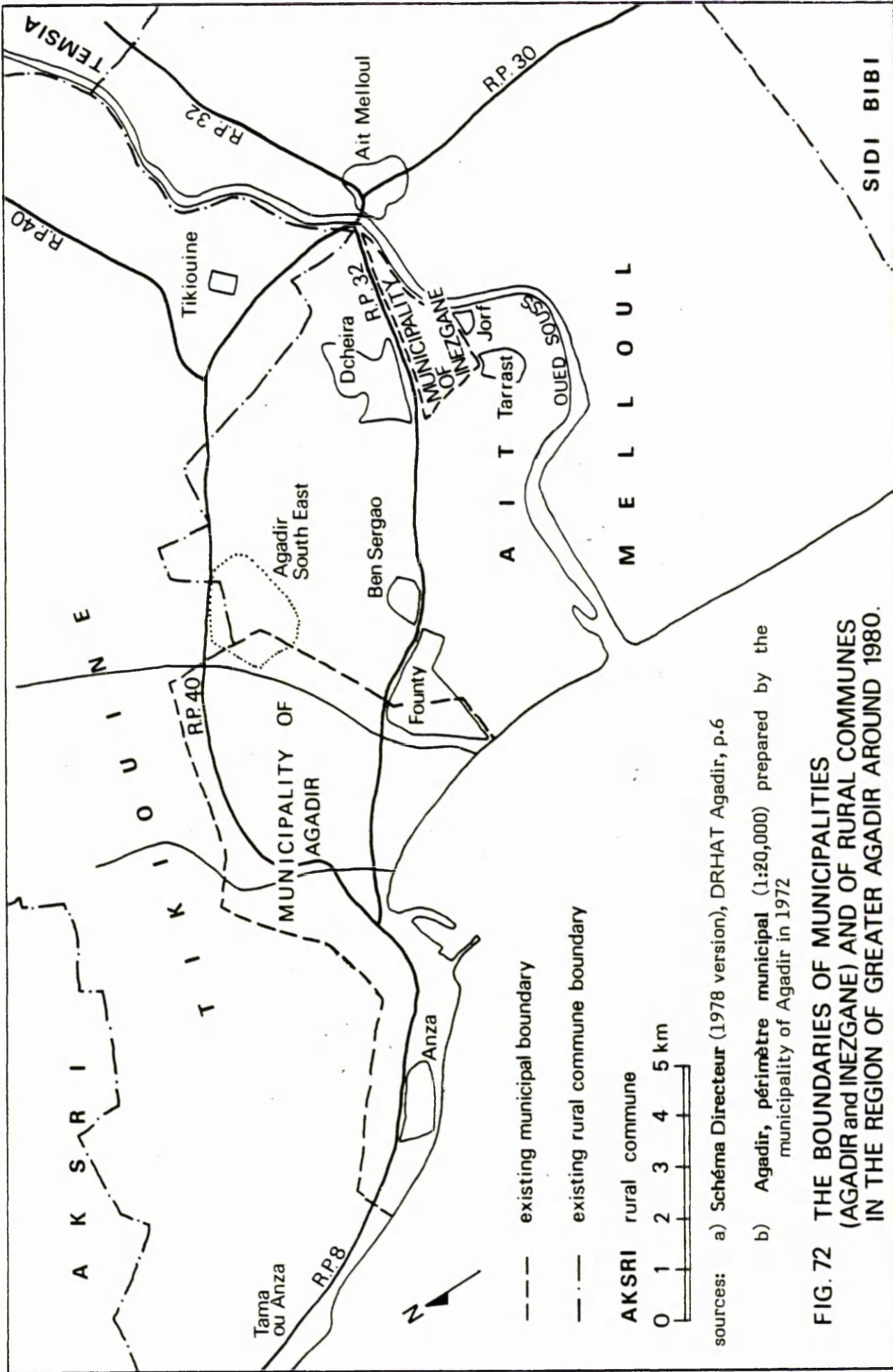


FIG. 72 THE BOUNDARIES OF MUNICIPALITIES (AGADIR and INEZGANE) AND OF RURAL COMMUNES IN THE REGION OF GREATER AGADIR AROUND 1980.

Agadir has no proper medina at present, Talbordjt coming about the closest to one, and this idea provides the new city with a certain originality (see image 38).

Of the 5,000 lots, 3,500 are for individual dwellings, or for dwellings with a shop or small business on the ground floor. Of these, 2,500 are being handled by ERAC and 1,000 by the municipality. The remaining 1,500 lots would be for offices, shops, schools, hospitals and other public buildings without dwellings, or for a limited number of blocks of flats.

The work on the infrastructure began in June 1980 and was expected to take 3 to 4 years to complete. It was being carried out in sections, evenly distributed spatially throughout the whole area. As soon as the infrastructure in a particular section was completed construction work could begin there, and since the first sections were due to have their infrastructure finished in 1981 construction there could begin at that time.

The sector of Tassila, the second city to be developed, will be closely linked with the industrial site being constructed there to its south west, described in section 5.2. In the first phase of the residential city some 2,700 of the eventual 4,000 lots would be developed, giving accommodation for 21,600 people (out of an eventual planned capacity of 32,000).

Tama ou Anza, the last of the three cities, would be linked to port activity and to the industrial zone of Anza. Liaison would be necessary with SONABA, who have the claim to the land, Tama ou Anza being one of their own development projects. It is, however, very much last on SONABA's list (see ch. 5.1.1), not being scheduled, within SONABA's sequential programme for the five bay projects, until the late 1990s or the first decade of the 21st century, and, as was suggested in chapter 5.1.1, SONABA may well decide after its first two projects (Founty and Taghazout) not to pursue the three smaller ones, and may have abandoned Tama ou Anza long before it was due to consider that project.

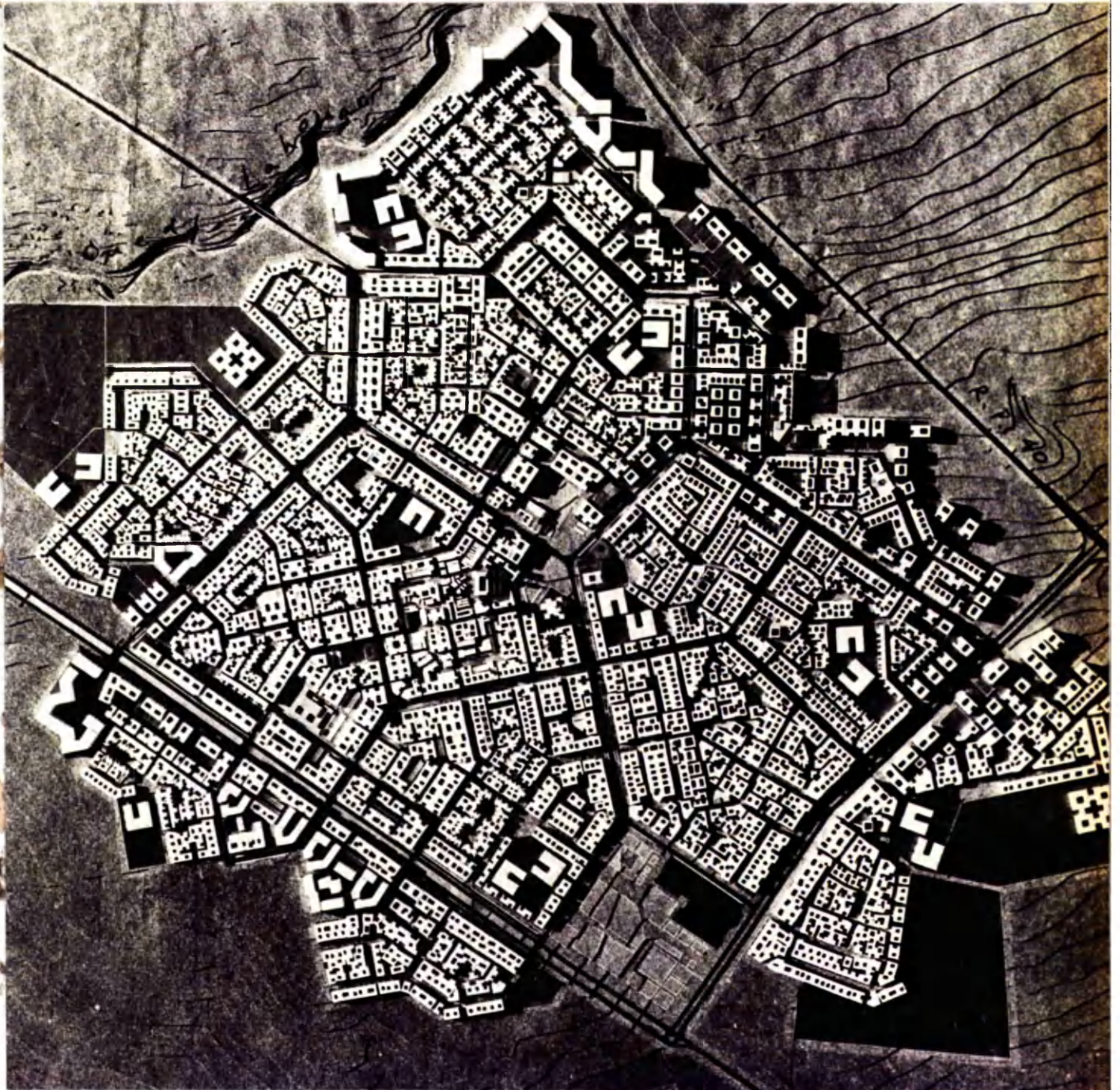


Image 38 A model of the new housing sector of Agadir South East
(from photograph supplied at office of ERAC in Agadir, July
1980; the scale is approximately 1:11,500)

5.4 Conclusion to chapter 5

5.4.1 The region

At a regional level it is clear from what has already been written that Agadir is becoming ever more dominant not only in political terms but in the economic sphere as well, with often wildly ambitious projects put forward for industrial and tourist developments at rates of growth that could only be sustained, if at all, with difficulty. The irony of this economic concentration is that it reflects an idea of national decentralization, though decentralization at the national level, in this case at least, is resulting in ever greater centralization at the regional level. Measures favouring a truer economic decentralization have continually lacked effectiveness. As the Z.I. report bluntly states, "despite codes of investment, dispensation from taxes, identification of projects and aid to outlying backward provinces, industrial decentralization has been limited, effected bit by bit, without a strategic plan for regional development. Administrative decentralization has been pushed more than industrial decentralization, resulting in a large sprinkling of credits and equipment, and often in the dichotomy of industrial centre/provincial capital, whereas a complementation of these two functions would have been desirable. The industrial towns of the Gharb are deprived of administrative power, while the new provincial capitals of the Atlas frontier have practically no industry."¹⁸

5.4.2 Tourism

Tourism, like industry, is heavily concentrated in Agadir, though it faces different constraints from industry in its locational possibilities. Both share the constraint of needing abundant water if they are to be developed in any magnitude, though apart from that, tourism is restricted (in the south, at least, lacking

18. Z.I. p.A29

any 'imperial cities') mainly to the coast, because that is where the large majority of tourists want to be, and even along the coastline many places are ruled out for topographical or other reasons. SONABA, in fact, chose almost the only five available sites in the whole bay area, from Cape Ghir to the mouth of the Massa, in its list of projects, other places being unsuitable for reasons such as their high cliffs.

Tourism in Agadir, though, is, as with industry, the object of over-ambitious plans. Those regarding industry were mentioned in section 5.2 above, while some recent pronouncements on tourist developments (far more extreme than their industrial counterparts) are briefly discussed here.

On the occasion of his visit to Agadir and the south in July 1980 to inaugurate various tourist projects, Moulay Ahmed Alaoui, Minister of State responsible for tourism and proprietor of 'Le Matin' newspaper, made various statements regarding what he considered to be the goals for tourism up to 2000¹⁹. On his visit he formally opened hotels (most of them had already been operating for several months in any case) 'with 4,530 beds, (having) an investment of 250 million dirhams and creating 1,800 new jobs'.²⁰ He spoke of the intention²¹ to attract 20 million tourists a year to Morocco by the year 2000 (there were some 1.7 million tourists in 1980, so that the target would represent an annual growth rate of 13% for 20 years), and to construct 400,000 new hotel beds in that period, or 10,000 new hotels rooms a year (from 54,000 beds nationally in 1980, a growth rate of 10.6% per year). (Even if such a programme had been immediately embarked upon, the day following his remarks, it would still have taken 3 to 4 years for the first 10,000 new rooms to be built to come into operation).

19. Le Matin 21, 22 and 23.7.80

20. Le Matin 23.7.80

21. Le Matin 22.7.80

The economic implications of these startling proposals merit a little closer attention. Where were the 400,000 new beds to located? It was clear that there was no demand, or else a lack of facilities (water availability, infrastructure), or both, for any large developments of more than a few hundred beds in most inland places, and that some coastal resorts, particularly the region of Tangier, had already become touristically saturated. Places such as Dakhla on the Sahara coast, agreeable climatically as they are reputed to be, face a problem of water supply. The bulk of any new mass developments, then, would have to fall principally in probably only two places, Marrakesh and Agadir, and Agadir would thus be expected to take at least 80,000 of these new beds²². In his second pronouncement²³ the Minister confirmed the worst fears earlier aroused: 100,000 additional hotel beds in Agadir by 2000 (implying an annual growth rate of almost 12% for 20 years) and he threw in a new conference palace with room for 5,000 participants for good measure (without specifying its location). Objections to these proposals would include the following points. The space in Agadir for such a large number of hotels would be almost impossible to find; with an additional 10,000 to 15,000 beds now being built or planned, in Founty and in the existing tourist sector, with the coastal strip blocked to the south of Founty by the new palace and then by the mouth of the Souss and to the north of the town by the port and Anza, and with most other suitable space designated for some use, the land for such development would not be easily made available. What of the direct costs? On the figures quoted above for the investment in 4,530 beds, at the same cost per bed the investment needed for Agadir would be 5.5 billion dirhams (of the same order as the value of Morocco's total exports in 1978), but considerably more investment would be needed to bring infrastructure and facilities (such as roads and hospitals)

22. interview with Hassan El-Kroni (28.7.80)

23. Le Matin 7.9.80

up to a level commensurate with the planned number of tourists, to say nothing of the size of an airport needed to cater to 10 times the present numbers of daily tourist arrivals and departures. With 110,000 beds then, and with a 75% rate of occupancy, 82,500 beds would be occupied at any one time; assuming an average tourist stay of 10 days, 8,250 tourists would be arriving in Agadir each day, most of them via the airport, and the same number leaving (as compared with a daily average of arrivals by air in 1979 of 800)²⁴. On the same figures of 110,000 beds and 75% occupancy, 12% of Greater Agadir's population would be tourists (though their demands, in water especially, and in the provision of food and services would place a proportionally much higher burden on the town), and 25% of the population of Agadir proper. What of employment? Fifty thousand new rooms, mainly 3-star or 4-star hotels, would create around 40,000 new direct jobs (at an average of 0.8 employees per room; cf. ch. 5.1.2), and perhaps as many indirect jobs. The figures quoted above (1,800 new jobs for 4,530 new beds) scaled up by a factor of 22 to 100,000 new beds give almost the same figure (39,600 jobs). But where are some 90,000 people engaged directly and indirectly in tourism in Agadir going to come from (30% of the population between 15 and 65) and where are those of them that require training in hotel schools or other establishments going to receive it? The strain on local resources and facilities already mentioned and the undoubted social and environmental repercussions of such a programme make it utterly undesirable in every way. A Moroccan touristic/cultural monthly review which engages in some critical discussion of issues reported in November 1980²⁵ on the dissolution of the state ONMT²⁶ (and its possible replacement by another similar agency) and on the reasons behind this closure, matters which will not be pursued further here.

24. Le Maroc en Chiffres 1979, p.56

25. 2000 Perspectives: journal mensuel, touristique, économique et culturel, Rabat, No.4 November 1980. Article (p. 1) entitled 'La dissolution de l'ONMT: illusions et vérités'.

26. Office National Marocain du Tourisme

5.4.3 The shape of Agadir up to 2000

The plans for the development of Greater Agadir for the remainder of the century and for the first decade of the 21st century see the remaining coastal space as far as the Oued Souss filled up by tourist projects and the new palace, and much of the remaining inland area which at present is agricultural or waste land built on for residential or industrial purposes. Figures 73 and 74 show the likely positions in around the years 1990 and 2000 respectively. By 1990 the railway (which project, at the time of writing, seems to have been given the authorization to begin construction) could be operating, at least between Marrakesh and Agadir. The proposed trace of the line is shown approaching Agadir from Taroudant on the left bank of the Souss, a branch turning north just before Ait Melloul to encircle the urban area by the east and north to stop at Anza, and the main branch turning south towards Tiznit. Stations in Greater Agadir are planned at Ait Melloul, Tassila, Agadir (to the east of Les Amicales), the port and Anza. The maps show, among other features, the construction of a new bridge over the Souss, east of Ait Melloul on a road by-passing that congested centre, and of a new port north of the present one. The map for 2000 shows some new residential areas on land beyond the railway line which may or may not have been fully developed by that time.

The shifts that have been and that are estimated to continue taking place in the agglomeration, of population, of industry and of tourist location, from before the earthquake through the present day to the end of the century, are illustrated in figure 75. This map shows the changing centres of gravity of these three parameters. The centre of gravity of overall tourist capacity (calculated in some detail in section 5.1) is seen to have shifted from near the Oued Tildi just before the earthquake, approximately south along a line some 500 m from and parallel to the coast, to an estimated position in 1990 almost at the Oued Lahouar. The centre of gravity of industry is shown as beginning in 1980 (near

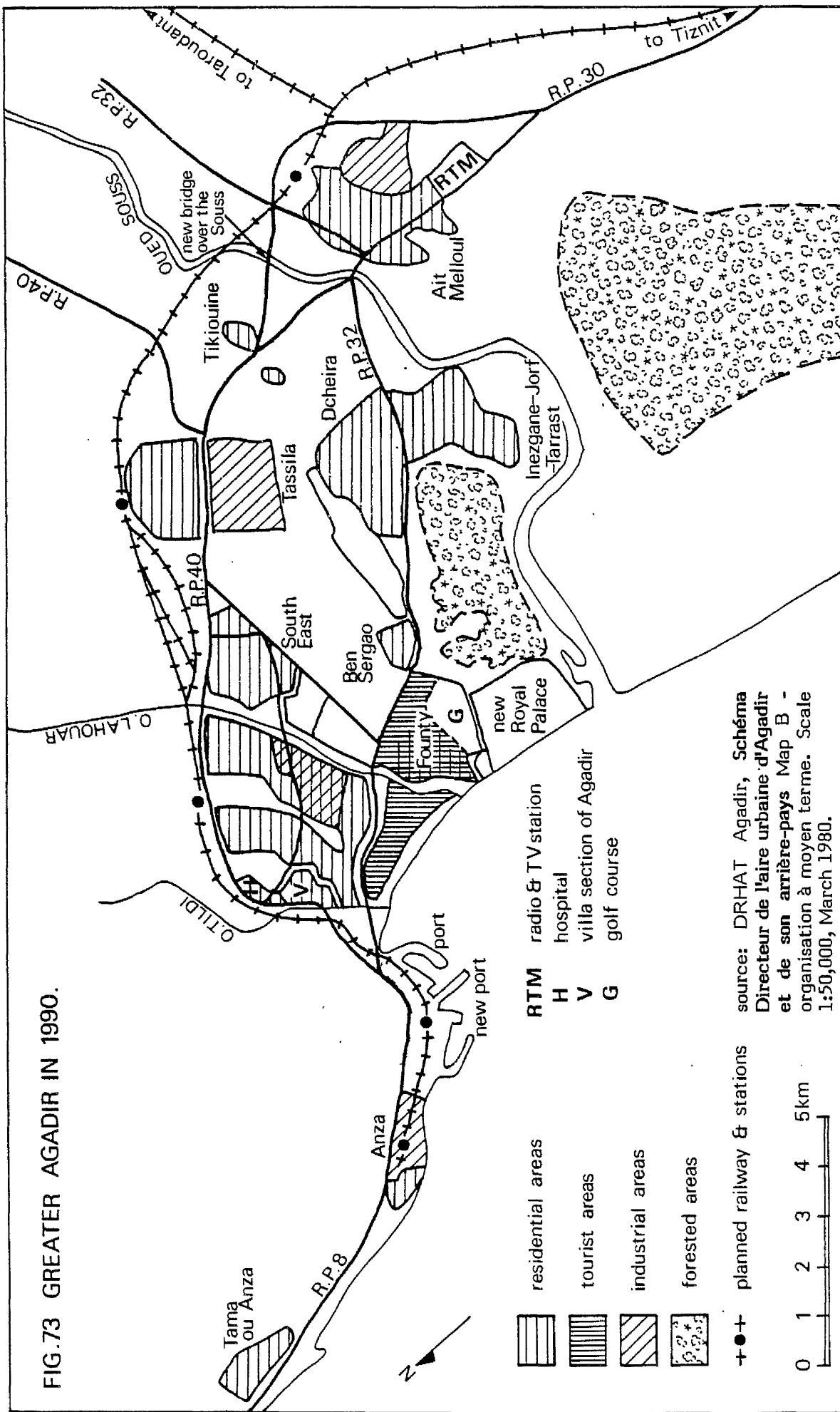
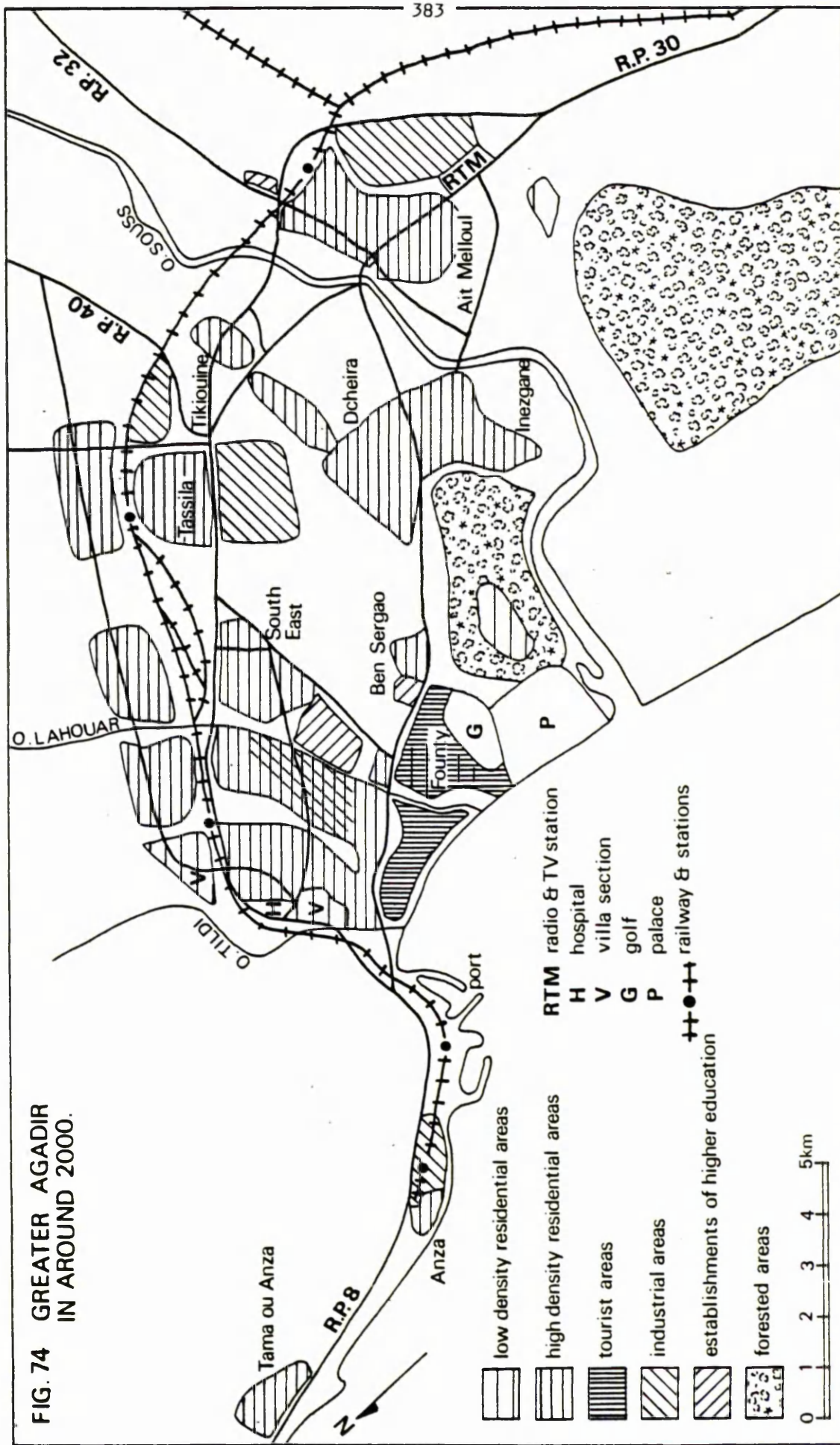


FIG.73 GREATER AGADIR IN 1990.

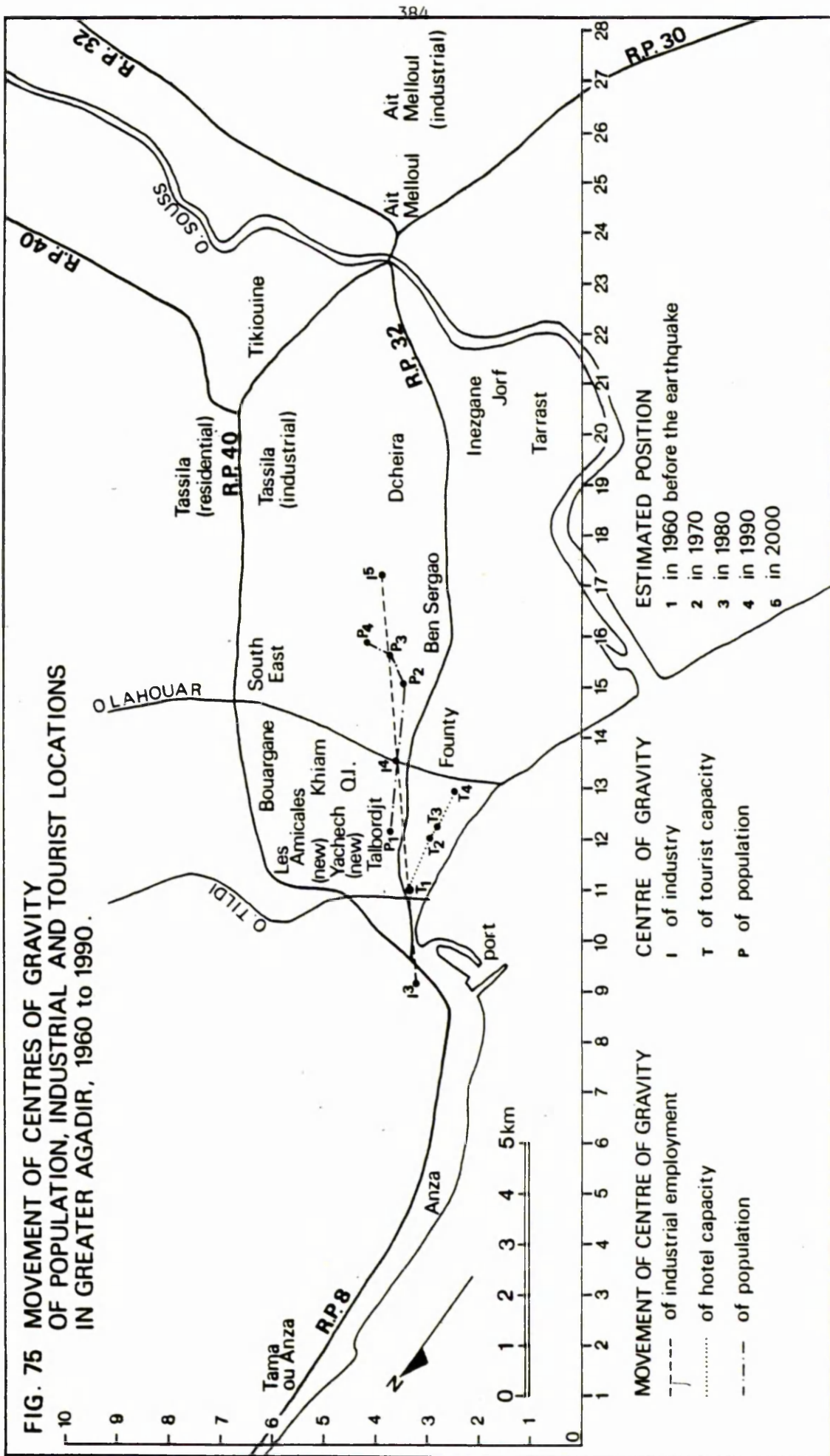
source: DRHAT Agadir, Schéma Directeur de l'aire urbaine d'Agadir et de son arrière-pays Map B - organisation à moyen terme. Scale 1:50,000, March 1980.

