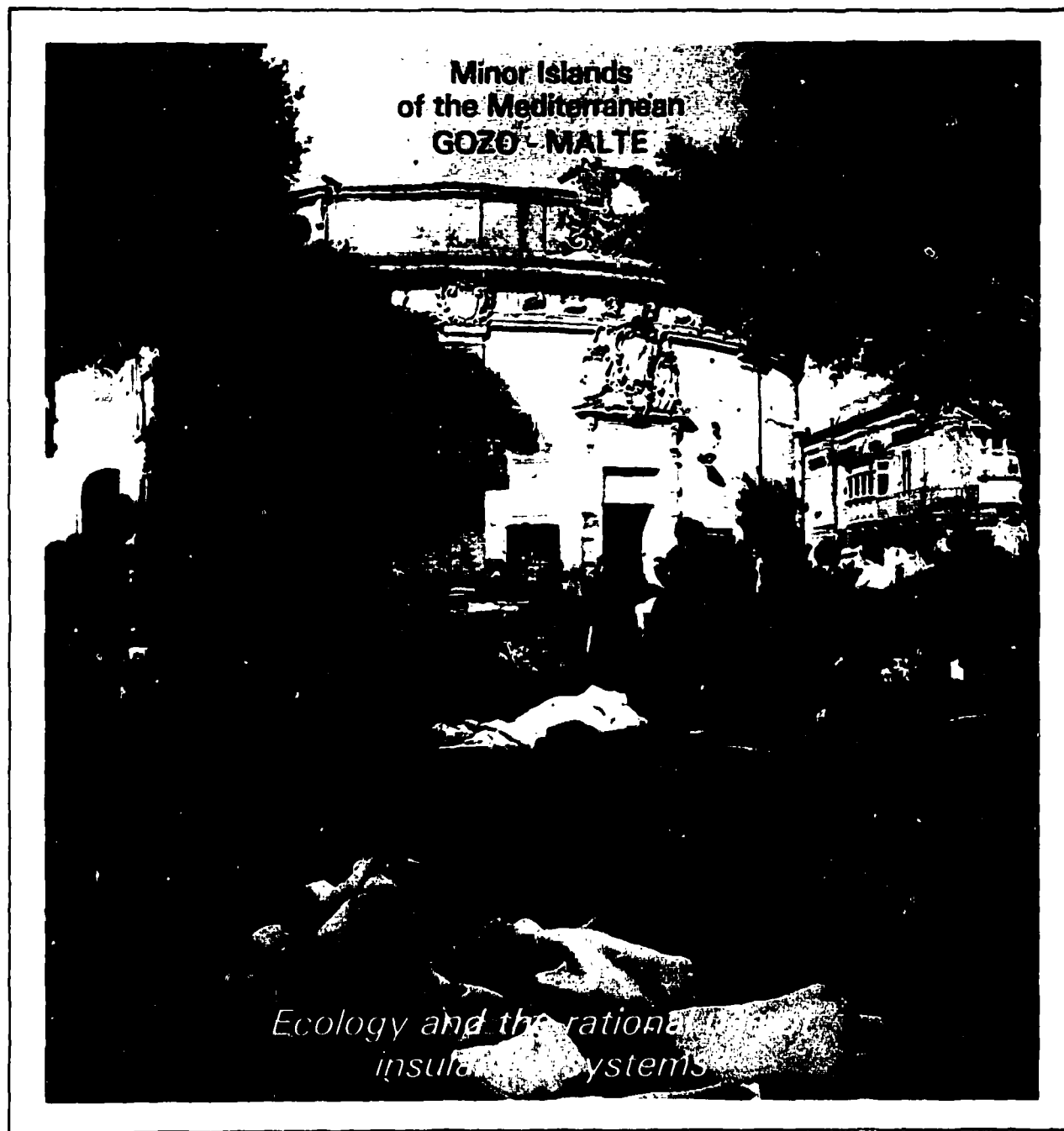


Limited Distribution
Paris, August 1981
English original

Human settlements
and socio-cultural
environment **28**



UNESCO

MAB

PROJECT 7

Table des matières

Introduction

I. ENVIRONMENT

GEOGRAPHY - GEOLOGY - CLIMATE

Location and size 1

GEOLOGY 2

CLIMATE 3

Precipitation over Gozo and its hydrological effects 4

Characteristics or indicators of the process of precipitation 5

The nature of the process and the influencing factors 5

Hydrological factors which are affected by precipitation 6

Evaporation and plant transpiration 6

Geographic variations of rainfall 7

The annual, Seasonal and Storm Variation of Rainfall 8

BIO ECOLOGY

Avifauna 9

Flora 12

Processes of Human impact on Vegetation 13

NATURAL RESOURCES

Marine Resources	15
<i>Fishing</i>	15
Desalination of sea water	15
<i>Factors influencing distillate production</i>	16
Renewable energy resources	17
<i>Activities in the field of renewable energy</i>	17
<i>Outline of potentials</i>	18
Water	
<i>The structure of the bodies of underground water</i>	19
<i>Supply and distribution of public water</i>	20
<i>Factors affecting the supply</i>	21
<i>Infiltration of Rainwater Underground</i>	22
<i>Factor affecting infiltration</i>	23
<i>Structures on which the infiltration process depends</i>	25
<i>Production of groundwater at galleries and boreholes including springs</i>	27
<i>Factors influencing the production of groundwater</i>	28
<i>Quantities of groundwater extracted from various sources</i>	28
<i>Infrastructure for collection of spring water</i>	29
<i>Increasing Demand for Water</i>	30
<i>Storage infrastructure of water</i>	34

II. DEMOGRAPHY - ECONOMY - TECHNOLOGY

DEMOGRAPHY - HUMAN RESOURCES

Demographic evolution in Malta & in Gozo	37
Emigration and the movement of population	39
Territorial aspects of emigration in Gozo	42
Influence of emigration in Gozo	53
Contacts of emigrants with their home island	55
Health	67
<i>Official social policy :</i>	
<i>the Craig Hospital</i>	

II. ECONOMY - TECHNOLOGY

PRIMARY SECTOR

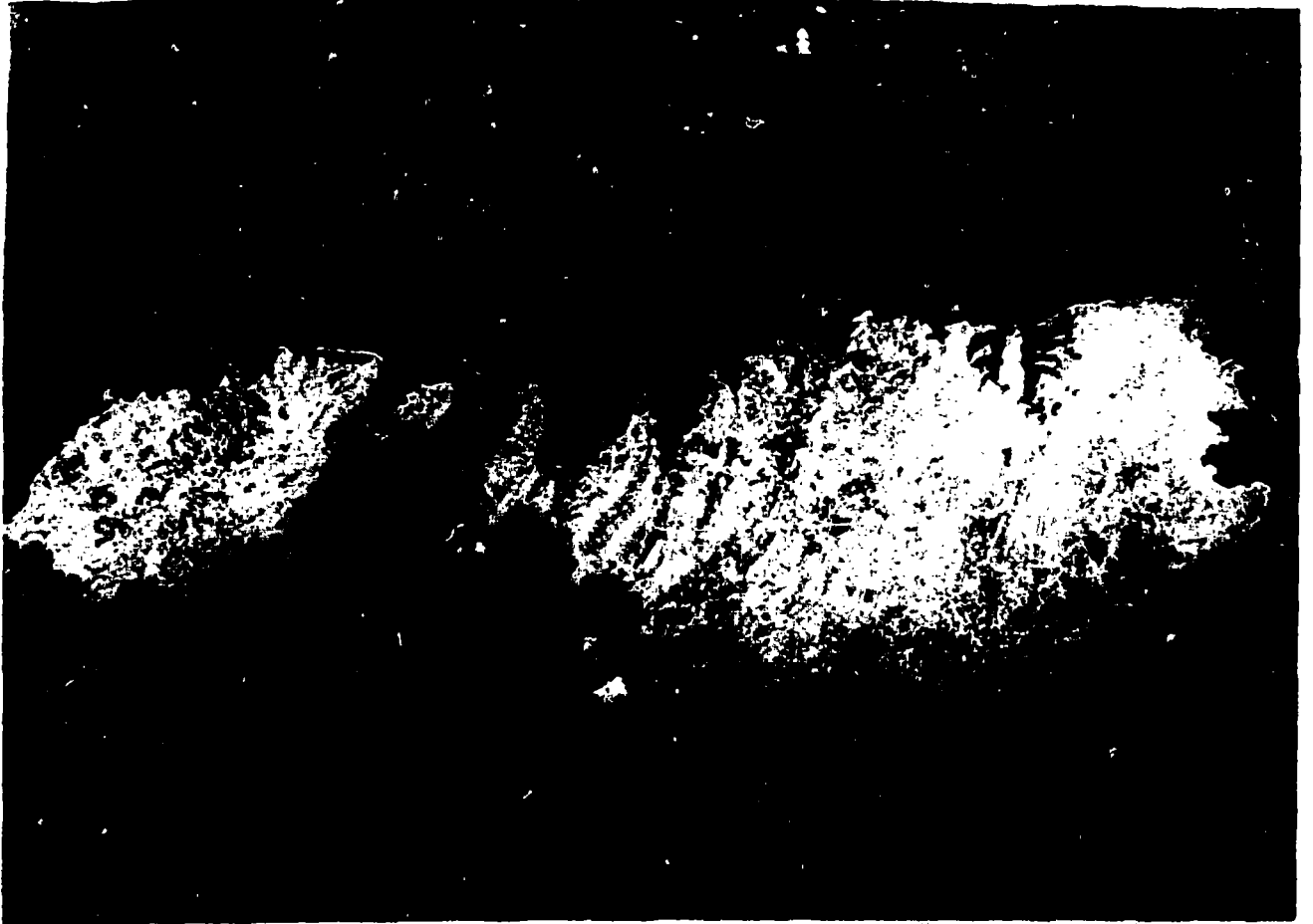
Agriculture resources	75
<i>Agricultural zones : structure and structural changes</i>	76
<i>Soils and the process of soil erosion</i>	78
<i>Ownership and fragmentation</i>	79
<i>The farming force</i>	81
<i>Cooperatives</i>	82
<i>Government services</i>	83
<i>Mechanization</i>	83
<i>The process of crop-growing</i>	84
<i>Wind and seaspray</i>	86
Fishing	87

SECONDARY SECTOR	
Industrial transformations	90
Handicraft	93
TERTIARY SECTOR	
Trade	97
<i>Marketing</i>	97
Tourism	107
Touristical Resources	109
<i>Hotels</i>	109
<i>Tours</i>	110
<i>Giftshops</i>	110
Influence of tourism in Gozo	111
<i>Environmental impact of Tourism</i>	111
<i>Psychological effects of Tourism</i>	111
<i>Cultural effect of Tourism</i>	112
URBANISM, URBAN PLANNING AND DEVELOPMENT	
Tradional settlements and their evolution	114
Traditional and Modern Houses in Gozo	119
<i>Official spatial policy : the Masser plan</i>	120
III. SOCIETY	
SOCIAL RESOURCES	
Administrative Structures and social organization in Gozo	125
Administration	125
Family Life	126
<i>Social aspects of the family</i>	126
Religious Life	128

Cultural Life	131
<i>Newspapers</i>	131
<i>Radio and television</i>	131
<i>Gozitan Publications</i>	133
<i>Cinema-Theatres</i>	133
<i>Telephone</i>	134
<i>Libraries and Bookloans</i>	134
<i>Perception of the Past</i>	134

IV. SOCIAL GROUPS

Perception and attitudes of Gozitan Youth	137
Perception of the Natural Environment	139
<i>Feelings and evaluations about the Natural Environment</i>	142
Attitudes regarding development of Gozo	
Perception of the role of youth in the process and expectation from society	146
<i>Expectations</i>	149
<i>Perceptions of the role of youth in the development of Gozo</i>	152
<i>Motivations to participate in the development of Gozo</i>	154
<i>Expectations from society</i>	155
Perception of Tourism and of the outside world	159
<i>Foreign Tourists</i>	159
<i>Beliefs about impact of tourism</i>	163



Maltese Archipelago

I N T R O D U C T I O N

The interdisciplinary research project on the Minor islands of the Mediterranean originated with MAB Project number 7 concerning ecology and the rational use of insular ecosystems; it answers the strongly felt need to devise an interdisciplinary method of research to approach problems considered as essential to achieve a better management of the Human environment.

The expert panel responsible for the Report n° 11 on ecology and rational use of insular ecosystems stated :

"The research project on insular ecosystems offers a unique opportunity to study in relatively controlled conditions the complete array of ecological, economical and social factors which influence the relationships between man and the biosphere".

The final aim of project n° 7 is the rational use of insular ecosystems by man. This is why a better knowledge of the interactions between the various factors playing a decisive role in the future well-being of populations is at the centre of the project. The growth of knowledge as well as the improvement of methods should, further more, help in analysing the more complex situations found on the continent.

The interdisciplinary research project on the Minor islands of the Mediterranean concerns, in its first phase, the islands of: Skiathos-Skópelos (Northern Sporades), Salina (Eolian archipelago), Gozo (Malta) and Kerkennah (Tunisia).

It was launched by the Human Settlements and Sociocultural Environment Division of UNESCO, in collaboration with the National MAB Committees of Greece, Italy, Malta and Tunisia, and their Scientific Research Teams.

These syntheses were prepared on the basis of the Research Reports related to each of the four islands; they are intended to facilitate comparisons and communication between the scholars participating in the project.

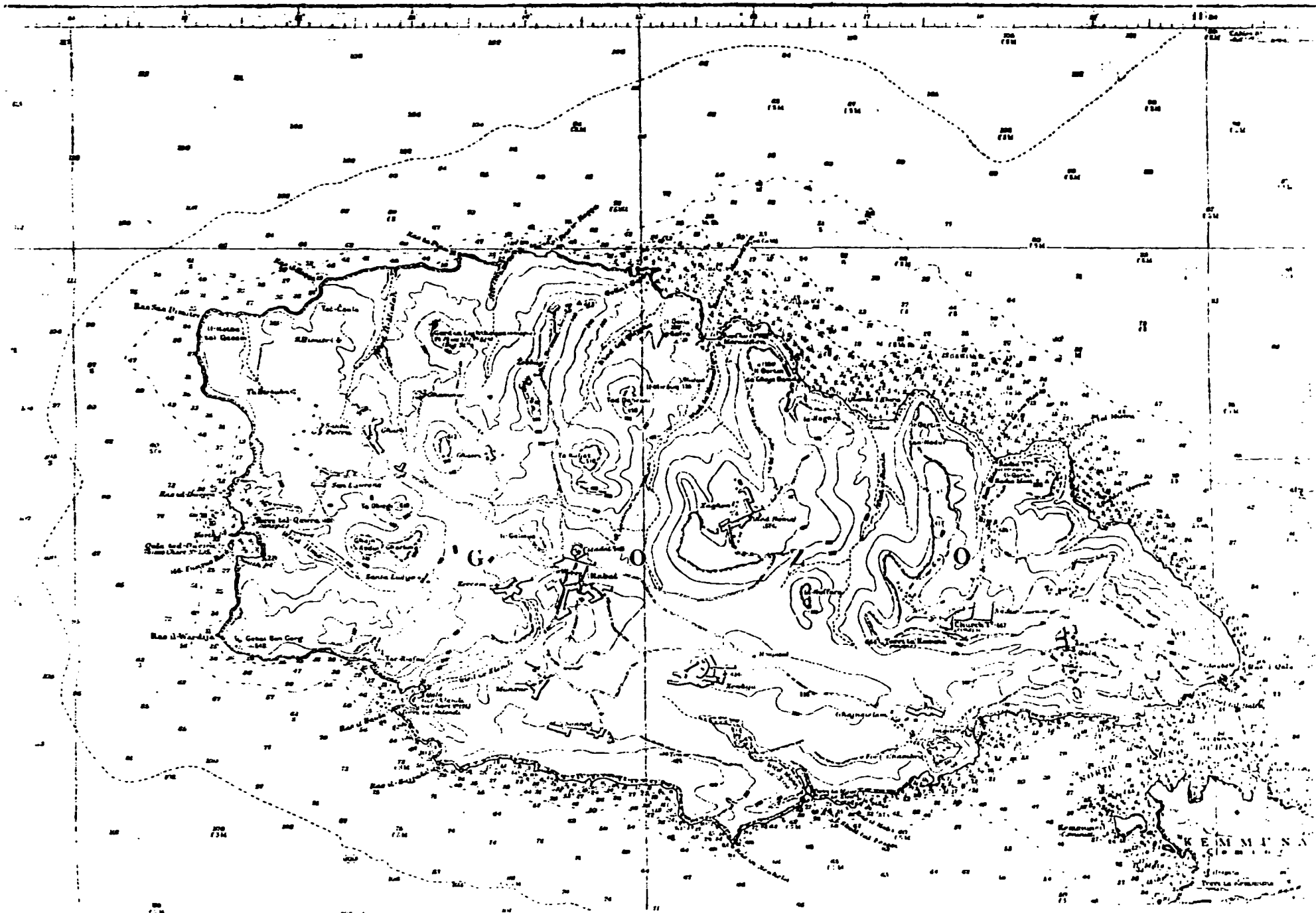
In addition to obvious differences between the four islands, there remains some discrepancies in the data related to each of them. Missing surveys are in the process of completion and will be available for the second phase of the research.

ISLE OF GOZO, Malta

This synthesis is based on the following documents :

- "Gozo, the Human ecosystem on an island":
 - . Part one : "The interactions of Man with the Environment in Gozo",
by Professor Peter Serracino Inglott, Milan, Italie.
 - . Part two : "Water-use in Gozo island : a demonstration of multiple process analysis as a format for describing human ecosystems",
by Dr Tony Macelli, Faculty of Arts, Malta;
 - . Part three : "Gozitania, a bibliography of a periphery",
compiled by Nora Sammut, Old University, Malta, may 1979.
- "Gozo Agricultural Studies", outline report,
by Borg Costanzi, 1979.
- "Project Design for phase II of Study of Gozo as an Island Ecosystem",
by Louis J. Saliba, Ministry of Health and Environment,
Valletta, Malta, march 1979.
- "A study of factors relating to the development of Minor Island Ecosystems - Gozo",
by Tony Macelli and Gozo Project Team, Faculty of Arts,
University of Malta, August 1977.
- "Structural Change Analysis of Human Settlement Phenomena on Gozo Island",
by Tony Macelli, University of Malta, march 1980.
- "Attitudes of the island's youth (Attitudes of Gozitan youth)",
by Tony Macelli and Nora Sammut.

I. ENVIRONMENT



GEOGRAPHY - GEOLOGY - CLIMATE

Location and size

Gozo is the most northerly of the six islands and islets which make up the Maltese Archipelago in the Central Mediterranean. It is situated 93 km south of Sicily, 288 km east of Tunis, and 375 km north of Tripoli.

Ranking second in size, after Malta island, it is 14 km long and 6.5 km wide. The coastline is 42 km long; the total area of the island is 42 km².

Gozo is separated from Malta by a Channel (*il-Flieg*), 6 km wide, in the middle of which are found the two smaller islands of Comino (Kemmuna) and Cominotto (Kemmunnett).

The location and size of Gozo has fostered a particular and complex relation with Malta. Gozo is often described as a political "dependency" of Malta, but, historically, Malta has often itself been a dependency. Though the Republic of Malta is recognized today as an independent State, it retains a high level of economic dependence on the exterior.

GEOLOGY

Like Malta, Gozo is composed of sedimentary limestone rock. Most of it originates in the deposited shells of the marine Globigerina organisms which flourished in the Tertiary Era. The only stratigraphic record of the more recent Quaternary era consists of occasional loose fluvial dust, eolian dust, clay, loam, and conglomerates on the surface.

Consequently, the island consists mostly of calcium carbonate. The rock is stratified in four nearly horizontal layers, tilted a few degrees towards the North East. Each stratum has particular characteristics, as follows, from top to bottom :

- a) Upper coralline limestone (Tortonian Series Pliocene Era) : this yellowish calcareous stratum 80-100 m thick, varies greatly in composition, strength and texture : in some places, it is a compact, poorly-bedded rock; in others, a mixture of friable mark and loose limestone. It constitutes a shallow-water deposit and in most areas it has been eroded away. This stratum still notably caps the flat tops of the island's tabular hills, forming the base on which the larger villages (Nadur, Xaghra, Zebbug, Qala and, in part, Rabat) were built. The edges of such plateaus are unstable vertical scarps. It is sometimes crushed for use in concrete and road construction.
- b) Blue clay and greensand (Helvetian Series Miocene Era) : this stratum consists of 1-12 m of greensand (yellow sandstone sand of various colours) atop 0-65 m of Blue Clay (blue, yellow clay and marls). It is unstable and impervious and outcrops on the sweeping hill slopes and the floors between the hills, in usually narrow bands. This stratum breaks down into fertile soils which accounts for the fact that Gozo's agricultural productivity is higher than Malta's, although the soil is most

often a few inches deep and low in humus.

Because of the instability of the sandstone, terraces had been built by farmers and since prehistoric times, it has been used for pottery. The most important of its effects is that it supports (because of its imperviousness) the Upper Coralline aquifer while part of this water emerges as springs.

- c) Globigerina limestone (Burdigalian Series, Miocene Era) : the thickness of the layer varies from 30 to 230 metres, its colour varies from yellow to golden brown and it weathers beautifully, provided it is protected from groundwater and salty dampness. It is also deep-water deposit and the traditional building stone.
- d) Lower coralline limestone (Aquitanean Series, paleogen Era) : the thickness of this semi-crystalline limestone is 150-225 m. Recent borings for petroleum have gone below this, to several hundred metres under the surface. This limestone varies in colour from pale to buff and is barren, hard and durable. It constitutes a shallow-water deposit, with characteristic shell concentration in the upper bands.

CLIMATE

The climate is of the Mediterranean type, with mild winters and hot dry summers.

Rainfall is negligible from may to october. Rain falls in heavy short storms in october and november. The yearly average is 520 mm, but extreme variations occur from year to year.

Temperature is moderate. January to march are the coldest months (15°C). July and august are the hottest (occasionally reaching 40°C).

Humidity is high with little seasonal variation (60-80%).

Winds are strong. Only 10% of days are calm. Spring and winter are the windiest. The major winds are :

North Westerly	(Majistral)	Cool
North Easterly	(Grigal)	Dry
South Easterly	(Xlokk)	Hot & Humid
Northerly	(Tramuntana)	Cold
Southerly	(Nofsinhar)	Hot

Although the causes of weather phenomena are still notoriously obscure, the deforestation of Gozo as a result of human activity is believed to be partly responsible for less rainfall.

Precipitation over Gozo and its hydrological effects

Precipitation provides the ground water with its only form of replenishment. Most of the rainwater evaporates back into the atmosphere while some of it is lost to the sea as run off; the absolute magnitude of these two losses is influenced by the irregular pattern of variation over space and time of the process of precipitation. What remains of the rainwater after these losses are removed is the quantity that infiltrates into the intervening strata to the underground water tables.

The Rainfall figures for Gozo over recent years are given below (in millimetres) :

Year	70/71	71/72	72/73	73/74	74/75	75/76
Rainfall						
Gozo	491	415	651	382	361	556 mm
Malta	546	543	722	304	355	698 mm

(Source : Abstract of Statistics, D.O.I. Malta)

Characteristics or indicators of the process of precipitation

Extent of rainfall; extent of dew; seasonal, sub-seasonal, and annual variation; regional variation.

The nature of the process and the influencing factors

The winds, whose velocity, configuration and humidity affect the regular and the storm rainfall of Gozo, must be considered as "external forces" impinging on the island. Most of the rainfall originates in the prevailing north-westerly winds. The height, shape and orientation of the northwesterly coasts of Gozo, and of the high plateaus of Xaghra and Nadur, themselves, play a role. The winds, on hitting the coasts and plateaus, are deflected upwards by their own momentum, and the contact with colder masses of air above condenses the humidity into rain. In addition, the relatively hot land surface causes a convectional rising of heated air; turbulence ensues, including many rising currents which contribute towards the formation of rain.

The presence of a mass of land rising about 150 metres from the sea is "sufficient to 'trigger off' precipitation in the air-mass already unstable; while, in summer, heating of the air above a lightly-coloured, dry, soil-covered and rock-covered surface will increase instability and encourage the development of thunderstorms".

The northeastern plateaus of Xaghra and Nadur are thus responsible for the slightly higher pluviosity of eastern Gozo, which may be seen on the chart.

Dewfall, or night condensation, is about 20 mm/month in summer (thus providing a useful quantity of moisture in the soil that surpasses rainfall and reduces evaporation but does not percolate into the aquifer) and about 10 mm/month in winter.

Hydrological factors which are affected by precipitation

Dryness of the soils is affected by the extent and date of the most recent precipitations, including dew. The topography of Gozo, steeper than that of Malta accounts for high runoff loss into the sea. Dryness of the soil, together with the current rainfall, are two other factors which affect the extent of runoff loss. Some 'runoff' water is collected at natural catchment areas and used for irrigation.

Evaporation and plant transpiration also depend on the dryness of the soil and on the current rainfall.

If runoff and evapotranspiration are smaller in amount than the rainfall, the excess rainfall is the amount allowed to infiltrate through the ground to recharge the aquifer. If they are not, little or no infiltration occurs, and an abstract book-keeping measure called the ground water-deficit (a measure of the seriousness of the underground water shortage which takes evaporation and irrigation into account) is the factor that is influenced by the amount of rainfall. Some of the rainfall over built-up areas is "harvested" by legally-prescribed domestic roof-collection and storage arrangements.

Heavy storms (involving a day's rain of 60 mm or more) cause flooding, resulting in a sharp increase in the percentage going directly to runoff. This storm drainage is highly erosive on soil and walls, and destructive to plants. It also sometimes results in the clearing of debris from surface channels and valleys, and this tends possibly to increase future runoff by removing obstacles to future water flows. Storms discourage the use of the valley floors for agricultural purposes; thus, there is not an efficient use of the perched aquifer which at these places lies conveniently close to the surface.

Flooding from heavy storms, although very damaging because it takes away large quantities of soil into the sea, may have one beneficial effect in that it results in the removal of accumulated salts from the fields (these salts come from sea-spray deposition, and from the high-salinity water that is sometimes used for irrigation).

Geographic variations of rainfall

Although the size and topography suggest that rainfall figures should vary from place to place on the island, only slight differences are in fact obtained. The Water Works Department runs five check gauges in Gozo. Data has been available since 1925. Figures for the latter half of the sixties decade are available from three of these stations - at Ghasri, Xaghra and Xewkija. The rainfall near Xewkija is particularly relevant to the principal part of the Mean Sea Level aquifer, which is in that area, but as the figures show, rainfall here is only slightly higher than the other two from the rest of the island.

Annual rainfall by region and year
(millimetres)

Rain-year	Ghasri	Xaghra	Xewkija
1964/1965	927	902	917
1965/1966	331	341	324
1966/1967	550	494	472
1967/1968	355	354	401
1968/1969	400	389	407
1969/1970	553	597	672
Mean	519.3 (20.4 in)	512.8 (20.2 in)	532.2 (21.0 in)

The Annual, Seasonal and Storm Variation of Rainfall

That the rain falls almost ^{exclusively} in the winter is almost uniquely characteristic of Mediterranean climates. Malta Government figures for the rainfall of the Maltese islands by month are given below :
(in millimetres) :

January	83.5	July	0.5
February	55.6	August	5.6
March	40.5	September	30.5
April	22.3	October	83.3
May	10.5	November	86.9
June	2.0	December	97.7

Bowen Jones et al. distinguish two types of annual rainy periods. Sometimes a year is recognizable as one type, sometimes the other. The possible types of rainy season are :

- a) "a long wet spell lasting 2 or 3 months, broken by short spells of dry weather"; here there are generally "many days of moderate rainfall, though outbursts of heavy rain do occur". Alternatively, the rainy season may consist of :
- b) "a series of short wet spells with relatively long dry periods between"; in such a case the wet periods involve heavy rain.

"An examination of daily rainfall records shows that mid-July is the driest period, and is followed by a period of isolated but, occasionally, heavy showers which increase in intensity and frequency throughout the autumn months. Very heavy rainfalls appear to be common in January and February, but there is a secondary maximum around the spring equinox, followed by a decline during April, May and June".

The precipitation figures are nevertheless extremely variable from day to day because of storms, from place to place for the same reason, and from year to year. In certain years one or two storms may bring in a couple of days a rainfall that is comparable to the total rainfall received during the whole of the rainy season of other years.

BIO ECOLOGY

Avifauna

Gozo, like Malta, lacks forests and does not have ideal bird-habitats. The only strikingly conspicuous bird is the Spanish sparrow, throughout the year, but there are 16 "resident" birds. Some of these have been dwindling in numbers, e.g. the kestrel. The bar-owl is disappearing. there are only one or two breeding pairs of peregrine falcons, and only a few nesting quails and linnets. Cory's and Manx shearwaters and the Blue Rock Thrush survive around the southern cliffs. A frequent breeder in Gozo until the 1940's, the jackdaw, has disappeared. The Sardinian Warbler is found especially in the valleys; it is second in frequency only to the Spanish Sparrow, although it used to be only a winter resident at the turn of the century. The Spectacled Warbler is mostly found in low shrubs in the drier open countryside, in numbers which fluctuate over the years. The Short-toed Lark, a summer visitor, breeds on both cultivated and uncultivated, flat open areas, but suffers many losses of broods, like all ground-breeding species, mainly because of the snakes who rear their young at the same time as the birds. Corn buntings, although they

usually nest where there is more cover, suffer the same fate. The Tree Sparrow began to nest ten years ago in Marsalforn valley and has since bred annually. The Cetti's and the Fantailed warblers, over the last five years, have also established themselves successfully in Gozo.

Both the Spring and Autumn *migrations* between Europe and Africa take place on a broad-front. In Autumn, many birds do not alight on the Maltese islands, but in Spring, after the harsh trans-Saharan crossing, many stop to rest and feed before the last lap Northwards. Much is unpredictable in the migrations. However, it is when there is a shift from fine, clear weather to stormy, rainy weather that good "falls" occur over Gozo.

The Autumn migration begins in late August, with the darting Swifts, the Subalpine Warblers (among the brambles), the Single Woodchats (on treetops or jutting branches), the odd Cuckoo and the colourful Hoopoe. They are followed by Yellow Wagtails, Hirundines and Willow and Reed Warblers, then by the Golden Warbler, the Turtle Dove, the Golden Oriole, the Night Heron, the Honey Buzzard, and other raptors. The coastline, especially the salt pans, attract the waders and the occasional Kingfisher. By October, the numbers of migrants is at its height. Robins, Chats, Wagtails, Skylarks, Pipits, Finches and Hirundines are the most numerous. There are over a hundred regular migrants and more than a hundred irregular or rare ones. About fifty species reside in Gozo for periods ranging from a couple of weeks to over three months in the winter, among them: the Chiffchaffs, Robins, and Meadow Pipits, in fluctuating numbers. The spring migration begins in mid-March and reaches its peak in April and early May. Birds which cross in hundreds include Hirundines, Tree Pipits, Yellow wagtails; there are also Turtle Doves, Golden Orioles, Nightjars, Cuckoos, Herons and birds of prey. Uncommon birds also seen are the Blue-throat, the Redbreasted Flycatcher, and the Savi's

and Bonelli's warblers. The Spring migration over Gozo ends by the very first few days of June.

Bird watching is obviously most rewarding in Gozo during the peak migratory seasons and least so in summer. The coast is clearly the best place to see the birds coming in; although most settle further inland, the larks, Wheatears and Pipits stop in the open areas by the coast. The greenest area on the island, Lunzjata valley, is also the richest in birds, especially hirundines, chiff-chaffs and wagtails; it is best visited during north-west and north-east to south winds. Ramla valley, especially the upper part, is an all-weather site. The sheltered valleys on the north-west are good during Easterly winds, especially during the Spring Migration. The flat-topped hills, such as Ta'Ghammar, Ta'Gordan and Dabrani are ideal for incoming turtle doves in Spring and also for birds of prey.

Bird-shooting and trapping is widely practised. Children accompany from an early age their father, see stuffed birds displayed prominently in sitting rooms, are given charge of the caged finches by the trappers, are initiated to shooting in their teens. The situation has worsened due to the introduction of the repeater shotgun, better country roads, more leisure (especially for the returned migrants). Previously, only the wealthy shot for 'sport'; farmers hunted mainly turtle doves (from September to May) as a food supplement; only a few birds were shot. Finch-trapping was restricted to October and November.

Now trapping has been occurring also in Spring - for eight birds : greenfinch, goldfinch, linnet, siskin, chaffinch, serin, hawfinch (price £M 20 - £M 30 for a male, £M5 less for a female), ortolan bunting (around the coast, from mid-March to mid-April, price £M 12). Trappers previously came mostly from Rabat and Waghra; then it spread to the

west - Zebbug, Gharb, Ghasri and San Lawrenz; finally also to Sannat, Xewkija, Kerzem and Munxar. Now the coastline is full of clap-netting sites, with feuds cropping up between the trappers.

Besides trapping, there is also indiscriminate shooting - at the heron, the moorhen, the swift, owls and especially birds of prey. Maltese shooters go to Gozo in the spring season, because the birds are more plentiful there (while the reverse is in the case in the Autumn migration). Some even cage the robin, the blue rock thrush (the Maltese National bird, both "protected" species) and the yellow wag-tail.

Flora

The natural landscape of Gozo is hilly with sparse vegetation. Native trees in this island are the carob, the wild fig, the hawthorn and the tamarisk.

Naturalized trees are the olive, the wild almond, the prickly pear and the evergreen oak. Among the decorative planted trees, the mulberry, the Aleppo pine, the tree of heaven, the Persian lilac, the cypress and the wild pistacio are found.

Along the coastline, the sandy bays and saltmarsh areas have the greatest amount of natural vegetation. On the rocky shores, annual plants are found; further up the shore, perennials. Scrabby vegetation is common in cliff areas¹.

On the Upper Coralline Plateaus, xerophytes, geophytes and adapted perennials abound. Shrubs and

¹ Information provided by the Maltese botanist, Edwin Lanfranco.

herbaceous vegetation are found on the globigerina slopes and valleys, luxuriant vegetation on the Blue Clay.

Processes of Human Impact on Vegetation

The Government is carrying out afforestation projects in various localities (Zebbug; Tac-Cawla, Victoria; Qortin, Xaghra). A total of 40.154 trees were planted in 1977-1978, of which 20.290 were fruit trees.

Building activities have had a negative effect not only due to the reduction of vegetation, but also because the dust spread during the building process and the dumping of discarded soil in the area results in the replacement of specialized indigenous species by proliferating weeds. In certain cases the species lost were quite unique.

The excessive "weeding" of Maltese country roads to "tidy" them (which has recently been the easiest form of work available for the unemployed) has often favoured the proliferation of the more vigorous weeds.

In the Government's afforestation activities, there appears to have been an excessive planting of Eucalyptus (which inhibits plant growth in the vicinity) and Acacias which do not really belong to the Mediterranean landscape.

Grazing by goats is responsible for damage due to defoliation of trees and destruction of plants. Whereas the countryside in Malta is unfortunately littered with many large rubbish dumps, in Gozo, the gently undulating hilly landscape appears unspoiled.

The Gozitan flora includes some 700 species of Vascular Plants. Some of these do not exist in Malta. Many of the more important elements of the Gozitan flora are limited to just one locality. It is there-

fore most important that certain localities with a big share of rare plants be protected from alteration.

The Dwejra area including General's Rock is the home of the Gozitan endemic *Helichrysum melitensis* (which used to be found also on Malta but seems to have disappeared); *Cynomorium coccineum*, the famed "Fungus" or "General's Root"; *Matthiola sinuata*; *Matthiola lunata* (possibly extinct); *Senecio leucanthemifolius*; *Hyoseris lucida*, etc.

The Xlendi valley is another important spot being the only known habitat of *Paliurus spina-christi* and *Silene fruticosa*, and the only Gozo habitat of the rare and poorly understood *Iris sicula*.

The Ramla l-Hamra is the only important sandy beach and is the home of many sand-loving species which are very rare even on Malta. Examples are *Euphorbia paralias*, *Euphorbia peplis*, *Pseudorlaya pumila*, *Pancratium maritimum*, *Echinophora spinosa*, etc.

The aera north of Nadur, including Rđum il-Kbir and the San Blas valley also includes many localized plants such as *Cistus monspeliensis*, *Echinaeria capitata*, *Iris pseudopumila*, *Pteridium aquilinum*, *Asplenium marinum* and *Phyllitis sagittata*.

The Lunzjata valley is an important wetland and also includes some rare plants such as *Sambucus ebulus* and *Parietaria lusitanica*.

Some plants endemic to the Maltese Islands occur on Gozo. Apart from the *Helichrysum* already mentioned, one can still meet with *Palaeocyanus crassifolius* (the "National Plant") which is rare on the southern cliffs; *Romulea melitensis* (a sand crocus) and *Chiliadenus bocconeii* which are quite frequent and *Anthemis urvillena* and *Linaria pseudolaxiflora* which we share with Pantalleria and the Pelagic Islands, respectively.

Some plants which are rare in Malta are more frequent in Gozo. Examples are *Chrysanthemum segetum*, *Stachys ocymastrum*, *Vitex agnus-castus*, *Ophrys speculum*, *Onopordum argolicum* and *Matthiola incana* (possibly in a form which is special to Gozo).

NATURAL RESOURCES

Marine resources

Fishing

The exploitation and management of Marine resources in Gozo is carried out through fishing activities, the island itself being self sufficient in terms of fish supply. However increased and improved fishing activities could lead to fish exportation or possibly result in the substitution of fish for other imported food.

Desalination of sea water

Production of water by distillation or desalination of sea water can be considered another Marine resource exploitation. An oil-powered distiller was installed at Mgarr ix-Xini Gozo, and completed in 1971. It differs from the much larger distillers used in Malta in its design and manufacture (it was made in Japan) and in the fact that while the water cooling the Maltese flash-distillers supplies some of its subsequent heat-energy to the Electric Power Station, no such economizing arrangement exists in Gozo. The capacity of the Gozo distiller is 2,272 cubic metres or 0.5 million gallons per day. This amounts to about

0.1 cu. metre or 22 gallons per head of population per day. It is however being used far below capacity, the actual production of distillate being shown below :

Years	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78
Gozo distil- late m. gall.	0	0	4.3	41.2	0	6.44	6.69	0
'000 cu.m	0	0	19.5	187	0	29.30	30.44	0

Factors influencing distillate production

In the Maltese Islands the perennial water shortage began to cause more severe problems with the advent of industrialization and tourism. The farmers also started demanding more water for irrigation. Desalination was introduced to fill the need for a new water source.

A change in Government (1971) and the high cost of fuel oil precipitated a policy change which de-emphasised distillation in favour of stepped-up use of ground water. The new distiller was thus left unused, until domestic and tourist demand for water forced the distillers into operation again, but operating far below capacity. The present policy appears to be one of using as a "cushion" during years of scarcity of rainfall and of good groundwater as in 1973/1974; and of keeping the distiller barely operational in other years. "*The volume of distilled water produced was increased (1976) owing to a greater water demand*".

The capacity depends on the technology; actual production depends also on fuel used. The fuel is transported by barge from Malta and unloaded through a short pipeline.

The "inputs" required by the desalination plant include fuel, manpower for operation, maintenance

and administration, and certain chemicals for the treatment of distilled water which, being slightly acidic, would corrode the distribution system if untreated.