FIG. 74 GREATER AGADIR
IN AROUND 2000.



source: DRHAT Agadir, Schéma Directeur de l'aire urbaine d'Agadir et de son arrière-pays Map A - organisation à long terme. Scale 1:50,000, March 1980.

FIG. 75 MOVEMENT OF CENTRES OF GRAVITY OF POPULATION, INDUSTRIAL AND TOURIST LOCATIONS IN GREATER AGADIR, 1960 to 1990.



the port), though it will have been in approximately that position since even before the earthquake (with the two principal industrial locations having remained stationary during that period at Anza and the Q.I.), and in the following 20 years moving sharply some 8 km to the south east. The overall centre of gravity of the population of the urban agglomeration is also seen to be moving considerably, from a position near the R.P.32 roughly half-way between the Oued Tildi and the Oued Lahouar before the earthquake, in a south easterly direction towards Ben Sergao in 1980 and then towards the east in the 1980s as the residential sectors of Agadir South East and Tassila are built. The calculations are based on population estimates for the various sectors up to 1980 already given in tables 14 and 17 and with extrapolated estimates up to 1990, and with estimated locations on the rectangular centimetre grid marked in figure 75; both populations and locations are given below in table 44. Similarly, industrial sizes based on the number of workers employed are used, based on the minimum targets suggested in section 5.2 rather than on the higher official targets, and these, together with the figures of locations, are also given in the table below.

A few observations on the implications of figure 75 conclude this chapter. Firstly there are seen to be two distinct axes; the first is a coastal one, roughly north to south, of tourist location, and one along which the actual centre of gravity of tourism is gradually shifting to the south. The second is a distinct and diverging axis in a north west to south east direction, along which the centres of gravity of both population and industry are moving, though not precisely in step. Population and industry, on the one hand then, and tourism on the other are increasingly diverging from each other, with the former two both moving by the end of the century to a position close to the geometric centre of Greater Agadir some 4 to 5 km inland, while the latter moves gradually southwards down the coast. Two worlds are conjured up here, the first of large residential and industrial estates inland, the second of a coastal strip of

Table 44: Populations and industry of the sectors of Greater Agadir

a. population

	resident population (in '000) (estimated)					growth rates (annual rates in %)			locations centres of gravity of respective quarters			
	1960	1970	1980	1990	1990	60s	70s	80s	1960	1970	1980	1990
Ben Sergao	0.2	6.0	10.4	13.0	13.0	-	5.7	2.3	(16.4,2.7)	throughout the period		
Dcheira	0.4	14.0	34.0	60.0	60.0	-	9.3	5.8	(20.0,3.2)	throughout the period		
Tikiouine	0.2	2.6	6.6	11.0	11.0	-	9.8	5.2	(22.5,5.8)	throughout the period		
Inezgane- Jorf-Tarrast	6.9	15.5	33.4	59.0	59.0	8.4	8.0	5.9	(20.9,2.2)	(21.0,2.0)	(21.2,1.8)	(20.8,1.5)
Ait Melloul	1.6	5.3	13.4	30.0	30.0	12.7	9.7	8.4	(24.2,3.5)	(24.4,3.5)	(24.7,3.5)	(25.0,3.5)
Founty	-	-	-	20.0	20.0	-	-	-	-	-	-	(9.4,2.8)
Agadir SE	-	-	-	30.0	30.0	-	-	-	-	-	-	(15.9,5.6)
Tama ou Anza	-	-	-	14.0	14.0	-	-	-	-	-	-	(1.8,5.6)
Tassila	-	-	-	20.0	20.0	-	-	-	-	-	-	(19.3,7.3)
Anza	6.6	10.0	15.0	18.0	18.0	4.1	4.1	1.8	(5.3,2.7)	throughout the period		
Agadir between O. Tildi & Lahouar	16.1	55.8	106.6	150.0	150.0	-	6.7	3.5	(12.9,4.4)	(12.6,4.2)	(12.5,4.5)	(13.0,5.0)

Table 44 (continued)

(old) Talbordjt	14.5	-	-	-	-	-	-	(10.0,3.7)
Kasbah	1.0	-	-	-	-	-	-	(9.4,3.4)
(old) Founti	2.3	-	-	-	-	-	-	(9.4,2.8)
(old) Yachech	6.8	-	-	-	-	-	-	(10.7,5.1)
Total population of Greater Agadir	56.6	109.2	219.4	425.0	-	7.2	6.8	(12.2,3.7) (15.1,3.5) (15.7,3.7) (15.9,4.1) P ₁ P ₂ P ₃ P ₄ (in fig.75)

Sources: Table 17 (adjusted), Table 14, IAURIF figures

b. industry

location	approximate size (in '000 employed)		
	1980	1990	2000
Anza	6.0	7.5	8.0
Q.I.	4.0	4.2	4.5
Tassila	-	3.5	10.0
Ait Melloul	-	2.8	9.5
Total	10.0	18.0	32.0
resultant centres of gravity of overall industrial location	I_3 (9.2, 3.2)	I_4 (13.6, 3.6)	I_5 (17.3, 3.9)

(in figure 75)

tourists in modern hotels, of swimming pools and golf courses and the new royal palace. This latter strip, up to 2 km deep from the coast, from the Oued Tildi to the Oued Souss, will in some sense represent a 'centre' of the Greater Agadir of 2000, a centre of administration, of wealth and of desirable location. The old 'periphery', that comprising what were called up to about 1980 the 'satellite towns', will have become, as suggested in the schema of figure 42 summing up the centre/periphery and utile/inutile concepts, the denser area and the one with the larger part of the resident population, as well as housing the major part of the industry of the conurbation in its north western, south eastern and eastern extremities.

CHAPTER 6

THE SHAPE OF THE REGION IN THE 1980s AND 1990s

6.1 Introduction

The position of the town of Agadir and that of the other urban centres of its immediate region in the early 1980s have been described in chapters 5 and 4, respectively. The centres of Tiznit and Taroudant have become firmly entrenched as secondary ones, though there has been a perceptible increase of activity around them due to both the decentralization of political powers within the region as well as the demographic pressures within their walls resulting in the planning and construction of new towns next to the old medinas. Agadir town, though, has seen and continues to see the far greater dynamism, both in demographic terms as well as economic. Political decentralization, as has been seen, has far outstripped economic decentralization, and plans for new industry within the region, in addition to most of the existing industry, fall within the Greater Agadir conurbation. Other activities, such as those related to the port and to fishing, continue to be concentrated at Agadir, despite the oft-repeated pledges to have other ports in the south enlarged or developed. Tourism, too, within the region of the south remains highly centred on Agadir, a dominance which, though it existed in a minor way before the earthquake, was achieved in fifteen years of rapid development after 1965 and which seems set to increase even further.

Agricultural growth, while important, particularly in such projects as the Massa irrigation scheme of the 1970s, where a previously arid part of the plain was made fertile, has been more modest, or at least has been perceived to be so, with large projects such as the Massa or Issen dams taking several years to come into operation. The rural exodus, now long established, meanwhile continues, a portion of it adding greatly to the pressure on the towns of the region, though principally on the town of Agadir. One new agricultural scheme, that of introducing sugar beet (described in section 6.3) may help to somewhat revitalize the relatively underdeveloped amount section of the Souss plain.

There is one factor, though, which could change the shape of the region to an extent greater than any of the individual projects already described, whether urban, industrial, port-related or agricultural, and that is the proposed railway link with the north. This project, described in section 6.2, has a bearing on all the factors determining the shape of the region. Clearly it bears on the location and type of future industry in the region and on the accessibility of agricultural areas both as regards their inputs as well as their produce. Mining, which in the south is important in terms of the widespread deposits of a range of minerals, has in the past remained sporadic, in space and in time, with lack of water and difficult accessibility making it often a half-hearted affair; the introduction of a railway in the south will ease the second major obstacle for places situated near the line, or so it is claimed. For a more systematic development, mining, it is argued in a report which is critically assessed in section 6.2, needs the railway; it could be asserted equally that the railway needs mining. More generally, though, the political shape of the region will be altered, in fact must be altered, by a railway line which globally both links it to the network north of the Atlas as well as to the Sahara to the south, thus affecting its geopolitical status as a buffer zone or terminal zone (cf. ch. 1.2), and which, internally within the region, links certain places (and, by implication, not others). The political and economic status of countless villages, towns or whole areas rose or fell abruptly as the railways were developed in the 19th century; often the spread of the railway was closely connected with a colonization and exploitation of barely populated areas, as in the cases of parts of North America and Siberia. Though the future development of the region of the south in Morocco is far from 19th century pioneering, and while the impact of a railway extension is certain to be less in the late 20th century, where other forms of communications are well advanced, than it was over a hundred years earlier, there is undoubtedly a strong political element to this project both in its potential repercussions on the region and, it is suggested in section 6.2, in the very decision to authorize its construction, despite the enormous cost.

Section 6.2, then, examines some of the arguments behind the railway project, discussing in some depth the position of mining in the south (which up to now has only been touched upon in this thesis), and tries to assess briefly some of the effects that may stem from it; section 6.3 discusses other projects in the region in the 1980s and 1990s and their relation to the construction of the railway.

6.2 The railway project in the south of Morocco

6.2.1 Background to the project

The existing rail network in Morocco of some 1,750 km was constructed by the French in the period up to 1934, for both military and commercial purposes¹. The first line to be opened was a narrow gauge line between Casablanca and Rabat, opened in 1911, shortly before the start of the protectorate period. In the 1920s, with the development of commercial agriculture in the plains of the north west and phosphate mining in the central plateaus, the rail network also grew quickly. By 1928 (with the original narrow gauge between Casablanca and Rabat having been converted to standard gauge) there was a continuous link from Tangier, via Sidi Kacem, Kenitra, Rabat and Casablanca, to Marrakesh, with a branch running from Casablanca to the phosphate centres of Khouribga and Oued Zem, and an eastwards spur going from Sidi Kacem to Fes. In the 1930s this latter branch was extended to Algeria, connecting by rail the northern part of the Maghreb as far east as Tunis, and the phosphate industry was further served by the opening of a branch from Ben Guerir (in the Youssoufia phosphate area), a centre already situated on the line from Casablanca to Marrakesh, westwards via Youssoufia itself to the port of Safi. Two branch lines were also later added, one going from near Oujda some 50 km south to the coal area around Jerada, and a second one some 300 km south to the manganese deposits at Bou Arfa.

Minerals, then, played a determining role in much of the layout of the railway network; in fact some 652 km of the total line (37%) existed solely for the purposes of transporting three minerals, phosphates, coal and manganese (the Ben Guerir to Safi link of 142 km, the 177 km from Oued Zem to Casablanca, the Jerada branch of 45 km, and that to Bou Arfa of 288 km)². To the present day,

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1. Most of this historical information on the railway is taken from Stewart, Charles F., *op.cit.* pp.148-151
 2. distances taken from report on railway study (mentioned in footnote 6 below), part 2, p.15

minerals, principally phosphates, constitute the overwhelming part of the freight carried on the railway; in 1979, of the 26.6 million tonnes of freight handled by the state railway, the ONCF (Office national des chemins de fer), 21.4 million tonnes was phosphate ore. The number of passengers carried the same year was 4.6 million³. This is a railway, then, serving the agricultural and phosphate region of the north west, of Maroc utile, with branches from its centre, almost as afterthoughts, south to Marrakesh, north to Tangier and east to link up with the Algerian and Tunisian network, and with a further branch from near Oujda for the minerals of that region; a network of 1,756 km, of which 711 km is electrified and only 161 km is double track, which has remained basically unaltered for over 40 years. What brought about the sudden urge to extend it almost 1,000 km southwards, across the difficult terrain of the High Atlas and at very great cost, in the 1980s, in an age when railway building lacked the attractiveness it once had?

In the mid-1970s the proposal to extend the railway south across the High Atlas - an idea thrown around for a considerable number of years (cf. ch.2.2.1) - suddenly became again a serious object of study; the reasons for this were mainly political, namely the annexation at that period by Morocco⁴ of the major part of the former Spanish Sahara. Various firms⁴ were employed to contribute to studies on the railway, and a consulting firm, GEFMA, eventually produced a report, a synthesis of the economic and technical assessments. The cost of the railway studies came to 13.7 million dirhams alone in the 1978-1980 period⁵. The railway

3. BMCE Information Review No 30 September/October 1980, p.8

4. these included: Centrex (USA), Sofra-Rail (France), LPEE (Morocco), Parson-Brinckenhof (USA) and Woodward Cycle Consultants (USA). source: BMCE Review No 12 December 1977, p.15

5. Province d'Agadir, Projets prévus dans le cadre du plan triennal 1978-1980 p.15

project, like the Sahara venture, had become overnight an article of national faith, and, as section 6.2.3 shows, it only remained for GEFMA's report⁶ to find arguments to support its construction. Not surprisingly, much of the weight of the argument in the GEFMA report rested on the mineral producing potential of the region. For this reason, as well as the fact that minerals in the south have not as yet been covered in any detail, section 6.2.2 deals at some length with mining, followed by an examination, in section 6.2.3, of the arguments of the report itself.

6.2.2 Mining in the region of the south

General

Morocco's main mineral production, accounting for 77% of all crude mineral exports and 29% by value of all exports in 1979, is phosphate rock, from the Oulad Abdoun and Gannour plateaus; in terms of volume, coal, mined in the north and consumed domestically, comes second after phosphates, followed (in 1979) by barytes, pyrrhotine, lead and manganese ores. Of all these minerals, only about a quarter of the barytes and most of the manganese are mined in the region of the south. In terms of value, though, and principally export value, the south is important in its deposits of five main ores, which, after phosphate rock and lead ore, are the five most valuable ores for export; of all crude and semi-processed non-phosphate minerals, the south represents about a third in terms of export value. Tables 45, 46 and 47 summarize the production and export of the main raw and semi-processed minerals in Morocco and in the south, and the share of the south in the country's mineral exports.

6. Royaume du Maroc, Ministère des transports, Office National des Chemins de Fer (ONCF), Ligne ferroviaire Marrakech-Laayoun; études préliminaires. 1. Rapport de synthèse. 2. étude de transport: ressources. Study carried out by GEFMA, published February 1979, and hereafter referred to as the GEFMA report.

Table 45: Production and export of the main minerals in Morocco

A. Production of main mineral ores, by weight (other than phosphates)

(in '000 tonnes, except for silver)

<u>mineral</u>	1978		1979
	region of south	Morocco	Morocco
coal ⁽¹⁾	-	723	710
iron ore	-	63	62
chemical manganese (manganese dioxide)	126	126	136
barytes (barium sulphate)	45	175	287
copper (concentrates)	12	12	23
cobalt	8.7	8.7	8.0
silver (in tonnes)	21.9	21.9	30.7
lead ore	~ 1.5	167	165
pyrrhotine	-	190	197
fluorine	-	59	63
antimony	-	5	2
zinc	-	10	13

Table 45 (continued)

B. Exports of main minerals, by weight

(in '000 tonnes, except for silver)

<u>mineral</u>	1978		1979
	region of south	Morocco	Morocco
phosphates (ore)	-	17,264	17,868
iron ore	-	40	...
manganese ore	141	141	139
barytes	45	225	277
copper concentrates	10	10	21
cobalt	8.7	8.7	7.5
silver (in tonnes)	19.1	19.1	30.0
lead ore	~ 1.5	120	119
zinc ore	-	15	...
others	-	406	570
all crude minerals	~ 206	18,230	19,001
all minerals without phosphates	~ 206	966	1,133

Table 45 (continued)

C. Value of exports of main crude minerals

(in million dh)

	1978		1979
	region of south	Morocco	Morocco
<u>mineral</u>			
phosphates (ore)	-	2,034	2,214
iron ore	-	3	...
manganese ore	60	60	62
barytes	8	39	55
copper concentrates	13	13	38 ⁽²⁾
cobalt	54	54	119
silver	12	12	36 ⁽³⁾
lead ore	~ 2	173	282
zinc ore	-	6	...
others	-	55	72
all crude minerals	~ 149	2,449	2,878
all minerals without phosphates	~ 149	415	664

- ~ denotes approximate value
 ... denotes figure not available
 - denotes nil

Notes

1. coal is produced only for domestic consumption
2. the price of copper rose by a factor of 1.3 and production roughly doubled in 1979 over 1978
3. the price of silver roughly doubled and production rose by a factor of 1.5 in 1979 over 1978

In some cases the figures for export volumes are higher than those for production; this may be due to discrepancies between different sources, or else may be real, due to stockpiling.

Sources: A.S. (R.E.S.) 1978 p.65; Le Maroc en Chiffres, 1978 and 1979; Mining Annual Review 1980; BMCE information review, No. 29, July/August 1980

Table 46: Exports of minerals from Morocco in 1979(weights in 10^3 tonnes; value in 10^6 dh)

A. Crude minerals

	weight	value
phosphate rock	17,868	2,214
lead ore	119	282
* cobalt ore	8	119
* (chemical) manganese ore	139	62
* barytes	277	55
* copper concentrates	21	38
* silver	ε	36
others	569	72
total crude minerals	19,001	2,878

B. Semi-processed products

phosphoric acid	377	504
fertilizers	197	120
unwrought lead	34	137
others	26	211
total	634	972

C. All other exported goods . 1,752 3,772

D. Total Moroccan exports
of goods 21,387 7,622

* denotes items which stem wholly or largely from the region of the south

ε denotes < 1

Source: BMCE information review No.29, July/August 1980

Table 47: Share of the region of the south in the export of minerals (in 1978)

(values in 10^6 dh)

	value south	Morocco	% share of south
A. raw minerals exported	149	2,449	6.1%
B. raw and semi-processed minerals (i.e., including unwrought lead 58 M dh, phosphoric acid 269 M dh and fertilizers 134 M dh)	149	2,910	5.1%
C. raw and semi-processed items but without phosphates or phosphate derivatives	149	473	31.5%

The five principal minerals which made the south an important mineral region in Morocco after the phosphate belt are cobalt, manganese, silver, barytes (barium sulphate) and copper. The first three of these are each mined at principally a single site, and all of them in the province of Ouarzazate; together they represent some 80% (in 1979) to 85% (in 1978) of the export value of the minerals produced in the south, while employing only about 45% of the region's mining workers. They are thus overwhelmingly the most profitable minerals produced in the south (cf. table 48); the other two main minerals mined at present, copper and barytes, are scattered throughout the High Atlas and Anti-Atlas mountains of the region. In addition there is exploration and prospecting for other minerals in the region, such as uranium, and deposits of various other minerals are known to exist but are not mined (or no longer mined) because they are considered uneconomic under present conditions of accessibility, supply of water or availability of local labour, or because of changes in world price, the low grade of the local ore, its depth beneath the surface or the meagreness of the estimated reserves. The area includes a number of lead and zinc deposits, as well as various iron deposits which are important if only for the reason that they figure so prominently in the GEFMA railway study.

By province, Ouarzazate is the most important of the provinces of the south, both in terms of value, as already mentioned, as well as in terms of its share of mining workers (some two-thirds of the total of the region). The province, though, is for most purposes outside the main spatial domain of this thesis; for the purposes of the railway report, most parts of the province are also rather distant from the proposed railway line which in any case does not pass through it, and unless a branch line were added eastwards from Taroudant a large part of its minerals would still have to be transported considerable distances by road. In some respects, in terms of geopolitics and communications, Ouarzazate province, as has earlier been mentioned, is more closely linked with Marrakesh province and its region north of the High Atlas (the link is

Table 48: Number of workers employed in mining and the profitability of various minerals in the region of the south

A. Numbers of workers by province

province	mineral	number of workers (in 1978)
Agadir	copper	243
	barytes	~ 241
	pozzolana	~ 45
	Total	~ 529
Ouarzazate	copper	166
	manganese	447
	cobalt	538
	silver	104
	mica	49
	barytes	~ 300
	Total	~ 1,604
Guelmim	copper	260
Tata	lead	60
Approximate total for region of south		2,450 workers

~ denotes approximate value

Sources: interviews with A. Bait, office of division of mining in Agadir, in August 1979

A.S. (R.E.S.). 1978, p.65

B. Estimated profitability of five principal minerals in south in 1978

mineral	value of production (in 10^6 dh)	number of workers	value/worker (in 10^3 dh/worker)*
manganese	60	447	135
cobalt	54	538	100
→ copper	13	669	20
→ barytes	8	541	15
silver	12	104	115
Total	147	2,299	65

→ denotes low profitability

* figures rounded to nearest 5,000 dh/worker

C. Estimated profitability of minerals in south, using the production figures for 1979, but keeping the number of workers as in 1978 (cf. section B of this table)

mineral	value of production (in 10^6 dh)	number of workers	value/worker (in 10^3 dh/worker)*
manganese	62	447	140
cobalt	119	538	220
copper	38	669	55
barytes	14	541	25
silver	36	104	345
Total	269	2,299	115

* figures rounded to nearest 5,000 dh/worker

historical) than with the other provinces of the region of the south, and this is particularly true of mining, where the administrative regional office of the Ministry of Mines for the province is in Marrakesh and not in Agadir (the small Agadir office dealing with mining in the other provinces of the region). In addition, most of the minerals from the province are transported by road to Marrakesh, and from there by rail to Casablanca. Nonetheless, since geographically the mineral deposits of Ouarzazate are part of the wider region, and since it has been suggested by some that a part of the minerals of the province should be transported by the railway when it is completed, these deposits are discussed here together with the other minerals of the region.

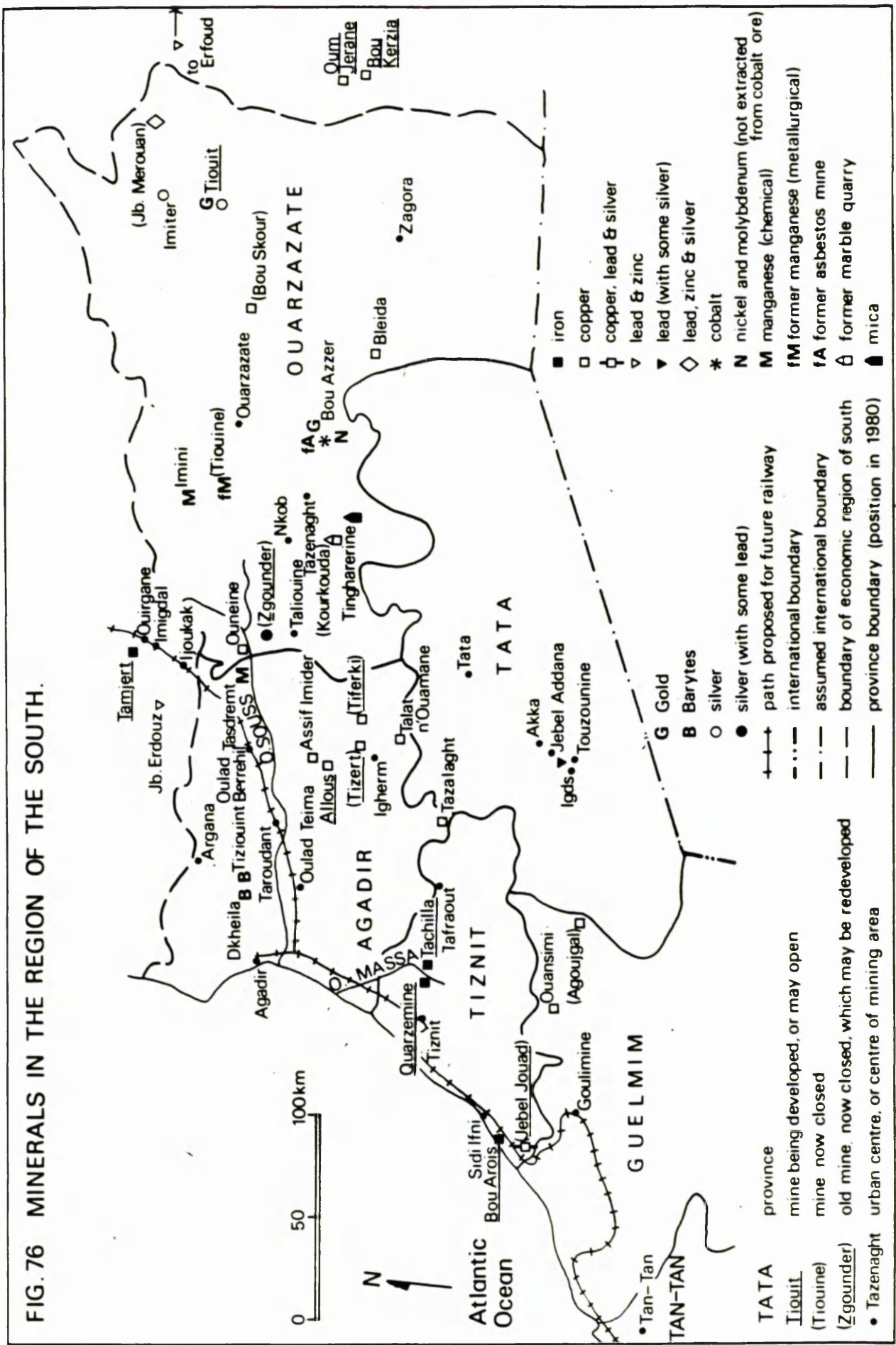
The main mining activities of the region are described below, by type of mineral. Table 49 lists the main companies involved, and fig. 76 shows the locations of the main deposits.

Manganese

The single manganese mine operating in the south is at Imini in the north west of Ouarzazate province (at which mining began in 1935), and it is also the only site producing the ore in Morocco at present, the Bou Arfa mine in the north east having closed. The company mining at Imini is SACEM, in which the state BRPM has a 47.1% share. The type of manganese ore mined is of the 'chemical' type, that is, of manganese dioxide (the ore there containing 84% of that substance⁷). Although the 130,000 T of ore mined at Imini is negligible on a world scale of overall manganese mining (with Africa, mainly Zaire, producing 5.5 MT out of a world total of 26.4 MT in 1979⁸), as regards chemical manganese it represents 8.7% of world consumption⁹. The other variety of

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7. Battelle report on Ouarzazate (1975) op.cit. p.93
 8. Metal Statistics 1969-1979 No 67, Metallgesellschaft A.G., Frankfurt 1980
 9. BMCE Information Review No 28 April/May 1980, p.22. In 1975 the figure was around 25% (source: Battelle report on Ouarzazate, op.cit. p.99)

FIG. 76 MINERALS IN THE REGION OF THE SOUTH.



- iron
- copper
- ⊕ copper, lead & silver
- ▽ lead & zinc
- ▽ lead (with some silver)
- ◇ lead, zinc & silver
- * cobalt
- N nickel and molybdenum (not extracted from cobalt ore)
- M manganese (chemical)
- fM former manganese (metallurgical)
- fA former asbestos mine
- ⊠ former marble quarry
- mica

- G Gold
- B Barytes
- silver
- silver (with some lead)
- +---+ path proposed for future railway
- - - international boundary
- · - assumed international boundary
- - - boundary of economic region of south
- province boundary (position in 1980)

- TATA province
- Tiouit (Tiouine) mine being developed, or may open
- (Zgounder) mine now closed
- old mine, now closed, which may be redeveloped
- urban centre, or centre of mining area

Table 49: Principal companies involved in mining in the region of the south of Morocco

company	full title	main mineral	% share held by BRPM	other share-holders	main sites	production (1978) (tonnes)	turnover (1978) (M dh)	personnel (1978)
SOMINA	Société Minière marocaine	copper	75%		Quansimi and Talat n'Quamane	6,197	4.7	270
SODECAT	Société de cuivre de l'Anti-Atlas	copper	100%		Tazalaght and Assif Imider	3,600	6.0	220
SOMIFER	Société minière de Bou Gaffer	copper	40%		Bleida	1,846		183
SMBS	Société des mines de Bou Skour	copper	41%	O.N.A.	Bou Skour	7,805 (in 1977)	21 (in 1977)	
SOFOMAC		copper	65%		prospecting in Agadir province			
CTT	Compagnie de Tifnout Tighanimine	cobalt	35%	O.N.A.	Bou Azzer	8,619	75	607
SMI	Société métallurgique d'Imiter	silver	69%		Imiter	24	15	229
SACEM	S.A. chérifienne d'étude minière	manganese	47%		Imini	130,000	60	540

BRPM, Bureau de recherches et de participations minières, is the state mining company established in 1928 (dealing in all minerals except phosphates).

O.N.A., Omnium Nord Africain, is the most important privately owned mining company in Morocco. It has been active in mining in the south since the 1930s (at which time the company was controlled by the Banque de Paris et des Pays-Bas), principally in the cobalt mine at Bou Azzer and in the former manganese mine at Tiouine.

Source: mainly from BRPM Activités 1977 (brochure)

manganese ore is 'metallurgical' manganese; this type was actually mined at Tiouine, 35 km west of Ouarzazate, up to 1962. The ore from Imini is transported 160 km by lorry to Marrakesh, and from there by rail to Casablanca where it is agglomerated in a sinter plant at Sidi Maarouf (near Casablanca)¹⁰. Some 140,000 T were exported in 1978, of which 33,600 T went to France, 25,700 T to the United States, 20,700 T to Holland and 15,100 T to Spain¹¹. The value of exports is around 60 M dh per year on a static world market.

There are various small veins of manganese throughout Ouarzazate province, most containing no more than one or two thousand tonnes of ore, which occasionally are exploited. The only other large deposit known in the region apart from Imini is at Tasdremt, near Aoulouz, where the amount of lead in the ore (of 5 to 6%)¹² and the low percentage of manganese dioxide (around 65%)¹³ make it unprofitable at present to exploit in any quantity; what is mined at Tasdremt is despatched to Agadir.

The reserves at Imini are not that large, being of the order of 1 million tonnes, or perhaps 10 to 15 years of mining. Thus by the time the railway is ready there may not be much manganese left at Imini. There is also the question of the eventual exploitation of mineral nodules in the Pacific, containing manganese, cobalt and other minerals, which could affect the production in Morocco and in other third world countries adversely. The Battelle report¹³ considered in 1975 that these nodules could be under exploitation by 1985, though the Mining Annual Review of 1980¹⁴ did not regard them as presenting any threat before the 1990s at the earliest.

10. Battelle report on Ouarzazate, *op.cit.* p.99

11. Metal Bulletin Handbook, London 1980

12. GEFMA report, *op.cit.* (part 2) p.63

13. Battelle report on Ouarzazate, *op.cit.* p.99

14. Mining Annual Review, London 1980 p.85

Cobalt

Cobalt has been mined at Bou Azzer in Ouarzazate province (near the boundaries of the cercles of Taliouine and Zagora) since 1930. It is mined underground, and the crude ore is washed locally to produce a concentrate containing around 12% of cobalt. Bou Azzer's production is important on the world market, representing around 6% (in 1979) of world production. It is transported by road, under difficult conditions, to Agadir and exported from the port, nearly all of it going to France. The deposits in the present mine are not that large (perhaps half a million tonnes of ore), though it seems that further reserves in the same region may well be exploitable, giving a fairly long term prospect for cobalt mining in the area. Although production fell somewhat during the 1970s, an increasing world price for cobalt made its export value for Morocco jump from 54 M dh in 1978 to 119 M dh in 1979 (when the actual quantity exported dropped from 8,700 to 7,500 T), making it the third most valuable exported mineral in 1979, above manganese. The ore also contains nickel, molybdenum, silver and gold, only the last of which is extracted, the contents of gold in the crude ore varying between 5g and 15g per tonne¹⁵.

Silver

Silver is produced, like cobalt and manganese, in one principal mine in Ouarzazate province, at the site of Imiter. This apparently was used as a silver mine from the 10th to the 16th centuries¹⁶, as was the mine at Zgounder, also in Ouarzazate province, where mining is being proposed again¹⁷. In fact, the planned production at this latter site will replace that at Imiter, whose reserves are low; Zgounder has an estimated 850,000 T of reserves at 417g/T of silver, and it is proposed to have an

15. Battelle report on Ouarzazate, op.cit. p.95

16. 'Survey: The Mining Sector', in BMCE Information Review No 28 April/May 1980, pp.19-35 (this reference p.19)

17. *ibid.* p.32

annual production of 30T of silver concentrates (at 80% silver). Imiter has produced regularly around 20 T per year; there are around 100 workers at the mine and the metal is exported from Casablanca¹⁸.

Barytes

Production of this mineral (barium sulphate) grew steadily in Morocco during the 1970s, with the 1979 level of production more than triple the 1974 figure (286,500 T to 93,300 T)¹⁹. The region of the south, which in 1978 produced some 45,000 T out of the national total of 162,000 T (roughly equally divided between Agadir and Ouarzazate provinces), started extracting the mineral generally after 1974. The largest Moroccan barytes mine is at present at Jebel Ighoud, near Essaouira, producing some 70,000 T a year. Agadir province has three principal mines: those at Tiziouine (opened in 1975 and producing 10,400 T in 1978 with 44 workers), and at Dkheila and Imtlen (both run by the SMIDEL company, each being opened in 1976 and producing annually of the order of 1,000 T, and each with some 20 to 30 workers). Various smaller mines in the Argana region of the High Atlas mountains produce another 7,000 T to 10,000 T in total, and employ some 150 workers²⁰. Ouarzazate province has various small companies mining barytes throughout the region; these produced some 22,000 T in 1978 with around 300 workers. Barytes earned Morocco around 55 M dh in 1979, but with the south contributing only about 20% to 25% of this, and a large portion of what was mined in the south originating from many small mines, it was the least profitable of the five main minerals extracted in the region (cf. table 48), less so even than copper.

18. Interview with A. Bait, subdivision of mines, Agadir, 29.8.79

19. Mining Annual Review, London 1975 and 1980

20. interview with A. Bait, Agadir, 29.8.79

Copper

On the production of this mineral, probably the most widespread in the south in terms of the number of existing or potential sites, and which the GEFMA railway report gave some prominence to, the Battelle report wrote "...the Moroccan production is marginal at the world level; from a purely accounting point of view production ought to be stopped, given the importance of losses. Production would only be justified by a political choice linked to the setting up of a copper industry, working as much from imported ore as from local production"²¹. At the time this was written, in 1975, the world copper price was low (around £560/T)²². Battelle estimated then that the Bou Skour mine in Ouarzazate province, despite very good productivity, only broke even at a world price of £850/T, and that at Bleida the figure was £750/T²³. The question that the report posed then was the difficult choice of, given the extremely speculative nature of trading in copper, whether to continue to subsidize the mines of Ouarzazate province or whether to close them temporarily. Bou Skour, in fact, did close down in 1977, having produced 6,000 T of concentrates in 1975 (at 60% of copper). At the same time other mines were opening up in Agadir province, mainly in the region of Igherm in the Anti-Atlas. As it developed, the price of copper jumped in 1976, and then again in 1979 and in the early months of 1980, before falling back again somewhat (see table 50). Even so, Battelle's comment on the highly unpredictable nature of the world market and the dangers from an economic point of view, as opposed to a political choice, of developing the mineral beyond a certain level, stands; as it was, the closing and reopening of mines in the south was a regular feature at the end of the 1970s. Apart from the Bou Skour mine, Talat n'Ouamane mine, which had opened in 1972, closed in 1976 to reopen at the end of 1978, Tizert closed

21. Battelle report on Ouarzazate, op.cit. p.101

22. Metalli non Ferrosi, Statistiche 1979, SANIM, Rome 1980

23. Battelle report on Ouarzazate, op.cit. p.100

Table 50: The progression of copper prices

(London Metal Exchange, for wirebars and in cash;
in £ sterling per tonne)

the yearly or monthly averages are given

1970		587.55
1975		556.51
1976		782.09
1977		749.95
1978		710.22
1979		933.65
1980	January	1,147.93
	February	1,274.10
	March	1,045.50
	April	937.05
	May	888.88
	June	858.46

Source: Metalli non Ferrosi, Statistiche 1979 SANIM, Rome, 1980

in October 1978²⁴, while Jebel Jouad in Tiznit province and Agoujgal in Guelmim province, each with some 60 workers, closed in 1977 and 1978 respectively, and both are being examined by the BRPM for possible redevelopment, the former for its polymetallic deposits²⁵.

The region of the south produced all of Morocco's copper up to the end of the 1970s. The balance within the region itself, with the picture of closures and openings outlined above, swung from the centre of Bou Skour in the east of Ouarzazate province in the mid-1970s (where it produced 53% of the region's copper in 1975²⁶), south westwards to Ouansimi, on the southern slopes of the Anti-Atlas, at the end of the 1970s (where this centre, in turn, produced a half of the region's copper), and with the Bleida region being developed the balance could move sharply back to Ouarzazate province in the 1980s. All this is perhaps of secondary importance, apart from its considerable relevance for the local economies and for the workers affected by this pendulum activity in the mines, and apart from the fact that if one is attempting to make the railway 'fit' into the regional economy in the south matters can become complicated; the railway can not be uprooted and shifted 400 km every five years.

A brief survey by province for copper mining activities in the region is as follows. In Agadir province three main mines were operating at the end of 1978, those at Assif Imider, Tazalaght and Talat n'Ouamane. Assif Imider has 450,000 T of reserves of ore containing around 3% of copper; production started in 1976 and by

24. Rapport Annuel d'Activité de la Subdivision des Mines d'Agadir durant l'Année 1978 (typewritten report presented and signed by the head of the subdivision of mines in Agadir, Ali El Omari) p.6

25. BMCE Review No 28, op.cit. p.33

26. A.S. (R.E.S.) (Annuaire Statistique, Région Economique du Sud) p.35. The metals found in the ore are: lead (8%), copper (1.2%) and silver (100g/T), with reserves of around 250,000 T of ore. (source: Battelle report on Tiznit 1975, op.cit. p.72)

1978 had reached 1,900 T per year of concentrates (from 35,000 T of ore), employing 143 workers. Tazalaght, with estimated reserves of 300,000 T, began production in 1975 and by 1978 had become the second largest mine in the region in terms of production, producing 2,900 T of concentrates in that year and employing 80 workers. The Talat n'Ouamane mine, 15 km south east of Igherm, reopened in 1978, as mentioned, after an investment in it of 27 M dh to increase the productive capacity of its flotation plant from 200 T to 450 T per day²⁷. Its reserves were evaluated at 1.2 M T at 1.7% of copper, and there is also silver in the ore. The old mine at Tizert which closed in November 1978 has already been mentioned, and this site could be redeveloped together with that of Tiferki nearby, as well as the deposit at Allous where the reserves are supposedly large (6 M T), though the grade of the ore is low (0.83%)²⁸.

Guelmim province contains the largest mine presently producing, at the site of Ouansimi. The mine, which was opened in April 1975, came within the then new province of Tiznit, and fell just within the borders of Guelmim province when the latter was created in 1979, as already mentioned in ch. 4.3. In its first year of operation the mine produced 2,400 T of concentrates and employed 334 workers, a figure which fell to 260 in 1978. The reserves were estimated at 1.7 M T at a grade of around 2.5%, the mining being carried out by SOMIMA (which also operates the mine at Talat n'Ouamane) in conjunction with GEOMIN, a Roumanian mining company. A major limitation to the capacity of the washing plant on the site is the local supply of water. The concentrates produced are transported by road to Agadir. In 1978 Ouansimi produced 6,200 T of concentrates (at 28% of copper) from 81,000 T of ore, representing about a half of Moroccan production in that year, and this despite various difficulties at the mine. The report on mining activities for 1978 in the mining subdivision of Agadir (that is, the region of the south without Ouarzazate) mentions

27. Rapport Annuel d'Activité, op.cit. p.5

28. Serete report part 1, op.cit. Table: 'Mines de cuivre dans la région sud'

that there was a 10 day strike around early May there, and states that the tense social situation existing at Ouansimi in the early part of the year was dispelled by a visit of the governor of Tiznit province at the end of May, with a social calm prevailing subsequently²⁹. This does not necessarily seem to have been the case, though; a few paragraphs earlier the same report mentions a fire, due to explosions, at the mine in early October 1978, for reasons not explained, after which the plant was out of action for two months. Earlier in the year there had been another stoppage of 45 days when electricity to the plant was cut off for non-payment of bills by the company³⁰.

The copper mine at Agoujgal (also known by the more Berberised form of Tagoujgalt) in Guelmim province, which closed in 1978 (at which time it was still, as Ouansimi was, within the former borders of Tiznit province), and the mine at Jebel Jouad in Tiznit province which closed in 1977, both of which are being investigated for possible redevelopment, have already been mentioned. Quarzazate province, as has been stated, saw a considerable activity in copper mining at Bou Skour in the mid-1970s, where some 1.5 M T of reserves at 2.5% of copper were situated, up to the time the mine was closed. The province could again become the centre of production if the new deposits around Bleida, in the same region as Bou Skour, are developed. This is apparently the largest copper deposit in Morocco, with some 25 M T of reserves (at a grade of 7%)³¹. The development of this mine is costing some 228 M dh, and full production is scheduled for 1981 or 1982³², after which some 40,000 T to 50,000 T of concentrates (at 40%) are to be produced (around twice the national total of 1979)³³, according to the plans. Other than these two principal

29. Rapport Annuel d'Activité, op.cit. p.2

30. *ibid.*

31. BMCE Review No 28, op.cit. p.32

32. *ibid.*

33. *ibid.* and World Mining Yearbook, California, USA, July 1980

deposits in the province there is a small mine at Ouneine operated by the SCMO (Société commerciale et minière d'Ouneine). Beyond the borders of the province to the east, at Oum Jerane (in Errachidia province, not far from the assumed border with Algeria), a deposit of some 1.2 M T at 2% of copper is being developed for exploitation by CEMO (Compagnie de l'exploitation des mines d'Oum Jerane, owned 55% by the BRPM).

Copper in the region of the south, then, was developed only in the 1970s and accounted, throughout that period, for all of Morocco's production. By 1980 some 700 workers were being directly employed in mining copper (representing some 30% of the mining workers in the region), though with developments at Bleida and elsewhere that figure could possibly double. The total production of some 23,000 T of concentrates in 1979 (varying in copper content between 30% and 35%) was worth 38 Mdh in exports, though the price of the metal fluctuated considerably with speculation and consequent stockpiling. Within the whole economic region of the south there was seen to be a movement from east to west of the focus of mining activity, with a likely swing back again to the east.

Other minerals mined in the region

Small quantities of other minerals are mined, off and on, throughout the mountains of the region. Some 1,500 T of silver-bearing lead was mined at Jebel Addana, to the south of Akka, in Tata province in 1978, employing some 60 workers and worth some 2 Mdh. The deposits are situated on tribally owned land belonging to the inhabitants of Ksar Touzounine and Igdi³⁴, and the existence of mining at this site apparently goes back some centuries. The 625 T of mica produced in the same year near Tazenaght in Ouarzazate province (by the Société des mines de Zenaga) were transported to Casablanca; the production here employed some 50 people. Some 36,000 T of pozzolana was also

34. Battelle report on Tiznit, 1975, *op.cit.* p.72

extracted at a mine at Bou Tmalout in Agadir province, opened in 1976, and some 2,000 T of gypsum in the area near Taroudant. In Ouarzazate province asbestos was mined up to 1951 at Bou Azzer, and a marble quarry south of Nkob (the Nkob in Tazenaght commune, as opposed to the other Nkob in the province, in Zagora cercle) was abandoned in the 1970s. As regards the development of new mines, the exploitation of the new copper mine at Bleida and that of silver at Zgounder, creating some 600 new jobs and producing exports worth some 100 Mdh³⁵, have already been mentioned, while a project for gold production, and some silver, at Tiouit, creating 80 jobs, is being researched. These last three sites mentioned are all in Ouarzazate province; within the other provinces of the region prospecting for various minerals is being carried out: in 1978 there were 120 permits for prospecting of uranium in this part of the region, 76 for copper and 27 for barytes³⁶.

Iron

Iron was produced in sizeable quantities in the past in Morocco, nearly all in the north in the eastern part of the Rif, and up to 1977 Morocco was still producing and exporting of the order of 400,000 T a year, to a value of some 30 M dh. In 1978 and 1979 production slumped to around 60,000 T and exports to 40,000 T (worth only some 3 M dh), and the much-announced steel complex at Nador was still awaiting completion. It is noteworthy that of all the publications dealing with mineral projects in Morocco in the 1980s, including Moroccan ones (such as the reports of the BRPM and the BMCE 17-page survey of 1980) which aim to present the situation in as favourable a light as possible, commissioned studies of the region such as those of Battelle and Serete in the mid-1970s, as well as non-Moroccan international surveys (such as those of the Mining Annual Review and other established mining journals), none have given any prominence at all to new iron

35. deduced from figures given in BMCE Review No 28 survey, op.cit. p.32

36. Rapport Annuel d'Activité, op.cit. p.8

mining developments, and certainly not in the south. Nonetheless, the GEFMA railway report seems to have 'discovered' iron in the south and makes it almost the cornerstone of future mineral development there; it gives it second place in its run-down in section 4 (mines) only to phosphates (which are fairly irrelevant to the region and to the proposed railway extension), and before copper, manganese, cobalt, lead-zinc and barytes; it is the transportation of this mineral in future by the new railway extension which is, according to GEFMA's study, to form the bulk of minerals and a large part of all goods carried by the railway. There is no doubt that the deposits it describes in the south actually exist, but, of those exploited and transported by the railway, one can seriously question the economic feasibility and the targets proposed (see section 6.2.3).

Economic benefits and transformation of mineral ores

Although this section on minerals is not primarily concerned per se with the economic benefits of mining in the south, it may be stated that of the direct benefits, the forward linkages, that is, local beneficial uses for the outputs, are virtually nil, most of the ores being exported directly after rudimentary treatment such as washing. In Morocco it is only phosphate rock and lead ore which are, partially, transformed. Phosphate rock is transformed into phosphoric acid, triple superphosphates and ammonium phosphate for fertilizers, and this industry, centred at Safi and at Jorf Lasfar, is a recent one, being developed later than in other countries such as Tunisia; lead ore is transformed into unwrought lead at the smelter at Oued Heimer, near Oujda. The steel complex at Nador is, as has been mentioned, something of an ongoing saga, and the proposal to build a copper refinery at Agadir remains little more than a talking point. Since there is usually little use for untransformed ores, these are exported to countries who have the capacity to transform them, and, if necessary, subsequently reimported. The backward linkages among the direct benefits, the beneficial use to the local economy of

inputs in the activity of extraction and treatment, are also slight, mining equipment and plant being often imported. Of the indirect benefits, these undoubtedly include foreign exchange (to import capital goods with), some local employment and local reinvestment where there are profits (though there can also be subsidized losses, as was seen to have been the case for copper in the south in the mid-1970s). Whether a skilled workforce, another possible indirect benefit, is built up to any great extent is uncertain. The development of infrastructure, particularly as regards energy and water, and the provision of economies of scale are possible indirect benefits. As regards the development of transport infrastructure, certainly the provision of roads could be viewed as a local benefit, both as an amenity as well as in the employment thereby generated, though whether one could claim the railway extension as a 'benefit' from mining, or whether it is not rather mining that might (possibly) benefit from the railway, is arguable.

6.2.3 Discussion on the railway report

Details of route and cost of railway

The report splits the overall route between Marrakesh and Laayoune into four stages. Stages I and IV are different versions of the route between Marrakesh and Agadir, stage I being a westerly route over the High Atlas via Imi n'Tanout (itself containing three slightly different variants, I_0 , I_1 and I_2), and stage IV being a more easterly route crossing the mountains somewhere to the east of the Tizi n'Test road pass, descending on the Souss plain near Oulad Berrehil and traversing the plain via Taroudant to reach Agadir. Stage IV also has two variants, IV_0 , with a length of 291 km, and IV_1 , of 272 km. The lengths of the first version of the crossing, stage I, were on the whole shorter (276, 258 and 249 km respectively for the three variants); since it seems that it is stage IV and only stage IV that is to be constructed, further references to stage I occurring in the report and elsewhere, on

distances, costs and estimated merchandise to be carried, will be omitted from now on, though the original numbering of the stages - IV for the Marrakesh-Agadir route, and II and III for the portions south of Agadir - will be kept. Stage II is the Agadir-Goulimine section of the route of 226 km and stage III the Goulimine-Laayoune section of 442 km. The Marrakesh-Agadir stage is to be a double line and electrified (at 3,000 V direct current), and south of Agadir there is to be a single line with diesel traction ³⁷.

The GEFMA report estimated the overall costs for the railway; the cost for stage IV was considerably higher than that for the other two stages, due to the tunnels to be built in the High Atlas mountains. South of Agadir the Anti-Atlas mountains, on the other hand, are to be crossed very close to the coast, and thus at a low height and without the need for tunnels.

Table 51 shows the estimated costs of the railway by stages, giving a total of between 7.45 and 7.74 billion dh. This figure is slightly higher than the total value of Moroccan exports in 1979. The average cost per kilometre is of the order of 7.8 million dh. The route to be followed is shown in figure 77 (and locally around Agadir in figures 73 and 74). The economic effects and benefits of the railway when it is finished are discussed below; while it is under construction, a process which could take some 10 years, employment in its building will involve some thousands of people at any given time. Input materials for the railway will, on the whole, have to be brought in from Casablanca or from abroad. The main exception to this is cement which will heavily involve the cement works in Agadir; the greatly increased demand for this material, over a protracted period as well, could, in fact, create a strong incentive for either a new cement kiln to be added at the plant, or for an existing kiln, or kilns, to be modified so as to increase capacity by 20% to 50%.

37. GEFMA report on railway, op.cit. (part 2) p.15

Table 51: Estimated costs of the railway extension

(costs in 10^6 dh, and at January 1978 prices)

	stages				overall total	
	IV ₀	IV ₁	II	III	with IV ₀	with iv ₁
Length (km)	291	272	226	442	959	940
infrastructure	3,491	3,235	1,096	1,538	6,125	5,869
cost of infr. per km	12.0	11.9	4.8	3.5	6.4	6.2
cost of tracks ¹	291	273	226	530	1,047	1,029
stations ²	308	302	46	50	404	498
telecomm. ³	41	38	...	...	41	38
electrification	118	113	-	-	118	113
Total	4,249	3,961	1,368	2,118	7,735	7,447
Total cost per km	14.6	14.6	6.1	4.8	7.9	7.7

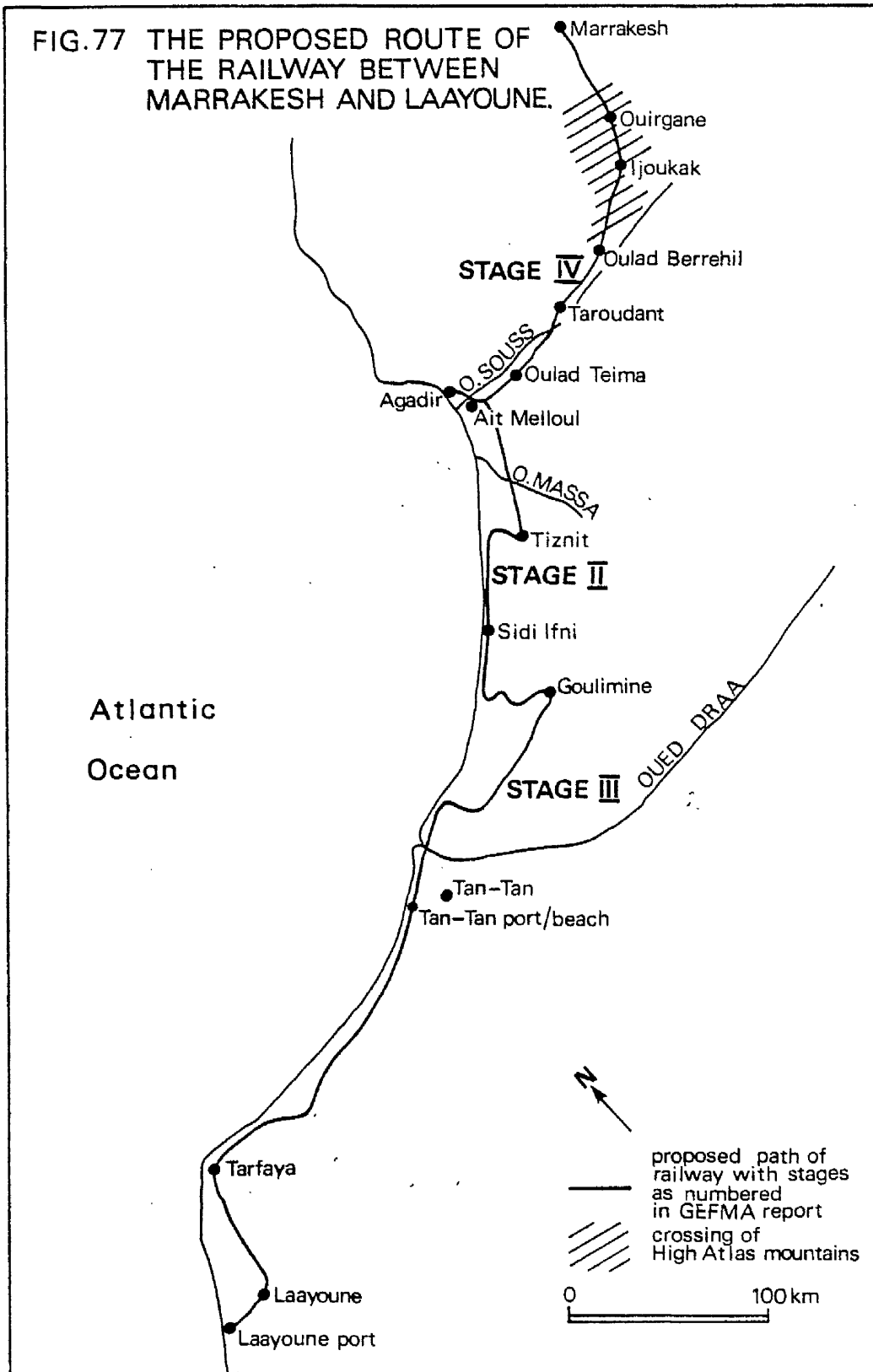
Notes:

1. including double lines in the tunnels between Marrakesh and Agadir
2. including an estimated 200 Mdh for the station at Agadir and the extension of the station at Marrakesh
3. not including estimates for stages II and III

The above costs do not include the acquisition of land

... denotes not estimated

- denotes nil



source: GEFMA report on railway, op.cit.

The main arguments presented in the GEFMA report for the railway

The GEFMA report makes estimates of merchandise which could be carried on the railway in the year 2000, and in terms of volume of goods relies heavily on minerals, particularly iron. On the expected volume of passenger traffic the report is brief and vague, restricting its observations to generalities such as stating that the two plains of the Haouz and the Souss are both scheduled for important economic developments and that one could therefore expect an important volume of passenger traffic on the northern section of the line, between Marrakesh and Agadir³⁸. On the part of the line south of Agadir the report states that the 'traffic of passengers will not fail to be significant, taking into account the administrative, industrial and tourist developments projected for the coastal centres'³⁹. Leaving aside the fact that the industrial and tourist developments projected for the coastal centres south of Agadir are not that significant, such statements are not helpful; it might have been better simply to state that the volume of passengers on the railway can not be forecast to any useful degree of accuracy.

Turning to the transportation of merchandise, the principal quantities, by weight, estimated by the report for the year 2000 on the Marrakesh-Agadir section (stage IV) of the line are raw minerals (heading for the ports of Agadir or Casablanca, via Marrakesh) for export as ores, or as semi-processed products in the case of copper, since the report assumes a copper refinery at Agadir by the year 2000; inputs such as hydrocarbons, cement and fertilizers; fruit from the Souss for export from Agadir, and imported cereals and sugar for distribution. For stages II and III of the line, south of Agadir, the report estimates quantities of the same order, overall, as on stage IV, involving minerals (mainly iron), fish from the south for industrial processing at Agadir, cement, fertilizers, hydrocarbons, cereals and agricultural produce from the Massa irrigation scheme for export

38. GEFMA report, op.cit. (part 1) p.27

39. ibid. p.56

from Agadir. Table 52 summarizes the estimates as given in the report. It should be remarked that the report gives a 'low' estimate and a 'high' one for each of the two parts (stage IV on the one hand and stages II and III on the other), though the only difference between the low and the high for stage IV is in one single item, that of iron (which, admittedly, comes to 1 million tonnes a year, or 63% of the total high estimate), and for stages II and III in two items, iron again and industrial fish (totalling 76% of the high estimate for that part of the line). What the report is in effect stating is that its estimates for annual tonnage of goods on the northern and southern parts of the line are 579,000 T and 429,000 T respectively, but that to make the figures more impressive one can conjure up another 1,000,000 T of iron on the former part and 1,350,000 T of iron and fish on the latter, if things go well. For the purposes of table 52, this distinction between a high and a low estimate has been ignored, and the separate items are examined on an equal basis, it being understood that the report has less confidence in the totality of the iron and in 200,000 T of the industrial fish than in other items.

Some comments on the estimated figures of the GEFMA report are in order here; and these will be mainly concerned with some of the larger figures, especially of minerals and fish.