Renewable energy resources

Although no exact figures are available for Gozo, as distinct from Malta, the prevailing national data can be applied to Gozo, with close accuracy. The Maltese Islands have an annual mean of 8.2 hours of sunshine per day, and a mean solar radiation slightly in excess of 1 800 Kwh/m²/day. As there is no air pollution to diminish solar radiation, these conditions are obviously favourable for the establishment and operation of several solar energy devices. Moreover, abundant sunlight lessens the relatively high degree of sophistication necessary in more northerly regions, thereby reducing appliance cost through elimination of accessories not required under local conditions.

The Maltese Islands experience a wind factor most of the time. The yearly average wind speed is 4.6 m/sec (16.6 km/h), subject to both monthly and daily variations. The wind direction is similarly variable, though predominantly northwesterly.

The potential for biomass, though relatively limited, is still not completely negligible. consideration has recently been given to the establishment of small-scale methane production units in individual farms, but a number of factors have so far hindered the implementation of such a programme.

Activities in the field of renewable energy

Nowwithstanding the present heavy dependence on conventional energy sources, the utilization of solar and wind energy in Gozo (as in Malta) is not new. This areas of utilization have mainly been in the

field of agriculture, where windmills have been in use for pumping water from wells for over fifty years. During the last two decades, glasshouse production in Gozo has increased considerably, and, in the vast majority of glasshouses, light and heat requirements are obtained directly from the sun.

Research work in Malta in the field of renewable energy devices has consisted mainly in various individual projects conducted at Malta's Universities. The present national research programme gives a high priority rating to work on the practical applications of renewable energy resources. All of this work could directly benefit Gozo, particularly in agriculture.

Outline of potentials

At the present stage, it is considered that the following areas of investigation in the field of renewable energy resource application would be of direct benefit to agricultural production in Gozo, and at the same time, effect a substantial reduction in the island's total energy bill :

- a) low-cost solar water heaters in agricultural premises;
- b) solar glasshouses;
- c) wind-power for pumping water;
- d) methane production from animal manure.

Water

The structure of the bodies of underground water

In Gozo are found two main aquifers or underground water layers¹. The aquifer consists of bodies of water inside the pores and especially fissures of the Upper Coralline limestone stratum; this water cannot descend because the next layer down is the impervious Blue Clay. Below this is the MSL or Mean Sea Level aquifer, which consists of a body of water inside the pores and especially fissures of the Globigerina and Lower Coralline Limestone strata; this water is lighter than sea-water, and thus floats on that sea-water which saturates the rock base of the island.

The fresh water floating on sea-water inside permeable rock strata is known to hydrologists as a Ghyben-Herzberg lens. In the Ghyben-Herzberg situation, the MSL aquifer is a lens of zero thickness at the coast and of maximum thickness near the centre of the island, when no extraction by pumping is under way. Under static conditions the thickness of the lens below mean sea-level is about 36 times its thickness above this level. Large areas in the central part of Gozo can be expected to have a MSL aquifer which under conditions of no special losses or extraction rises about 1-2.5 metres above mean sea-level².

1 Seawater density 1 028 Kg/cum.; fresh water 1 000kg/cu.m.

2 This was estimated from the corresponding figures for Malta Island, which, according to iocardel are 2-3.5 m.

Even apart from the exploitation of these water bodies by man, there exist various processes of inflows and outflows of water in these bodies contributing to the "water-balance" which describes the net increase or decrease in the stored water. Man exploits both the perched and the MSL aquifer quite extensively. The former is exploited by private farmers using wind-pumps; surface streams coming from this aquifer are also used for irrigation. The MSL aquifer is also exploited in this way, in those places where it is accessible to wind-pumps from the surface as in Marsalforn Valley (Wied ta'Marsalforn) but the main form of exploitation of this aquifer is a public one. Public exploitation is conducted by the Hydrology Section of the Public Works Department (mainly based in Malta Island) through bore hole stations and gallery pumping stations. Much of the public water goes for domestic consumption.

Supply and distribution of public water in Gozo

This process is achieved by a gravity-aided and partly-pumped flow of water, determined by policy and official perceptions of demand, from the source and storage infrastructure, through the distribution infrastructure, to the domestic and other supply terminals. Indicators of this process are :

- quantities of water flowing along various branches of the network,
- quality of this water,
- seasonal changes,
- characteristics of extraction sources,
- storage sources.

G O Z O	70/71	71/72	72/73	73/74	74/75	75/76
water annual consumption ('000 m3)	909	895	814	998	1 012	1 023
Average daily water consumption ('000 m3)	2.49	2.45	2.22	2.73	2.77	2.80

(Source : Abstract of Statistics, D.O.I. Leakages from mains have not been subtracted)

A service of supply of water to farmers by 1 000 gallon bowser was introduced in March 1977, and 480 bowsers were supplied in 1977/1978 in response to 139 applications. This amounts to 2,181 cu.m of water for which the revenue collected by the Department of Agriculture was £M 429.50 (20/cu. m).

Factors affecting the supply

- The *demand* from settlements, from tourist establishments and from the industrial estate and from agriculturalists determine the production and supply;
- *policy* also influences this process; thus, in recent years, no first-class (lower salinity, etc.) water was allowed to farmers, as an economy measure;
- the *design* of the distribution network helps determine the quantities and directions of flow. In Gozo, each settlement is supplied by only one source, usually a reservoir. A complicated supply arrangement however exists for the Victoria settlement, whose network is divided by closed sluice valves into small regions. these are fed from different reservoirs and other sources through various delivery mains. *Topography*

and the relative location of settlements and sources are of course the major factors affecting the designs (see Distribution Infrastructure);

- the proximate cause of the flow to the houses is the opening of a tap, as a resident feels the need for water. This daily supply is subject to seasonal variations.

The major, seasonal and regional variations are approximately reflected in supply alternations. Thus, for example, the resort settlement of Marsalforn is supplied from the Xaghra network during winter, but in summer Marsalforn gallery Pumping Station is used. Also, Kerzem is in Winter partially supplied from San Niklaw reservoir, but in summer all of its supply comes from the large reservoir at Ta'Cenc.

Technical reasons account for other variations. Thus, Ghajn Tutasping supplies the small winter needs of Xlendi village but in summer the spring dries up and water comes from Ta'Cenc n° 2 reservoir.

Infiltration of Rainwater Underground

Rainwater falling over Gozo infiltrates or percolates into the ground, because of the permeability of the various strata, and recharges both aquifers or underground water bodies. This infiltration happens to that water which remains long enough on the surface, i. e. that water which neither evaporates nor runs off into the sea. On cultivated land, infiltration happens especially during those times when soils are moisture-saturated. These conditions are met only in mid-December to mid-March. In fact only a small proportion of rainwater thus infiltrates and recharges the aquifer - this fraction is probably close to 17%. Infiltration into the perched aquifer is through the Upper Coralline Limestone and the Greensands Formation, below which is the impermeable Blue Clay. The water resting over the Blue Clay is thus resting in the

natural water reservoir constituted by the pores of the sandy Greensands layer (where it exists) and the pores and cracks in the Upper Coralline. In those areas of Gozo where there is no perched aquifer infiltration into the Mean Sea Level aquifer is mainly through the outcropping Globigerina Limestone Layer, and the aquifer itself rests either actually in this layer or in the Lower Coralline Limestone layer below. The process of infiltration into the MSL aquifer is especially important for man around Xewikija where the main extraction area lies.

Because of the lack of water-catchment infrastructure (in particular, dams) we may say that practically no planned artificial recharge occurs in Gozo. However, the serious leaks from water-mains in the public supply occur because of damaged and worn pipes; the water which leaks out (339,000 cu m./yr m 1977) infiltrates into one or other of the main aquifers in most places. Leakage and infiltration out of cesspits and sewers amounted to 6,000 cu m./Yr m 1967, but has probably decreased with the lessening number of cesspits.

Factors Affecting Infiltration

Infiltration depends on the moisture on soil and rock surfaces, which is affected principally by the amount and location of precipitation water on the surface of the island. Dams and other water-catchment devices increase this water. Another factor is the permeability of the rock strata. The permeability, being a measure of the ease of infiltration, determines the speed at which the water on the surface can be claimed by the rock strata. This speed is crucial, because the surface water is quickly claimed by the atmosphere (through evapotranspiration) or by the sea (through runoff).

There is a well-defined maximum rate of infiltration which cannot be exceeded and this is not high. It was

roughly estimated by a hydrologist that because of high wind-aided evapotranspiration practically no aquifer recharge by infiltration took place in 1978.

Evapotranspiration is increased and made more rapid by rough ground or ploughed soil, which presents more surface area for evaporation, by the presence of highly-transpiring species of crops, by sunlight, by higher temperatures, and particularly by wind. Runoff is made more rapid by higher slopes, but it is inhibited by dams and other water-catchment infrastructure, including terraces, rubble walls, and the common makeshift diversions placed in sloping paths for the purpose of deflecting a fraction of the storm-water into fields or field reservoirs.

The permeability of various strata is mainly due to fissures, as the porosity is quite small. The major contributing factor is believed by hydrogeologists to be the presence of channels and cavities, formed through karstic erosive processes by the water itself. Water does not flow uniformly through the various rock formations, as it is easier for it to flow through "*microfissure systems and fractures which are generally in a ENE-WSW direction*".

The amount of moisture on the ground depends on the moisture-carrying capacity of the soils, which is moderately small, probably about 2 ins (5.1 cm) in the thin soils of Gozo. Such moisture tends to remain in the soil until it evaporates or is used by crops, instead of infiltrating down to the lower strata. More infiltration thus takes place in those areas where it is the bare fissured rock that outcrops, rather than cultivated soil. In areas where there is soil, it is only if more moisture than the carrying-capacity is available, that runoff and infiltration occurs. This has been calculated to happen only during two or three months of the year (December, January and February).

According to unpublished calculations by Ciocardel "the maximum infiltration quantity per unit time is very small" and variations in recharge have a small effect on the size and shape of the underground fresh-water pocket.

Infiltration of rainwater constitutes a positive contribution to the "water-balance" of the perched aquifer and of the Mean Sea Level aquifer, enabling more water to reach private farmers and the public without an increase in the salinity.

Infiltration or percolation of water underground, involves various forms of contamination, which will be considered as a separate process. The fact that water passes through the fissures rather than through the minute pores means that little purification by filtering can occur before the water arrives at the aquifer.

Structures on which the infiltration process depends are :

- The systemic structure : i.e. the present arrangement of casual links, some of which are shown in the block-diagram, others relating to other processes in the hydrological situation of Gozo.
- Spatial structure : the various spatial patterns, including the location of faults, aquifers, valleys and fields with respect to the slopes and to the regional variation pattern of rainfall.
- Geosphere : the geomorphology which affects runoff and infiltration; the physical structure of the geological formations as regards permeability. The location and movements of the geological strata (plate tectonics) and their associated faults and fractures.
- Biosphere : the biological structures involved in transpiration rates of the various crop and wild plant species, including the operation of the stomata, or moisture-valves, on the leaves.

- Settlements : their shape and extent, and provisions storm drainage and rainwater harvesting.
- Infrastructure : roads decrease infiltration but increase runoff, except where the water is utilized in water-catchment schemes. Agriculturally-utilized land shows less infiltration.
- Administrative structures, including policy pattern.
- Economic conditions : the cost of water-catchment schemes.

Infiltration is declining steadily due to the decreasing amount of unbuilt and uncultivated surface. The expansion of human settlements and of agriculturally-reclaimed land (using soil from building sites) has proceeded steadily in recent years.

The areas of current and possible future human control over this essential process of groundwater percolation or infiltration are indicated below:

- terracing, by decreasing the effective slopes, has reduced runoff and increased infiltration;
- farmers' irrigation and ploughing practices during the rainy season;
- water-catchment areas can be built on coastal slopes and valleys ensuring that rainwater and stormwater is delayed in its rush to the sea, and is automatically collected in areas with karstic and other fissures above a utilized water table. Until it percolates, agricultural use can be made of the collected water. The most efficient method for recharging the aquifer would seem to be the collection of runoff water in valleys which correspond to a geological fault. Thus, a study might areas which, as may be ascertained from a geological map and a relief map, involve faulted valleys.

The process of groundwater infiltration makes the exploited aquifer groundwater a renewable resource. It is thus of great importance for domestic life, touristic consumption, and agricultural use. Agricultural use specially of the land reduces infiltration as the water is intercepted by the topsoil and used by the plants or simply evaporates. A similar conflict occurs with respect to land surface used for buildings and roads, in these cases, however, some of the water can be collected through roof-catchment and storm drainage.

Production of groundwater at galleries and boreholes, including springs

The public extraction of groundwater accounts for about 97% of total paid-for water production on Gozo (the remaining 3% is accounted for by desalination of sea-water). Water percolating through the walls of subterranean galleries is pumped up through Pumping Stations, of which there are two. There are also many boreholes, and each of these has its own pump.

The total extraction of groundwater (excluding springs) between mid-1970 and mid-1977 was as follows, in thousands of cubic metres per year :

70/71	71/72	72/73	73/74	74/75	75/76	76/77
909	904	791	811	1019	1000	1038

The "safe yield" of Gozitan aquifers, a quantity dependent on rainfall and on the area of the exploited aquifers, is at present not publicly known.

Factors influencing the production of groundwater

It is the decision of the Water Works Department which determines how much water is pumped from subterranean sources. Within a framework set by policy (the current policy emphasises groundwater over desalination) there are several factors which are allowed to influence the extent of pumping in any one year. These include the size of the aquifer, as indicated by the height of the water-table (top surface) above sea-level; thus the extent of previous infiltration from rainfall, which, broadly speaking, determines this height, may act as a limiting factor. The area of the aquifer, and various water-chemistry factors as well as bacteriological tests are also considered. Seasonal and regional variations of demand are also considered. As regards springs, low rainfall causes Ghar Ilma spring to dry up, and reduces the yield of the others.

Quantities of groundwater extracted from various sources

- Pumping Stations

The yield of the Xewkija pumping station during the last ten years is equivalent to 39% of the total (paid-for) water production of Gozo, i.e. about 290,000 cu m./yr.

Production from the Marsalforn pumping station, recently about 75,000 cu m./yr, is very dependent on the annual rainfall. For the last ten years the production at this station was about 10% of the total for Gozo. The salinity levels at this station are the highest among the pumping-stations and old boreholes.

- Older boreholes

The MMU Borehole has had a production of about 200,000 cu m./yr of 24% of the island's total during the decade before 1970.

The figures for the low-yield sources known as Farmers' Centre Borehole and Hamlet Borehole have been about 20,000 and 40,000 cu m./yr respectively in the same period.

The Bordin borehole used to supply an average of 35,000 cu m./each year, but production had to be stopped in 1969 because of difficulties in the electricity supply.

The Sannat and Munxer boreholes each yield 90,000 to 100,000, in the 1960's. The Ghasri Borehole had extraction figures of about 15,000 cu m./yr while about 30,000 cu m./yr were produced at the Santa Lucia borehole in that decade.

- The thirteen new boreholes

The thirteen new boreholes drilled between 1974 and 1978 have been yielding increasing amounts since they became operational in 1974. In 1977, they were producing about 201,000 cu m./yr which is about 20% of the total for all public sources.

Infrastructure for collection of spring water¹

The water of both Ghajn Abdul and Ghar Ilma springs comes from the upper aquifer; it flows in old stone channels to Santa Lucia settlement where it is chlorinated and made to flow through a 10 cm main into Santa Lucia Booster station.

The other upper aquifer spring, Ghajn Tuta Spring (10,800 cu m. in 1970) partly utilized (25%) for the public water supply, the rest being given to farmers for irrigation. The public water is channeled to Ghajn Tuta Reservoir, which supplies Xlendi villages.

¹ Information from Robert Naudi, Department of Architecture, University of Malta.

Increasing Demand for Water

The per capita production of water in Gozo has been rising for a decade at about three times the rate of Malta island. The Gozo figure rose from 20 gallons (91 litres) per day in 1967 to 36 gallons (163 litres) per day in 1977. The rise was not a steady one, but the ten-year average was an increase of 5.15% in each year. Some of the produced water, however, is wasted through mains leaks. The remainder is "paid-for water", part of which is supplied at special prices to farmers and the greater part to households and other establishments.

Total water production = Households etc. + Farmers + Leakage Waste
 supply supply
 paid-for paid-for

The annual figures in m³/yr have been as follows :

Years	1967	1970	1977
Households, etc. (paid-for) and farmers (paid-for) ¹	344,000	422,000	1,015,000
Leakage Waste	464,000	475,000	339,000
Total water prod.	852,000	897,000	1,354,000
=====			
Leakage waste as % of total prod.	54,5%	52,9%	24%%
Farmers' as % "paid-for" water	12,8%	?	?

¹ Roof catchment and private wells are not represented in the production figures. 7,300 m³/yr were used to irrigate public gardens in 1976.

The main cause of the increases in demand and consumption of water has probably been increased domestic use. Flush toilets usually account for 30-40% of a household's water-use. Industrialization has been small beyond the single industrial estate of about seven factories. Farmers have been demanding more water for agricultural development, to improve the range and the quality of crops for local and export markets, but in the last one or two years the water shortage in Malta precipitated a policy of strong economies in the supply of water to farmers. Bowsers (1,500 gallons) for private farmers in Gozo were in short supply (in 1973).

Domestic increases can be attributed to more baths, more frequent use of baths and flush toilets and more consciousness of personal hygiene and food hygiene in the context of a general increase in the standard of living. Hotel tourists are roughly estimated to consume twice as much as a local resident. Day-trippers probably consume almost no water besides bottled drinks (from Malta). Hotels and catering establishments use significant quantities of water.

Water conservation programmes aimed at raising awareness of waste by consumers have been a feature of the last few dry years. Among the afflicted factors in the whole process are the following :

- Pressure on Government and the Department of Water Works.
- The domestic consumption of water has recently risen to the extent that in the eyes of administrators it was threatening the availability of water for agricultural purposes. Potatoes and tomatoes can be grown with less than the recommended amount of water (up to 50% reduction) but there would be a corresponding decrease in production (yield). Farmers have been denied use of first class water.

- Differential rates for domestic water-use beyond a standard allowance have been revised again in 1977-1978.
- Pressure on the underground resources is beginning to show in salinity figures. For the Maltese islands as a whole, "unless artificial recharge or other methods are adopted, the problem of a slight water balance deficiency will become more acute", according to official sources.
- A measure is being contemplated to require hotels to use a sea-water flushing system for toilets. If this is implemented, it would affect future sewage projects.
- No new permits are being issued for the sinking of private shafts although some farmers use such wells, and also springs for obtaining irrigation water. The measure is aimed at preventing increase in private extraction.

Recommendation

A sewage-water recycling project, especially with the associated production of fertilizer, would reduce agricultural water demand radically, and would have beneficial effects. It would involve a system of settling tanks with bacteriological treatment of the sewage effluent which can be used for certain irrigation purposes and for recharging the aquifer. The latter would involve risks unless local studies of the fissure-permeability are made.

Changes in Water Consumption in a Decade

	Population	Total Daily Cons. cu.m.(gall)	Per Capita Daily Cons.	OF WHICH	
				Paid -for	Leakage
1967					
GOZO	26,088	2,333 (513,400)	.089 (19.7)	GOZO	
MALTA I.	290,938	44,000 (9,680,000)	.151 (33.2)	<47%	>53%
1977					
GOZO	22,700	3,708 (815,800)	.163 (35.9)	GOZO	
MALTA I.	308,942	60,432 (13,295,000)	.196 (43.0)	76%	24%
Change in ten years					
GOZO	-12.9%	58.9%	83.1%		
MALTA I.	6.2%	37.3%	29.8%		

(Compiled from Government Statistics)

Storage Infrastructure of water

The current storage infrastructure in Gozo has a capacity of about 30 million litres, which amounts to 1300 litres per head of population. The main reservoir, a rectangular covered structure of stone walls, is the one at Ta' Cenc (Sannat area) called "Ta' Cenc n° 3", whose capacity is 20 million litres. Apart from "Ta' Cenc n° 1", which is officially described as "for storage only", the other reservoirs are high-capacity distribution reservoirs for gravity supply to the settlements.

Public records (Abstract of Statistics) show that the storage capacity of all reservoirs in Gozo decreased from its previous value of 40 million litres by about 28% in the year 1973. The storage capacity represents about 10 days' consumption. However, recent priority work has been aimed at increasing the capacity of "Ta' n° 3" réservoir¹. A reservoir is being built at Xaghara².

The synclinal geological basins of the Ghajnsielem/Qala area could perhaps be utilized as natural reservoirs.

Private agricultural storage cistern exist, but they account for only a small fraction of water supplies. They are either cut into bedrock or formed by a stone enclosure. Water arrives by direct rainfall or from a spring at a point where the impervious blud-clay meets the overlying upper coralline limestone.

Private buildings are obliged by a century-old law to have a roof-collection and storage well. It is not known whether this law applies to government-built public housing. it does not apply to flats (apartments).

1 Workings of Government Departments, D.O.I., 1979.

2 *Ibid.*

II. DEMOGRAPHY - ECONOMY - TECHNOLOGY

DEMOGRAPHY - HUMAN RESOURCES

Demographic evolution in Malta and in Gozo

Government annual estimates of the population began in 1910. However, parish records give the detailed demographic study of Gozo over several centuries possible.

The population of Gozo was estimated, in 1977, at 22,369 - 390 persons per square kilometre - as compared to 1,000 for Malta as a whole, and 2,000 for the Valletta Harbour Area.

Gozo's population has always grown at a lesser rate than Malta's. Between 1530 and 1942, the population of Malta increased by 74%, that of Gozo by 33%; between 1842 and 1956, the population of Malta increased by 96%, that of Gozo by 58%.

Gozo has had, in fact, a lower crude birth rate (14.7 births per 1,000 persons) than Malta (16.9) and a higher crude death rate (11.2 compared to 9.1) (December 1972).

There is a greater imbalance between the sexes in Gozo than in Malta,

- 1967	Malta :	Male	48.1%	Female	51.9%
	Gozo :	Male	45.8%	Female	54.2%

There is an older population in Gozo than in Malta:

- 1967	Age-Group	0-4	5-14	15-44	45-64	+ 65
	Malta	8.5%	21.3%	44.2%	17.9%	8.1%
	Gozo	7.5%	22.4%	36.7%	21.0%	12.4%

Thus, in Gozo, the +45 age group formed one-third of the population; in Malta, one-fourth.

Various historical events have accounted for sharp changes in Gozo's population, the most dramatic being that of 1551, when most of the population was either killed or carried off into slavery. On the other hand, there were rapid increases after the fortification of the coast in the mid-XVIIth century from 3,900 in 1658 to 6,500 in 1670). Another dramatic fall occurred after the plague epidemic in Malta, in 1676; although the plague did not spread to Gozo, the economy of Gozo collapsed due to communication channels with Malta being closed by drastic quarantine measures.

The birth-rate in Gozo varies greatly in different villages. It is low in Ghasri, Gharb and Qala, apparently because of the demographic structure, low in Xewkija, apparently because of attitudes which are more "open" generally and, in particular, with regard to birth-control. It is high in San Lawrenz, where attitudes appear to be more "closed".

Emigration is perhaps the most important factor in explaining the anomalies which appear in Gozitan demography.

Emigration and the movement of Population

The main process of foreign migration and return is articulated in various ways. An unknown fraction of migrants (one-third ?) return to Gozo, the first process thus influencing the second. Also, returnees are among the influences on would-be new migrants to make up their minds, make contacts, and migrate. The structure of this sector may be illustrated by the following extract from a paper by King and Strachan¹ arising out of interviews with key persons in Qala village.

"The (operation of the migration/return migration processes) consist in many cases of a double cycle. The typical migrant¹, a single male, leaves soon after finishing school, at the age of around 17 or 18. Generally he goes to a place where he already has relatives - brothers, a cousin, or an uncle. He returns after about 5 or 10 years, with the object (or finding) a wife². Sometimes the courtship and marriage are squeezed into the summer holiday period that the migrant has taken off from

- 1 King, R. & Strachan, A., "Analysis of the Process of Return Migration : Case-Study of Qala", UNESCO University of Malta, Gozo Project Working Paper, July 1978.
- 2 A temporary return on holiday is common before a migrant makes a fairly stable return. Around half of the returned migrants in Qala interviewed by King and Strachan, *op. cit.* had returned home at least once previously. Many young men find a Gozitan girl abroad and come to marry her in Gozo.

his job abroad; a matter of a few weeks or (in the case of a migrant based in Australia) up to three months. The preparation for marriage courses held in July and August by the Cana movement are arranged sepcifically for emigrants. Often the marriage is conditional upon the willingness of the girl to go abroad with the migrant on the second cycle which is the migration of young married couples, some of them with (young children). The next return ¹ takes place after a further 10 or 20 years, although there may have been holiday returns in between. This is in many cases the final return".

Among the processes which have been omitted from the model of this sector is "The Increase of the Gozitan propensity to migrate". This is a structural-change process.

The sex-imbalance, attributable mostly to the excess migration of males, may be indicated here as a measure of the demographic seriousness of the phenomenon of migration. According to the Demographic Review of January 1976, for every 100 females there were the following average numbers of males in each locality:

Ghajnsielem	88	Gharb	72	Ghasri	81	Kercem	88
Nadur	78	Qala	80	San Lawrenz	81	Sannat	84
Victoria	87	Xaghra	80	Xewkija	83	Zebbug	80

The picture is much worse for the 20-45 age-groups.

1 Of those interviewed return migrants who had been abroad for less than 12 years, 56% indicated their intention to emigrate again.

Note on Gozitans working in Malta :

The following information appeared on the "Times of Malta" (February 16, 1980) in the *Gozo News* column. Most of these workers "commute" every weekend to and from Gozo, undergoing hardships of accomodation, transport, and separation from their families (some couples greatly lengthen their engagement period because of this).

"A total of 196 Gozitans with residence in Gozo work in various Government Departments in Malta, the Prime Minister, Mr Mintooff revealed in a written reply to a parliamentary question by Mr. A. Tabone (N.P.). Another 174 Gozitans work in the private sector.

The largest group of Gozitans, 57, was employed at the Department of Education. There were also 35 policemen and 30 other Gozitans employed by the Department of Health. The list given by the Prime Minister showed that one Gozitan worked in the House of Representatives, another in the Office of the Prime Minister, three in the Statistics Office, two at the Law Courts, one in the Housing Department, one in the Public Registry, three in the Inland Revenue Department, four in the Public Lotto Department, four others in the Treasury Department, three in the Water Works Department, two Undertaking, 13 at the Ministry of Labour, Welfare and Culture, 16 in the Department of Posts, seven each in the Customs and Public Works Department and five in the Department of Industry".

Territorial Aspects of emigration in Gozo

The following figures denote the *percentage change* in population in each village between 1957 and 1976, according to the Demographic Review of 1976. The negative sign indicates a decrease :

Ghajnsielem - 18	Gharb - 29	Ghasri - 35	Kercem - 7
Nadur - 30	Qala - 25	San Lawrenz + 11	Sannat - 32
Victoria - 8	Xaghra - 26	Xewkija - 23	Zebbug - 14

It can be clearly seen that there is a serious process of depletion of almost all the settlements on the island. These figures imply that the settlements are reducing by half their own population in the following approximate number of years :

- Victoria	170
- Zebbug	100
- Qala	50
- Nadur	40

The factors influencing this process are mainly the decline of traditional agriculture, communication difficulties, deaths, migration from Victoria and Nadur to Malta, as well as to foreign countries. Nadur, a large and more or less urbanized settlement, has a high rate of population loss (30% in 19 years); it also has the highest emigration index (3.15% of its population per year).

(A rank correlation of population depletion with migration by King, showed that since : $r = 0.5$, 27% of the village-to-village variation in the depletion percentage was attributable to the corresponding behaviour of the emigration index).

	DATE																	
	1678	1679	1688	1842	1851	1861	1871	1881	1891	1901	1911	1921	1931	1948	1957	1967	1971	1978
Kewk. 500				1391	1444	1345	1484	1469	1588	1762	2135	2314	2470	3079	3281	2999	2820	2563
Gharb	515			1413	1411	1447	1552	1630	1629	1092	1417	1402	1398	1555	1269	1117	1044	893
Xaghra				1720	1830	2010	2313	2288	2351	2562	3156	3262	3522	4759	4056	3517	3353	3052
Nadur		1143							2717	2948	3393	3460	3354	3465	4136	3694	3329	2934
Sannat*		546		899	924	940	1052	986	1025	1116	1243	1228	1324	1625	1656	1717	1253	1146
Zebbug				720	691	667	857	910	958	767	912	1006	1010	1261	1199	1166	1152	1042
Ghajnsielem ⁺						942	1020	1002	1019	1121	1295	1250	1408	1810	1860	1755	1688	1593
Qala									1099	1219	1368	1340	1601	1569	1616	1522	1364	1213
Kercem							1073		1004	1037	1135	1143	1212	1307	1272	1251	1265	1182
S. Lawrenz										643	558	528	499	413	428	511	510	476
Victoria				4904	4848		4615		5120	5057	5655	5219	5531	6175	6357	5462	5426	5154
Ghasri									467	428	409	467	594	471	374	353	297	
Munxar															420	422	393	
Fontana															893	898	793	

Demographic evolution of the settlements of Gozo

Source:

* includes Munxar. + includes Mgarr

Censuses & other public data.

(Census dates: 1851, 1861, 1871, 1881, 1901, 1911, 1921, 1931, 1948, 1957, 1967)

<u>Year</u>	<u>Population</u>	<u>Year</u>	<u>Population</u>
1530	540	1708	528
1667	345	1709	518
1679	550	1711	732
1689	488	1712	732
1699	511	1713	533
1700	513	1714	547
1701	526	1720	523
1702	518	1731	586
1703	525	1766	1126
1704	506		
1769	1142	(264 Families)	
1771	1302	(694 Males; 608 Females)	
1781	1457	(385 Families)	
1790	1485	(382 ")	
1791	1459	(303 ")	
1794	1536		
1798	1520	(407 Families)	
1801	1611		
1820	1578		
1829	1776	(890 Males; 886 Females)	
1830	1788	(355 Families)	
1840	1355		
1842	1413	(660 Males; 753 Females)	
1851	1411	(393 Families)	
1861	1447	(702 Males; 745 Females)	
1871	1522	(745 Males; 807 Females)	
1881	1630	(790 Males; 840 Females)	
1890	1630		
1891	1629	(777 Males; 852 Females)	
1894	1233	(603 Males; 650 Females)	
1900	1034		
1901	1091	(536 Males; 555 Females)	
1911	1417	(707 Males; 710 Females)	
1920	1500		
1921	1402	(645 Males; 757 Females)	
1930	1521		
1931	1398	(682 Males; 716 Females)	
1948	1555		
1957	1269		
1967	1117		
1970	1102		

Source: Patrick Formosa: A History of Gharb. B.A.(Hons.)
History Dissertation, Department of History,
University of Malta, 1973, pp.205-207.

The emigration from Gozo to foreign countries is, as previously said, very important. Between 1954 and 1976 an equivalent of 48% of the 1967 - resident population had migrated abroad, i.e. 12,469 persons.

The annual Gozitan gross out-migration is 542.1 persons (mean over 23 years).

A useful indicator applicable to each village is the average gross annual percentage population loss through migration GAPPLM. Russel King¹ has shown from public statistics that this indicator has the following average values between 1954 and 1976 :

Ghajnsielem	2.71	Gharb	2.35	Ghasri	2.28	Kercem	1.54
Nadur	3.15	Qala	2.64	San Lawrenz	1.62	Sannat	2.17
Victoria	1.26	Xaghara	2.18	Xewkija	2.44	Zebbug	1.63

In the annual migration graph is smoothed out to obtain broad trends, we are led to expect about 500 persons per year to emigrate in future. For comparizon we should substract from these gross emigration rates the corresponding rates for *return-migration* (arrival of those migrants who decide to return). However, public statistics about these returnees have only just started being kept and are not publicly analyzed. We do have the return-migration rates for a single year, 1976, through the work of Rose-Marie Vella and Miriam Conti².

1 King Russell, "Analysis of the Process of Emigration", *Op. cit.*

2 Vella, R.-M., and Conti, M., "Return Migrants in 1976 to Gozo", UNESCO University of Malta Gozo Project Working paper, 1978.

Returnees as percentages of the respective village population in that year were :

Ghajnsielem	0.65	Gharb	0.78	Ghasri	1.63	Kercem	0.17
Nadur	1.24	Qala	0.66	San Lawrenz	0.83	Sannat	0.80
Victoria	0.44	Xaghra	0.77	Xewkija	1.07	Zebbug	0.87

For the whole of Gozo the gross out-migration¹ was 316 persons in 1976; in the same year, 160 Gozitan migrants of previous years returned to Gozo, apparently to live there again. This means that for the only year of available records (1976) the net out-migration was almost exactly one-half.

If this pattern holds in the future we should be able to say that half the migrants return, but because of the delays between departure and return, and the information gap on return migration in the past, such a statement will always be a very rough approximation. In fact, 1976 was a year of exceptionally low migration. Taking the average annual gross out-migration, 542, a more accurate guess would be that 28 or almost one-third of the out-migrants return. Of all Gozitan migrants between 1954 and 1976, 66%, 12%, 12%, and 9% respectively went to Australia, Canada, U.S.A., U.K.

Gozo's migration can be compared to Malta's foreign migration by the following ratio : Gozo's share of Maltese Island's migration divided by Gozo's share of total population. This indicator ratio ranged from a value (1.0) indicating parity in 1957 to a value (3.9)

¹ Unless otherwise specified, "migration" in the present work refers to gross out-migration, since the figures for return migration have not been available until recently, and net migration could therefore not be calculated in the past.

for 1976 which shows that in Gozo the phenomenon of migration is about four times as strong as in Malta as a whole. This astonishing increase in the Gozitan's extra propensity to migrate (relative to that of Malta) may be seen as a reflection of the sagging vitality of human settlement on the island. However, some of the effects of migration are beneficial to Gozo, and part of the population loss is only temporary.

Only exceptionally does the flow of migrants include unmarried women. King points out that in Qala the parish priest could remember only two single women migrating from that village.

King and Strachan have found that, at least for Qala, the return migrants had the normal distribution of years of schooling in Gozo before they emigrated.

Migration has occurred for the last two or three generations. The short-term future behaviour of all the above indicator-factors is not easily predictable. Regarding the overall process as indicated by the annual number of migrants, one might perhaps suggest that it is foreign governments' immigration quotas and conditions in the future which might determine the behaviour of the flow of migrants out of Gozo. The decision to move is very often intended to be for a temporary stay abroad. Several factors are influential in this decision.

- The strong family ties that characterize Gozo prevent a person from migrating when he is too young. they may however also generate tensions and difficulties which a person resolves by migrating. Involved in the decision whether or not to migrate, contacts abroad were stressed as a factor (of migrants from Qala) because of supportive help. This is reflected in the concentration of migrants in certain neighbourhoods of certain cities, New York and Detroit, in the U.S.A., Toronto in Canada, Sydney and Melbourne in Australia, Cardiff and London in the U.K. Help concerns finding jobs and accommodations, tips about

TABLE 1

The Pattern of Emigration from Gozo by Locality 1954-76

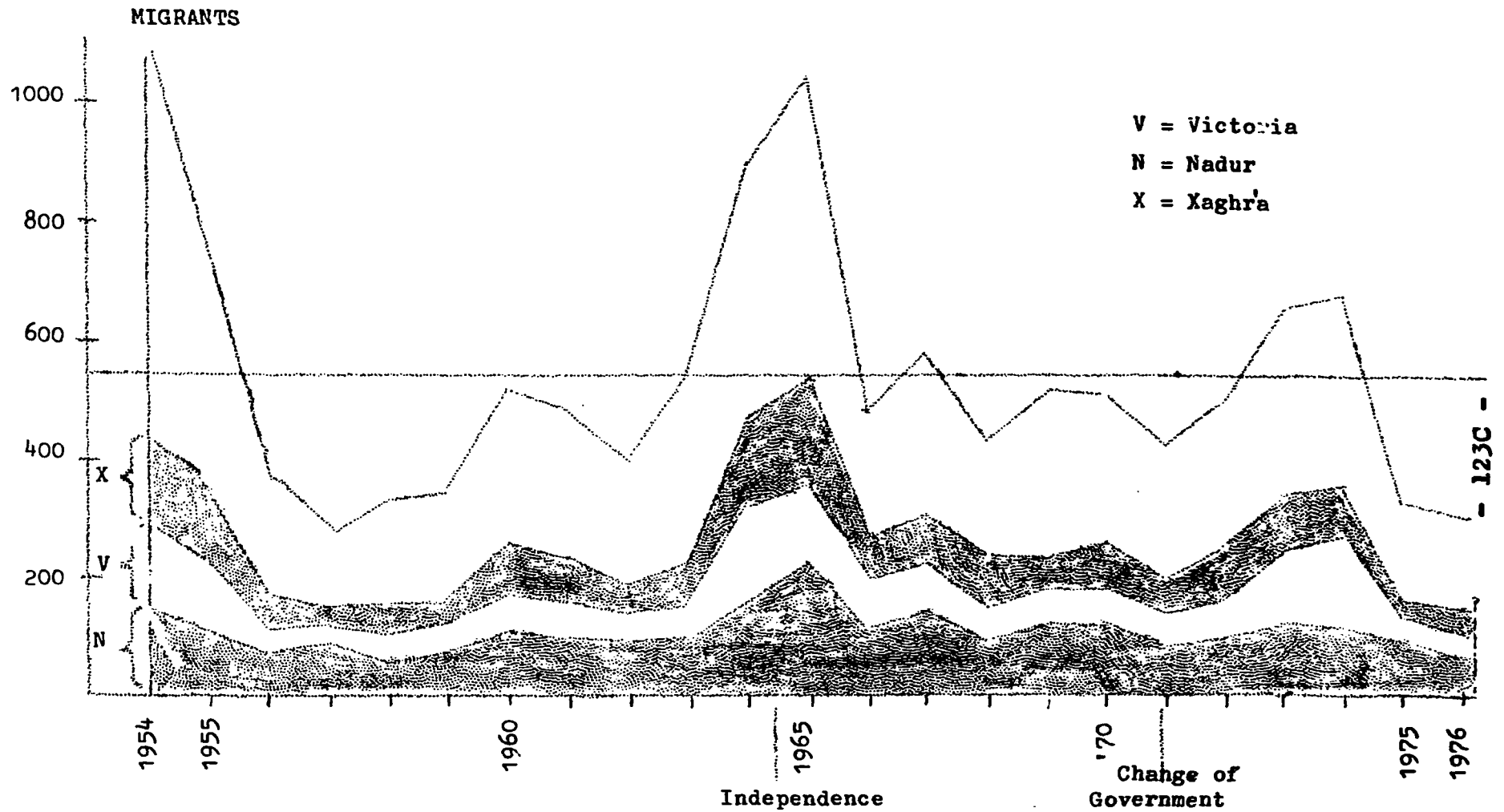
	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	Total 1954-76	Mean annual emigration	Emigration Index: 1954-76 1957-66 1967-76		
San Laurens	33	20	3	4	2	2	3	6	6	10	18	16	2	5	1	8	5	6	10	9	1	6	4	180	7.8	1.47	1.47	1.13
Gharb	70	29	21	11	15	21	16	30	22	39	49	56	13	5	8	28	17	12	19	35	46	14	17	343	25.8	2.35	2.28	2.00
Għasri	18	12	5	6	8	7	5	14	8	7	15	14	3	19	6	7	10	3	8	10	7	6	2	200	8.7	2.28	2.06	2.29
Kerċem	61	33	13	3	14	33	11	22	30	42	20	39	7	11	1	11	12	11	10	24	12	8	9	437	19.0	1.54	1.75	0.90
Victoria	135	125	40	32	44	43	68	63	54	59	162	147	92	85	53	67	71	54	64	106	162	35	34	1870	78.3	1.26	1.21	1.20
Zebbug	63	27	22	0	11	0	8	28	5	13	22	33	27	21	6	8	16	34	20	12	19	5	4	423	18.4	1.63	1.34	1.35
Yaghra	150	112	61	37	54	32	85	81	43	61	144	175	59	88	82	49	71	55	85	90	80	36	41	1771	77.0	2.18	2.03	2.08
Xewkija	177	101	45	35	39	32	94	67	57	78	105	106	53	83	59	83	71	61	58	88	76	39	47	1651	71.9	2.44	2.12	2.41
Sannat	97	16	22	11	29	32	40	27	28	36	75	81	32	23	35	35	38	36	36	49	43	15	16	837	36.4	2.17	2.34	2.07
Għajnsielem	59	54	40	24	27	22	46	33	34	67	78	95	30	59	49	44	36	32	40	73	56	35	40	1073	46.7	2.71	2.40	2.78
Madur	152	116	72	89	57	79	112	98	87	98	163	223	109	150	91	127	131	85	114	140	131	110	78	2612	113.6	3.15	2.58	3.51
Qala	73	29	26	30	44	33	35	19	23	31	54	66	54	40	37	53	41	39	37	23	50	26	26	889	38.7	2.64	1.82	2.73
Gozo	1088	674	370	282	344	347	523	488	397	541	905	1051	481	589	428	520	517	428	501	659	683	335	318	12469	542.1	2.13	2.00	2.06
Gozo as % Malta total	9.5	7.5	8.2	8.6	10.9	10.6	13.6	13.6	10.9	8.2	10.1	13.0	11.1	14.8	14.3	19.6	19.2	15.3	15.8	16.2	16.3	20.6	28.7	12.1				

48

Notes: Several other localities appear ephemerally in the demographic tables. For the most part these are small settlements with very low emigration figures. For ease of comparison the figures for these settlements are aggregated with those of nearby major settlements of which they normally form a part for data collection purposes. Therefore Fontana is included with Victoria, Muxar and Xlendi with Sannat, Mgarr and Comino with Għajnsielem, Marsalforn with Yaghra and S. Lucia with Kerċem. The hamlet of Għazmar is included with Għasri. The Emigration index is the mean annual emigration for the period in question divided by the average resident population over the period in question; the result is then X100 so that the figures in the column represent the percentage of the population that emigrates each year.