Of the minerals, the major item is iron ore. The first of three deposits mentioned, that at Tamjert, is supposed to supply 1 million tonnes of ore a year to be loaded onto the railway at Ouirgane, a principal station in the High Atlas on the R.S. 501 some 50 km south of Marrakesh (in a direct line). Tamjert itself is situated not far away from Ouirgane on the northern slopes of the High Atlas near the Nfis valley. The deposits at Tamjert are evaluated to contain some 100 MT of reserves of ore, at a grade of 35% to 40%, in a potentially open mine. The report itself states elsewhere⁴⁰ that the deposits at Tamjert are of low iron content

40. GEFMA report, op.cit. (part 2) p.57

Table 52: Estimated merchandise to be transported on the railway extension in the year 2000
(as estimated by the GEFMA report)

a. stage IV: Agadir-Marrakesh

item	approx. point of loading	original source	destination	direction	quantity/year ('000 T)
oranges	Oulad Teima Taroudant	Souss	Agadir port	↓	100
oranges	Oulad Teima	Souss	Marrakesh & north	↑	20
fruit juice	Taroudant	FRUSUMA factory near Taroudant	Agadir port	↓	20
fruit juice	Taroudant	FRUSUMA factory near Taroudant	Casablanca (via Marrakesh)	↑	10
cereals	Agadir port	imported	Duarzazate	↑	50
sugar	Casablanca (via Marrakesh)	imported	south	↓	30
fertilizers	Safi (via Marrakesh)	Safi chemical plant	Souss plain and south	↓	70
fertilizers	Agadir port	imported	Souss plain	↑	5
hydrocarbons	Agadir port	imported	Taroudant and further east	↑	100
cement	Agadir (Anza)	Anza works	Taroudant and Souss	↑	50

Table 52 (continued)

minerals (on stage IV):

copper concentrates	Oulad Berrehil	Quarzazate province	Agadir	↓	25
copper concentrates	Taroudant	Allous	Agadir	↓	10
manganese ore	Oulad Berrehil	Imini and region	Agadir port	↓	15
cobalt concentrates	Oulad Berrehil	Bou Azzer	Agadir port	↓	15
barytes	Ijoukak	around Ijoukak and Imigdal	Marrakesh	↑	38
iron	Quirgane	Tamjert	Casablanca (via Marrakesh)	↑	1,000
other items listed (fruit & canned & fresh vegetables)					21
Total					1,579

Table 52 (continued)

b. stages II and III: Agadir-Laayoune

cereals	Agadir port	imported	south	↓	75
sugar	Agadir	from Souss	south	↓	10
sugar	Agadir (from Casablanca)	imported	south	↓	10
fruit & vegetables	Massa	Massa irrig. area	Agadir port	↑	30
canned fruits, vegetables	Massa	Massa irrig. area	Agadir port and Casablanca	↑	10
cement	Agadir (Anza)	Anza works	south	↓	60
hydrocarbons	Agadir port	imported	south	↓	50
fertilizers	Safi (via Agadir)	Safi plant	south	↓	40
fertilizers	Agadir port	imported	south	↓	5
industrial fish	Laayoune, Tan-Tan	Boujdour, Laayoune and Tan-Tan	Agadir factories	↑	80
industrial fish	Tarfaya, Tan-Tan	Tarfaya and Tan-Tan	Agadir factories	↑	200

Table 52 (continued)

minerals (on stages II and III):

copper	Tiznit	Quansimi and Agoujgal	Agadir (presumed refinery)	↑	14
lead-zinc	Tiznit	south of Tiznit	Agadir port	↑	5
iron	Sidi Ifni	Bou Arois	Agadir port	↑	400
iron	Tiznit	Tassila and Quarzemine	Agadir port	↑	750
other goods (including fresh fruits and vegetables)					
Total					1,779

Note: ↑ denotes the direction Laayoune-Agadir-Marrakesh, and ↓ the opposite direction

and high silicon content, making the value of the ore 'very average', though the French term used ('très moyenne') could also be read as 'rather mediocre'. The two deposits mentioned south of Agadir are at Bou Arois, 14 km south of Sidi Ifni on the coast (the site is also known as Sidi Ouarsik) and at Tachilla and Ouarzemine. The quantity estimated in the report as being potentially transported on the railway from Bou Arois by the year 2000 is 400,000 tonnes a year. The reserves here are estimated at around 10 MT with an iron content of 40% to 50%, and with extraction partly open mine and partly underground. Finally, the Tachilla and Ouarzemine deposits are supposed to contribute 750,000 T a year to the goods transported on the railway; the deposits are situated some 20 km due east of Tiznit around Jebel Ouarzemine in the Anti-Atlas mountains (with one of the source branches of the Massa river separating the two sites). The reserves have not been properly determined, but are put at 10 MT of between 40% and 45% iron, and 20 MT between 30% and 35%; with the deposits up to 20 m below ground the ore would be mined partly underground and partly in an open mine. The GEFMA report states that these ores 'are nonetheless considered as being economically hardly profitable because of the difficulties of enrichment and their high level of silicon (12 to 18%)'⁴¹, and speaks elsewhere of them as being of 'low economic importance'⁴².

Of the objections to the inclusion of large amounts of iron ore in the estimates for the transportation of goods on the railway, the main ones, those questioning the qualities of the ores and the economic viability of mining them, are raised by the report itself, as has been seen, and it would not seem in any case that any of the sites have been very thoroughly investigated (as earlier pointed out, they have never figured prominently in any projects or feasibility studies). A further objection to the 400,000 T from Bou Arois, even assuming the economic viability of

41. *ibid.* p.56

42. GEFMA report, *op.cit.* (part 1) p.15

its extraction, is the question of why it should necessarily be transported to Agadir for shipping when the port of Sidi Ifni is apparently planned for extensive development and could be completed well within the time that the railway is. This objection, of superfluous transportation where alternative ports could be developed (and in some cases are stated to be on the point of being so), applies, as will be seen, particularly to the case of fish for industrial processing. The other figures quoted for minerals are of a relatively low order (19,000 T on the line south of Agadir and 103,000 T on stage IV), and fall well within the margin of error of the figures for iron in any case. One could wonder whether cobalt and manganese would still be being produced from their present sites (Bou Azzer and Imini), both in view of the low estimated reserves at each of them (though new deposits of cobalt could be developed in the region around Bou Azzer), as well as in the light of the possible exploitation of the Pacific nodules. The figure of 25,000 T for copper on stage IV includes 18,000 T from the Bleida and Bou Skour regions, which would seem feasible, though the rest mentioned is to come from rather distant areas, some from the Todra gorges near Boumalne and some from the region around Oum Jerane (in Errachidia province, some 180 km as the crow flies to the east south east of Ouarzazate, and considerably further by poor quality roads).

After minerals, the other main item in terms of weight to contribute to the estimates of goods is fish (16% of the merchandise on the line south of Agadir, where 66% of the goods are mineral ores). The report estimated that up to 280,000 T of fish from the ports of Boujdour (transported north to the railway at Laayoune), Laayoune itself, Tarfaya and Tan-Tan could be carried in refrigerated wagons on the railway, north to the processing factories at Agadir. The objections here are several. Firstly, the figures themselves are highly questionable. In its brief survey on fishing⁴³, the report quotes projected figures,

43. *ibid.* pp.20-21

communicated to its authors, without any critical thought as to their likeliness. These figures apparently came from the Ports Office ('Direction des Ports', a subsection of the ministry dealing with the merchant navy), and though no mention is made of when these figures were communicated, the GEFMA report was published in February 1979, so that the figures would have been quoted in around 1977 or 1978 (that is, after the Sahara war had begun). The report states that it was foreseen that commercial fishing would develop rapidly from the ports of Tan-Tan, Tarfaya, Sidi Ifni, Laayoune and Boujdour; Tan-Tan would produce 19,000 T of fresh fish and 91,000 T of industrial fish in 1980 and 63,000 T and 539,000 T of these items respectively in 1990. Before proceeding to the figures for the other ports (which are only slightly less ludicrous), and ignoring the bogus precision of the figures themselves (such as 539,000 T), one could observe that the 'projections' for 1980 (only three or four years after they were made) were nowhere near met - in fact, it is not clear that fish in any quantity at all was landed in Tan-Tan in 1980 - and that the extremely high estimates for 1990 (far more than the national total for any year up to 1980) would seem to be completely unrealistic, even at the time that they were made. The figures quoted for Tarfaya for 1990 were 25,000 T of fresh fish, and for the same year for Sidi Ifni and Laayoune were 30,000 T of fresh fish and 75,000 T of industrial fish for the former and 60,000 T of each type for the latter. Boujdour was not mentioned as regards the quantity of fish it was supposed to supply. One would have to assert that the figures for these other ports, while lower than those for Tan-Tan, were equally imaginary. The question is not so much whether a suitably large reserve of fish might be available near these ports, but whether the infrastructure, in boats, fishing equipment and port equipment, could have been assembled by then. The report thus estimated that 675,000 T of industrial fish would be landed at Tan-Tan, Sidi Ifni and Laayoune in 1990 (it did not give a projection for the year 2000, though one must suppose that this would necessarily have been an even higher figure); yet only 280,000 T of industrial fish from

Tan-Tan, Tarfaya (which was not included by the report in the industrial fish category in 1990), Laayoune and Boujdour were to be transported north on the railway to Agadir in the year 2000 (Sidi Ifni being now inexplicably omitted). The assumption must be that the remaining 395,000 T (at least) from the southern ports in the year 2000 were to be processed locally. Now this would be a good idea, but the question arises why the other 280,000 T could not also be locally transformed, or else, if there were not sufficient transformation capacity, why the catch of fish could not be kept down for some years (thus helping as well to preserve fish stocks) until sufficient capacity existed to handle such large amounts of fish, and until it was considered safe, in terms of not depleting stocks, to fish in such quantities. And what about the capacity of transformation at Agadir itself? Some 200,000 T of industrial fish was to be caught there, again according to the report⁴⁴ (it is not now clear whether this was for 1990 or 2000, but to be on the low side one can assume 2000); to this figure is to be added the 280,000 T coming from the south, giving a total transformed there of 480,000 T a year. On paper this would seem to be just about possible on the present capacity available in the factories of Agadir, though it assumes that the arrival of fish at the factories is evenly distributed throughout the year, which in practice it is not; extra capacity would therefore have to be added in Agadir as well. The principal point, though, to be made is that if a railway can be built from Marrakesh in 10 or 15 years, if the fish around these southern ports exist in sufficient quantities for them to be safely fished at the levels stated, and if there is both a wish and an ability to do so, then it must be possible to provide, in the same time, both the factory capacity to transform the fish and the port capacity to export them, and it is pointless to have to transport large quantities of fish long distances in refrigerated wagons. On the other hand, one product from the transformation of fish which is produced in large quantities and consumed nationally, and

44. GEFMA report, op.cit. (part 2) p.106

which does not figure in the estimates of goods on the railway, is fish meal, which could presumably be transported from the factories at Anza (and other southern ports, when these are constructed) to the agricultural lands of the Souss and the Haouz.

Beyond the objections already made to some of the figures quoted for minerals and fish, there is no point in disputing most of the other items, where the quantities on the whole are of a much lower order. Those figures for fruits and vegetables from the Souss and Massa plains, and for the distribution of cereals, cement, hydrocarbons and fertilizers, would seem to be reasonable estimates.

Objections to the estimates of the report, then, include queries on the volume of some of the items, on the basis for their calculations, or even regarding their inclusions in the list at all. The question, too, has arisen, of why goods extracted or produced near existing or proposed ports should not be transformed (where relevant) at, and exported from these ports, rather than being needlessly transported. The railway, if anything, ought to be encouraging industrial decentralization, and not increasing the regional economic centralization of Agadir.

On a general level two brief points should be made. Firstly, the GEFMA report made no attempt to evaluate the costs of the railway project against eventual benefits, though such an analysis, while difficult, would have been useful. Secondly, it should be remarked that so long as the Sahara war continues or there is political tension in the region, then the vulnerability of the railway, especially the most southern 450 km through sparsely inhabited territory, will not be lost on those in opposition to the central Moroccan authority. Both in the construction stage and even more so when operating, railways are particularly vulnerable to sabotage (of the tracks) and to direct attacks on the trains. In recent years, during the Sahara conflict, convoys carrying goods south by road are reported by sources in Agadir to

have been ambushed and destroyed in the area of Tan-Tan, and the 100 km conveyor belt for phosphates between Bou Craa and Laayoune has repeatedly been put out of action.

This comment on the Sahara conflict leads to the final observation in this subsection, namely on the nature of some of the hidden factors behind the determination to construct the railway. One would like to think that these might be connected with a regional policy for economic decentralization, as mentioned above, but it is more probable that the real reasons are more specifically political. Morocco is a country, like some others, whose post-independence ruling group has often been obsessed with the question of national unity, and the whole Sahara venture is a reflection of this. The extension of the railway from Marrakesh into the Sahara is in many respects an attempt not merely to show a presence in that annexed territory, but to link it to the north of Morocco by means of a railway line stretching from Tangier to Laayoune; it is a political and psychological link as much as an economic one. An implication for the Souss of this arrangement is that it, too, would be tied closer into the national network, both politically and economically.

6.2.4 The impact of the railway on the Souss-Massa region, and on Taroudant, Tiznit and Agadir in particular

At the national level the railway will clearly serve to bring closer Morocco south of the High Atlas with that part of the country to the north, separated as these two parts have been up to now; at the interregional level the region of the south (at least that part of it without Ouarzazate province) will be brought into closer contact with the Tensift region (the economic region centred on Marrakesh), and in particular the Souss-Massa plain with the Haouz plain. Ouarzazate province, already somewhat apart from the rest of the region of the south and more closely linked to Marrakesh, as observed earlier, will continue to lie uncertainly between the two. Although the railway will pass not

far from the present western boundary of this large province, with the eventual creation of Taroudant province taking into it the westernmost cercle of the present Ouarzazate province, the distance from the province to the railway will increase (see section 6.3.4). Ouarzazate and Tata will be the only provinces in the south through which the railway does not pass and the latter is in any case already remote from the rest of the region. The increased remoteness for Ouarzazate created by the expected boundary alterations will be further enhanced by the route of the railway.

Turning to within the region of the south other than Ouarzazate, and particularly to the Souss-Massa-Tiznit plain, it would seem that those parts of this area most economically depressed at present and which lie near the railway will receive the greatest benefit. This would apply most markedly to the *amont* area of the Souss plain which should benefit from three distinct developments: the railway passing through it, with a station of some importance at Oulad Berrehil (this being, among other things, the loading and unloading point for goods travelling by road from and to points to the east, in Ouarzazate province and beyond); the introduction of sugar beet in this area; and the creation of Taroudant province, placing the *amont* area closer to its provincial capital. In addition, the eventual construction of a dam on the Souss river above Aoulouz, an undertaking of some magnitude, would itself stimulate the local economy through the creation of employment during the period of construction. The *amont* area, then, and Oulad Berrehil as a growing secondary centre, would benefit considerably from the railway and other parallel developments. Taroudant itself, it is generally felt in the town, would benefit from the railway. Although it is not much over an hour away from Agadir by road, the transportation of provisions for the town and its local produce will be facilitated by the railway. The line will pass to the north of the town, near the new sector being planned, as mentioned in chapter 4.2, and the activity on and around the railway, both during construction as well as when it is operational, will tend to favour the new town vis-à-vis the old, unless measures are taken to counterbalance this tendency.

The agricultural areas, generally, of the Souss plain near the route of the railway and of the Massa irrigated area, will clearly be advantaged by the easier transportation of inputs, such as fertilizers, to them, and of their output to Agadir port or to the north.

The railway will not of itself solve any of the problems faced by the region around Tiznit, of low rainfall, poor soils and high emigration. Provisions to the town, though, and its region will have cheaper and easier access, as well as inputs for any future industries there (such as for some proposed flour mills). Within the town itself the new quarters of the town to the west will be favoured vis-à-vis the old medina, as in the case of Taroudant, by the fact that the railway will pass to the west, near the new town.

Finally, within Greater Agadir, the principal axis for future industrial and residential development (as was seen in ch. 5.2, 5.3 and 5.4) will shift away from the R.P.32 linking Agadir with Ait Melloul via Ben Sergao, Dcheira and Inezgane, to an arc on the circumference of Greater Agadir, from Ait Melloul via Tikiouine and the south east of the agglomeration to Tassila, and from there following the R.P 40 ring road round the east, the north east and the north to the port and Anza. The railway on stage IV, approaching from the Souss near Ait Melloul, will follow this arc (see fig. 73) and accentuate its growing dominance over the old axis. For the first 15 km of stage II, from Agadir to the south, the railway will double back over this arc in a clockwise direction to reach the point where the line on stage IV comes in from the east, and will continue from there south to Tiznit, Sidi Ifni and Goulimine.

6.3 Other projects in the region in the 1980s and 1990s

6.3.1 General

The various other projects in the region, in the sectors of agriculture, mining, industry and administrative restructuring, have already been mentioned throughout the thesis, and they will be briefly summarized in this section, with more emphasis on the agricultural and administrative sectors, where there are some points not yet mentioned which are worth discussing, than on the others.

The various mining projects, both existing and being developed, have been described in chapter 6.2.2, and figure 76 distinguishes between existing or former mining sites and those which, it is proposed, are to be opened in the 1980s and 1990s. Similarly, projects for new or reopened or extended ports, at Sidi Ifni as at places further south along the coast, have been mentioned often enough in this and earlier chapters not to need further elaboration.

6.3.2 Industry

As for new industry, the bulk of this is planned to be at Agadir, and this has been described in some detail in ch. 5.2. Some specific projects, especially in the Souss plain, call for further remarks; the first of these projects is a mining-related industry, and the others are related to agriculture. The proposed industry with mineral inputs is the copper refinery at Agadir, already mentioned in ch. 6.2.2 and 6.2.3, which has been a project for some years; it is intended to have a capacity for producing 30,000 T of refined copper a year⁴⁵. Of agriculture-based industries, the sole new one as regards types of product is the proposed sugar extracting mill to the east of Taroudant (see ch. 4.2), with a

45. GEFMA report, *op.cit.* (part 1) p.22

planned capacity of handling 3,500 T of beet a day and producing 30,000 T of raw sugar per year⁴⁶.

It is worth diverting somewhat to examine what this production of sugar represents in the overall production and consumption of sugar in Morocco, and in the region of the south⁴⁷. Morocco consumed some 600,000 T of refined sugar in 1980, some 50% more than 10 years earlier, and of this some 11.5% (almost 70,000 T) was consumed in the region of the south. At around 30 kg per capita of raw sugar (of which about 75% is in the form of loaf sugar, used in the making of mint tea, 18% is white granulated sugar and the rest lump sugar), Moroccan consumption is around the highest in the third world. All the sugar consumed in Morocco is refined domestically in some five refineries (of which the largest, COSUMAR - Compagnie sucrière marocaine et du raffinage - at Casablanca, refines over 70%), though around a third of the raw, unrefined sugar still has to be imported (279,000 T in 1979, to a value of 269 Mdh, the tenth highest single import item). With an expected national consumption by the year 2000 of some 1 to 1.2 million tonnes a year, it is clear that Morocco should seek to be as self-sufficient in raw sugar as possible. The sugar plan for the period 1975-2000 (drawn up in December 1974) foresaw a large increase in domestic production, with some 650,000 T of raw sugar extracted from ten times that weight of sugar cane by the year 2000 (80% of it in the Gharb, where five new extracting mills were planned in the 1980s), and some 450,000 T of raw sugar from 7.7 times that weight of sugar beet. Of the sugar beet only 30,000 T of raw sugar is planned for the region of the south, from 224,000 T of beet, and that to be grown entirely in the Souss plain (about 20% of it in the new sectors of the Issen irrigation project, and the rest in the amount area) and extracted at the mill near Taroudant. The proposed factory at Taroudant, then, though

46. *ibid.* p.23

47. Much of this information comes from BMCE Information Review No 2, August/September 1976, pp.12-16, a survey on the sugar industry in Morocco, as well as from *Le Maroc en chiffres* 1978 and 1979, and BMCE Information Review No 27, January/ February 1980.

creating local industrial employment and stimulating agriculture, does not represent a very large part of Moroccan production or consumption; at present rates it represents about 5% of consumption and 7.5% of production, though by the year 2000 it will make up only about 2.5% of national consumption. At present, the volume of sugar to be produced at Taroudant is sufficient for the consumption needs of around 1 million people, about the present population of Agadir province; by the year 2000, with the population expected roughly to double, it would be sufficient for only a half of that province (on its present borders), so that even at province level there would have to be importation of raw sugar, either from other parts of the country, if these all live up to the plan produced for them in 1974, or from abroad. There is a discrepancy, in fact, between the figure for the quantity of beet to be produced in the Souss in the plan quoted (of 224,000 T), and the estimates of the ORMVA/SM in Agadir, who projected 324,250 T of beet by the time of full development of that crop in the Souss in 1997. If the latter, higher figure were to be attained, it would provide for the production of another 13,000 T of raw sugar, in addition to the 30,000 T, either at the factory at Taroudant, or elsewhere, if the capacity at Taroudant were not sufficient.

Other industrial (or para-industrial) establishments to be set up in the Souss plain include some 10 new orange packaging plants to handle the additional 150,000 T of oranges that are planned to be produced by the stage of full development of citrus in the Souss, a cattle fodder plant at Ait Melloul and a factory for producing canned vegetables at Ait Melloul, with a capacity of 38,000 T a year⁴⁸. Outside the Souss plain, though within the economic region, a date plant for packaging the dates of the oases of the Draa valley is apparently being built at Zagora, with a capacity of 2,000 T a year, a project which, when completed, will be of some benefit. Despite a considerable production of dates in

48. GEFMA report, *op.cit.* (part 1) pp.23-24

Morocco the level of their marketing and distribution is poor; locally produced dates are available (even allowing for seasonality) only at sporadic intervals and their quality is usually low. The better quality dates that are sold, in the Souss at least, are of a noticeably higher price (approximately double), and are said to be Tunisian (it is not politically expedient at present to call them Algerian).

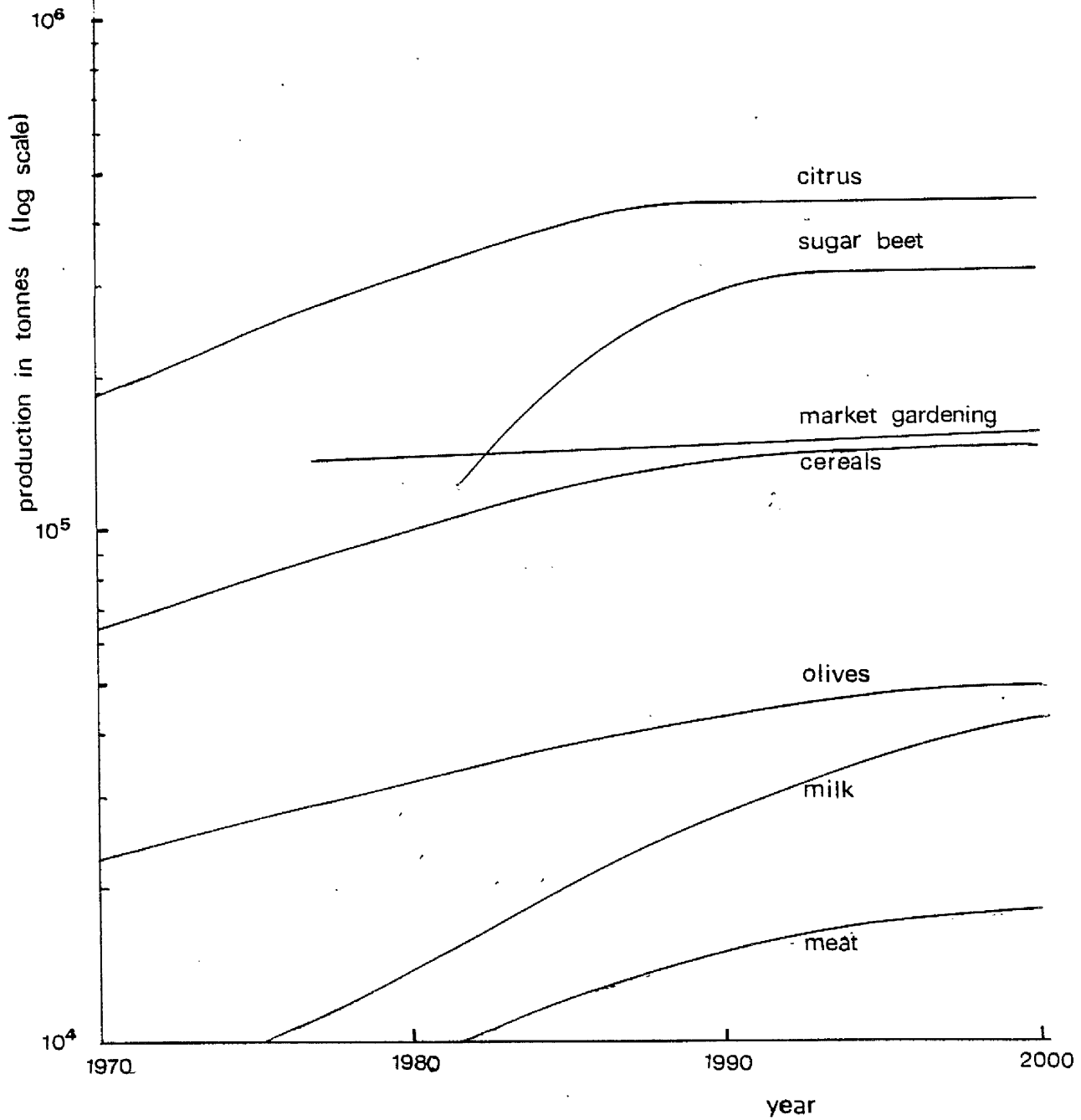
6.3.3 Agriculture

Turning to agricultural production proper, the major innovation in the region, as has been discussed at some length above, is to be that of sugar beet. Production of citrus, vegetables and cereals is also planned to increase, with the full development of agricultural land in the Souss being reached in the late 1980s for the modern sector of agriculture and in the first decade of the 21st century for the traditional sector⁴⁹. The total area devoted to cereals will remain approximately constant at 105,600 ha in the Souss (about 70% of this being dry barley, the rest irrigated cereals), though the tonnage is expected to almost double to reach 145,000 T a year by the time of full development. Market gardening in the Souss is expected to increase slightly to produce 153,000 T over 8,100 ha, and citrus produce to reach a maximum level of 434,000 T (by the late 1980s) on 19,400 ha of land (out of 36,00 ha of land for arboriculture altogether). Sugar beet in the amont and Issen areas, as already mentioned, is to yield 324,000 T of produce on 7,650 ha of land, and forage cultures are to occupy 26,200 ha (of which 16,800 is for dry cactus farming), giving a total agricultural area of 183,550 ha. Of this figure, 86,250 ha (or 47%) will be irrigated agriculture. Some of this latter figure, though, is an area included more than once due to crop rotation; the actual area under irrigation in the Souss plain is to be 74,000 ha at full development, compared with 55,000 ha at the end of the 1970s. Meat production is planned to double to

49. interview with R. Rosseels, ORMVA/SM, Agadir 30.7.80

FIG. 78

The projected development of agricultural production in the Souss plain



source: ORMVA/SM Agadir (in 1980), based on projections made in 1975

Table 53 Value added of agricultural production in the Souss plain

(in 10^6 dh, at 1973 prices)

	1973		projected figures at full development			
	amount	aval	total	amount	aval	total
dry cultivation	2.9	7.4	10.3	16.8	7.5	24.3
tradit. irrig.	23.6	6.0	29.6	32.9	9.6	42.5
modern irrig.	9.6	61.4	71.0	34.9	110.5	145.4
forests	1.6	3.3	4.9	1.4	3.3	4.7
animal sector	14.4	17.3	31.7	40.7	53.4	94.1
total	52.1	95.4	147.5	126.7	184.3	311.0

note: (1) barley in 1973, and barley, cactus for fodder and dry arboriculture in terraces at the time of full development

source: R. Rosseels, at ORMVA/SM, interview on 30.7.80

18,100 T and that of milk to more than treble to reach 44,000 T a year. Figure 78 shows the planned growth of agricultural production up to the year 2000. Table 53 shows the increase in value added of agricultural production in the Souss between the 1973 level and the projected figures (at constant prices) for the period when full development is reached. It is seen, in particular, from this table that the amount area, which accounted for only 35% of the total in 1973, is expected to contribute a rather larger portion (of 41%) eventually. The modern irrigated and animal produce sectors together account for 93% of the 111% increase in value added between 1973 and the period of full development.