Source: Statistical Abstract of the Maltese Islands, 1954-58 (Valletta, COS, 1955-59).
Demographic Review, 1959-76 (Valletta, COS, 1960-77).

Reprinted from ALING, R., "Analysis of the Process of Emigration" University of Malta-Uncesco Gozo Project Working Paper, Univ. of Leicester, Jan 1978.



Gross Emigration from Gozo, showing the contribution of the three largest settlements

Source: Public data compiled by R. King

behaviour, speaking Maltese, finding Gozitan girls for wives.

The Parish records of Qala show that out of 360 nuclear families in the village, 151 counted a member or more (318 in all) of the nuclear unit as an emigrant abroad, while another 150 had a "close relative".

- Information about potential destinations and life styles reaches the Gozitan through his family and friends; his school and library; the parish priest and the Church's Emigrant Commission; returning migrants, and foreign tourists. Prosperous returned migrants encourage migrations, but some returnees report their social difficulties abroad.
- Government public policy towards migration. As such, the issue and the possibility of migration, may have been associated with strong emotional and allegiance-related connotations in the minds of the potential migrants. Also, the existence of relatives and others abroad as contacts before migrating has been indicated as being of major importance in deciding whether and where to migrate. The function of these contacts, as King and Strachan point out, is to provide help with entry accommodation, job-finding, and the new urban mores. One tangible expression of administrative policy on migration has been the ease with which an "assisted-passage" was available to the main destination countries. This inter-governmental arrangement has allowed many migrants to travel almost free of charge to the chosen country providing they stay there at least two years. Almost 60% of the returned migrant families interviewed in Qala by King and Strachan had emigrated on such a scheme.
- Education, or the lack of it does not seem to be a factor in Gozitan emigration, according to preliminary findings by King. When still relatively young a proportion of returned migrants decide to emigrate again. Similar motives as for emigration apparently

influence the re-emigration decision. The financial need is again pressing after one has built a house and started a family. King and Strachan state that at least a third are further impelled to re-emigrate by the restricted socio-cultural milieu on the island.

The lack of available employment in Gozo is often stated by Gozitans as the reason for emigrating (e.g. 82% of a sample of 52 return migrant families interviewed by King and Strachan in Qala village). Available employment is also limited in variety, and this must produce some unsatisfied expectations on the part of those who have been educated at the secondary schools. Even in agriculture there is less demand for labourers now that a certain degree of mechanization has taken place. Tourism and the new Industrial Estate have now provided new employment opportunities.

The total activity rate (the employed as a percentage of total population) is a useful index, and may be considered as a cause-factor. However, its causal influence is difficult to document statistically. King using a rank-correlation analysis has shown that there is more emigration from those localities where "pressure on the land" is heaviest for the latter factor, suitably weighted for part-time farmers ($\times \frac{1}{2}$) and for irrigated land ($\times 3$), King used the following values in units of tmiem/head, for 1957 :

Ghajnsielem	9.99	Gharb	10.57	Ghasri	10.99	Kercem	11.48
Nadur	10.25	Qala	10.16	San Lawrenz	11.56	Sannat	9.62
Victoria	-	Xagara	11.09	Xewkija	8.63	Zebbug	11.88

There is some evidence, from King and Strachan's investigation of a control group of non-migrants in Qala, that the possession of skilled or professional jobs in Gozo is an incentive not to migrate. The same thing may be said about the two other factors : ownership of land, ownership of buildings.

Expectation about one's future standard of living and quality of life have been influenced by the accounts of returning migrants, by education and literacy, and by the movement of many Gozitans away from a dependence on agriculture. The economy of Gozo, in particular the high unemployment and the lack of industrial growth, does not promise to sustain these expectations in practice. Money to buy desired consumer goods is thus often lacking, with few prospects of this situation changing unless one migrates.

All four of the main destination countries have in the last three or four years become very restrictive as to the number and qualifications of immigrants they are prepared to accept. Previously, Australia had fairly liberal quotas for Maltese wishing to emigrate there. Internal economic and political factors in these foreign countries were responsible.

The decision to migrate often falls into one of the following categories :

- a decision to leave Gozo permanently,
- a decision to go and return after usually six to ten years with enough savings to invest in a business, a house, and/or land in Gozo,
- what might be called an acquiescence rather than a decision; old persons, wives, adolescents, and children may migrate principally under the impetus of a decision based on job prospects made by a male relative, probably involving an expected permanent change of residence¹.

1 The chart of 1976 year-returnees' age distributions shows that 64 returnees that year had left Gozo when they were between 15 and 19 years of age.

Influences of emigration in Gozo

Information is sent by the migrants to their Gozitan relatives and this often concerns high salaries. Offers of help with job searches are also involved. These factors are to a large extent the ones responsible for maintaining the particular village-to particular-destination characteristic of Gozitan migration, and possibly also for maintaining the momentum of the process of migration. Emigration extends the boundaries of Gozo as a community beyond those of the geographical island. Emigration results in a reduction of the more dynamic young people and potential leaders, thus contributing to a kind of social stagnation which may be sensed on the island. From the demographic standpoint, emigration is obviously a process that continually decreases the population, especially young males. Some of the migrants eventually return. Using GAPPLM values previously given, it may be shown that the process of out-migration alone would reduce by half the population of the settlements in the following number of years :

- Nadur 22; Qala 26; Xaghra 32; Victoria 55.

The ratio of males to females ranges from 0.71 in Ghasri to 0.88 in Ghajnsielem and Kerzem. The most recent data¹, however, shows that the greatest imbalance occurs between the ages of 25 and 35, where there are over two males to every female. King points out this fact as *"evidence that past migration, in the early post-war period and even earlier, has removed males who have remained permanently abroad"*. There is therefore an excess of females at all ages from 20 upwards.

Another aspect of emigration is its influence on

1 Provided by the unpublished volume of the 1967 Census of Population Characteristics.

the environment. Local people report a large extent of land abandonment by migrants. Much of such land is abandoned in the sense of cessation of agricultural production, but all such land is kept by the family members or relatives, and is mostly under-utilized, or leased for hunting of birds and rabbits. As for the economy of the island, it is altered in various ways by the process of out-migration. The number of those employed as a percentage of total population (i.e. the activity rate) is decreased by the migration of the most employable persons. Nevertheless, money is being sent, via the banks, from emigrants to their families in Gozo. It is not known how large this is, but all estimates imply that it is very substantial from both family and macroeconomic points of view. Since it is also foreign exchange, the money received by Gozitans contributes to the improvement of Malta's foreign currency reserves.

A simple causal analysis of the impact of migration on income-per-capita in Gozo suggests that the latter factor tends to increase as a result of migration.

Contacts of emigrants with their home island

The number of returnees per year is the most important indicator of this process; however, Malta is only now recognizing the importance of the phenomenon¹, and collected statistics have so far not been available.

Other indicators are :

- the current age and the age at emigration,
- the original village,
- new village of residence of returnee as well as,
- the length of the intended stay in Gozo, e.g. whether or not indefinite in length. Government immigration officials are now collecting the above data on each returned migrant, but aggregate data is still difficult to obtain.

Other indicators would be some of those factors which would help understand the process as a composite phenomenon. For example, it would be very useful to distinguish those returnees who intend to retire and/or start a business in Gozo from those who intend to leave the island again later.

Yet other indicators are economic, and their numerical values are unknown. they consist of the replies to such questions :

"How many returning migrants tend to lapse back to their pre-migration state and resume their work as peasants, fishermen, or labourers ?

1 Since first January 1976.

And how many try and succeed in getting industrial work or a job in the service sector?

And how many set themselves up as small independent businessmen ?

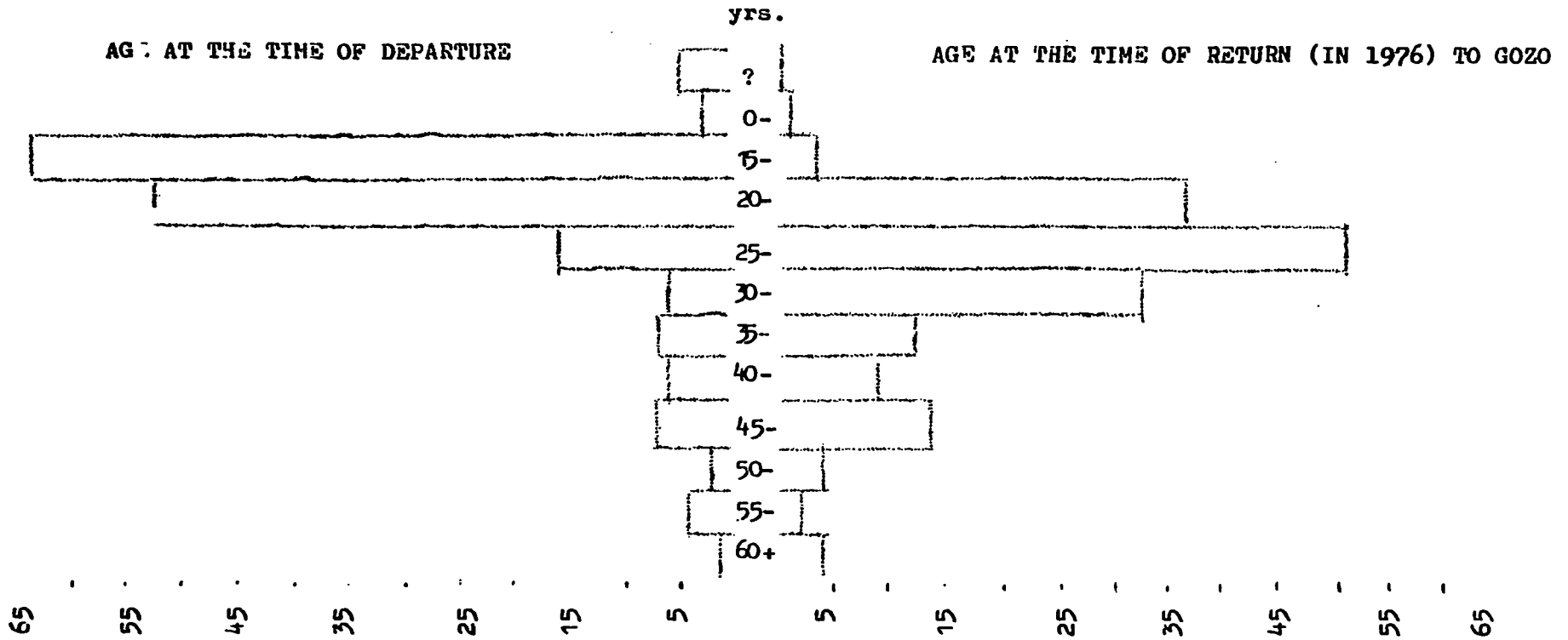
How much of the income or capital brought back or sent previously to Gozo is used in investments such as building factories, which might have significant multiplier effects, particularly on employment, and how much is spent on... less productive outlets ?

King and Strachan (op. cit.) show that of the return migrants interviewed in Qala in 1978 those who had left Gozo between 1930 and 1955 had spent an average of 21 years abroad. Those who had left between 1955 and 1978 had a much wider range of durations of period spent abroad than the first group. Holiday-returns from Australia or U.S.A. are mostly for periods of over three months; from Canada or the U.K. under two months.

The records of each of the 160 Gozitan migrants returning in 1976 to Gozo have been analyzed. The distributions and the village of destination of these persons are summarized in the diagrams on the following pages. Most of these persons left Gozo between the ages of 15 and 24; most of them returned when they were between 20 and 35 years old. Thus most foreign stays probably lasted around 8 years. It is known from the work by Conti and Vella that most persons in 1976 returned to their village of origin.

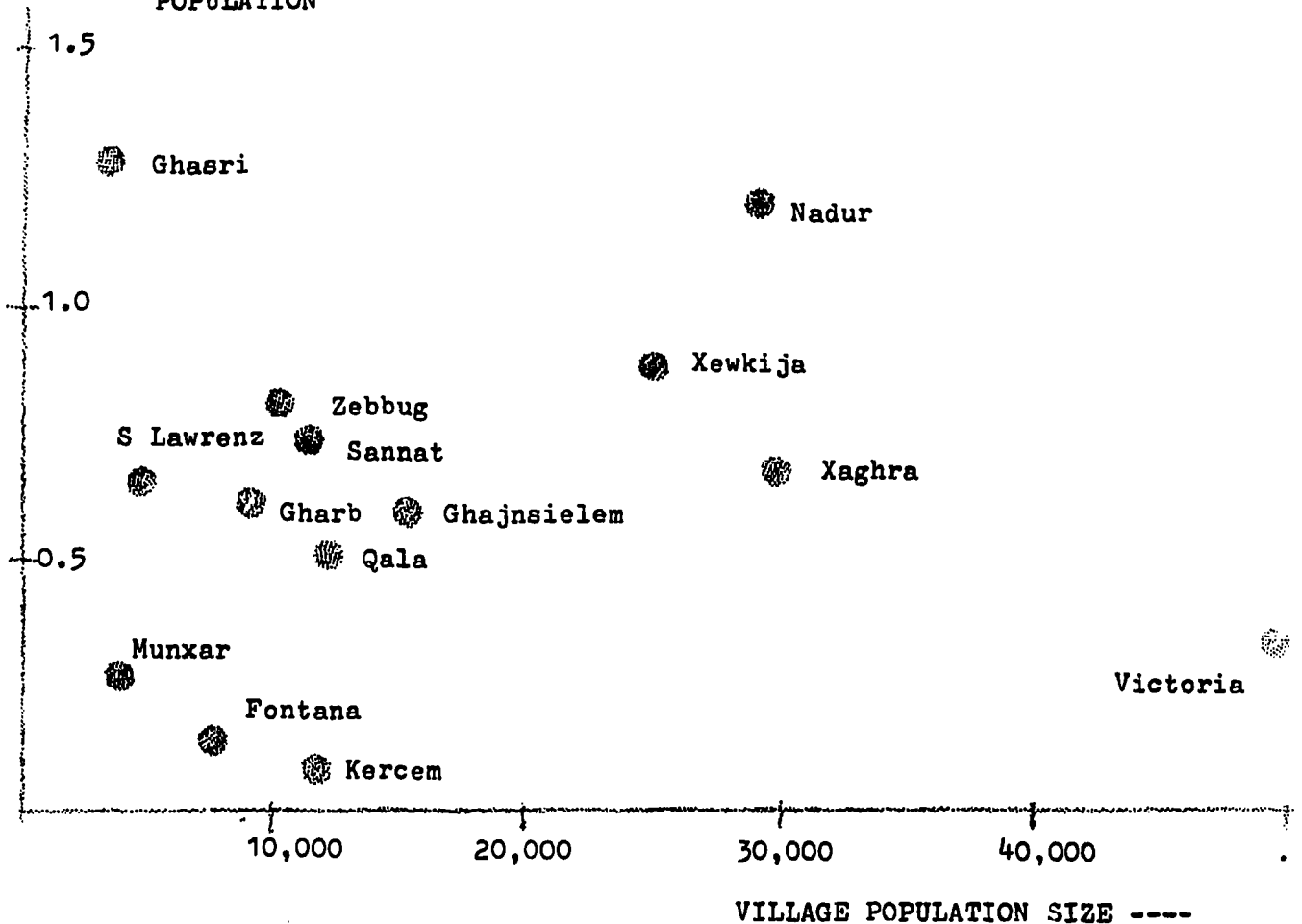
If the 1976 returnees are typical of other years, then there is bigger tendency for ex-residents of the larger settlements to return to Gozo than there is for those of the smaller villages. Victoria, often atypical, is excluded from this unexplained correlation, as, proportionally, only few people return to it.

How many of the migrants return ? The lack of data allows us to make only an approximate guess (based on the 1976 returnees only) that about one-third of



All 1976-returnees: ages at times of departure from Gozo, and ages at the time of return to Gozo in 1976.

1976-RETURNEES PER
THOUSAND OF VILLAGE
POPULATION



Returning Migrants vs. Size of Settlement

There is a correlation, showing a tendency for migrants from the larger settlements to return; this tendency is smaller for the smaller settlements, and for Victoria.

Source: Conti and Galea, op. cit.

DURATION OF STAY ABROAD (for migrants returning to Gozo in 1976)

AGE AT THE TIME OF DEPARTURE	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	17+	
-15	1										1			1						3
-19			8	3	5	6	3	5	1	3	3	4	11	1	1	3	4		1	61
-24		1	6	11	7	5	5	1	4	2		2	5	1				1	1	52
-29	1		1	3	3		1				2		1				1	1	2	16
-34		2								1			2	1	1					7
-39				2		1			1		1		1							6
-44		1					2			1		1								5
-49	2	1	4																	7
-54						1		1												2
-59		1		1						1				1						4
60+		1																		1
Total	4	7	19	20	15	13	11	7	6	8	7	7	20	5	2	3	5	2	4	<u>164</u>
Year migrants left Gozo	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61	60	59		

Age at Departure vs. Duration of stay abroad (for migrants returning to Gozo in 1976)

Notes on data: 1. Younger persons (15-24yrs) stay away longer. 2. The most common duration of stay abroad is between 2 and 6 years. 3. A disproportionate number of migrants returned in 1976 after a stay of exactly 12 years - these are some of the many persons who left Gozo in 1964, the year of Independence of the Maltese Islands.

POPUL. IN 1976	A	B	C	
5027	19	16	6	Victoria
3005	22	19	4	Xaghra
2905	39	35	1	Nadur
2518	23	21	6	Xewkija
1529	11	9	1	Gh'sielem
1206	6	6	2	Qala
1177	5	1	1	Kercem
1121	9	8	1	Sannat
1029	8	8	1	Zebbug
896	8	6	1	Gharb
788	2	1	-	Fontana
477	3	3	1	S. Lawrenz
384	1	1	-	Munxar
307	4	4	1	Ghasri
	4*			
	164	138	26	<u>totals</u>

Settlements of origin and of return (for migrants returning to Gozo in 1976)

Col A shows original residents of this settlement returning to the Maltese Islands

Col B shows original residents of this settlement returning to it

Col C shows migrants not from this settlement coming to it after a stay abroad.

Asterisk (*) indicates Malta island as origin

(Source: Conti and Vella, op. cit.)

migrants return (for details, see the indicators in the previously described process of out-migration).

Most of the 1976 returnees were farmers (28), and labourers (25), although there were 22 whose occupation was not recorded, and (26) were "housewives". A wide range of other occupations were represented by one or two persons each. Among the factors influencing the process of return-migration is racial hostility in the host country. In certain cases, xenophobic attitudes exist in the host-environment against all foreigners. Difficulties of assimilation and integration are also involved for some migrants...

The local equivalent of "no place like home" is repeated very often in Gozo and Malta. Such a perception is bound to carry over into Gozitan communities abroad. Nostalgia, homesickness, and even a sober evaluation of the overall quality of life in Gozo are often quoted as reasons for returning. Probably about half the migrants have a specific number of years in mind when they emigrate. King (*Op. cit.*) mentions "the desire to enjoy an enhanced social status upon return" as an influencing factor for some or many returned migrants. "Through their investment in local commercial activities, for example, or through their construction of prestigious new houses, and through not needing to work, return migrants can be accorded a much higher status in the eyes of the community than before they left".

For some migrants, a major influencing factor in the decision to return is that their retirement age has been reached and they wish to "live their last few years peacefully in the land and village of their birth".

Kings points out that many of the immediately post-war Gozitan migrants are now in their forties or fifties, and many among them may be expected to be old, infirm, or ill. This may influence them to return.

Some migrants return when children reach school

age : "the desire being to have their offspring educated in the local school system rather than a foreign one" (King). This may be because they feel that the culture, and especially religion of the host-environment is too alien, or "not good enough".

Younger single male migrants often decide to return to get married in Gozo.

The size of the Gozitan settlement of origin of the migrant may be a factor in the decision whether or not to return to Gozo. The larger settlements (Victoria excepted) are associated with a higher propensity to return.

Principal reasons given for return (Qala return-migrants):

- Time to go back	15
- Family reasons	9
- Achievement of savings	8
- Retirement age reached	5
- Visit	5
- Violence in U.S.A.	5
- Unhappy	3
- To marry	1
- Health reasons	1
	<hr/>
Total	52

(Source : Survey by King and Strachan, 1978)

It would seem that, as King suggests, the return depends largely on the individual, on his propensity to save and on his satisfaction with life in the destination country.

Returned migrants almost invariably build their own house or villa, often contrasting, sometimes with ostentation, with the modest traditional style of architecture. Architecturally, the return migrants' dwellings are curious hybrids between local styles

and the bungalow or suburban villa common in the North America or Australia. To outside observers, they appear as alien intrusions into the village-scape, destroying the clustered harmony of the traditional settlement form. With their large gardens and patio areas, they are space-consuming. Climatically too they are ill-adapted with their large areas of plate-glass. The return migrants often indicate their migratory experience by decorating their houses with motifs (American eagles, Canadian maple-leaves, Australian kangaroos), nameplates and dedications by their front-doors ("Manhattan", "God bless America", "Maple Leaf House", "Toronto House", etc.)

"Often the house is built prior to the return with remittance income and plans administered by the migrants' parents".

King reports that in Qala "out of 42 houses under construction in the village, 26 (or 62% of them) were for return migrants, mostly coming from U.S.A. or Canada. His investigations found that 50 of the 95 newly completed houses (post 1960) were occupied by returned emigrants, and 9 were vacant or for sale.

Returnees' children integrate reasonably well in the Gozitan school system (apart from a language difficulty with religion which is taught in Maltese, not English). They may keep a dual nationality, e.g. Maltese and Australian, until the age of 18, when a choice must be made. An unknown proportion of returned migrants' foreign-born children choose the foreign nationality. Unable to work in Malta or Gozo, they have the advantage of automatic authorization to work in the foreign country, thus stimulating the migration process.

As far as the demographic effects of the process is concerned, it may be summarized as follows :

- a contribution to the island's population;

- a tendency to increase the average age of Gozitans (the return migrants themselves are mostly over 30 years old, and male).

However it can be shown that if 1976 returnees are typical and if returnees represent 1/3 of migrants, then the net effect of out-migration and return-migration together is the following distortion to the normal "age-pyramid" of Gozo :

ages :	0-26	years	decrease
	27-34	"	increase
	+ 34	"	decrease

This data was obtained by considering the age-pyramid of the ages at departure and arrival of the 1976 returnees. Under the stated assumption, the left-side of this pyramid, multiplied by three at each level, gives the gross decrease due to migration ; the right hand of the pyramid gives the increase from returnees, which only exceeds the gross decrease for approximately the 27-34 age-range.

On the sociocultural level, King reports that there is no marked social split between the return migrants and the non-migrants, although the former are acknowledged to have acquired a wider perspective through their experience abroad. The return migrants often experience tension from the non migrants, but, for most of these, the problem quickly diminishes as they re-settle...

Return migrants, especially the younger ones, attend church regularly but are much less involved than non-migrants in devotional or social activities organized by the church in their village. Also, they are generally less involved in cultural and other committee work than non-migrants.

The relative ease of re-adjustment reflects the original intention of emigration as a provisional experience, of not becoming part of the "host" society.

The attitudes most affected by the experience abroad appear to be the religious, but more in the "quantity" of its manifestations than at its depths. The Gozitan emigrant's *"ideal is a life of leisure in the village of his birth. His is essentially a conservative, passive influence on the life of the island. He acts within the system, not to change it"*.

Returned migrants may also affect unemployment registration figures. They have specifically some impact on the social services. These two factors have been radically minimized by a drastic 1977 law which prevents unemployment registration or the claiming of social security benefits for two years after one's return to Gozo. King reports that this law *"has had a strongly depressing effect on return migration, for retirement or self-employment are the only courses open to those returning since then"*. *"Few migrants take up regular jobs after returning"*. *"After 'sacrificing' 15 or 20 years of his life abroad, principally to accumulate savings, the typical return migrant does not wish to work hard at local employment, and he does not seek jobs"*.

Some returned migrants have an impact on the local economy by setting up shops as entrepreneurs. In Qala, for example; King found that 1 out of ten bars, 5 of the 14 retail shops, and 5 of the 13 workshops (carpentry, motor-repair, and builders') were in the hands of returned migrants. Most return migrants *"do a little part-time farming or go fishing or hunting (or) have a 'hobby job' such as a bar, shop, or workshop"*.

It appears that returned migrants have a conservative attitude towards their savings, often preferring to leave them deposited abroad rather than invested in the Maltese Island.

**Prime Destination of Savings
(Qala return migrants)**

	Persons
House (acquisition, building or improvement)	36
Car	6
Bank	6
Land	2
Business	2

(Source : Survey by King and Stracha, 1978)

Returned migrants appear to have a positive economic impact on employment and earnings of the construction industry as King estimates that at any one time 50 labourers are employed in constructing new houses in Qala, over half of which are or will soon be occupied by returned migrants.

Health

Official social policy : the Craig Hospital

In this report only a sample portion of the field of social planning is selected, viz. Health Care Services for Gozo. The various processes of the functioning of man as a biological organism, in interaction with that part of his environment consisting of his food and of bacteria and viruses, may be considered together as a Health and Nutrition subsystem. When problems arise within this area, a different kind of interaction with the environment is resorted to. This involves altered dietary and other behaviour, but sometimes also Health-Care services, where a new built environment - that of a hospital - is thought to be preferable to the normal physical and social environment of the village.

Below, space prevents the analysis in a detailed way of the processes that make up the *Nutrition/Health/Health-care subsystem* or the related structures (disease patterns, Physical infrastructure, etc.). Instead some salient factors are noted and some problems mentioned together with possible solutions.

- Diseases and health-Care

Fenech et al. (in their Report from which much of the subsequent information is derived) have argued that the following data indicates a nutritional situation comparable to that of developed countries :

- a) the infant mortality rate (24.3 per thousand in 1969),
- b) 1-4 year old mortality rate (1.1 per thousand in 1969),
- c) under 5 mortality rate as percentage of total deaths:7;
- d) ratio of neo-natal to postnatal deaths : 2 : 1 (Main causes : birth injuries, congenital abnormalities, asphyxia and atelectasis of newborn. Infant deaths attributable to diarrhoeal and pulmonary diseases and measles are of no significance.

A sample study carried out by Fenech et. al. showed the following health deficiencies :

- a) diabetes mellitus in 5% (with an incidence of 15% in males, 16% in females over 45);
- b) hypertension : 20% of males and 15% of females over 45;
- c) dental caries or edentulous : 45% of sample;
- d) obesity : 54% of males, 70% of females.

Community Medical care in Gozo is provided by (July 1976) :

- a) 6 Government-employed District Medical Officers, each responsible for about 3 locations (depending on populations served). Each D.M O. holds two dispensaries per week and makes domiciliary visits to patients when necessary;
- b) 6 'private" doctors (i.e. not in Government employment);
- c) 1 Government-employed State Registered Nurse qualified also as a midwife, accountable to a Health Visitor in Malta responsible for nursing, midwifery, and treatment of patients at home;
- d) 6-8 Government District Nurses (GDN's) recruited as O-level school-leavers and given a two-year training in dispensary work, school nursing and health-education by the Government.

Hospital care is provided at Chambray Hospital (Mgarr) for mental cases and at Craig Hospital at Rabat. 'Craig' is a General Hospital opened in May 1975, with 250 beds distributed as follows :

Ward	Male	Female	Total
Medical and Surgical	32	32	64
Maternity	-	12	12
Nursery	-	-	4 (cots)
Pediatric	-	-	14
Geriatric	68	64	132
Psychiatric	4	4	8
Isolation	-	-	6

The situation is unsatisfactory for the following reasons :

It is immediately clear from these figures that the majority of occupants of the hospital were expected to be geriatric cases. In fact, they are but most are clearly in need more of hostel than hospital facilities : in many cases, the needs are more social than clinical.

While the community services are rudimentary in the context of modern health care, there is an uneconomic use of resources in the hospital context, indicating a lack of integration between the health and the social services.

This is an effect of the demographic process of an increase in the number of old people in the population of the Island.

While the provision of hospital beds (16.9 per 1000 population) exceeds the highest in Europe (16.6 per 100 in Sweden), the percentage occupation of the beds is almost the lowest. There are also a Casualty and Emergency Department, an out-patient department, an operating suite and recovery room, an X-ray department, Physiotherapy department, a Laboratory and a Pharmacy. Use of these facilities is visibly low.

The architect's brief (drawn up by a foreign nurse administrator with dedication but lack of appropriate skills) or its implementation (by Poulson) has been defective : it failed to take account of the prevailing climate in Gozo; ventilation is inadequate; clinical facilities are located inappropriately within the wards.

A fairly comprehensive range of medical services is provided by the hospital staff itself, although the planned complement of three consultants (Physician, Surgeon and Obstetrician) and three housemaen has never been attained. It is lower than the European average, but supplemented by a wide range of visiting consultants from Malta. In fact, the struc-

ture of the medical staff appears to correspond more to that of Craig Hospital than to that of needs. The three resident consultants are usually under-employed, but when they are on holiday, or ill, the Hospital is dependent on junior staff or Malta. Moreover, the system tends to the more able junior doctors staying in Malta, the less being sent to Gozo.

The nursing establishment comprises 15 JRN's and 74 SEN's (State-Enrolled nurses). The number is higher than the European average.

For intensive care and major orthopaedics, patients are taken to Malta, by variable means (depending on medical urgency and weather conditions) including the ferry, police launches and military helicopters (Patients requiring radiotherapy are treated in Italy; those needing transplants, cardiothoracic or neurosurgery are treated in the U.K.).

The existent system thus leaves Gozo heavily dependent on Malta, even if it were ever to function at the full intended medical complement, while expansion to the level of complete independence from Malta is not sensible.

- An alternative system

An alternative system could be to set a greatly improving access to the facilities in Malta by providing not only better transport for patients through the helicopter service, but also such facilities as hostel residence for relatives.

Converting the disused General Hospital into warden-supported flats for ambulant geriatrics and the disused Military Hospital at Chambray for the more nurse-dependent ones.

Setting up mini-social centres in the main villages with an integrated team approach by the health, social and voluntary service workers to give such care is really needed and wanted by the patients and help relatives participate in the process.

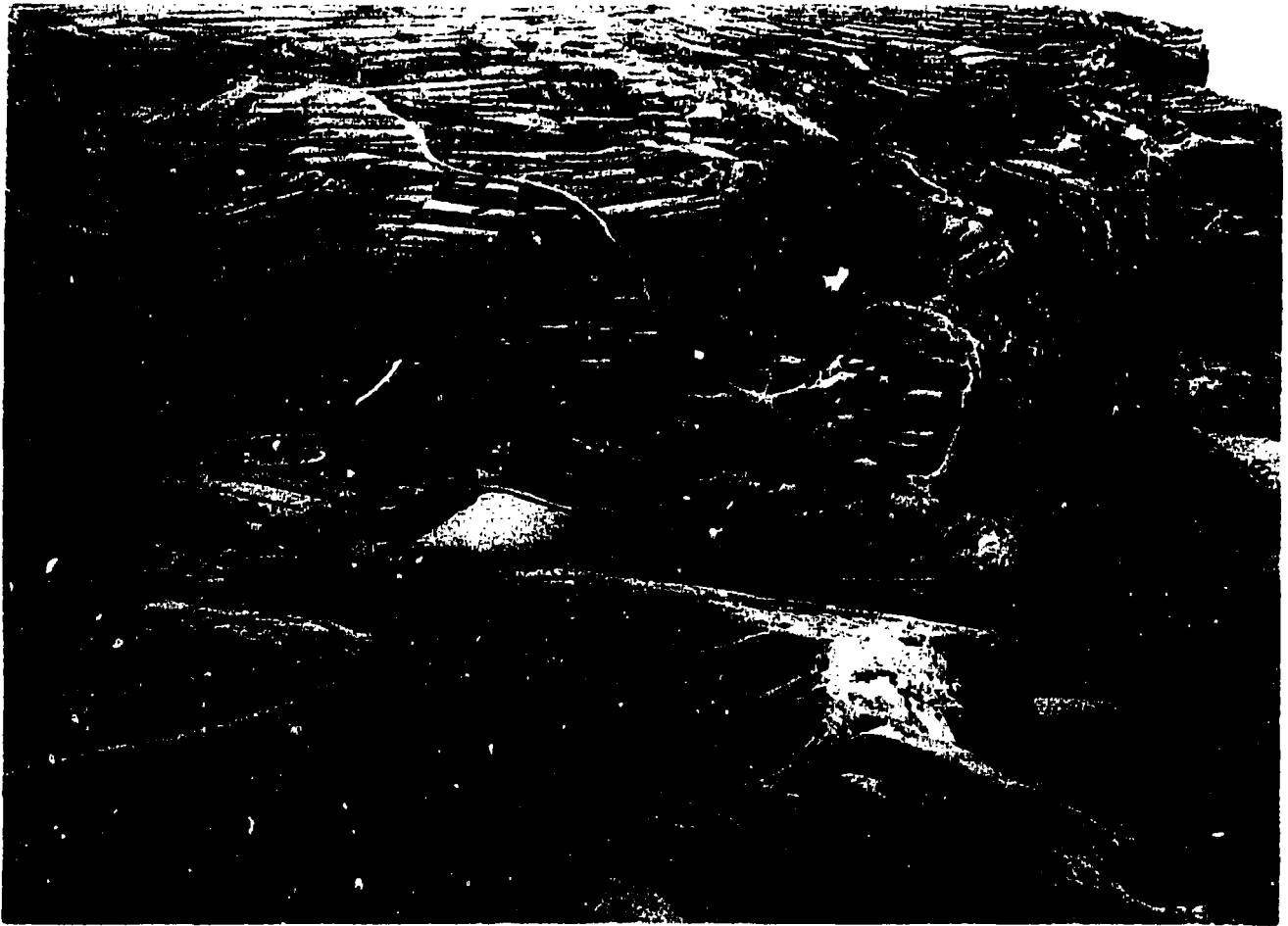
Promote primary-care health and the family practitioner services.

Use Craig Hospital to provide G.P. hospital facilities for both D.M.O.'s and private doctors, with moderate post-graduate specializations, a day-hospital and other health care services - or even converte Craig Hospital into a Hotel or School and set up a new facility more suitable for the new purpose.



Victoria : the Citadel

II. ECONOMY - TECHNOLOGY



Xlendi Bay with terraced field in foreground and background

PRIMARY SECTOR

Agriculture resources

In the context of the interface between man and the environment, agriculture is a major subsystem, which, in Gozo, is more pervasive and relatively more important than in Malta.

Two key processes of the agriculture subsystem would appear to be :

- the growing of crops, particularly potatoes and onions,
- the raising of livestock.

Also worth including is another process which has a severe impact on agriculture in Gozo as in other small, low islands, that is the action of wind and saltspray on vegetation.

Some of the factors influencing these processes are welded into normally stable configurations (i.e. structures) such as climate, geology, the area of arable land, the depth and qualities of the soils, and the land ownership pattern. The three latter items of structure are, however, being altered by the activity of man, subsequently the subsystem of

agriculture is undergoing the following processes of structural change :

- the changes in the area of arable land (comprising the processes of land reclamation and land abandonment);
- the erosion of soil,
- the continuing fragmentation of land-holdings.

A summary description of the agriculture sale-system follows. Apart from the processes and the structures mentioned above, the following are also included :

- the farming force (demographic structure of agriculture),
- cooperatives and government services (institutional structures),
- mechanization (technological structure).

Agricultural Zones : structure and structural changes

The arable land amounts to 2486 hectares (1977). The cultivable land of Gozo may be broadly divided into four zones :

- The dry-farming zone (2367 hectares) occupying the West and the South stretching in an arc from Gharb-San Lawrenz (distinguished by the growing of potatoes and viticulture) to Santa Lucia, Kercem, Rabat, Xewkija, Ghajnsielem.

The land here is least broken and fields are largest with least terracing. There is usually no green in the summer months when the land lies fallow. Mixed farming is practised.

- The irrigated zones (36 ha) occupies the valleys of the North-East and pockets dispersed elsewhere. (The largest villages, Zebbug, Xaghra, Nadur and Qala, are found on plateaus tops above the irrigated valleys). Irrigation is by means of 250 privately

owned wells and boreholes. The land is exposed blue-clay, with the water-table near the valley floor. East from Ghasri valley, there is more irrigation and there are more fruit trees. Fields are smaller and terracing more pronounced.

- The semi-irrigated zone is 16 hectares.
- Wasteland (defined as uncultivated areas with traces of recent cultivation) occupies 225 hectares.

Over the years 1966-1976, the area of cultivable land decreased by 4412 tmien in all village areas but especially in the Gharb, Nadur, Qala and Xaghra areas.

The Government has set up a voluntary corps made up of unemployed, to be trained under military discipline in order to help develop agriculture (The corps is called "Izra U Rabbi" - "Sow and Breed").

The first objective of the corps is land reclamation. Seventeen locations were identified in Gozo (140.5 ha) are suitable for the purpose. About 100 ha have in fact been reclaimed and 80 planted (1978). The work involved was essentially soil transportation from building sites (according to the Fertile Soil Preservation Ordinance of 1935), levelling, destoning, building of windbreaks and boundary walls. The cost was £MO.7 per sq.m. (about 20,000 cubic metres of soil were utilized in 1977-1978).