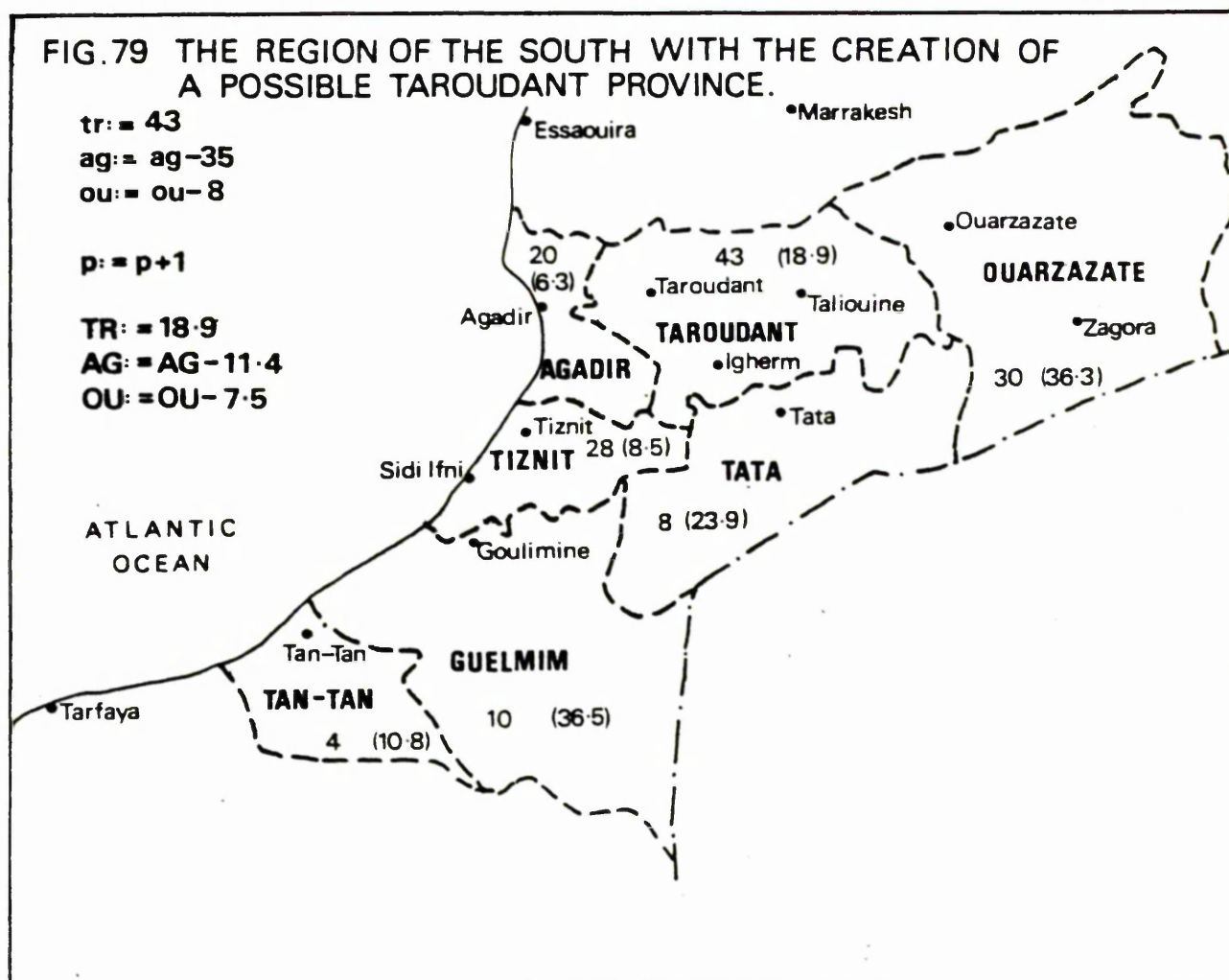
In the 18,900 ha of the irrigated sector of the Massa plain the full development targets are for approximately 6,000 ha of market gardening produce (roughly half of it in the form of tomatoes) for export, 6,000 ha of cereals and 6,000 ha of forage cultures. The value of this production was estimated at some 200 Mdh (at 1976 prices), and this would represent around 20% in terms of value of the total agricultural production, at the time of full development, of the Souss and Massa plains⁵⁰.

6.3.4 Administrative change with the creation of Taroudant province

The change in the shape of the region

The creation of a province of Taroudant, already mentioned in chapter 4.2, has been a strong possibility since at least 1975, and could take effect at any time that the central authorities in Rabat so wished. The political map of the region of the south would be considerably changed by such an administrative creation. Figure 79, drawn to the same scale and using the same conventions and symbols as figures 14 to 21 in chapter 1.4, shows the new

50. article entitled 'Le barrage Youssef ben Tachfine', in Agadir: Revue d'Informations, No 2, July 1977



note: the same conventions and legend are used as in figures 14 to 21 in chapter 1.4. This map follows on from figure 21.

tr and TR have been introduced to denote the number of communes and the area (in '000 km) respectively of Taroudant province.

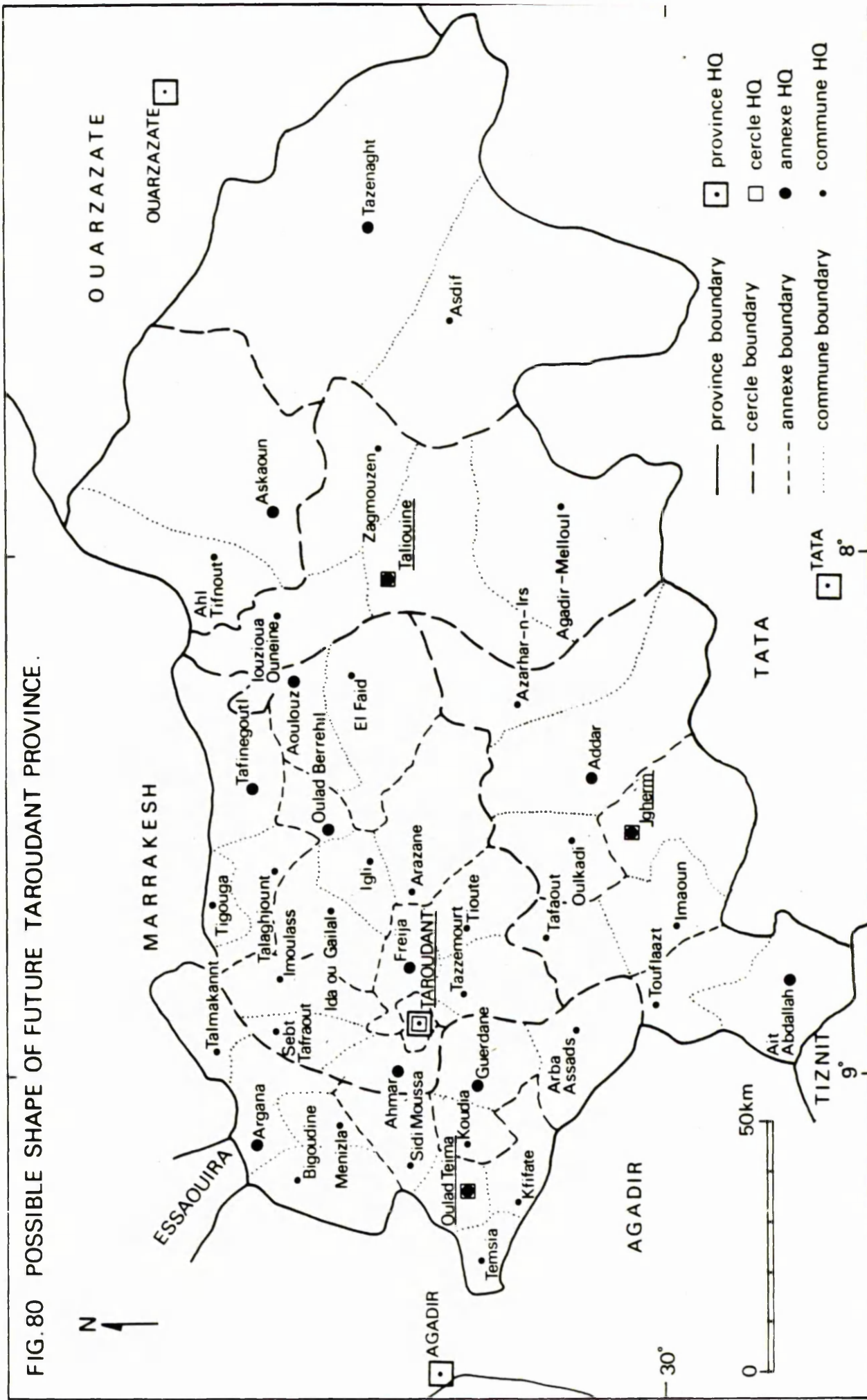
28 denotes the number of communes
 (8.5) denotes the area in '000 km

configuration that would result, on the assumption that three existing cercles from Agadir province (Oulad Teima, Taroudant and Igherm), and one from Quarzazate province (Taliouine) went into the new province (other variants are also possible, including the addition of Biougra cercle in the new province; see also Appendix I, section I.0, table 56, for further details of communes, areas and populations of the resulting configurations). In terms of the region, Taroudant province would be something of a central block, embracing, as will be seen, an important part of the High Atlas, the Anti-Atlas and the Souss plain. In chapter 4.2 the notion of the town of Taroudant acting, historically, as a link on both a west-east axis and a north-south axis was developed; a new province of Taroudant would embody this dual role in an enlarged sense, and would act as a transitional and intermediate area between sub-regions of the wider region (including, for this purpose, the Haouz plain to the north and the Tafilelt to the east in the term 'wider region').

The shape of the new province itself

Figure 80 shows the resulting shape of Taroudant province (with the cercles constituting it as assumed above), subdivided by cercles, annexes and communes. It should be pointed out that though the communes are nearly always left unchanged, cercles in such redistributions are often adjusted; when, for instance, Tiznit province was created, the large cercle of Tiznit in the former Agadir province, with 20 communes (the 21st, Massa, was left behind in Agadir province), was broken down into smaller cercles, and the same could happen with the 16 communes of the present cercle of Taroudant. This latter cercle could be split within its existing boundaries, or could be divided, taking in communes from other cercles as well. In spatial-demographic terms the province is highly centred to the north west. Not only is its province headquarters in the northern and western parts of the

FIG. 80 POSSIBLE SHAPE OF FUTURE TAROUDANT PROVINCE.



province, an observation which is the case for all seven of the resulting provinces of the region of the south, as fig. 79 shows (with the exception of the town of Agadir, which is in the west, but not especially the north, of its new province, and Tata which is to the north, but roughly mid-way on a west-east axis, in its own province), but the bulk of the population is also settled in that portion. Figure 81 shows the 'utile' section of Taroudant province in spatial-demographic terms, with the province subdivided by its communes (using the theory and terminology developed in chapter 1.3). It can be calculated that the strength of the partition is 0.626, which is to say that (on available estimates, in 1979, of the areas and populations of each commune), at least 62.6% of the population lives in at most 37.4% of its area. It is quite clear that this dense part corresponds to the Souss plain and its surrounding area, and that the sparsely populated and mountainous cercles of Igherm and Taliouine (of estimated densities of 22 and 18 inhabitants/km² respectively in 1979, compared with an average for the province of 32 inhabitants/km²) hardly figure demographically in this dense portion of 'Taroudant utile', contributing between them only 3 communes to the 25 that make up this portion.

The demographically 'utile' section, the dense part of the province, then, corresponds with the Souss plain and with agricultural activity within it. The sparsely populated areas are the northern strip of the High Atlas mountains and a band from south west to north east, running from the central and north eastern parts of the Anti-Atlas through to the Jebel Siroua. It is this 'inutile' section, demographically speaking, which turns out to be precisely the part which contains most of the mineral resources of the new province, for reasons that are obvious, since virtually all mining activity is in the mountains, and most parts of the mountains are sparsely populated compared with the Souss plain. Figure 82 shows the main physical aspects of the new province. It will be seen, firstly, that it now contains the whole Souss river network, except for the last 20 km before the

FIG. 81 DEMOGRAPHIC PARTITION (by communes)
OF A FUTURE PROVINCE OF TAROUDANT.

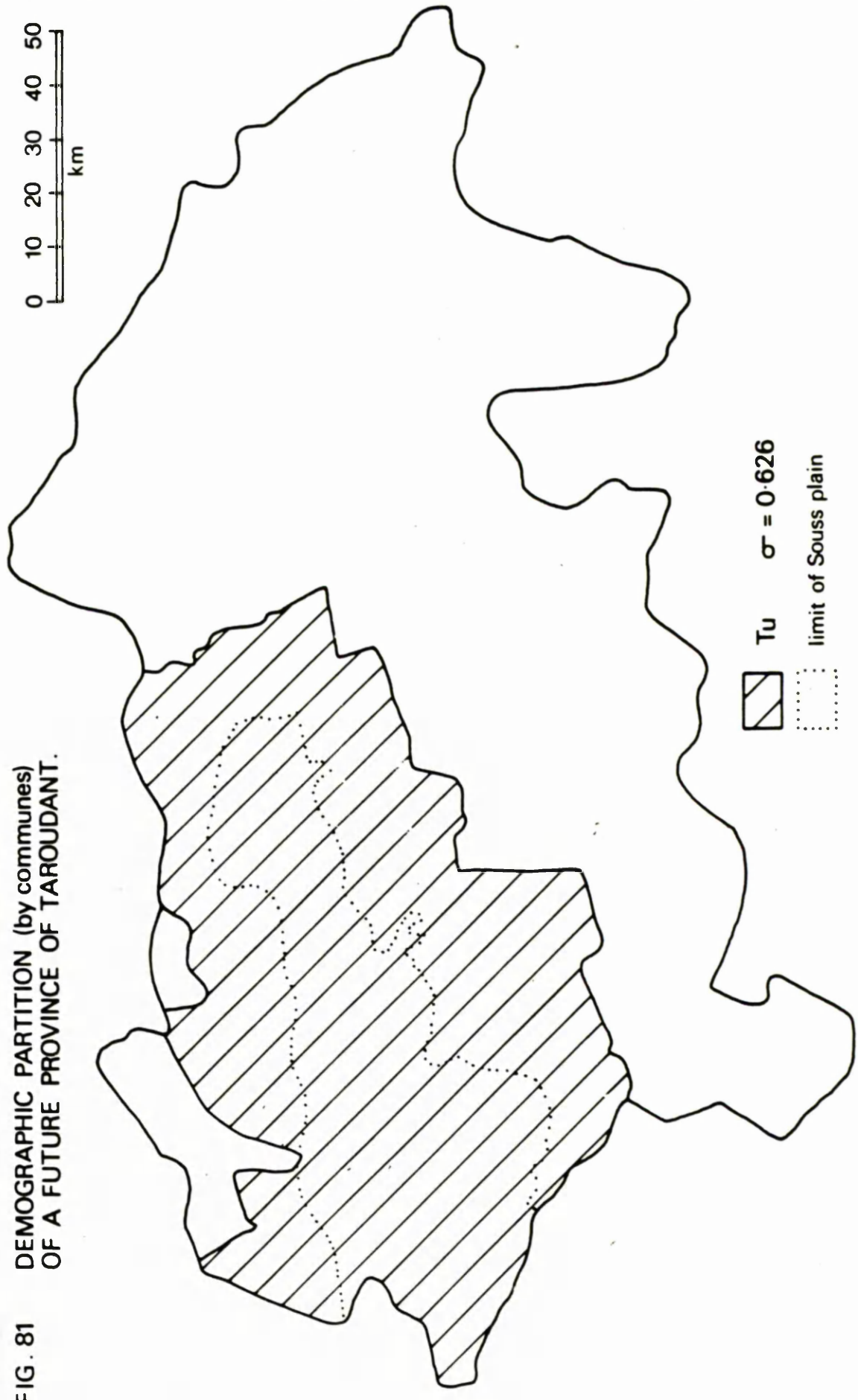
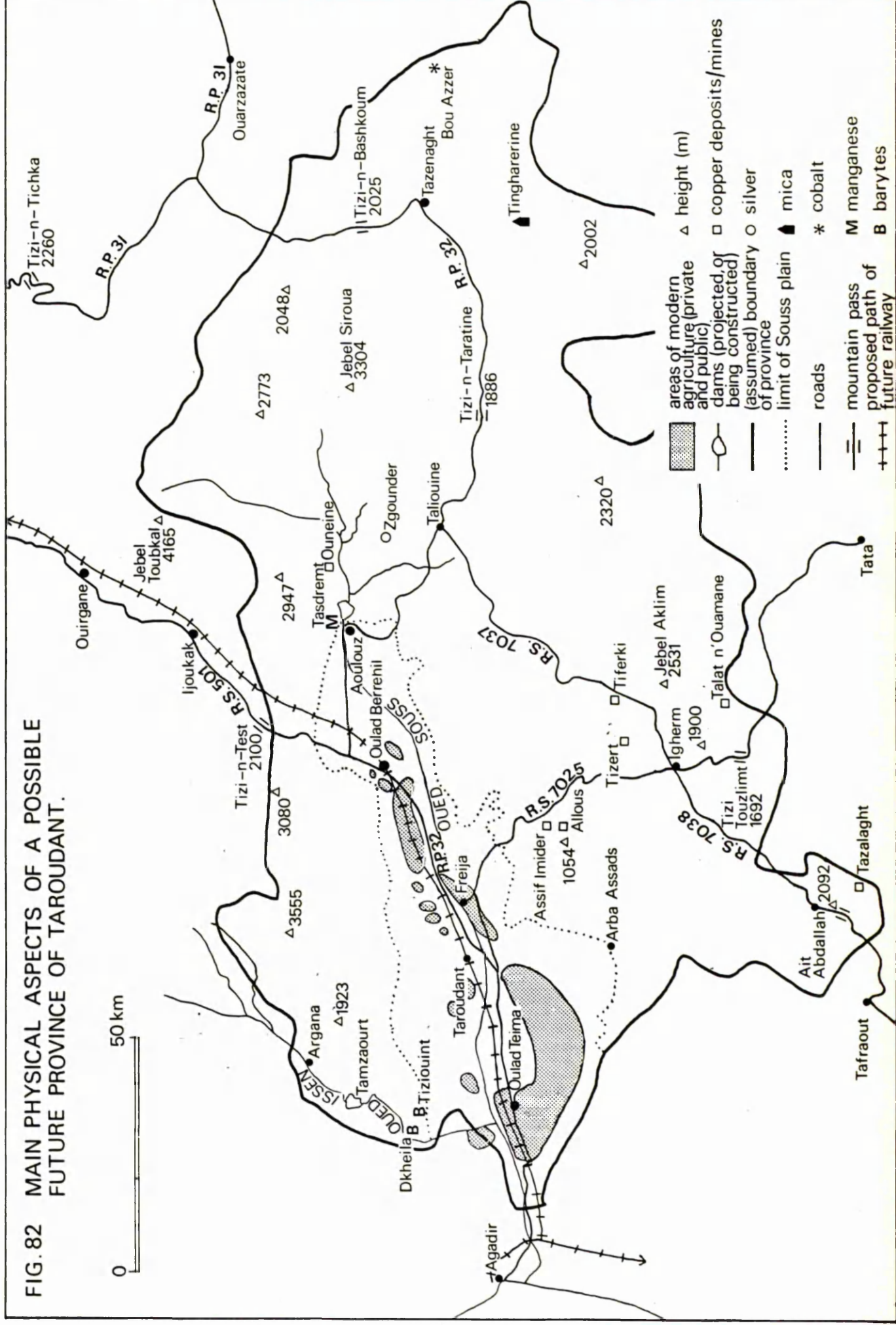


FIG. 82 MAIN PHYSICAL ASPECTS OF A POSSIBLE FUTURE PROVINCE OF TAROUDANT.



- ▨ areas of modern agriculture (private and public)
- ◻ dams (projected, or being constructed)
- (assumed) boundary of province
- limit of Souss plain
- roads
- mountain pass
- proposed path of future railway
- △ height (m)
- ◻ copper deposits/mines
- silver
- ▣ mica
- * cobalt
- M manganese
- B barytes

mouth of the river, and most of the Issen river, as well as the new dam being constructed at Tamzaourt on this latter river and a future dam which, it is proposed, is to be constructed on the Souss river above Aoulouz. The province will be relatively rich in agriculture (containing most of the new Issen irrigated areas, the large private irrigated citrus farms on the left bank around Oulad Teima, and the whole amount area), and in minerals (as seen from fig. 82); there will be little industry, though, as is the case with all the other provinces except the new Agadir, apart from a few agriculturally-related industrial activities in the Souss plain, and with relatively little tourist infrastructure. In terms of economic infrastructure, the two eventual dams have been noted. A main road, the R.P. 32, provides the axis from west to east, and the R.S. 501, branching off towards Marrakesh to the north, the other 'main' road (even though it is a secondary road); apart from that, the rest of the province, the whole southern portion, is served by very indifferent roads. The railway, traversing the north western part of the province, directly through its 'utile' portion, will provide the principal addition to the existing network of communications, and will strengthen the dominance of this portion, in economic and demographic terms, over the rest of the province. Of the 270 km on the first stage of the railway extension (stage IV), 150 km, or over a half, will be within Taroudant province, some 90 km in Marrakesh province, and only about 30 km in Agadir province.

Taroudant province as seen from Ouarzazate and from Agadir

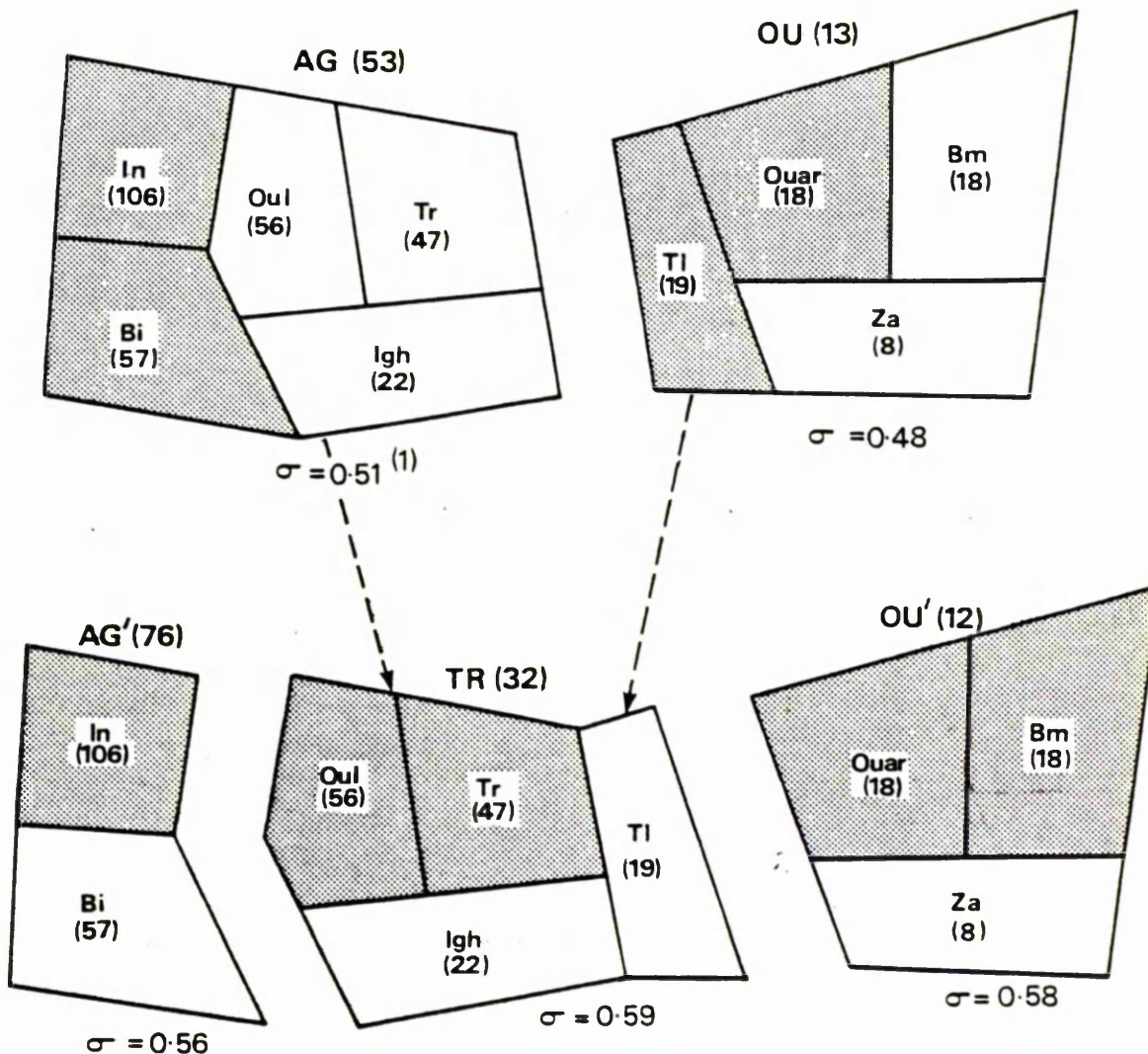
Though as seen from Taroudant, the area and the population of its new province come largely from the old Ouarzazate and the old Agadir province respectively, as seen from each of these other two neighbouring provinces the situation is precisely reversed. This is to say, of the 18,500 to 18,900 km² of the total area⁵¹ of Taroudant province, 7,360 km² (or 40%) will come from the single

51. for the reason for the discrepancy between two estimates of the area, here as in other cases, see Appendix I

cercle of Taliouine (out of Ouarzazate province), while of its population of almost 600,000 (on 1979 estimates), over 75% will come from the cercles of the existing Agadir province. For Ouarzazate province, however, it is not so much area that it is losing to Taroudant (only 17% of its present area, in fact), as population (around 24%), and for Agadir it is not so much population, though this is substantial at just under 50%, as area, which is a more drastic reduction, representing around 64% of the existing area of the province. The position can be illustrated even more strikingly, as is seen in the schematic representation of figure 83 below. In the old situation (the present one), there are two provinces concerned, Agadir and Ouarzazate, the former divided into five cercles and the latter into four, as shown in the figure. Using the methodology of chapter 1.3, and on the approximate and rounded figures for the areas and populations of these nine cercles (given in table 54), demographic partitions, using the coverings of cercles ($\Pi = \Pi_3$), can be easily obtained for both of these provinces. Agadir province partitions into an 'utile' portion of Inezgane and Biougra cercles (this has already been shown in figure 11 of chapter 1.3), whereas the 'utile' part of Ouarzazate province is made up of Taliouine and Ouarzazate cercles. Now it is exactly the 'inutile' part of Agadir province and one of the two cercles of the 'utile' part of Ouarzazate province which are joined to constitute the new Taroudant province, that is, the demographically sparsest part of Agadir and the densest of Ouarzazate. The new partitions after the creation of Taroudant are also shown, and it is interesting that the three new provinces are each more strongly partitioned (that is, have greater values of σ) after the change than either of the two old ones had before.

Turning in greater detail to each of these two neighbours of the new Taroudant province, a number of features stand out. As seen from Ouarzazate, the new province of Taroudant has taken a single cercle, though by its own standards a relatively populous one, that of Taliouine, the 'upper Souss', and one which already tended

FIG. 83 THE SPATIAL-DEMOGRAPHIC EFFECT ON AGADIR AND OUARZAZATE PROVINCES OF THE CREATION OF TAROUDANT PROVINCE.



The diagrams are schematic ones, and not to scale.

The shaded areas represent the demographically 'utile' sections of each province, covered by its circles ($\Pi = \Pi_3$), and the appropriate values of σ are given for each partition.

The figures in parentheses are the densities, in inhabitants/km², of each circle or province (1979 estimates)

note: (1) this value of σ differs slightly from the value of σ in figure 11 in ch. 1.3. This is because somewhat different figures (mainly of the population figures, which were for a different year), were used in the calculations.

Table 54: Populations and areas of the cercles of a future Taroudant province (for figure 83)

		population	area	density
		('000)	('000 km ²)	(inh/km ²)
cercles				
In	Inezgane	270.2	2.6	106
Bi	Biougra	206.6	3.7	57
Oul	Oulad Teima	157.2	2.9	56
Tr	Taroudant	221.4	4.8	47
Igh	Igherm	77.9	3.7	22
Tl	Taliouine	141.0	7.5	19
Quar	Quarzazate	143.7	8.0	18
Bm	Boumalne	126.2	7.2	18
Za	Zagora	177.0	21.1	8

provinces (cf. also table 56 in Appendix I)

a. before creation of Taroudant province

AG	Agadir	933.3	17.7	53
OU	Quarzazate	587.9	43.8	13

b. after creation of Taroudant province

AG'	Agadir	476.8	6.3	76
TR	Taroudant	597.5	18.9	32
OU'	Quarzazate	446.9	36.3	12

The population and density figures are estimates for the position in mid-1979. The densities are rounded to the nearest integer. As explained in the introduction to Appendix I, there are sometimes discrepancies between different sets of areas, usually at the level of province, resulting in differences between different sources, or different maps giving differing planimetered readings.

to have economic, as well as social and ethnic ties with the Taroudant region (it is, in fact, very much a Berber cercle that Ouarzazate is giving up from its western part). What is more is that Ouarzazate is giving up some of its valuable mineral deposits, including cobalt at Bou Azzer, silver at the new Zgounder mine and copper at Ouneine (though keeping manganese at Imini, copper at Bleida and the new gold mine at Tiouit, as well as the present, though soon to be depleted, silver mine at Imiter; cf. figures 76 and 82). The province of Ouarzazate will, in addition, be 'shifted' to the east, and its distance from the railway increased from only a few kilometres at present to about 30 km, as the crow flies and from the closest point in the north west of the reshaped province, though in practice to a considerably greater distance by road and from existing centres of settlement.

As seen from Agadir, as already stated, Taroudant province takes 49% of the population and 64% of the area. The large bulk of the useful agricultural area of the Souss plain goes to Taroudant, leaving it with a small part of the new Issen sector (on the right bank of the Souss), the agricultural sector around Biougra and the irrigated sector of the Massa plain. Virtually all its existing mineral sites (either presently exploited or potential ones) fall in the new Taroudant province, including the barytes deposits in the High Atlas (in Oulad Teima cercle) and the various copper sites in the Anti-Atlas (in Igherm cercle, or just inside Taroudant cercle). As regards the minerals of the new province, however, it is not clear whether, administratively speaking, these will continue to come under the small subdivision office of mining in Agadir, or will come under the larger office in Marrakesh, as do the mines within the present province of Ouarzazate. The former solution would, of the two, seem preferable, though it would require a considerably more vigorous office than exists in Agadir at present. There is no reason, however, why there should not be a decentralization of administrative control over mining, with the regional headquarters of the ministry being placed at

Taroudant. After the creation of Taroudant province, Agadir province will be left with a much reduced area, a higher population density (74 inh./km² compared with 53 inh./km² at present, on the fixed estimates of population for 1979), with considerably less agriculture and virtually no minerals. Its natural resources, other than the agricultural ones left to it, will be restricted to coastal ones, that is, to resources of fish, and its main activities, of industry, tourism, fishing, the administrative sector and port activity, all heavily concentrated in the urban agglomeration itself.