However, even if all the arable land were to be brought under cultivation, as each new entrant would require between 30 and 40 tmien, employment would only rise by 50 to 66 persons (Grima, 1977).

Soils and the Process of Soil Erosion

All soils are highly calcareous. There are three main types :

- the first are Carbonate raw soils (Blue Clay, Globigerina limestone and Upper Coralline scarps in central Gozo);
- the second are Xerorendzina (Central and Wester Gozo);
- the third are Terra soils (karst lands of Lower and Upper Coralline limestone near the coast).

Elsewhere soils are too disturbed or altered to be categorized.

The Fertile Soil Preservation of 1935 provides that all fertile soil has to be removed from building sites and transferred according to the directions of the Agricultural Department. The owner may be allowed to dispose usefully of the displaced soil himself.

Soil erosion is considerable, because of several factors :

- The seasonal rainfall occurring in short intense spells has :
 - . a mechanical effect, by rolling over boulders which damage rubble walls and consequently soil is run off the steep slopes;
 - . a chemical effect : because the carbon dioxide in the rain water and the calcium carbonate in the limestone produce calcium bicarbonate (which is soluble).
- The abandonment of fields by emigrants leads to the neglect of the less fertile slopes, especially near the coast. The lack of cultivation causes loss and impoverishment of soil.

- Farmers throw rubble outside their fields in the path of the water. Rainwater flows mostly unchanneled. Rubble pulled along by water increases the gully-erosion effect.
- Goats eat young shoots and seedlings. The loss of vegetation leads to soils not being held in place by tree-roots (in the past, deforestation occurred because of uncontrolled felling of trees for timber).

Soil erosion can be combatted by :

- contour-ploughing;
- damming of gullies;
- education of farmers.

Ownership and fragmentation

Holdings (22,000) are in general small. 93% have an area ranging from less than 1 to 19 tmien. 73% have an area of 14 tmien or less.

- In the absence of cadastral data, it is estimated that the State owns 25%, the Church 20%. The law of Mormain, enacted in 1922, does not allow the Church to increase its landed property. Any land inherited by the Church has to be sold within a year. Farmers themselves own 10%; and other private owners 45% of agricultural land. The last category is held in one of three ways : long-lease (over 16 years), short-lease (usually four years to allow for the normal crop-rotation), metayage (usually undertaken on behalf of emigrants by relatives).

Clearly, a cadastral survey is an urgent necessity.

- There is an Agriculture Leases Control Board, which will only allow the expulsion of a farmer from land leased to him in three cases :
 - . non-payment of rent for three consecutive years;

- . unauthorized sub-letting;
 - . responsibility for damage to the land. A Law of 1973 provides that no farmer can be evicted from (or build upon) privately owned irrigated land.
- The average area of holdings in Gozo decreased from 8.5 tmien in 1966 to 7 tmien in 1976 (Briguglio). The decrease occurred in all villages except Ghajnsielem, despite the fact that some consolidation occurred also in holdings at Ghasri and Victoria, besides Ghajnsielem. The number of larger holdings (over 20 tmien) also decreased (from 241 in 1966 to 188 in 1976) particularly in the San Lawrenz, Kercem, Xaghra and Zebbug areas. The number of small holdings (under 5 tmien) correspondingly increased from 1283 in 1966 to 1596 in 1976, in all village areas, a rise from 41.7% to 51.9% of all total holdings.

The main cause of fragmentation is division of land by inheritance, there are other factors, such as a change from whole-time to part-time farming, which makes it impossible for the farmer to cultivate more than a small area.

Effects of fragmentation are the decreasing possibility of mechanization and irrigation and consequent loss of productivity. Without consolidation, no major improvement in agriculture is really possible. Obstacles to consolidation, besides attachment to the traditional inheritance laws, are :

- . a possible decrease in employment, especially of part-time farmers;
- . the unevenness of soil and of land-surface.

Consolidation could be promoted by :

- reforms in the law of inheritance to prevent further subdivision;

- incentives to farmers to work in cooperatives;
- confiscation and re-allocation of land by legislative means.

The Farming Force

- The number of whole-time farmers was 1084 males and 154 females, in 1976/1977. There were 2484 part-time farmers.
- About 1/3 of Gozo's population depends in whole or in part on agriculture.
- Livestock breeders are classified as follows :

Breeders of Caprines	885
" " Ovines	1,323
" " Bovines	216
" " Poultry	1,947
" " Rabbits	1,954

- The agricultural labour force :
 - . is declining (by 9.4% in 2 years);
 - . shows an increasing proportion of females to males;
 - . shows an increasing proportion of old to young;
 - . shows an increasing proportion of part-time to full-time.
- If a farmer has 19 tmien of dry land and works the normal rotation of crops (given later), it has been calculated that he will earn (at 1973-1974 prices) approximately the following :
 - . Year 1 : £ M 972
 - . " 2 : £ M 615
 - . " 3 : £ M 806
 - . " 4 : £ M 450

When costs are deducted, the profit left is minimal. The farmer could only survive by supplementing the income from crops with that from live-stock breeding.

- Recent legislation about the taxation of self-employed has hit farmers badly.

Cooperatives

Cooperatives have a particularly bad name in Gozo (ascertained in interviews). Among the factors responsible for this, the following reasons were cited :

- corruption of officials,
- use of co-op as a political tool,
- delays in distribution of dividends,
- difficulties in the way of active participation by members.

A poultry-breeders cooperative was set up in 1964, but it was very short-lived. At present, there is only one operative co-op in Gozo. It is the Gozo Milk and Agricultural Producers Cooperative, established in 1959. Besides collecting and selling to Government the milk produced by its members, it also runs a tomato cannery.

Since 1946, when Ordinance 34 sought to encourage the setting up of cooperatives, they have never grown to be very successful in the Maltese islands; of the 39 set up, only 19 have survived. A new Cooperative Law was approved by the Maltese Parliament in 1978. It subjects cooperatives to stiff State control and is unlikely to change the rather negative attitudes towards them.

Government services

The Department of Agriculture administers, through its branch in Gozo, a Financial Aid scheme which provides credit on a long-term basis in the form of 60% loan and 40% grant.

Technical assistance is also provided by the Department. But five supervisors for 1444 agricultural workers appear to be inadequate to ensure the effective and rapid transfer of new knowledge and skills to the farmers.

The Government also has an agricultural complex which includes an abattoir, cold-store and ice-plant, and a Pitkali (or marketing) centre.

The Government farm also has fruit orchards which are used to :

- produce fruit,
- provide grafting material for use in the fruit nurseries (In 1977-1978, 28,754 fruit trees were raised; of these, 4257 were sold to the public, 20 185 were planted in Gozo, 5.312 were sent to Malta).

The Government also has two nurseries (Tad-Dawwara and Ta' Kercem) which raise ornamental trees and shrubs for use in afforestation projects and public spaces (19 864 in 1977-1978), as well as for sale to the public (732 in 1977-1978). The Ta' Kercem nursery is also running a medicinal plant project.

Mechanization

The following mechanical equipment on Gozo farms in 1977/1978 was in use :

water pumps	122
ploughing machinery	1 200
attachments to power units	864
transport equipment	209
windmills	35

L. Grima has calculated that equipment comprising :

- 1 transport unit
- 1 sprayer
- 1 rotary cultivator
- 1 draught animal

yielded over a ten-year period (1960-1969) a return on capital of 5.8% per annum, which is less than the compound rate of interest of 6.6% per annum yielded on a bank deposit. It is not likely that a calculation for 1970-1979 would yield an appreciably different result.

Ploughing is now mainly done by machinery (4238 ha), but draught animals are still used by some farmers (341 ha). Threshing by mechanized implements occupied 3,395 hours.

The use of machinery is hampered due to :

- the layer of surface soil,
- terracing of fields,
- fragmentation of ownership.

Most farms have no electricity.

The Process of Crop-Growing

Total production of crops in Gozo totalled 102,653 metric tons, valued at £ M 4,260,000 (1978).

Products can be divided into two groups :

- 'rich' (tomatoes, flowers, irrigated horticulture),
- 'poor' (cereals, sulla, dry vegetables).

Inasmuch as :

- the 'rich' products require a much greater amount of labour,
- the income elasticity of demand is relatively high for the 'rich' and 'low' for the poor products (The raising of the standard of living does not bring about increased demands for these products).

Glasshouse production (April 1977-March 1978) was as follows :

Tomatoes	2,000 kg	0.369 ha
Carnations	12,035 kg	0.009 ha
Cucumbers	4,053 kg	0.073 ha

The total number of glasshouses was 33.

According to an interviewed farmer, a glasshouse covering 1 tomna costs £ M 1500 and yields about 138 qnatar of tomatoes.

Glasshouse tomato production has been rising, thanks to increased productivity. Other vegetable production has also been improving although less appreciably.

There are 46,974 citrus and other fruit-trees. Fruit production has remained fairly constant over the last few years, except for strawberries, where an improvement has been recorded. There were 27 licensed commercial vintners and 138 private vintners; a total of 117,776.8 kg of fresh grapes were pressed by the commercial vintners.

Exports were :

25,825 bags of potatoes weighing	645.6 met.tons
23,475 bags of onions	586.9 " "

Crop-rotation is practiced in the Dry-Farming Zone. Patterns vary, but the following may be regarded as typical.

1st year : September	: winter potato crop
April-July	: onions
Summer	: fallow

The number of cows and goats has lately been increasing due to :

- the elimination of disease,
- the export of goats to Libya,
- the subsidy on animal fodder.

Supply conditions for live-stock breeding are thought to have reached saturation point.

Wind and Seaspray

Seaspray carried by wind causes :

- "salt-burning" of leaves (specially of fruit-trees),
- stunting of crops (especially potatoes, onions, tomatoes, but not of cabbages and beans),
- upsets the photosynthesizing system.

Farmers in Gozo report considerable seaspray. They estimate crop-losses of between 20% and 50% due to this.

Some areas are worse hit than others as in valleys, such as San Blas, while flat areas are much less affected. The North and West are the most exposed to cold, dry winds which are the worst carriers of sea-spray. Some central parts of the island are the areas where most salt-laden dew settles.

The damage caused by sea-spray and wind affects the choice of crops, since in exposed areas farmers prefer the less valuable but safer crops; it also increases the need for irrigation. A farmer said : "No wind and 250 mm of rain is equivalent to wind and 550 mm of rain", and finally affects animals adversely : they don't eat fodder that has been sea-sprayed, or eat it and become sick or produce less milk.

Protection against seaspray takes various forms, windbreakers of two kinds are set up. They can be natural : prickly-pear or cypress trees, but have the disadvantage of using ground water and not allowing any other growth within 7 metres because of their roots; they can be artificial, made of rubblewalls or cane-shields of one of two types : a fence in which thin canes are bound tightly together, but these result in wind eddies which prevent growth for 3 metres on either side and get quickly damaged and are difficult to repair, or a fence with thicker canes and

25 mm gaps between them. These act as a kind of filter and are the most effective.

A soil-oil mixture can also be burned, raising the temperature to exactly the point which prevents salt-laden dew (glata) from settling; spraying crops with water also protects against salt-burning. Near the coast, tomato crops are protected by sack-covering, and seedlings are sometimes covered each with a large prickly-pear leaf.

Fishing

The total number of fishermen in Gozo in 1977 was : 129 fulltime, 71 part-time. The above fish seasonally as follows :

Trawling	January	to April	4	
Swordfish	April	to August	88	
Lampara	April	to August	63	
Lampuki	August	to November	237	(include
Other	December	to January	153	amateurs)

During the Lampuki season, work is often continuous (day and night) for weeks.

The main ports of anchor are Mgarr, Marsalforn and Xlendi. Various types of boat are used. (There is only one trawler and it does not really go on long distance fishing). Most fishing is done close to the shore. Swordfish and Lampuki fishing is distant and often over a two-day stretch.

Most catches are done between November and March - Bogue and Scad (Vopi u Sawrell); between mid-February and May - Picarel (Arznel); between May and August - Swordfish; Bogue, Scad and Mackarel; between September and November - Dolphin fish (Lampuki), Blue Finn tuna and Pilot fish.

A study on the Fishing industry in Malta (1976) indicates that :

- the average net earnings of a fisherman are just above the legal minimum wage;
- by modernizing boats, fishing equipment and techniques, the fishermen can increase catch and earnings significantly;
- the patriarchal system induces a strong conservatism, in particular as to kind of boat used and skills handed down from father to son (at a very early age);
- fishing is most often done on a family basis. Fishermen usually divide their income by shares depending on skill or experience (e.g. an older fisherman may get two shares while a younger gets one) and capital contribution (e.g. two shares for the boat, one for the gear). The owner has to ensure maintenance from his income.

Most of the fish caught is sold upon landing to street-hawkers. Some is taken to the market in Malta, and the rest is put into cold storage. The fishermen auction the fish to the streethawkers rather in the manner of the Pitkali with agricultural produce, i.e. the hawkers whisper bids in his ear, and the fisherman accepts the best bid.

There is a very narrow old street in the centre of Rabat, about ten metres from it-Tokk (the Centre) which has traditionally served as a fishmarket. Since the hawkers buy the fish off the fishermen at three different landing-places, there are differences in prices for similar produce. Fish is also sold by hawkers in all of Gozo's fourteen villages, usually at prices a few cents above those in Rabat. Selling here may go on from 4 a.m. to midnight, although there are many days when the hawkers'cries are not heard, because of lack of supply. The hawkers use motor vans, bicycles and sometimes, even small, agricultural tractors (when the hawker is also a part-time farmer). A frequent selling-point is outside the Church after 8.30 a.m. Mass. Hawkers are supposed to have a licence, but it seems that quite a few do not. There are no fish-shops as such in Gozo, and no fish-processing plants.

The Government makes grants of up to 40% to all fishermen who would like to build a boat, depending on its size, or buy motor engines, or exchange petrol for diesel ones, or radio-telephone installations trawlers and other instruments. The Government also buys bait in bulk (as is also done by a Fishing Cooperative in Malta, which has Gozo members); it is usually mackerel or "cavalli" used in Swordfish fishing and "broad beans" used for *vopi* and *arznell*. Fishing gear is also sold by Government at subsidized prices.

Technical advice and instruction is also offered; this has led to the development of swordfish fishing (unpractized until 8 years ago). It is estimated that a very large proportion of the fish catch is now bought by hotels for consumption by tourists.

1 Michael Scirika, *The Fishing Industry in Malta*, University of Malta, 1976.



Gozitant Fisherman at work

SECONDARY SECTOR

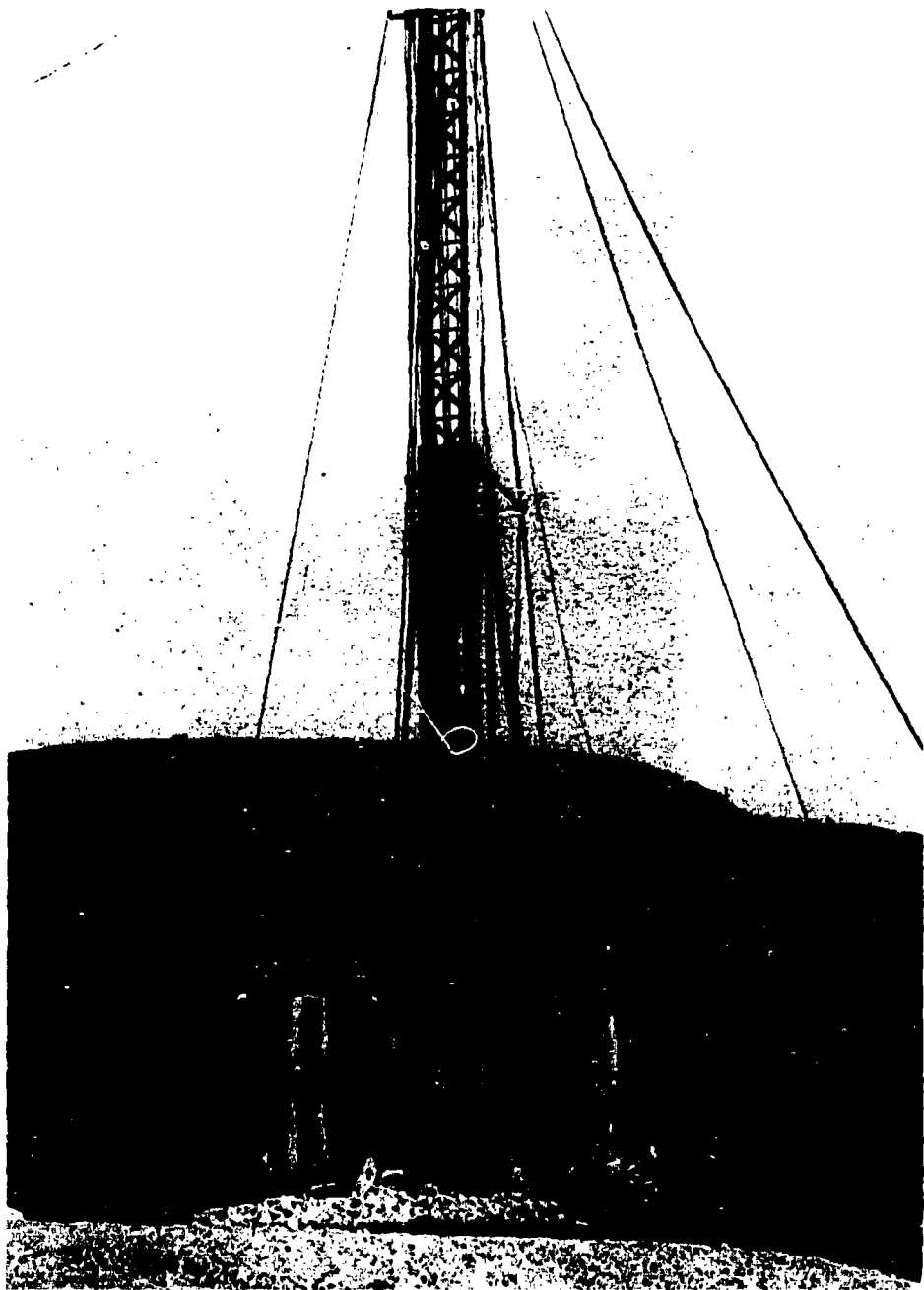
Industrial transformations

The Xewkija factories have constituted in the last decade a major addition from an economic point of view to the industrial environment of the island of Gozo.

Before the building of the Industrial Estate at Xewkija, the employment opportunities in the Island, other than farming and fishing were in construction, transport, foodprocessing, services and small business. Unemployment is twice as high in Gozo as in Malta, and only a small proportion of the unemployed has been drawn into the Labour Corps. The following data is the result of a survey (Galea and Zammit) carried out among workers at the new factories in the Xewkija Estate, to investigate the manner in which man is interacting with this new industrial environment.

- Malta Ferrain Co. Ltd.

The factory is British and has British directors; it is managed by a Gozitan woman. It employes 450, mainly shopfloor skilled textile workers, few clerical



Water Extraction (Borehole drilling)

staff, and also "homeworkers". It produces machine-knit, woolen garments, changing models seasonally in time with women's fashions, designed by a team of three female and two male designers, assisted by 15 supervisors.

Interviewed workers said that the physical environment (lighting, noise, etc.) was satisfactory. They complained about the quota-system of production which was allegedly based on the maximum produced by the fastest worker; the inadequacy of one 12-minute break; the pay (basically minimum wage); compulsory overtime; treatment of the sick as if they were shirking work; even control of visits to the toilet. Workers are not unionized and fear sacking if they protest; there is no dialogue with the management, no contact with the workers in other factories, no prospect of participatory structures.