6.4 Conclusion to chapter 6

Various themes have figured throughout this chapter, the main ones being the project to build a railway link south of the High Atlas and its effects on the region of the south, and the continued political fragmentation of the region.

The arguments advanced in favour of the railway on economic grounds were examined, often critically, and a special emphasis put on the analysis of the mining sector in the south, which played a major part in arguments for the railway, and which had not been dealt with thoroughly before. It was considered, though, that political considerations weighed heaviest in the decision to construct the railway: the symbolic act of uniting the country, including the annexed Sahara, and the closer political union of sub-Atlas Morocco with the north as a result of its construction. The bringing closer of the south would be to the political advantage of the central authority, and could bring about some of the economic advantages for the region which were claimed in the report advocating the railway extension, but at the same time the linking of the south with the outside would inevitably entail a loss of some of the region's distinctiveness, its separate identity.

Agricultural developments were also briefly examined, and it was seen that, with the bringing into full operation of the Issen dam in the High Atlas and its consequent irrigation project in the plain near Oulad Teima, as well as other projects in the plain, a position of roughly full development would be reached soon after the year 2000, after which little further growth could be expected (other than through radical improvements in farming methods).

Finally, the creation of the new province of Taroudant would place a large and resourceful province, both in agricultural and mineral terms, firmly within the hinterland of Agadir. This urban agglomeration would be the centre of a province much reduced in

area and dense in population (the province would by that stage probably be promoted to the status of urban prefecture), whose main activities would be in the administrative, the industrial, and the tourism and service sectors, as well as in fishing and port activity. With regard to Agadir province, Taroudant would provide the inputs for its agricultural industries and mineral industries (the latter in the case of a copper refinery at Agadir), and with goods for export from its port. With regard to Ouarzazate province, on the other hand, this province would be made even more remote and somewhat more marginal in economic terms, and it is not clear that, after the creation of Taroudant province, Ouarzazate would not more logically be a part of the 2nd economic region (the Tensift region centred on Marrakesh), or else of the centre-south region (the 7th economic region) to its east, than of the region of the south to which it is at present attached. Within Taroudant province, the area of the plain and the town of Taroudant in particular would benefit from the railway, which would accentuate the existing dominance of that portion (the plain and its neighbouring area) over the rest of the province. At a lower level, within the plain itself (and in Taroudant province), there would be a moderate shift towards the amont region, at present firmly overshadowed economically by the aval, arising from both its better connectedness due to the railway, as well as from agricultural and some industrial developments in the area, including the introduction of sugar beet. In particular, the centre of Oulad Berrehil could receive a considerable stimulus, being the principal designated railway station of the amont (and the link with the minerals of the eastern part of the province and of Ouarzazate); the centre could subsequently be upgraded, as was the case with Oulad Teima in the 1970s, from a small market town and administrative headquarters of an annexe to the headquarters of a newly created cercle.

CHAPTER 7

CONCLUSIONS TO THESIS

7.1 Spatial dichotomies and boundaries

One of the central concepts recurring throughout the thesis has been that of spatial dichotomies, a concept introduced in chapter 1, particularly in the theoretical part of that chapter in section 1.3, reappearing in parts of chapter 4.1 and frequently from that point onwards throughout the rest of the thesis. The discussion in chapter 4.1 showed how the two senses in which the concept was applied in the thesis, the first of centre/periphery and the second of utile/inutile, related to each other at various levels of the political hierarchy. As regards the second of these representations, a theoretical method was devised in chapter 1.3 in order to assign a quantitative meaning to the degree that a particular geographic space could be divided into a dense and a non-dense portion. This method, the partitioning of a given space and the assigning of a numerical strength to the maximal such partition, proved to be one which gave useful insight into the static aspects of certain spaces within the area of study, whether the economic region of the south as a whole, or of particular provinces within it.

The application of this methodology, however, went beyond static description, since the dynamic process of the fragmentation of provinces, the phenomenon of an at least apparent, political decentralization, was one which had been and was continuing to be particularly strong in the region. In chapters 6.3 and 6.4 in particular the application of this method to the case of the formation of Taroudant province highlighted some interesting facets of the dynamic process.

In chapter 1.4 the fragmentation of the provinces of the south, and in particular the shrinking nature of Agadir province into an ever more dense and more compact economic, demographic and political unit, was contrasted with the parallel process of the expansion of the town of Agadir, to the point where the two effectively met in the same limit. It was observed in passing

here that strangely, since political boundaries are usually liable to be the first structures to be altered, well in advance of the economic changes they are supposed to accompany, the local boundaries within Greater Agadir lagged some 20 years or more behind reality. Not only had the old municipal boundaries been maintained, but the urban agglomeration contained, in addition to the municipality of Agadir, the tiny (and somewhat fictitious) municipality of Inezgane (maintained in that form, like the municipality at Sidi Ifni, for historical reasons), as well as large areas belonging administratively to the rural communes of Tikiouine and Ait Melloul. The planning and administration of the conurbation was hardly facilitated by this anachronism, and it was time that either a single municipality were created embracing the entire Greater Agadir, or else a constellation of six or seven mini-municipalities covering the whole space and coming under the umbrella of a super-municipal council.

Political decentralization, or its manifestation at least in the establishment of new provincial administrations, did not, as was seen, go together with a parallel economic decentralization, and the attempt at national level to disperse the highly centralized industrial sector as well as the distribution network for certain basic products, had resulted in a growing concentration of these sectors in a few designated regional capitals, poles of attraction, or equilibrium, or of whatever other label they were assigned. The town of Agadir was one such centre, and its rapid growth in its various sectors, described in chapter 3, had been matched by a growth in its political status as the overlord of an ever increasing number of 'secondary' provincial headquarters in the south, and by a high rate of demographic growth. Economic concentration here did seem to go together with political concentration.

7.2 Aspects of the changing shape of the town of Agadir

7.2.1 General

The development of the town of Agadir was traced in chapter 2.2 from the early part of the 20th century onwards, and it was observed that between 1930, when the town and the region were opened to European settlement, and the second world war, there was a considerable surge of activity, especially since the area had been held back from colonial settlement for a relatively long time compared with Morocco north of the High Atlas. In this period, as perhaps on various occasions subsequently, achievements were often exceeded by ambitious projects, one of which at that time was a plan for the railway network to be continued south from Marrakesh to Agadir. At this time, too, what were later to become the satellite towns were, if they existed at all, no more than small hamlets, though one of these was already favoured for growth in the 1930s by the colonial implantation in the area, namely the centre of Inezgane where the French aero-naval and military bases were established. After the second world war, and up to the time of independence, there was a large growth of the town, both demographically and in its new industrial and port activities, the former being principally concerned with fish products and located both at Anza and in the new Industrial Quarter. Around this time tourism was started on a modest scale as well. Though there was a slowing down of growth immediately after independence the pattern was essentially maintained.

The earthquake of 1960 destroyed almost entirely the dense quarters of Moroccan settlement on and around the hill, leaving only Anza to the north, and the European town and administrative and new industrial quarters all to the south of the Oued Tildi, in varying degrees unaffected. A considerable mobilization of national effort was channelled into the reconstruction of a new town, to the south of the Oued Tildi and north of the Oued Lahouar. Those sectors which had been only lightly affected were

rebuilt; otherwise construction started with a clean sheet, both as regards the actual levelled terrain as well as the position of land ownership, whereby the state, for the initial stage of reconstruction, took over all necessary land for the purpose. To establish some sort of living town again, with the first quarters of the urban centre, the administrative sector and new Talbordjt, and the repairing or rebuilding of the Industrial Quarter, took some six or seven years. From the end of that period through to the end of the 1970s the town was involved in a considerable economic and demographic dynamism. Industries that grew in this period, as described in chapter 3, included those connected with fish processing and the packaging or processing of agricultural produce, apart from the much boosted construction sector. This period, too, saw Agadir grow in 15 years to become the largest tourist centre in Morocco, with, after an initial spate of small hotels in Talbordjt, a rapid development of 3-star to 5-star hotels, mainly situated along the coastal strip north of the Oued Lahouar. High rates of population growth in the early years after reconstruction (as high as 12% per year) fell during the 1970s to annual rates of around 6% to 7%, rates, though, which were still considerable. On the immediate outskirts of Agadir proper, near the east and south east limits of the municipal boundaries, especially in the sectors of Khiam ('tents') and Amsernate, quarters of shacks or tents that grew up as 'temporary' sites after the earthquake became firmly established bidonville sectors. The situation in Agadir may not have possessed the scale or the extreme degree of social polarization that exists, for instance in Casablanca or Rabat¹, but it was still striking in that it developed, and became an established reality, so soon after a reconstruction which took off from potentially egalitarian foundations.

1. see, for instance, Abu-Lughod, Janet L., Rabat: Urban Apartheid in Morocco, Princeton University Press, Princeton, New Jersey 1980

During this period, and in particular in the 1970s, what had still been seen as small, distinct settlements near Agadir grew rapidly (with rates of growth generally higher than in Agadir itself) and became identifiably 'satellite towns' of Agadir proper; the latter may have had an immediate periphery of *bidonvilles*, as mentioned above, but the satellite towns represented a periphery on the larger scale of the whole agglomeration, stretching from Anza to Ait Melloul. Towns which had, in such cases as Ben Sergao and Inezgane proper, become populated to the point of saturation and which, in the case particularly of Inezgane, were acquiring their own local peripheries of overcrowded shanty towns, they themselves were poorly equipped compared to Agadir in terms of basic domestic and social facilities, and in terms of any local economic activities which could have provided noticeable benefits. This was a periphery, then, of an agglomeration of settlements, whose internal space was beginning to be joined up and whose individual units were increasingly identified with the notion of a Greater Agadir; it was also a periphery whose population at the end of the 1970s represented almost a half of the total population of Greater Agadir and was continuing to grow at a higher rate than the 'centre'.

Chapter 5 examined the developments that were likely in the 1980s and 1990s. The main basic changes of shape foreseen were the predominance (on the level of Greater Agadir, which in this period onwards was treated as the natural urban unit) of the arc around the north east, east and south east of Greater Agadir, accentuated by the local route of the railway line over the same path; the relative downgrading of the old linear axis of the R.P. 32 from Agadir, past Ben Sergao, Dcheira and Inezgane, to Ait Melloul; the saturation of the older intermediate centres on the R.P. 32 and the development of new quarters at Agadir South East, Tassila and elsewhere on the 'arc' (as well as at the spatially isolated new quarter of Tama ou Anza, to the north of Anza); and the implantation, for the first time since the reconstruction period, of completely new industrial sectors, at Tassila and Ait Mellout

on the periphery of the conurbation. It was observed that the centre of gravity of both population and industrial location would shift fairly sharply to the south and east, from Agadir proper to points nearer the geometric centre of the conurbation, and would, in addition, increasingly diverge from the centre of tourist location, which latter would continue to move more gradually south along a path near and parallel to the coast, to reach a point near the mouth of the Oued Lahouar, as the new tourist/residential sector of Founty (immediately to the south of the Lahouar) came into operation. The area along the coast, from the Oued Tildi to the mouth of the Souss, from the wealthy, (Moroccan and non-Moroccan) residential villa sector in the north, through the 'urban centre', administrative sector, and tourist and beach sector, to Founty, the new golf course and the new palace, a 'centre' in terms of the concentration of economic wealth, would be an area distinct and increasingly separated from where the bulk of the population of Greater Agadir lived and worked.

7.2.2 The particular case of tourism

Tourism in the region of the south has been and will continue to be overwhelmingly centred in Agadir (and within Agadir in its coastal strip), and although section 7.2.1 above dealt generally with the changing shape of the town, a few words more, devoted solely to the case of tourism, are perhaps called for, since this sector was dealt with in some detail, especially in sections 5.1 and 5.4 of chapter 5.

The analysis in chapter 5 dealt mainly with the dynamic evolution of tourist capacity and location in Agadir, both in the period up to 1980 as well as the likely pattern in the 1980s and 1990s, and with some of the direct and indirect economic benefits accruing from tourism, especially in the creation of local employment. Earlier, in chapter 3, some specific aspects of tourism in Agadir, such as the changing distribution of tourists by nationality, and their dispersion throughout the calendar year, had been examined.

This brief concluding section on tourism will make a few global observations on tourism in third world countries, observations with some relevance to the case of Agadir, as well as a final specific economic comment on the case of Agadir.

There have been several studies in recent years² dealing with the social and economic impact of tourism on third world countries, and though it is not the place here to examine their arguments at any length, three points arising from them will be mentioned. The first is the general premise of most of these studies, namely that, whatever benefits may also accompany it, tourism can and does have adverse effects on the recipient third world countries. It is considered to distort the local socio-cultural environment, an observation which would seem to be almost self-evident, yet which effect is difficult to quantify, and being outside the scope of this concluding section it will not be taken further here. The other two types of distorting effects are hardly less obvious. That the physical environment can suffer from large-scale tourism is clear. The town of Agadir has generally sufficient water at present, even given the much higher demands on water by tourists and hotels in general (for use in their gardens and swimming pools) than by the local population. However the supply, from bore-holes near the river bed of the Souss, is not unlimited, and in the extreme case mentioned in chapter 5.4, the nightmare example of 100,000 tourists in Agadir all at the same time, the consumption of water due to tourists and tourism alone would be of the order of 350 l/s (on the basis of a daily consumption, directly and indirectly, per tourist per day of 300 litres), which

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2. see, for example, 'Le tourisme dans le tiers-monde', a survey in *Le Monde Diplomatique*, August 1980, pp. 17-22, especially the article 'Un cas exemplaire, la Tunisie' by Alain Sabatier (p. 21), which deals with a case with similarities to the Moroccan one; and

Cleverdon, Robert, *The economic and social impact of international tourism on developing countries*, published as E.I.U. (Economist Intelligence Unit) special report no. 60, London, May 1979.

represents two thirds of the present supply of water to the town, and 42% of the expected supply in the 1980s³. The effect on the water table of the arrival of mass tourism in the island of Jerba in Tunisia was a severe one⁴, with the use of previously untapped water causing an increase in salinity; whether it was through this salinity, or simply due to a lack of water as one report states⁵, or both, certain agriculture in Jerba subsequently had to be abandoned. Other direct effects on the physical environment of large scale tourism would include the effects on the landscape. Paraphrasing Wenkam's remark on Hawaii⁶, one could state that the best view of Agadir was from the roof of the Eurafrique hotel (mentioned in chapter 5.1), since from there the hotel could not be seen. In fact, the best view is from the top of the hill, near the old Kasbah, in the evening, but the implication of the remark is clear.

Direct economic adverse effects of large scale tourism could include those of inflation, particularly on land and house prices. As regards the cost of land and accommodation in Agadir, though it is high, it is difficult to assess the proportional contribution of tourism towards this, given firstly that tourism is located in a specific sector of the town, secondly that the high demand for housing is caused primarily by the large influx of migrants from the region (many, admittedly, drawn by the expectations of employment aroused by the booming tourist sector), and thirdly that there is a speculative element at play as well. Overall, the cost of living in Agadir would not seem to be markedly higher than

3. using figures given in Berriane, Mohamed, *L'espace touristique marocain*, fasciculé de recherches no. 7, Tours 1980 pp. 156-157

4. E.I.U. report, op. cit. p. 86

5. article by Alain Sabatier in *Le Monde Diplomatique* of August 1980, op.cit. p.21

6. Wenkam, R., 'The Pacific tourist blight' in *Annals of Tourism Research*, vol. III no. 2 Nov./Dec. 1975, quoted in E.I.U. report op. cit. p. 86

in other large towns in Morocco. The official statistics⁷ suggest that in 1978 the cost of living index in Agadir (177.0) was slightly higher than the average (176.4) of eight listed towns (including Agadir itself), though its rate of inflation throughout that year (of 10.7%) was more markedly higher than the average of all eight (8.8%). The one sector in which Agadir stood out at the top of the list in terms of prices was that of housing, where the index at Agadir was 164.0 compared to an average of 153.7.

The second point of interest arising from one of the reports mentioned⁸ is the idea that at some level tourism stops having beneficial effects and starts to give diminishing returns. This notion clearly encompasses the first point, that there are always adverse effects of varying natures of tourism, but extends it by assuming that the net benefits, the difference between the benefits and adverse effects, can in some (unspecified) way be quantified, and that this quantity increases continuously with the volume of tourists (though at a steadily decreasing rate of increase), to reach a maximum level (the saturation point), beyond which it decreases. Lacking either a more precise way of quantifying many of the factors involved (such as environmental or social effects), let alone quantifying them according to a common single scale, or empirical evidence as to what the saturation limit might be according to the type of location concerned, the matter will have to be left at this general level.

The third point to be borne in mind by those planning for Agadir, or indeed for any place intending to introduce large-scale tourism to the point where it becomes one of the major activities, is the ease by which principal tourist destinations can be changed. This is often for political or economic reasons - tourists rapidly abandon areas where there has been political conflict or where prices are known to have risen sharply - but it is also

7. *Le Maroc en Chiffres 1978* pp. 27-28. The index for the cost of living for 1978 is calculated here on 210 items, using May 1972-April 1973 as the base of 100. The eight towns listed are: Casablanca, Rabat, Fes, Tetouan, Kenitra, Marrakesh, Ujda and Agadir.

8. E.I.U. report, *op. cit.* pp. 84-86

increasingly due to the power of the international tour operators, who, in the case of Agadir, control a large part of the tourist traffic there, and who can and often do switch their main advertised destinations from one season to another with little regard, clearly, for the local economies of the places between which they shuttle.

A final observation on tourism in this case one noting a specific and positive economic benefit to Agadir, was raised by Berriane in his thorough survey of Moroccan tourism, where he presented a comparative study of the cases of the Mediterranean coast and of Agadir⁹. Compared with the region around Tetouan and Al Hoceima in the north, which Berriane concludes¹⁰ profits little from tourism, having to import 75% of the provisions for the hotels there, the region around Agadir contributes far more significantly to, and thus benefits more directly from, the supplying of hotels in the town. Some 79% of its provisions were estimated by Berriane to be purchased locally, including all the foods and drinks (except alcoholic drinks), on which the hotels and restaurants were estimated to have spent at the rate of something over 1 million dh per month (in 1978), the large establishments buying from the wholesale market in Agadir and the small ones from the souk at Inezgane.

9. Berriane, Mohamed, *op. cit.* pp. 153-155

10. *ibid.* p. 147

7.3 Aspects of the changing shape of the region

The changing nature of the region was dealt with principally in chapters 4 and 6, the former concerning itself with the period up to the early 1980s and the latter with developments beyond that time. Both chapters had concluding sections summarizing the main findings and observations contained in them so that, to avoid needless repetition, a brief section will suffice here. Chapter 4 examined the region around Agadir, and in particular the two centres of Taroudant and Tiznit and their immediate surrounding areas, and introduced the first hypothesis, stating that the growth of Agadir since its reconstruction had induced a relative stagnation in these centres. An examination of the particular cases found that this was broadly true, but that the process suggested had indeed begun considerably earlier, in the original modern period of Agadir's growth in the 1930s and 1940s, and that the developments of the post-reconstruction period only confirmed the pattern earlier established. The second, related hypothesis stated that under the influence of the dynamism of Agadir's growth a belated, but weaker growth had begun to occur in the two centres concerned. This, too, was broadly confirmed; in the case of Taroudant a small, temporary burst of activity had occurred in the mid and late 1950s which had subsequently subsided in the period of the reconstruction of Agadir, and in the cases of both towns it was the late 1970s and early 1980s which saw the beginnings of a more definite growth. New towns were being built or planned, for the first time on any scale, outside the existing walled medinas, and an examination of some detail was carried out on the developments of the old medinas as well as of the projected new quarters, and of the possible impacts of the latter on the former, in the cases of both towns. It was felt for both Taroudant and Tiznit that developments in their medinas were in some respects becoming critical as regarded their economic and demographic conditions, and that there was a need for measures to be taken to alleviate these conditions. Although the new towns would relieve some of the demographic pressures, it was considered that there

was a risk that all attention and material investment would go into these, that they would become the central parts of each town, accentuated in both cases by the proximity of the new railway line to them and not to the old medinas, and that the medinas would become marginal, as social and economic peripheries.

The introduction of the railway into the south was one of the main aspects of chapter 6. It had been noted earlier that Taroudant lay on two historic axes through the Souss; one was the west-east axis from the coast along the plain to the source of the Draa and beyond to the Tafilelt, and the other linked Taroudant, and the Souss plain, to the Nfis valley and Haouz plain north of the High Atlas. Partly because of the relative economic, political and demographic weight of Marrakesh as opposed to the regions of the southeast, the second axis was already, in modern times, the more important. Its importance, though, would be considerably accentuated by the construction of a railway line on precisely that axis, and Ouarzazate and its province would be marginalized by this development alone, and even more so by a future administrative restructuring of provincial boundaries in the region. This would involve the transfer of a sizeable portion of its relatively most dense and developed area into a new province of Taroudant. The province of Ouarzazate would thereby be shifted to the east and away from the coast and from the railway, and would find itself more peripheral than previously. The town of Taroudant, on the other hand, would itself be, in geopolitical terms, in a more central position. It would be at the centre of a province that contained the major part of the Souss plain and its agriculture, the larger part of the railway line between Marrakesh and Agadir, and a large area of mountainous territory, regrouping within this latter area, among other things, an important part of the minerals of the region.

As regards the part of the region to the south of Agadir, one can not help feeling that the impact of the railway here will be less than in the Souss plain. Nonetheless Tiznit, as well as Sidi Ifni

and Goulimine, would receive some benefit, and the Massa irrigated sector would be directly linked by rail to the port of Agadir. On the Massa scheme it was mentioned that there had been some resentment in Tiznit at the way this sector, irrigated from a dam on a river rising in Tiznit province, had been kept within the province of Agadir. It would seem reasonable, perhaps, that when Taroudant province was created the Massa sector should be transferred at the same time south to Tiznit province, thus creating more of an even balance between these two provinces in economic terms. A related matter of concern in Tiznit, namely that the waters held in the Youssef ben Tachfine dam on the Massa were dispatched to the north rather than south to the arid area around Tiznit, would not, of course, be resolved by this purely administrative proposed change, though it would also make sense, in terms of the future make up of the region, that among the major hydraulic works to be undertaken in the region before the end of the century (the dam on the Souss being the other principal one), a canal from the Massa dam south to Tiznit should be constructed. For Tiznit province, then the provision of the means for a viable agricultural sector in its plain (and the physical and administrative linking of this latter with the already irrigated Massa sector) is more important than the implantation of local industry, which in the present economic state of the province could only be on a small scale, or than the mining or fishing sectors within the province, each of which will remain marginal in terms of employment, or even than the railway itself, beneficial though it will be in assisting the development of the various economic sectors mentioned.

7.4 The interrelation of the town of Agadir and the region

That there exists an interrelation between the dynamic process of events in the town of Agadir and that in the region outside it has been explicit or implicit in most of what has been written in this thesis. A specific aspect of this interrelation, though, of relevance to the town in particular, could be mentioned here. Up to now the high rate of growth of the town, boosted by large scale migration from the region, has been paralleled, if not exactly equalled, by a growth in agricultural production of the region, itself a product of the extension of agricultural areas, of the introduction of major irrigation schemes and of improved methods. Although the region has not been self-sufficient in all agricultural produce, and in particular not in cereals, there has been an adequate agricultural surplus (and an increasing one) which, together with revenues from tourism and from the export of minerals and processed fish, has covered the demands of a rapidly growing urban population.

It is not unreasonable to point out here that while the population of Agadir could continue to grow at a high rate for a considerable time to come (even at a high steady annual growth rate of 6% it would take 40 years for the population of Greater Agadir to increase 10-fold, from its present 200,000 to around 2 million, which would still be lower than the present population of Casablanca), the prospects for a similar, sustained growth in principal sectors of the regional economy, agriculture above all, but also tourism, are of a definitely bounded nature.

The growth of agriculture in the region is limited primarily by the availability of suitable terrain and water, and, as has been seen in chapter 6.3, it is projected that agricultural development, at least in the Souss plain, will have reached full development probably in the first decade of the 21st century, even taking into account the extra production provided by the dam on the Souss, which would regulate the water supply and, by eliminating some of the the losses, provide more water for agriculture.

Secondly, potential drinking water generally is a finite quantity in Agadir, as has been seen, whether for the local inhabitants or the tourists, though the level of consumption may not approach the theoretical limit on capacity for a relatively long period compared with the time-scale suggested above for agricultural production to approach its upper limit.

Two of the other principal economic sectors which sustain Agadir, like agriculture, would seem to be similarly limited in the degree to which they could expand. Fishing, whose production has been erratic and which has barely grown over recent years, is limited, not so much by the processing capacity available as by the potential volume of fish that can be caught without overfishing in the waters off Agadir; it was suggested that the trend, over that past forty or fifty years, of fishing activity to move ever further southwards down the Atlantic coast was to a large extent a reflection, not just of a decentralization away from Casablanca of the processing industry, but of an actual movement south of the bulk of the fish population. By the end of the century, the volume of fish (for industrial processing) caught around Agadir could thus not only have reached an upper limit but have actually declined.

Tourism, too, is limited, as has been observed in chapter 5 and in section 7.2.2 above. To some extent the constraint is that of water, though this is not likely to be an overriding constraint over the next twenty years. A greater constraint in that period is that of the availability of space, and what could count most of all could be the as yet undetermined point, suggested above, beyond which tourist activity becomes self-defeating, where the net economic benefits start to diminish. This point might roughly be estimated in the case of Agadir to be somewhere in the region of 22,000 to 30,000 hotel beds, a level which would correspond both to the feelings amongst some of those concerned with the tourist sector in Agadir as well as to the amount of undeveloped land which would still appear to be available for tourist

purposes. Such a level of tourist development would probably be reached by the end of the 20th century. Of course, it could have been and indeed, no doubt, should have been, attained much later, well into the 21st century, if there had been less of an unregulated stampede into the imagined Eden of large-scale tourism in the 1960s and 1970s, but the pattern would now seem to be set, and hotel capacity could be expected to double, or slightly more, up to the end of the 20th century. It should also be mentioned, in passing, that with the tailing off of the building of new hotels, one of the short-term direct benefits of tourism, and an important part of the total construction industry, would effectively vanish.

As regards manufacturing industry in Agadir, in theory it could continue to grow, at least as far as available land for its siting was concerned; the constraints on its growth, though, at least with the present types of industry, would appear to be, other than water, the limits on the inputs available, principally raw agricultural and fishing produce. The processing of minerals might seem to have a longer term scope for expansion, though mining, as was noted in chapter 6.2, has been up to the present a somewhat sporadic and haphazard activity, with mines being often limited by the constraints of accessibility (which constraint the railway, in some instances could be expected to ease), of local water and manpower, as well as by the quantities of ore of sufficiently high grade and sufficiently accessible to be economically extracted.

The idea suggested, then, is that there is a limit to the growth of Agadir. With the continued concentration, especially of tourism, and of industrial and port activity for the region within the town, the population will continue to grow at a high rate, though the growth of the productive economic sectors in the region will tend to an upper limit. The population would, however, be likely to continue to grow for a while longer, to overshoot its sustainable level, before itself necessarily reaching a maximum

point, beyond which there is likely to be economic stagnation. To what extent this possible scenario will be enacted remains at this stage unclear. It is not, in any case, intended as a contribution to the flourishing industry of science fiction, but as an indication of what could occur if the present over-concentration of economic activity within Agadir is maintained. Some of that activity, such as the tourist sector, can not easily be relocated elsewhere in the region, at least not on any scale, though its growth rate could be, or could have been in the past, better regulated. As for industrial and port activity, there is no reason here why a much greater decentralization should not be effected, and it is a question of changing the attitudes of those authorities concerned with planning, as much as anything else. It has been observed that, time and time again, when a project arises for a new flour mill or orange packaging plant, it is proposed that these should be sited at Ait Melloul; if there is iron near Tiznit it is to be transported by railway to the port of Agadir; and if there is a large amount of fish in Tan-Tan it should be brought in refrigerated wagons to the factories of Agadir.

It is suggested here, in conclusion, that possible economies of scale in industry and port activity are less important for the region than economic decentralization, and that the new railway should, if anything, stimulate such decentralization, rather than it being employed to ship everything that can possibly be moved to Agadir. The proposed sugar mill near Taroudant and the date packaging factory at Zagora are welcome developments, but they do not of themselves constitute a regional decentralization policy. Many small industrial units concerned with agriculture could be located nearer the source of the inputs - orange packaging factories, tomato canneries, flour mills or olive oil plants. If ports are to be developed along the coast south of Agadir, as is proposed and as seems only reasonable, then these should be developed with a mind to the type of produce, probably raw minerals or processed fish, that could be exported from them, and the development of the ports coordinated with the development of

the extraction or processing of the products concerned. As regards fishing in particular, local factories, at Sidi Ifni, Tan-Tan and elsewhere should be developed as far as possible and the local fishing industry evolved only in step with the increase in local processing capacity, rather than an all-out rush to fish 100,000 tonnes of sardines at Tan-Tan by 1990 and then be unable to do anything other than to dispatch them in refrigerated containers to Agadir. Even with the processing or semi-processing of mineral ores - and it is only here a question, really, of the proposed copper refinery at Agadir - this activity could be conceivably located elsewhere than at Agadir, preferably at a place on the coast, near a port and the railway, and within reach of at least some of the spread out deposits of copper, such as perhaps at Aglou, on the coast near Tiznit.

If a modestly consistent and relevant regional economic policy existed, and if it had been initiated some 20 years ago, then the steady drain of population from the rural areas to Agadir, as well as some of the other regional confusions and contradictions that now exist, might have been alleviated. Small-scale industries, in the countryside and at some of the coastal settlements, could have been developed and a modest network of small tourist developments constructed over parts of the south. Instead, given the economic and historical background to the region, and lacking any such regional policy, the dominant centre of Agadir was allowed to develop excessively at the expense of the regional economy, and this non-policy retrospectively labelled, as if to make it respectable, that of a 'pole of development'. Furthermore, the tourist sector there was developed at an excessive pace, creating not only social and economic imbalances, but making that centre over-dependent on this activity and highly vulnerable to any sharp decline in tourist numbers, whether for intrinsic or external reasons.

What has been allowed to happen in Agadir and the region can not be reversed, or could only be so at quite disproportionate expense. Perhaps more importantly than speculating what might have been, one ought to start from the existing situation and determine how it might evolve into something more satisfactory. In this context it is felt that in Agadir the growth of the tourist sector should be slowed down and halted within 15 years, industry should be diversified, away from the over-concentration on fish-processing, and the port facilities properly improved. Within the region agriculture should be maintained and diversified, small-scale local industries relevant to the local primary sector evolved, and on the coast viable secondary ports with local industry developed. The region is a very varied one, and rich in resources; the fulfilment of its potential and its harmonious development in a more balanced relation with its centre can only be of benefit to both that centre and the region.

APPENDIX I

The administrative breakdown in cercles, annexes and communes of the provinces of the region of the south; their areas, populations and densities; also, for Agadir and Tiznit provinces, the areas, populations and densities at the commune and cercle levels.

Legend for Appendix I

■	headquarters of region	
■	headquarters of province	
■	headquarters of cercle	
*	headquarters of annexe (caïdat) (or centre autonome, or municipality)	
(m)	municipality	
(c.a.)	centre autonome	
RS	Region of the south	
(a;b;c;d)	a provinces b cercles c annexes d communes	of the region
(b;c;d)	b cercles c annexes d communes	of a province
(c;d)	c annexes d communes	of a cercle
(d)	d communes	

Populations given are mid-1979 estimates; the areas are planimetred estimates, to the nearest 100 km² for provinces and to the nearest 10 km² for communes and cercles, and the densities are rounded to the nearest whole number. The sources for populations and areas, and the discrepancies between some of the figures, are given below in section I.0.

I.0 OVERALL REGIONAL POSITION

Table 55: Regional administrative position in August 1980

RS (6;21;76;143)

province	cercles	annexes	communes	pop. ('000)	area ('000 km)	density ₂ (inh/km ²)
Agadir	5	23	55	933.3	17.7	53
Guelmim	3	8	10	93.2	36.5	3
Tiznit	5	16	28	342.8	8.5	40
Tata	3	8	8	106.1	23.9	4
Tan-Tan	1	4	4	26.5	10.8	2
Ouarzazate	4	17	38	587.9	43.8	13
Region	21	76	143	2,089.8	141.2	15

Table 56: Regional administrative position with the creation of the province of Taroudant

RS (7;21;76;143)

Agadir	2	11	20	476.8	6.3	76
Taroudant	4	15	43	597.5	18.9	32
Guelmim	3	8	10	93.2	36.5	3
Tiznit	5	16	28	342.8	8.5	40
Tata	3	8	8	106.1	23.9	4
Tan-Tan	1	4	4	26.5	10.8	2
Ouarzazate	3	14	30	446.9	36.3	12
Region	21	76	143	2,089.8	141.2	15

This table (cf. also ch. 6.3.4) supposes the creation of Taroudant province out of the existing cercles of Oulad Teima, Taroudant, Igherm (at present in Agadir province) and Taliouine (at present in Ouarzazate province). If, however, Biougra cercle (at present in Agadir province) is also included in Taroudant province, then the figures for the changed provinces of Agadir and Taroudant become the following, the rest remaining unchanged.

Agadir	1	5	8	270.2	2.6	104
Taroudant	5	21	55	804.1	22.6	36

Sources: The population figures for provinces in all the sections of appendix I are for mid-1979 and are rounded to the nearest hundred; they are taken from *Le Maroc en Chiffres 1979*, except the figure for Tiznit province, which was supplied at the province itself. They are all estimates based upon extrapolations from the 1971 census.

The areas concerning provinces were all planimetred from *Schéma d'Armature rurale*, 1:1,000,000, drawn up in 1980 by the Ministère de l'Habitat et de l'Aménagement du Territoire in Rabat (draughtsman M. J. Hensens), and are to the nearest 100 km². The figure above for Agadir province (17,700 km²) differs from the figure given in section I.1, which was obtained by planimetry the individual communes from the map of the province, scale 1:200,000, at the province headquarters, rounding the commune totals to the nearest 10 km², and totalling, to obtain 17,300 km². Both figures differ from that published in *Le Maroc en Chiffres 1979*, which is 17,460 km². However, *Le Maroc en Chiffres* is inaccurate on some of the provinces, such as Tiznit, as regards areas. The densities are rounded to the nearest whole number.

I.1 AGADIR province (5;23;55)

area: 17,300 km²
 population: 933,300
 density: 54 inh/km²
 urbanisation: 23%

cercle Inezgane: (5;8)

- * Agadir (m) (1)
- * Inezgane (m) (1)
- * Ait Melloul
Tikiouine (2)
- * Tamri (1)
- * Immouzer Ida-ou-Tanane (3)
Isk
Aksri

cercle Biougra: (6;12)

- * Biougra (2)
Sidi Bibi
- * Had Belfaa
Ichaden (2)
- * Massa (1)
- * Ait Baha (3)
Imi el Had-Tasguedelt
Tnine Ait Ouadrim
- * Khemis Ida-ou-Gnidif (2)
Sidi Bouaz
- * Tanalt (2)
Had Targa-n-Touchka

cercle Oulad Teima: (3;11)

- * Oulad Teima (4)
Temsia
Sebt Kfifate
Sidi Moussa
- * Sebt Guerdane (3)
Arba Assads
El Koudia
- * Argana (4)
Had Menizla
Khemis Bigoudine
Sebt Talmakannt

cercle Igherm: (3;8)

- * Igherm (3)
Had Imaoun
Sebt Tataout
- * Ait Abdallah (2)
Tnine Touflaazt
- Oualkadi (3)
- * Tnine Addar
Azaghar-n-Irs

cercle Taroudant: (6;16)

- * Taroudant (m) (1)
- * Freija (3)
 - Tioute
 - Tazzemourt
- * Oulad Berrehil (4)
 - Had Igli
 - Tnine Ida-ou-Gailal
 - Khemis Arazane
- * Ahmar (3)
 - Sebt Tafraout
 - Had Imoulass
- * Tafinegoult (3)
 - Tnine Tigouga
 - Khemis Talagjount
- * Aoulouz (2)
 - El Faid

Table 57: Agadir Province, cercles and communes

Cercles and communes with their populations, as given in the 1971 census, rounded to the nearest 100, the areas as planimeted from the map of the province at the province headquarters (scale 1:200,000) rounded to the nearest 10 km², and the corresponding densities to the nearest whole number. Also an estimate of the 1979 population (extrapolated from the 1971 census figures) and the corresponding densities.

	(1971)			(1979 - estimated)	
	area (km ²)	pop. ('000)	density inh/km ²	pop. ('000)	density inh/km ²
cercle Inezgane					
Agadir (m)	29.0	61.2	(2,100)	90.0	(3,100)
Inezgane (m)	2.5	11.5	(4,600)	15.0	(6,000)
Ait Melloul	180	50.7	282	66.0	367
Aksri	410	9.8	24	11.6	28
Isk	670	15.2	23	18.1	27
Immouzer Ida-ou-Tanane	330	9.9	30	11.8	36
Tamri	480	19.1	40	22.7	47
Tikiouine	440	25.0	57	35.0	80
cercle Biougra					
Ait Baha	100	5.7	57	6.8	68
Biougra	510	29.2	57	34.7	68
Had Belfaa	370	24.9	67	29.6	80
Had Targa-n-Touchka	180	12.1	67	14.4	80
Imi el Had-Tasqueldelt	430	11.9	28	14.1	33
Inchaden	240	14.3	60	17.0	71
Kh. Ida-ou-Gnidif	290	6.9	24	8.2	28
Massa	380	14.0	37	20.0	53
Sidi Bibi	350	20.8	59	24.7	71
Sidi Bouaz	120	4.9	41	5.8	48
Tanalt	200	11.1	56	13.2	66
Tnine Ait Quadrim	450	15.2	34	18.1	40

Table 57 (continued)

	(1971)			(1979 - estimated)	
	area (km ²)	pop. ('000)	density inh/km ²	pop. ('000)	density inh/km ²
cercle Oulad Teima					
Arba Assads	400	8.5	21	10.1	25
Argana	390	5.4	14	6.4	16
Had Menizla	160	4.2	26	5.0	31
El Koudia	140	11.1	79	13.2	94
Khemis Bigoudine	300	9.8	33	11.6	39
Oulad Teima	190	24.8	131	35.2	185
Sebt Talmakannt	340	7.0	21	8.3	24
Sebt Guerdane	300	16.4	55	19.5	65
Sebt Kfifate	220	17.0	77	20.2	92
Sidi Moussa	260	9.9	38	11.8	45
Temsia	130	13.4	103	15.9	122
cercle Taroudant					
Taroudant (m)	22.1	22.3	(1,000)	29.0	(1,300)
Ahmar	270	10.3	38	12.2	45
Aoulouz	250	17.1	68	20.3	81
El Faid	680	18.2	27	21.6	32
Freija	230	11.1	48	13.2	57
Had Igli	180	9.7	54	11.5	64
Had Imoulass	310	12.5	40	14.9	48
Khemis Arazane	570	13.2	23	15.7	28
Khemis Talagjount	230	6.8	30	8.1	35
Oulad Berrehil	140	8.0	57	9.5	68
Sebt Tafraout	200	11.3	57	13.4	67
Tazzemourt	310	9.1	29	10.8	35
Tioute	290	4.7	16	5.6	19
Tnine Ida-ou-Gailal	330	10.1	31	12.0	36
Tnine Tigouga	180	4.3	24	5.1	28
Tafinegoult	550	15.6	28	18.5	34

Table 57 (continued)

	(1971)			(1979 - estimated)	
	area (km ²)	pop. ('000)	density inh/km ²	pop. ('000)	density inh/km ²
cercle Igherm					
Igherm	430	7.6	18	9.0	21
Ait Abdallah	540	8.2	15	9.7	18
Azaghar-n-Irs	610	6.5	11	7.7	13
Had Imaoun	340	7.2	21	8.6	25
Oualkadi	330	8.7	26	10.3	31
Sebt Tataout	280	8.4	30	10.0	36
Tnine Addar	700	9.4	13	11.2	16
Tnine Touflaazt	340	9.6	28	11.4	34
cercles					
Inezgane	2,540	202.4	80	270.2	106
Biougra	3,620	171.0	47	206.6	57
Oulad Teima	2,830	127.5	45	157.2	56
Taroudant	4,740	184.3	39	221.4	47
Igherm	3,570	65.6	18	77.9	22
province of Agadir	17,300	750.8	43	933.3	54

I.2 TIZNIT province (5;16;28)

area: 8,500 km²
 population: 342,800
 density: 40 inh/km²
 urbanisation: 16%

cercle Tiznit: (3;7)

- * Tiznit (c.a.) (1)
- Tnine Aglou (4)
- Sebt Ouijjane
- Had Reggada
- Sebt Bounaamane (* annexe at Oulad Jerrar)
- * Arba Rasmouka (2)
- Maader el Kebir

cercle Akhssass: (3;3)

- * Tleta Akhssass (1)
- * Ait Erkha (1)
- Jemaa n-Tighirt (1) (* annexe at Mejjat)

cercle Anezi: (4;6)

- * Anezi (2)
- Tighmi
- * Arba Ait Ahmed (1)
- * Tleta Ida Gougmar (2)
- Tizoughane
- * Zawiya Sidi Ahmed ou Moussa (1)

cercle Ifni: (3;6)

Arba Sahel (2)
Tioughza

(* annexe at Mighleft)

Tnine Amellou (3)
Sbouya
* Mesti

■ * Ifni (m) (1)

cercle Tafraout: (3;6)

■ * Tafraout (3)
Tnine Tarsaout
Tleta Tassrirt

Khemis Ait Ouafka (2)
* Had Tahala

* Had Affela Ighrir (1)

Table 58: Tiznit province, cercles and communes

Cercles and communes by area (km²) and population (1979 estimates). Figures supplied (in September 1980) by the headquarters of the province, and rounded to the nearest 100 for population, to the nearest 10 km² for areas, and to the nearest whole number for densities.

cercle	annexe	commune	area km ²	pop. ('000)	density inh/km ²
Tiznit	Tiznit town	(centre autonome)	7	14.0	(2,000)
	Oulad Jerrar	Tnine Aglou	230	12.1	53
		Sebt Quijjane	250	7.8	31
		Sebt Bounaamane	250	18.7	75
		Had Reggada	350	13.5	39
	Rasmouka	Arba Rasmouka	310	8.6	28
		Maader el Kebir	370	10.1	27
Ifni	Sidi Ifni	(municipality)	29	17.8	(2,000)
	Mighleft	Arba Sahel	350	16.1	46
		Tioughza	530	19.6	37
	Mesti	Mesti	250	5.8	23
		Amellou	670	17.3	26
		Sbouya	470	13.6	29
Tafraout	Tafraout	Tafraout	170	9.5	56
		Tnine Tarsaout	300	7.4	25
		Tleta Tassrirt	210	4.9	23
	Tahala	Had Tahala	240	9.6	40
		Kh. Ait Ouafka	250	11.5	46
	Affela Ighrir	Had Affela Ighrir	630	7.0	11

Table 58 (continued)

cercle	annexe	commune	area km ²	pop. ('000)	density inh/km ²
Anezi	Anezi	Anezi	290	16.6	57
		Tighmi	100	10.0	100
	Ait Ahmed	Arba Ait Ahmed	190	9.0	47
	Ida Gougmar	Tl. Ida Gougmar	210	15.2	72
		Tizoughane	190	10.3	54
Sidi Ahmed ou Moussa	Zawiya Si. Ahmed ou Moussa	210	3.7	18	
Akhssass	Akhssass	Tleta Akhssass	600	16.8	28
	Ait Erhka	Ait Erkha	180	9.2	51
	Mejjat	Jemaa n-Tighirt	700	27.1	39

cercle	area (km ²)	pop. ('000)	density (inh/km ²)
Tiznit	1,770	84.8	48
Ifni	2,280	90.2	40
Tafraout	1,800	49.9	28
Anezi	1,190	64.8	54
Akhssass	1,480	53.1	36
Province of Tiznit	8,520	342.8	40

I.3 GUELMIM province (3;8;10)

area: 36,500 km²
 population: 93,200
 density: 3 inh/km²
 urbanisation: 28%

cercle Guelmim: (3;4)

- * Goulimine (1)
- * Ksabi (1)
- * Asrir (2)
Fask

cercle Assa: (2;2)

- * Assa (1)
- * Zag (1)

cercle Bouizakarne: (3;4)

- * Bouizakarne (1)
- * Ifrane Atlas es-seghir (1)
- * Taghjint (2)
Tnine Addai

I.4 TATA province (3;8;8)

area: 23,900 km²
 population: 106,100
 density: 4 inh/km²
 urbanisation: 0%

cercle Akka: (2;2)

- * Akka (1)
- * Foug El Hassan (1)

cercle Foug Zguid: (3;3)

- * Akka Iguiren (1)
- * Foug Zguid (1)
- * Tissint (1)

cercle Tata: (3;3)

- ■ * Tata (1)
- * Tleta Tagmoute (1)
- * Khemis Issafen (1)

I.5 TAN-TAN province (1;4;4)

area: 10,800 km²
population: 26,500
density 2 inh/km²
urbanisation: 54% (nominally)

cercle Tan-Tan: (4;4)

- * Tan-Tan (1)
- * Tan-Tan plage (1)
- * Msied (1)
- * Abatteh (1)

I.6 OUARZAZATE province (4;17;38)

area: 43,800 km²
 population: 587,900
 density: 13 inh/km²
 urbanisation: 10%

cercle Taliouine (3;8)

- * Taliouine (4)
 - Agadir-Melloul
 - Zagmouzen
 - Iouzioua Ouneine
- * Askaoun (2)
 - Ahl Tifnout
- * Tazenaght (2)
 - Asdif

cercle Boumalne Dades: (5;11)

- * Boumalne (2)
 - Ait Sedrat Jebel
- * Msemrir (2)
 - Tilmi
- * Tineghir (3)
 - Imiter
 - Taghzoute
- * El-Kelaa Mgouna (3)
 - Khemis Dades
 - Ait Sedrat Sahel
- * Iknioun (1)

cercle Ouarzazate: (4;8)

- * Ouarzazate (m) (1)
 - Amergane (2)
 - Tarmigt (* annexe at Ouarzazate)
- * Skoura (3)
 - Toundout
 - Imi-n-Oulaoun
- Telouet (* annexe at Igherm-n-Ougdai)
 - Douar Sour (2)

cercle Zagora: (5;11)

- * Agdz (2)
 - Tamezmoute
- * Zagora (4)
 - Tinezouline
 - Benizouli
 - Tamegroute
- * Mhamid (1)
- * Tagounite (1)
- * Tazzarine (3)
 - Nkob
 - Taghbalt

APPENDIX II

The dual administration in Morocco

Two hierarchies of administration co-exist in parallel in Morocco. One is non-elected, a pyramidal system of patronage and clientèles filling every level of political organization, where appointments are made from above. Much has been written on the sociology of political patron-client relations in Morocco¹. This first hierarchy extends back well before the time of the protectorate to the 'traditional' makhzen in its structure of personnel, even if the present-day structure of political nested units (provinces, cercles, annexes, communes, and so on) is one adopted from the 19th century French model, which in turn comes from the model of 18th century Prussia, the completely-ordered clockwork system of wheels within wheels, the authoritarian state par excellence².

The other hierarchy, a far more recent one, is of elected bodies at certain of the political levels, in fact, basically at three of them, the national, provincial and communal levels (though there is also the level of the economic region, grouping several provinces for purposes of regional planning, which, though not properly speaking a unit of administration, has its own regional assembly).

Figure 84 shows the nested political levels within Morocco, with the corresponding appointed office holders and, where relevant, the elected assemblies³. It is said that in many cases local assemblies, whether provincial or at commune/municipality level,

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1. cf. for example, Waterbury, John, *The Commander of the Faithful: The Moroccan political élite: a study in segmented politics*, London, 1970
 2. cf. articles by Claisse, Alain; 'L'état: Quel état?' and 'La mémoire de l'état' in *Lamalif* (a monthly political and cultural magazine published in Casablanca), No. 117, June-July 1980. pp.11-16
 3. information from A. Chraïbi, délégué of regional planning office, in August 1980

are somewhat weak (due to both lack of allotted powers as well as a lack of political experience among elected members), and that there is not so much a friction between the two wings of the local administration as a subservience of the elected to the appointed part. However, in some provincial assemblies and particularly in some municipalities it is felt⁴ that the elected council can often function vigorously, with both genuine debate inside it as well as a more balanced relationship with the appointed office holder which, ideally, is both a cooperative and a mutually critical one.

The office holders down to the level of annexe, as well as pashas of municipalities, are appointed by dahir (decree), that is, by the king. Lower level officials are appointed by the provincial governor, a person of considerable power in Morocco.

A full description of the political levels of administration in the region of the south down to commune level is given in Appendix I. Below commune level, rural areas are subdivided into fractions, and fractions into douar. There were 7,764 douar in the region of the south in 1978⁵, giving around 56 douar to the rural commune on average. With a rural population in the region of the south of some 1.7 million, the average population of a rural douar will have been around 220 inhabitants. The number of fractions in the region of the south⁶ was of the order of 700, giving on average around 11 douar to the fraction and 5 fractions to the commune, with an average population, regionally, to a fraction of 2,400 inhabitants.

-
4. conversations with E. von Hoff, urban planning office in Agadir, July-August 1980
 5. Annuaire Statistique (Région économique du sud) 1978
 6. deduced from Royaume du Maroc, Premier Ministre, Population légale du Maroc (on the 1971 census) Series "E", Vol. 1, December 1971. pp.175-176

Figure 84: Structure of the dual administration

political level	appointed office holder	how appointed	elected body
nation	king		national parliament
province	governor	by dahir	provincial assembly
cercle	chef de cercle (supercaid)	by dahir	
annexe	caid	by dahir	
commune or municipality	khalifa pasha	by provincial governor by dahir	communal assembly municipal council
fraction	sheikh	by provincial governor	
douar	mouqaddem	by provincial governor	

Note: the appointed head of a municipality, the pasha, is appointed by dahir; he is usually the same person as the chef de cercle of that region in cases where the headquarters of the cercle happens to be in that municipality (as in the case, for instance, of Taroudant).

APPENDIX III

The value of the dirham

Figure 85 shows the exchange rates for the £ sterling, the U.S. \$ and the French franc as against the Moroccan dirham, from 1962 to 1980. The fluctuations say more about the movements in the three foreign currencies than about the dirham, at least before 1980. In the autumn of that year the dirham was, for the first time, effectively devalued by allowing it to float downwards; this action on the part of the Banque du Maroc had been brought about by a large and widening deficit in the balance of payments.

Figure 86 is a similar figure to the previous one, but with the rates (which are in both cases buying rates) given on a monthly, rather than a yearly basis, and covering the period from the beginning of 1978 to July 1981.

The dirham was set up as a currency, replacing 100 former (Moroccan) francs, on 16 October 1959, and its value fixed at 97.56 (old) French francs, or 0.9756 (new) French francs (or, equivalently, 1 (new) FF = 1.025 dh)¹. The centesimal subdivision of the dirham, at this time, continued to be referred to as the (Moroccan) franc, and this term stayed in official use up to 1 September 1972 when the use of the term 'franc' for one hundredth of a dirham was replaced by the term 'centime'². The use of the centesimal subdivision of the dirham, though (whether called 'franc' or 'centime'), rather than of the dirham itself, continues to be widespread in Morocco for expressing sums of money, including large ones (e.g., the price of a house, or the investment in a new hotel), and the figures involved, being a hundred times greater in such cases than if they had been expressed in dirhams, often appear astronomical. Official and semi-official publications often themselves indulge in this 'inflation' of language, particularly when referring to investments that the state is proposing to undertake; when the Moroccan balance of payments has to be referred to there is a tendency of use the dirham.

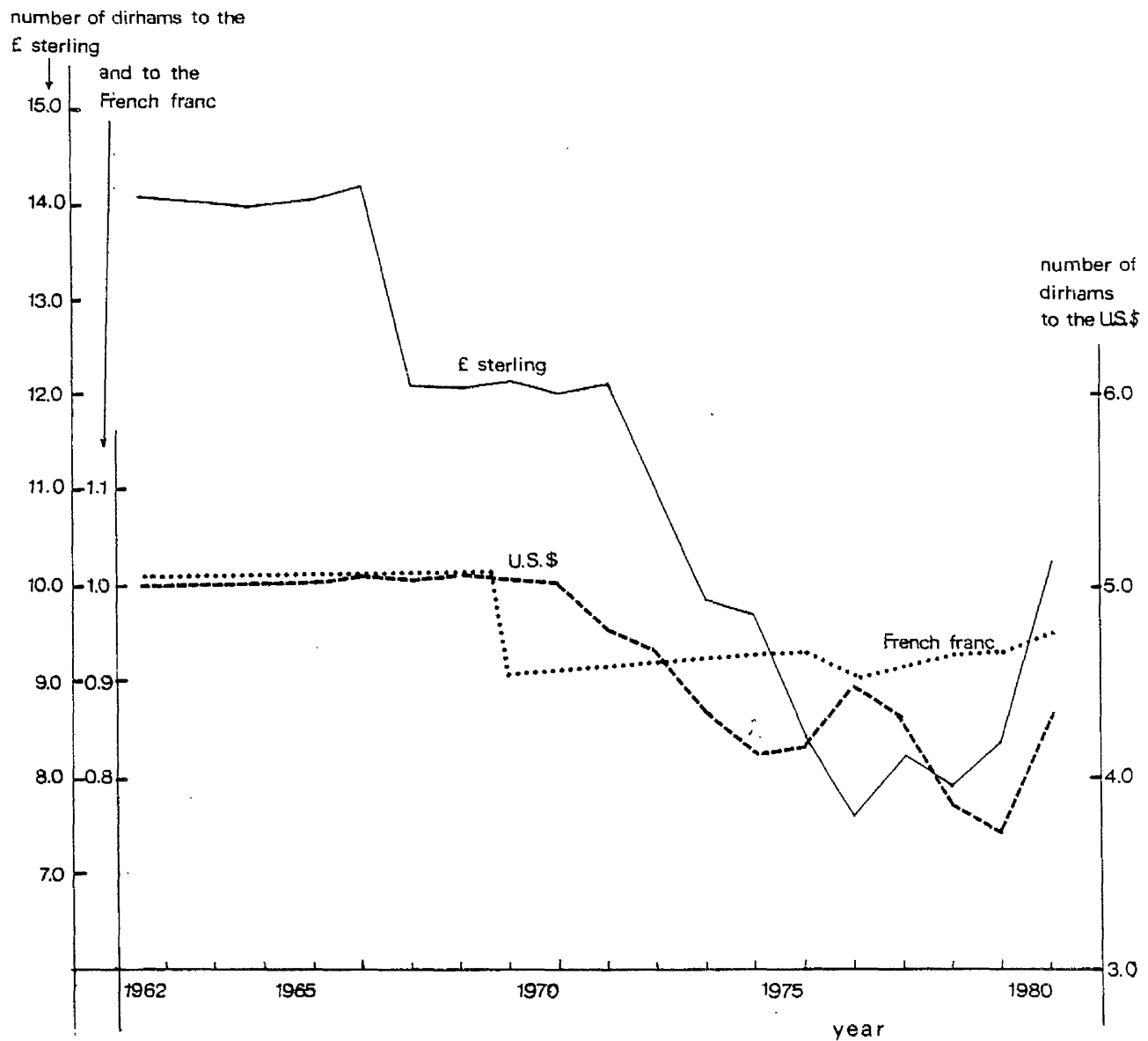
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1. communication from Direction du Développement, Département d'études et documentation, Banque Marocaine du Commerce Extérieur, Casablanca, of 12.8.81
 2. *ibid.*

When the French franc was devalued on 10 August 1979 the Moroccan dirham did not follow suit and its new value was fixed at 1.09756 FF (or 1 FF = 0.91111 dh)³.

3. *ibid.*

FIG 85

Exchange (buying) rates for the £ sterling, the U.S. \$ and the French franc in terms of the Moroccan dirham, from 1962 to 1980

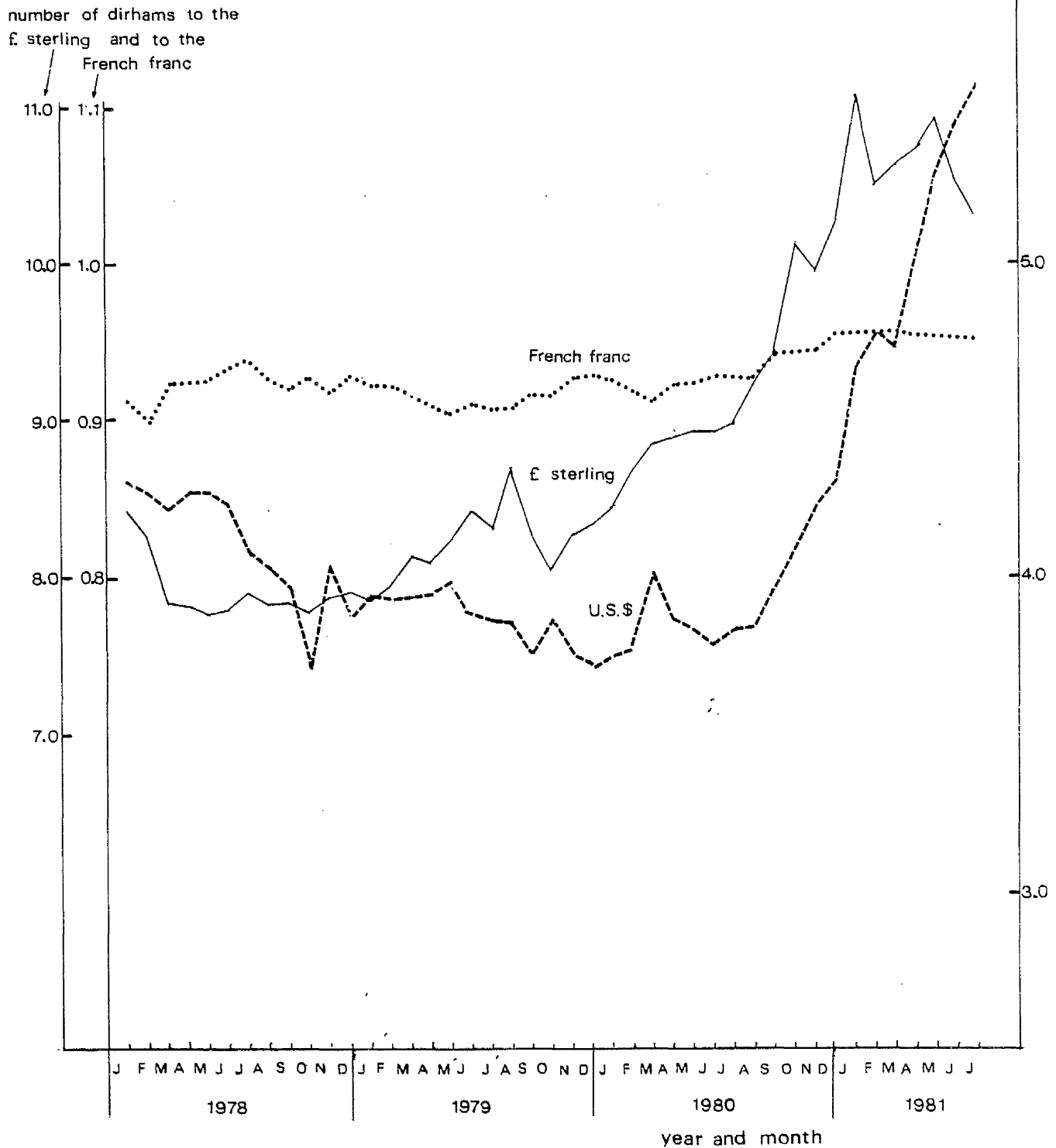


note: the rates given are the **buying** rates for the three currencies concerned, as quoted by the Banque du Maroc, for the last working day of each year from 1965 to 1980 inclusive (and for the end of June 1962 and the end of August 1964).

sources: Communications, dated 26.6.81 and 12.8.81, from Direction du Développement, Banque Marocaine du Commerce Extérieur (BMCE), Casablanca; **Annuaire Statistique du Maroc**, 1978

FIG 86

Exchange (buying) rates for the £ sterling, the U.S. \$ and the French franc in terms of the Moroccan dirham, by month, from January 1978 to July 1981



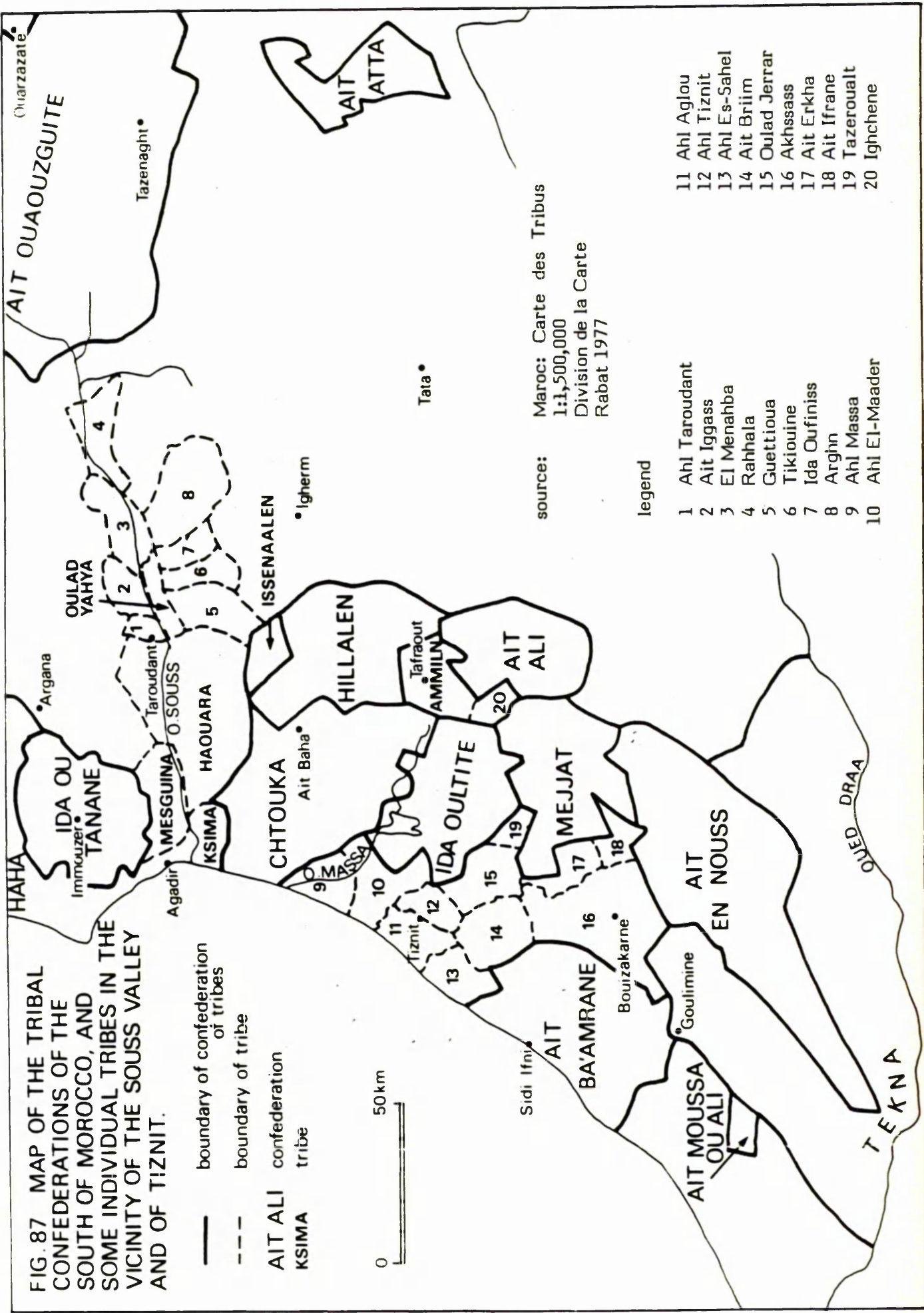
note: the rates given are the **buying** rates for the three currencies concerned, as quoted by the Banque du Maroc, for the last working day of each month from January 1978 to July 1981 inclusive.

sources: Communications, dated 26.6.81 and 12.8.81, from Direction du Développement, Banque Marocaine du Commerce Extérieur (BMCE), Casablanca; **Annuaire Statistique du Maroc**, 1978

APPENDIX IV

Tribes and confederations of tribes in the south of Morocco

Figure 87 shows the principal confederations of tribes in southern Morocco, between the High Atlas and the Oued Draa. In areas of the map where there are no confederations indicated, tribes are not joined up on a confederate basis. Of individual tribes, there are a large number of these, and only twenty-five of them are shown on the map, twelve of them around the Oued Souss, eleven in an area where there is no confederation but only individual tribes, between the Oued Massa and Bouizakarne, and two others in a similar area around Tafraout.



Glossary

The glossary below includes most of the non-English words occurring in the thesis. Some words which appear only in place names are also listed with their literal meaning; these are preceded by an asterisk. Following each word in parentheses is the language from which it derives. 'A' denotes Arabic, 'B' Berber (generally speaking, the Tashelhit, that is, Chleuh Berber language of the south of Morocco), 'Fr' denotes French, 'Heb' Hebrew and 'Ph' Phoenician. In the case of Arabic words, the conventional transliteration is also included within the parentheses. The character ' denotes 'ain and '?' denotes hamza.

* agadir	(B.) a fortified storehouse of grain, a place of refuge; from Ph. gadir, related to Heb. gader, a wall, enclosure or refuge ¹
ahl	(A., ahl) family, group, tribe
ait	(B.) sons of, used in tribal names
amont	(Fr.) up-valley
annexe	(Fr.) administrative sub-division of a province
arba	(A. arba'a) four; when used in conjunction with a place name (e.g. Arba Assads) it denotes a Wednesday market.
assif	(B.) river, pl. issafen
aval	(Fr.) down-valley
bab	(A. bāb) gate
bidonville	(Fr.) shanty town (lit. tin-can town)
bled	(A. bilād, pl. of balad) country, countryside baladiyya municipality, municipal headquarters
bordj	(A. borj) tower
bour	(A. būr) fallow, uncultivated land
cercle	(Fr.) administrative sub-division of a province
chergui	(A. sharqī, lit. eastern) a hot dry wind in the south of Morocco
colon	(Fr.) farmer, colonial settler
commune	(Fr.) administrative sub-division of a cercle
dahir	(A. zāhir) decree

1. source: Brown, K.L. and A. Lakhsassi, 'Every man's disaster. The earthquake of Agadir; a Berber (Tashelhit) poem' in **The Maghreb Review** vol. 5 nos. 5-6, London, Sept.-Dec. 1980, pp.125-133 (this reference, note 1, p.132)

- * dcheira (A. dshāira, dim. of dashra) a village
- douar (A. dūar, pl. of dār, house) a hamlet, administrative sub-division of a commune
- etrog (Heb. etrōg) a citron (cf. noronj)
- fellah (A. fallāḥ) peasant, farmer
- fraction (Fr.) administrative sub-division of a commune
- habous (A. ḥubus) religious foundation or endowment
- had (A. al-ʔaḥad) Sunday, Sunday market
- halib (A. ḥalīb) milk
- hammam (A. ḥammām) (Moroccan, Turkish) steam bath
- harka (A. ḥaraka, lit. movement) an expedition, conducted by the court in the pre-colonial period, to quell local dissidence
- ida (B.) from the tribe or clan of
- * igherm (B.) fortified village or dwelling; collective storehouse
- * ighir (B.) rock
- imam (A. imām) spiritual leader
- jebel (A. jabal) mountain
- jedid (A. jadīd) new, modern
- jemaa (A. jumu'a) Friday, Friday market
jamā'a - community
jāma' - mosque
- jihad (A. jihād) religious war
- jiziya (A. jiziya) poll tax on non-Muslims
- kasbah (A. qaṣba) section of walled medina formerly serving as administrative and military headquarters; citadel
- kebir (A. kabīr) large
al-Jāma' al-kabīr Great Mosque
Atlās al-kabīr High Atlas (mountains)
- khalifa (A. khalifa) deputy; assistant to an administrative official
- khemis (A. khams) five
khamīs Thursday, Thursday market
- * khiam (A. khiyām, pl. of khaīma) tents
- ksar (A. qaṣr, pl. quṣūr) castle, palace

makhzen	(A. makhzan, lit. storehouse, treasury) the central government or authority
marabout	(Fr. version of A. murābiṭ) a popular local saint
medina	(A. madīna) town, usually in the Moroccan context a walled town
mouqaddem	(A. muqaddam) a local official, supervisor
noronj	(A., B., nōrōnj) citron
oued	(A. wād) river
oulad	(A. ūlad) children, descendants (of), used in place and tribal names (e.g. Oulad Berrehil)
qadi	(A. qāḍī) judge
qaid	(A. qaʿīd) administrative supervisor, official
seghir	(A. ṣaghīr) small Atlās aṣ-ṣaghīr Anti-Atlas (mountains)
seguiat	(A. sāqiya) small stream; irrigation canal
sebt	(A. sabt) Saturday, Saturday market
siba	(A. sība) dissidence
sheikh	(A. shaīkh, lit. old man) chief, elder, head of a tribe or of a fraction.
souk	(A. sūq) market
* tafoukt	(B.) sun
* taghazout	(B.) corner
* talbordjt	(B.) tower (cf. bordj)
* tamelalt	(B.) white
tizrah	(B.) the root of a local shrub, dried and made into a reddish-brown powder for use as a dye; it was exported in large quantities up to the mid-1930s from places in the south, principally from Essaouira (and for a few years also from Agadir), its main destination being France, through the port of Marseilles ²
tleta	(A. ath-thulātha?) Tuesday, Tuesday market thalātha three
tnine	(A. al-ithnaīn) Monday

2. source: communication from Daniel Schroeter, 20.9.81, in Essaouira

- ulema (A. 'ulama?, pl. of 'alīm) religious scholar, learned person.
- umma (A. ?umma) the (Islamic) community
- zawiya (A. zāwiya, lit. corner) a small mosque.

Abbreviations

The following is a selective list of the principal abbreviations occurring in the text.

a. weights, measures, currency

mm millimetres M metres km kilometres

ha hectares

g grams kg kilograms

T tonnes (= 1,000kg) MT million tonnes

s seconds l litres

dh dirhams Mdh million dirhams

b. regional branches of government departments

DPA Direction provinciale de l'agriculture

DRHAT Direction régionale de l'habitat et de l'aménagement du territoire

ORMVA/SM Office régional de mise en valeur agricole/Souss-Massa

c. state or semi-state institutions

BRPM Bureau de recherches et de participations minières

CDG Caisse de dépôt et de gestion

CIFM Compagnie immobilière foncière marocaine

CIH Crédit immobilier et hôtelier

ERAC Etablissement régional d'aménagement et de construction

HCRA Haut commissariat à la reconstruction d'Agadir

OCE Office de commercialisation et de l'exportation

OCP Office chérifien des phosphates

ODI Office pour le développement industriel

ONCF Office national des chemins de fer

ONMT Office national marocain du tourisme

ONP Office national des pêches

RAM Royal Air Maroc

SONABA Société nationale de l'aménagement de la baie d'Agadir

d. banks

BMCE Banque marocaine du commerce extérieur

BNDE Banque nationale du développement économique

e. other organizations

COSUMAR Compagnie sucrière marocaine et du raffinage

FRUSUMA (Compagnie) fruitière du sud marocain

MACOBA (Compagnie) marocaine des constructions et des bâtiments

ONA Omnium Nord Africain

SOGEP Société générale marocaine des pêches

f. other abbreviations

A.I.U. Alliance Israélite Universelle

A.S. Annuaire Statistique

B.E.S. Bulletin Economique et Social

F.A.O. Food and Agriculture Organization ;

F.O. (British) Foreign Office

IAURIF Institut d'aménagement et d'urbanisme de la région d'Ile de France

inh. inhabitants

Q.I. Quartier Industriel

R.E.S. Région économique du sud

R.S. Région du sud, region of the south

SAEM Société africaine d'études - Maroc

SDAU Schéma directeur de l'aire urbaine

STB Secteur touristique et balnéaire

Z.I. Zones Industrielles (au Maroc)

Bibliography

The following is a selective bibliography of the main written works consulted, including a few entries which are not referred to explicitly in the text. Archival documents consulted at the Public Records Office at Kew, London are not included, nor are newspaper articles (with the exception of one longer article).

I Morocco and the broad region of the Maghreb

1. Geographical (general and physical)

Célérier, J., **Le Maroc**, Librairie Armand Colin, Paris 1953.

Despois, J. and R. Raynal, **Géographie de l'Afrique du nord-ouest**, (2nd edition), Payot, Paris 1975.

Hardy, G. and J. Célérier, **Les grandes lignes de la géographie du Maroc** (2nd edition), Larose, Paris 1927.

Ionesco, T. and J. Mathez, 'Climatologie, Bioclimatologie et Phytogéographie du Maroc', in Royaume du Maroc, Ministère de l'Agriculture, **Les Cahiers de la Recherche Agronomique**, No. 24, Rabat 1967.

Noin, Daniel, **La Population Rurale du Maroc**, Presses Universitaires de France, Paris 1970.

Troin, J.-F., **Les Souks Marocains: marchés ruraux et organisation de l'espace dans la moitié nord du Maroc** (2 volumes), Edisud, Aix-en-Provence, 1975.

2. Political geography and spatial and regional analysis

Beguin, H., **L'Organisation de l'espace au Maroc**, Brussels 1974.

Claisse, Alain, 'L'état: Quel état?' and 'La mémoire de l'état' in **Lamalif**, No. 117, Casablanca, June-July 1980, pp. 11-16.

Laghout, Mohamed, 'La situation géopolitique et l'intégration régionale et urbaine du nord-est marocain', paper delivered at Tours, November 1977 at a 'table ronde sur l'urbanisation au Maghreb'.

Mas, Paolo de, **Marges marocaines: limites de la coopération au développement dans une région périphérique; le cas du Rif**, NUFFIC/IMWOO/projet REMPLOD, The Hague 1978.

———, 'Formation and functioning of the Moroccan state and related development topics: an approach to research on the Maghreb', in **The Maghreb Review**, vol. 5 nos. 5-6, London, Sept.-Dec. 1980, pp. 91-98.

Raynal, R., 'Quelques aperçus géographiques sur l'évolution des régions humaines du Maroc', in **Hesperis**, Rabat 1952, no. 1-2.

Troin, J.-F., 'Le Nord-Est du Maroc: mise au point régional' in **Revue de Géographie du Maroc** No. 12, 1967.

3. **Urban geography**

Abu-Lughod, Janet L., **Rabat: Urban Apartheid in Morocco**, Princeton University Press, Princeton, New Jersey 1980.

Lawless, Richard I. and Gerald H. Blake, **Tlemcen: continuity and change in an Algerian Islamic town**, Bowker, London 1976.

4. **Economic**

Oualoulou, Fathallah, **Propos d'économie marocaine**, SMER, Rabat 1980.

Stewart, Charles F., **The Economy of Morocco 1912-1962**, Cambridge, Mass. 1967.

5. **Sociological and general political**

Gellner, Ernest, **Saints of the Atlas**, London, 1969.

——— and Charles Micaud (eds.), **Arabs and Berbers**, Duckworth, London 1973.

Leveau, Rémy, **Le fellah marocain: défenseur du trône**, Paris 1975.

Montagne, Robert, **Les Berbères et le Makhzen dans le Sud du Maroc; essai sur la transformation politique des Berbères sédentaires (groupe chleuh)**, Paris 1931.

———(ed.), **Naissance du Prolétariat Marocain**, Paris, 1950.

Rousset, M., **Le Royaume du Maroc**, série Afrique of *Encyclopédie Politique et Constitutionnelle*, Paris 1978.

Waterbury, John, **The Commander of the Faithful: The Moroccan political élite: a study in segmented politics**, London, 1970.

———, **North for the Trade: the life and times of a Berber merchant**, University of California Press, Berkeley and London, 1972.

6. **Historical** (also including Canary Islands)

Abun-Nasr, Jamil, **A History of the Maghrib** (2nd edition), Cambridge University Press, London 1975.

Albano, M., (ed.), **Canarie: il colonialismo dimenticato**, Edizioni Jaca Book, Milan 1973.

Anon., **Chronique de Santa-Cruz du Cap de Gué (Agadir)**, original Portuguese text, with a French translation, introduction and annotated commentary by Pierre de Cenival; Geuthner, Paris 1934.

Ayache, Germain, **Etudes d'Histoire Marocaine**, SMER, Rabat 1979.

Berthier, Paul, **Les anciennes sucreries du Maroc et leurs réseaux hydrauliques**, (2 vols.), Rabat 1966.

Burke, Edmund III, **Prelude to Protectorate in Morocco: Precolonial Protest and Resistance 1860-1912**, London, 1976.

Julien, Charles-André, **Le Maroc face aux Impérialismes**, Paris 1978.

Laroui, Abdallah, **L'Histoire du Maghreb: un essai de synthèse**, Maspero, Paris 1970.

Maxwell, Gavin, **Lords of the Atlas**, London 1966.

Morsy, Magali, 'Comment décrire l'histoire du Maroc?', in **Actes de Durham: Recherches récentes sur le Maroc moderne**, Publication du Bulletin Economique et Social du Maroc, Rabat 1978, pp. 121-143.

Torres, Agustin Millares, (ed. and main contributor), **Historia General de las Islas Canarias** (3 volumes), Edirca SL, Las Palmas 1977.

Torres, Diego de, **Relación del origen y suceso de los Xarifes y del Estado do los reinos de Marruecos, Fes y Tarudante**, original Spanish text, edited with annotated commentary by Mercedes García-Arenal; Siglo XXI de España Editores S.A., Madrid 1980.

Valéro, Denise, **Petite Histoire des Ruines Portugaises au Maroc**, Casablanca, 1952.

7. **Migration (general)**

Audibert, Pierre, 'Maroc: l'éternel retour de l'émigré' in **Le Monde Dimanche** 29.3.81, p. VIII.

Baroudi, Abdallah, **Maroc: impérialisme et émigration**, Le Sycamore, Paris 1978.

Bonnet, J. and R. Bossard, 'Aspects géographiques de l'émigration marocaine vers l'Europe' in **Revue de Géographie du Maroc**, No. 23-24, 1973, pp.5-49.

Findlay. A., A. Findlay and R. Lawless, 'Moroccan emigration: a national and regional problem' in **The Maghreb Review**, vol. 4, no. 3, May-June 1979, pp.86-89.

Heinemeijer, W.F., J.M.M. van Amersfoort, W. Ettema, P. de Mas and H.H. van der Wusten, **Partir pour rester: incidence de l'émigration à la campagne marocaine**, IMWOO/NUFFIC: Projet REMPLOD, Universiteit van Amsterdam, Sociaal-Geografisch Instituut, Publication No. 2, August 1977.

II Main statistics on Morocco generally and the south of Morocco

Banque Marocaine du Commerce Extérieur, **Monthly Information Review** (it is in fact bi-monthly), Casablanca.

Royaume du Maroc, Premier Ministre, Secrétariat d'Etat au Plan et au Développement Régional, **Le Maroc en Chiffres** (annual publication).

———, **Annuaire Statistique**.

———, **Population légale du Maroc**, Series "E", vol. 1, December 1971 (broad results of 1971 census).

———, **Resultats du recensement général de la population et de l'habitat de 1977; données communales; région du sud**, Rabat November 1977.

——— **Plan triennal 1965-1967**.

———, **Plan quinquennal 1968-1972.**

———, **Plan de développement économique et social 1973-1977.**

Royaume du Maroc, Ministère de l'Intérieur, **Annuaire Statistique (Région Economique du Sud).**

———, **Bulletin économique et social, région du sud** (a semesterly publication)

III Commissioned reports and studies dealing with the south of Morocco

Royaume du Maroc, Premier Ministre, Secrétariat d'Etat au Plan et au Développement régional, **Etude d'Identification de Projets**, Rabat 1975. This study was carried out by Battelle, a consultancy based in Geneva, and Maghreb Consult, and contained a volume on each of eleven outlying provinces of Morocco. The volumes mentioned in this text are those on Tiznit province and Ouarzazate province.

Royaume du Maroc, Ministère des transports, Office National des Chemins de Fer (ONCF), **Ligne ferroviaire Marrakech-Laayoun; études préliminaires.** 1. Rapport de synthèse. 2. étude de transport: ressources. Study carried out by GEFMA, published February 1979.

Royaume du Maroc, Ministère de l'Habitat et de l'Aménagement du Territoire, **Schéma directeur de l'aire urbaine d'Agadir et de son arrière-pays**, Rabat, March 1979. This study was carried out by the consultancy IAURIF (Institut d'aménagement et d'urbanisme de la région d'Ile de France, 21-23 rue Miollis, 75732 Paris).

———, **Etude de l'état de l'environnement au sein de la médina ancienne de Tiznit**, April 1980. This study was carried out by Maroc Développement, Rabat.

Royaume du Maroc, Ministère de l'intérieur, Province d'Agadir, **Etudes urbanistiques et techniques des ouvrages d'infrastructure pour la réalisation d'une cité de 4000 lots à Taroudant.** premier dossier: choix du terrain, programmation et schéma de structure. April 1980. This report was produced by SAEM (Société Africaine d'études-Maroc, 4 rue prince héritier Sidi Mohamed, Souissi, Rabat).

Royaume du Maroc, Office pour le Développement Industriel, **Zones Industrielles au Maroc**, Rabat 1980. This study was conducted by the two consultancy groups, Groupe Huit and Maroc Développement, and deals with the whole of Morocco.

Serete (a French firm of consultants, 86 rue Regnault, Paris 13), *Etude d'indentification de projets industriels dans la province d'Agadir*; vol. 1: rapport; vol. 2: annexes; vol. 3: monographies - agriculture et irrigation, April 1978.

IV Sources dealing specifically with places in the south of Morocco

1. Agadir Town

Baroudi, Abdallah, *Les Mouvements de Populations lors du Séisme d'Agadir en 1960*. Doctoral thesis (3^e cycle) at the Centre Universitaire Expérimental de Vincennes, département d'urbanisme, June 1971.

Brown, K.L. and A. Lakhsassi, 'Every man's disaster. The Earthquake of Agadir: a Berber (Tashelhit) poem' in *The Maghreb Review*, vol. 5 nos. 5-6, London, Sept.-Dec. 1980, pp.125-133.

Chambre de Commerce et d'Industrie d'Agadir-Tiznit-Goulimine-Tan-Tan-Tata, *Agadir: revue d'informations générales*, Agadir, no. 1 July 1976; no. 2 July 1977; no. 3 July 1978; no. 4 September 1979.

Péré, Michèle, 'Agadir, ville nouvelle' in *Revue de Géographie du Maroc*, No. 12, 1967, pp. 43-90.

———, *Découverte d'Agadir*, La Porte, Rabat 1976.

Revue Africaine d'Architecture et d'Urbanisme, no. 4, Rabat 1966 (a special issue on the reconstruction of Agadir).

Royaume du Maroc, Ministère du Commerce, de l'Industrie, des Mines, de l'Artisanat et de la Marine Marchande, Direction des Mines et de la Géologie, Division de la Géologie, *Le séisme d'Agadir du 29 février 1960, Notes et mémoires du service géologique*, No. 154, Rabat, 1962.

2. Agadir province

Royaume du Maroc, Ministère de l'Agriculture et de la Réforme Agraire, Direction Provinciale de l'Agriculture d'Agadir-Tiznit-Guelmin-Tan-Tan-Tata, *Monographie (Zone DPA)*, 1979.

Royaume du Maroc, Ministère de l'Intérieur, Province d'Agadir, *Projets prévus dans le cadre du plan triennal 1978-1980*.

3. **Oulad Teima**

Royaume du Maroc, Ministère de l'Habitat et de l'Aménagement du Territoire, Délégation régionale d'Agadir, **Centre d'Oulad Teima: Note de présentation**, (mimeo.), 1979.

4. **Taroudant**

———, **Création d'une zone d'habitat à Taroudant; note informative destinée aux auteurs d'études urbanistiques**, (mimeo.), 1979.

Royaume du Maroc, Ministère de l'Intérieur, Province d'Agadir, **Developpement touristique dans le cercle et la ville de Taroudant**, (mimeo.), April 1980.

5. **Tiznit town**

Royaume du Maroc, Ministère de l'Intérieur, Province de Tiznit, Centre Autonome de Tiznit, **Monographie** (typewritten draft, no date, presumably 1979 or 1980).

6. **Tiznit province**

Royaume du Maroc, Ministère de l'Intérieur, Secrétariat général, **Préparation du plan quinquennal 1981-1985** (mimeo.).

———, **Bulletin économique et social** (semesterly publication)

V **Specific topics** (not already covered above)1. **Tourism** in Morocco and in the south

Berriane, Mohamed, **L'espace touristique marocain**, fascicule de recherches no. 7, Tours 1980.

Péré, Michèle, 'Quelques aspects du tourisme au Maroc à travers l'exemple d'Agadir' in **Revue de Géographie du Maroc**, No. 22, Rabat, 1972.

Royaume du Maroc, Document de la Banque Mondiale, **Evaluation du projet touristique de la baie d'Agadir**, report no. 918a MOR, January 1976.

Troin J.-F., 'Aspects géographiques de l'expansion du tourisme au Maroc' in *Revue de Géographie du Maroc*, no. 11, Rabat 1967.

2. **Fishing** in Morocco

'Dossier - Maroc: les sociétés mixtes' in *Afrique Agriculture*, No. 2, October 1975.

'La pêche hauturière au Maroc: dynamisme et extraversion' in *Maghreb-Développement*, No. 13, July-August 1978.

'Survey: the fishing sector' in *BMCE Information Review*, No. 22, January/February 1979.

3. **Mining** in Morocco

'Survey: The Mining Sector', in *BMCE Information Review* No. 28, April/May 1980.

VI **Two 20th century literary works**, each perceptively evoking the feel of southern Morocco.

Canetti, Elias, *Die Stimmen von Marrakesch: Aufzeichnungen nach einer Reise*, Carl Hanser Verlag, Munich 1968, translated into English as:

———, *The voices of Marrakesh: a record of a visit*, Marion Boyars, London 1978 (translated by J.A. Underwood), and into French as:

———, *Les voix de Marrakech*, Albin Michel, Paris 1980.

Saint-Exupéry, Antoine de, *Terre des Hommes*, Gallimard, Paris 1978 (written in 1939).