- General Industries

This is part of a multinational group, and accentuates the peripherality of Gozo, many decisions being made in Malta and abroad. The factory produces electronic components and employs a majority of female employees. Interviewed workers complained about physical conditions (e.g. inadequate lighting at a job which makes great demands on the eyes and consequent frequent cases of eye-strain inadequate hygienic facilities, playing of loud piped music at all times), about the unrelieved monotony of the work; resulting in a manifest general nervousness; insecurity, because of the firm's marketing problems; the total failure of the General Workers' Union to stand up for their interests, after the Management had broken up a small trade union formed within the firm and imposed membership of the Government allied G.W.U. instead.

- Malta Career Apparel

A Dutch company, with a Dutch general manager and a Dutch production engineer, with the shop-floor organized on a line-production basis, producing overalls employs 200 workers, all Gozitans. Interviews gave the impression that it was the best at the Xewkija Industrial Estate from the workers' point of view. This may be due to greater cohesion among the workers who obtained an agreement with the management on production quotas, as well as a clear picture of the company's situation abroad, and, in general, dialogue with the management despite not having formal Union structures. Consequently, there was a feeling of superiority expressed in relation to the workers in the other factories, especially Bluebell and Malta Ferrain.

- Bluebell

The Gozo factory, a branch of a multinational company and administratively dependent on the Malta branch, imports half finished products (jeans trousers) from Malta, performs small specialized tasks (stapling of labels, looping, sewing the W pattern on to the pockets, etc.) and re-exports the result to Malta. It employs 450 and pays the highest factory wages in Gozo. This is specifically related to the fact that the management succeeded in obtaining very high production quotas, even as compared to Malta.

- Malta Knitwear Ltd

The factory is British owned, run by British directors and the production-manager is British. The general manager is Gozitan. It produces wool-knit garments.

Interviewed workers complained of physical conditions (cold in winter, inadequate space in the canteen); compulsory and often unnotified overtime, including sundays and feastdays (Easter); high quotas and no training. There was no unionization and constant dismissals; rivalry between the workers for political reasons; harsh supervision; accident-proneness; lower wages than at Bluebell's; no dialogue with management; and no prospect of participation.



Mgarr Harbour

Many factory-girls are required by their family to do household chores which they seek to avoid after work and overtime. This results in family conflicts.

The substitution of the factory for the traditional environment of the house, as the place where young women spend much of the day, has manifold effects on young people's outlooks, the strength of parental authority, recreational needs, and other fields.

Handicraft

Craftworkers in Gozo are mainly in the textile sector. Most notably, there are between 700 and 1,000 women in Gozo who are engaged in lace-making. Others do crochet-work and knitting. There is a dwindling number of fine stone artisans and a handful of goldsmiths.

The hundreds of Gozitan women who manufacture hand-made products are organized in one of two ways according to whether they cater for export to other countries besides Malta or not.

The women attach themselves to a middle-woman (Gozitan or Maltese) of whom there is one or more in every village. The middle-woman procures the raw-materials (mainly Sirdar wool or cotton thread obtained from agents in Malta who import it from the U.K.) and distributes it to "her" women (one interviewed middle-woman said she "employed" about 200 women, mostly knitters, with only about 2 lace-makers. Some of these were factory workers who knitted in their spare time. They produced sweaters, cardigans, shawls and capes, on designs supplied by the middle-women who obtained them from various sources such as magazines or in the form of a sample to be copied. The middle-women try to follow fashion). She conveys their products to the souvenir-shops (of which she herself is sometimes the owner) in Malta and Gozo; or directly to foreign and Maltese customers, sent by hotels or other contacts.

A number of mostly foreign women have contacts abroad and are mainly responsible for exports to foreign markets.

- "GOZO 20" is a multi-crafts establishment set up by an English woman. The core is made up of about 40 highly skilled craftswomen who produce crocheted and knitted garments and are paid (according to the manager) at piece-rates corresponding approximately to the minimum rates of a factory-worker. In this craft, as in the others, since it was set up in 1969, Gozo 20 has sought to revive traditional designs and invent original ones, to the exclusion of imported ones. Some farmers have been induced to grow again the distinctive Maltese "red" cotton; Gozo 20 employs one of the two surviving Gozitan women who still spin it and the one man who still beats it. Attempts to adapt lace to modern articles proved unprofitable. Gozo 20 is also trying to train young girls in weaving, since at present in Gozo there are only three master-weavers left, and they work only to one design .

Gozo 20 is also seeking to revive pottery and stone-sculpture. Gozo 20 has contacts all over Europe, markets its products in very small quantities at high prices. It is estimated that since 1969, it has exported £ M40,000 worth of products. The manager-owner of Gozo 20 does not have the capital to expand and has never received any Government subsidy.

Typical laceworkers learned their craft from their mothers (or from the nuns at school). Facility is usually associated with early training. Often they only produce one pattern (e.g. corners for table-cloths, three-piece dressing table sets, etc.). In consequence, their fast finger-movements are almost automatic; but there is pleasure and pride in the product, even if the financial rewards are less than from factory-work. Lace-work is mostly a part-time occupation, for a few hours a day, after the household chores are finished. Payment is about 20 cents an hour. Complex pieces of work (e.g. a 13-piece set) are done on order and might take (e.g. in the quoted example) a month and a half to be delivered; its cost would be about £ M 7.00.

Much more widespread than lacework is homework on wool. One kind of work of this kind (done for Malta Ferain) is unravelling old or damaged woollen garments and winding the wool into balls for re-use with the factory knitting machines. This work is paid at the rate of £ L3 per sack of unpicked wool and can usually be done at one's own time. A woman who does this work, when interviewed, said that it was more lucrative than actually knitting garments, for which she would be paid £ M1 per garment. It takes a worker about one week to complete one knit-sweater. The middlewoman will sell it at £ M2.50 to £ M3.00 to shops, and the shops at between £ M4.25 and £ M5.25 to their customers. The knitter is likely to get only about £ M0.50 for such a piece of work. Moreover, only a few have a workbook and pay national insurance. If the Government were to enforce the law in this regard (as it has been threatening to do), the present system would totally collapse, since the insurance charges are higher than the knitters' gross earnings (although the middlewoman might accept a cut in their present rather high rates of profit).

One of the three weavers still left in Gozo, a 70 years old woman at Zebbug, learned the craft from her aunt, works a large hand-loom for 3 or 4 hours a day, and produces blankets, carpets and bedcovers of woven wool and cotton-thread. She buys the wool in Gozo, and washes it in seawater, while the cotton is imported. She sells an article of size 25" x 26" (which takes her two days to make) for £ M4.00 to individual customers or shops (where they are priced £ M6.50). The woman believes sales would fall if prices were increased, and at present she has just enough sales to keep her occupied. She is assisted by a 16 years old girl from the village.

Another still practiced craft (by some 5 people) is basket-weaving. Raw-material (i.e. fallen palm leaves) are purchased from the Government at 80 cents per 100. A small round basket is sold by them at £ M1 and by shops at £ M1.50. It takes about 4 hours to make one basket. Besides tourists, the baskets are bought mainly by factory-girls.

There are also a few makers of mats and wind-breakers. These are made with dry rods bought from farmers at 20 c. per bundle. Some six hours are required to make a fair-sized mat, which is sold at £ M5 - of which about £ M1 goes for materials (wood, string and nylon, besides the rods). The work requires skill and concentration. The products are sold to Gozitans. So far there are hardly any tourist or export sales.

There is one family of carvers (sculptors) in Gozo; they make statues (mainly religious) to their own designs, in various materials, or (reluctantly) "copies of great works", always on direct order, and at satisfactory sale-prices. There are specialized wood-workers, such as a constructor of wooden frames for grandfather clocks (the mechanical part of which is imported) for sale through shops in Malta and Gozo, at the price of about £ M80 each, on design imitated from pictures seen in magazines.

TERTIARY SECTOR

Trade

The following is an informal description of the detailed spatial and temporal patterns involved in the marketing and retailing of agricultural and other goods in Victoria (Rabat).

Marketing

- It-Tokk

It-Tokk, the main square below the citadel, is the main focal point of Rabat. It is treelined, surrounded by bow-windowed houses to the north, and to the west is the ornate, bow-fronted building built by the Grand Master de Vilhena, which originally housed the municipality or governing body of the island, whose duties were to raise taxes which the governor demanded and to organize the male population into a local defense force to supplement the garrison of 90 soldiers.

The centre of the square serves many purposes. There are open air stalls in the morning, taxis and parking around the periphery. In the evenings, after work, is the passeggiato or nightly parade, people strolling at leisure around It-Tokk. In the winding streets of the old town, in alleyways like Is-Suq or

wider streets like Palm Street lined with beautifully ornate houses where the elite of Rabat once lived, are a variety of shops and stalls that supplement the market activities. Here are found many of the craftsmen, goldsmiths, metalworkers, carpenters.

- Type of Market

It-Tokk and the streets on its periphery serve as the main marketing centre for the whole island. Hodder states that a market's site is determined by convenience of access from all settlements, large and small, within a radius of 5-10 miles¹. All settlements on Gozo are within a 5-mile radius of Rabat for wholesale marketing. Yet, for retailing, the market serves mainly Rabat and the surrounding area, as shown by the shopping survey undertaken in Rabat. This dual role, wholesale and retail, can be compared to Hodder's definitions of Periodic and Daily markets. Only in commodity structure is there a difference. Hodder gives periodic commodity structure as 60% foodstuffs and 10-15% imported European. In Gozo almost 100% is foodstuff. The Day market commodity structure of 40% foodstuffs and 25% imported European is however comparable with that of Gozo.

Between approximately 4.00 a.m. and 7.00 a.m. the market serves the function of the periodic market, namely the collection, bulking and distribution of local food products, products of local food processing and local craft products, all to wholesalers from all over the island.

Between about 7.30 a.m.-11.30 a.m., the nature of the market changes to that of Hodder's Day Market, with the selling area spreading out from It-Tokk to the surrounding streets, including stores selling imported goods, so giving a wider source area. The main economic function of this kind of market is to

¹ Hodder & Ukwu, *Markets in West Africa*, Ibadan University Press, 1969

assemble, in a central place within a town, the various commodities required by the inhabitants. Unlike the 'periodic' market (where people buy and sell from all over the island wholesale) the day market serves chiefly the needs of the people within a small area, on a retail basis. Hodder also mentions a real specialization of commodities in Day Markets which again occur in Rabat and will be referred to later.

- Middlemen

The first part of the market, corresponding in function to Hodder's Periodic Market, commences at about 4.00 a.m. every morning when farmers bring fruit and vegetables in the market is by tradition done through the Pitkali men - at present three of them, each with a small crowded office on the edge of the market. Their transactions commence about 4.00 a.m. Farmers come to sell their produce freshly picked that morning and retailers to buy before their shops open. Until the Second World War¹, marketing of produce in the Maltese Islands was organized almost entirely by licensed but uncontrolled Middlemen, the Pitkali, who collected or accepted small lots offered them for sale to wholesalers and retailers, and then paid the farmers the negotiated price less commission. During the War, controls were imposed on price marketing, which have basically survived until the present day. As the economics of production have become more confused with welfare policies, so the complexity of the situation has increased.

Firstly, cultivators have little knowledge of their costs of production. They may have some general idea of whether a proposed price is unprofitable or not, but this is not necessarily trust-worthy. Secondly, while the fodder crops are not very perishable, the vegetable and fruit products which find their way out of the rival economy into the Maltese markets are extremely

¹ Bowen-Jones, Dedney & Fisher, *Malta, Background for Development*, Durham University, 1961.

so, while the market for this produce in Malta is not a very selective one. This on the whole has the effect of encouraging the sending to market of produce which is liable to deteriorate. In the markets, therefore, any produce surplus to clear requirements is virtually valueless.

One complaint arising from the Pitkali system is that the Pitkali charged commission for negotiating sales but took no stock risks. Thus, when wholesalers and retailers had satisfied their requirements, playing for safety themselves, the Pitkali merely informed some unfortunate producers that their products could not be sold. The prices attained for that which could be sold varied with the skill of the Pitkali. Since many Maltese farmers needed forward credit, it was natural that the Pitkali became not only middlemen but a supplier of credit and, therefore, to some extent, a controller of production. This arrangement resulted from two facts. Firstly, the quantities of individual items that most farmers could daily offer for sale were so small as to make some concentrating agency a logical development. Secondly, the social legacy, a dichotomy between town and country, meant that the farmer was most often incapable of dealing with his market. Questions of literacy, language and social status in the past put the farmer in a position of social inferiority. The Pitkali bridged that gap, but in doing so they sometimes exploited the farmers' ignorance.

In the Gozo market, until November 1975, the Pitkali men were still allowed sufficient flexibility to quote virtually their own prices for the produce. This informal system, whereby transactions were merely recorded in a notebook was, however, open to question and many farmers felt they were not getting a fair price for their goods.

Consequently, the Government introduced a new voucher system. A Government official now compiles the official weights and prices list. Two Government clerks visit

the Pitkali offices every morning before 11.00 a.m. to examine the produce and to take the (retailer) money to the Agricultural Department. A voucher is given to the farmer with the weights and prices written down. The shopkeeper who buys from the Pitkali is also given the price list. Copies of the receipts of sales from the farmer and to the greengrocer are both made in triplicate. Of these three copies of the receipt of sale from the farmer, the original goes to the Government for purposes of payment; a second copy is for the farmer to check his payment, and the third copy is kept by the Pitkali man. Of the three copies of the grocer's receipt, one goes to the Government, one is kept by the grocer as proof of official payment, and the third copy is kept by the Pitkali man.

When a greengrocer buys from the Pitkali, he normally pays in cash. A Government fund is ready to pay the farmer, who receives payment every month by cheque (this method ensures that the farmer does not avoid paying income tax). The Pitkali man receives a commission of 6,5% of the price paid to the farmer. This Pitkali system in the old market is, however, likely to cease within the next few months, as a new market has been constructed along with a new abattoir, next to the Milk Marketing Undertaking built at Xewkija in 1957. The new agricultural complex is one quarter of square mile, and consists of four cold storage units, each 20' by 35'. There is a storage unit for meat both local and imported (from Australia and New Zealand), two for fruit and vegetables (including imports from Italy) and one for locally caught fish - mainly swordfish, tunny and lampyki. The cold stores are already operational and produce can be stored here for up to one month, at a cost of 10 cents per crate for fruit and vegetables, and 2 cents per kilo per month for meat and fish. There is also ice-making equipment at the farming complex and ice can be purchased by the general public at a cost of 12 cents per tray.

The new abattoir replaces the one formerly used in Fontana by Ghajn il-Kbir and has separate sections for up to 80 pigs and 30 cattle at any one time. The animals are electrocuted and there are specialists to deal with cows and pigs. This will enable the Government to exert a stricter control over the sale of livestock. At present, butchers buy directly from the farmers, who then take the livestock to the abattoir. There the Government slaughterman kills the animals, but it is the butchers themselves who skin and cut up the carcasses afterwards, before taking the meat to be sold the next day. The Government intends to eliminate this informal method of exchange by itself buying livestock from the farmers at a fixed price and then in turn selling to the butchers in a similar manner. Because of an outbreak of African Swine Fever in the summer of 1978, at the time the new abattoir became functional, the movement of all pigs directly from the farmers and then sell them to the butchers, in an attempt to stop the spread of the disease (The Government also hopes to buy fish directly from the fishermen, who at present either sell the fish themselves or through the Pitkali men at the market).

- Links with Malta

Despite the apparent activity in the old market in Rabat and the intended transfer to the new agricultural complex in the near future¹, a high proportion of produce grown on Gozo already by-passes the Gozo pitkali system altogether and is sent straight to the Malta Pitkali. Here the farmers can be sure of a better price and a more definite sale, as Malta relies heavily on less densely populated and more fertile Gozo for its fresh fruit and vegetables. A survey conducted of 10 of the most modern Gozitan farms showed that all, apart from 2 dairy farmers, concentrated wholly on the Maltese market.

¹ This transfer has now been carried out.

The transport of produce to Malta is inconvenient - the bulk of the goods are taken by lorry across on the ferry from Mgarr to Marfa, or straight to Valletta on the "Queen of Peace" or the "Imperial Eagle", two former ferry boats.

- Retail Market

During the second part of the market (7.30 a.m. - 11.30 a.m.) a variety of goods are laid out in the open at It-Tokk, either on trestle tables or spread on the floor. The goods include a fine assortment of materials, clothing, particularly for ladies, leather goods, including sandals and shoes from Italy and a variety of household goods ranging from cotton towels to rubber buckets and cheap china. There are few concessions for the tourist in It-Tokk, apart from plastic flip flops and the ubiquitous tee-shirt with Gozo (or a map of) emblazoned on it. Tourists and Gozitans alike, however, browse through the market at leisure. Most of the goods are imported from Malta. Although the prices are marked, it is possible for Gozitans to barter and reduce the price. The busiest time is between 9.00-10.30 a.m. when up to 60-70 people may be in It-Tokk.

Retailing near It-Tokk

- On the periphery of It-Tokk are the greengrocers, small shut-up shops spilling out into the square with an abundance of fruit and vegetables : cabbage, lettuce, apples, citrus fruits, artichokes, onions, tomatoes, potatoes, carrots, melons, aubergines, courgettes, garlic depending upon the season. Most of the greengrocers are women and, like the traders in It-Tokk, close shop for the day at 11.30 a.m. Fishermen operate here too, adopting impromptu stalls on the pavement and often attract a large crowd around them when, for example, they bring in the first catch of the season of lampuki or swordfish. A recent innovation is the selling of pizzas and local cheese cakes by enterprising youths who are likely to have baked their goods in the village bakery ovens, after a batch of bread has been baked.

- Areal specialization in retailing

As previously remarked, the commodity structure of the latter part of the market in Rabat corresponds remarkably to that for Hodder's Daily Market, i.e. approximately 40% foodstuffs and 25% imported European goods sold in the shops. Another similarity is a real specialization on a commodity basis for certain goods, most markedly confectioners and butchers in Rabat. The 3 confectioners in the town are situated side by side in a road leading from It-Tokk to St. Georges Square to the South. The butchers' shops and tobacconists and wine shops are all sited around St. Georges Square.

Hodder cites four main advantages for this areal specialization :

- firstly, it engenders a spirit of healthy competition and rivalry among buyers and sellers and protects the buyer from victimization;
- secondly, areal specialization by commodities facilitates price regulation as well as the enforcement of rules among members of a particular trade association
 - serious undercutting is made difficult;
- thirdly, it facilitates the bulk buying and selling of commodities, and finally it makes for quick assembly, packing and loading in to lorries. In the case of the specialization in Rabat, certainly at least the first two of Hodder's points are valid.

Other major shops include a complete range from hardware and furniture to hairdressers and chemists, retailing areas and banks. Several shops however deserve a special mention, particularly the two major grocers, both unique in their way in Rabat. Firstly, is Batu's stores, in St. Georges Square, an immaculately clean and hygienic shop run by Charlie Batu and his wife, usually without any other help, despite having two young children. The shop is not large, but is well stocked with tinned, packaged and frozen foods familiar to English visitors. Apart from local wine and cheese,

no Gozitan good is sold. Despite this, the actual range of goods available is quite remarkable. The prices too are appropriately high, when compared with other shops. Service is slow because Charlie insists upon serving one personally, and a large queue soon collects by about 11.00 a.m. Not surprisingly, most of Charlie's clients are non-Gozitan.

Batu's main rival is Vassallo's, a supermarket with an unassuming entrance in Main Gate Street. Vassallo's is the complete antithesis of Batu's; while Batu's is neat, compact, light and clean, Vassallo's is a dark labyrinth, a large rambling badly lit store, with haphazard shelves full to the top, stretching to the far end of the room. The range of goods are as wide as those of Batu's and usually cheaper. Service is usually quicker and, consequently, Vassallo's (run by the Vassallo family and their three children) is more popular and widely used by the population as a whole.

Unlike other stores, Batu's and Vassallo's remain open virtually all day from 8.000 a.m. to 7.00 p.m. and have no lunch break.

In Race Course Street (so called because horse and buggy races are held here on the Feast of the Assumption) is the Tower Bakery - the largest bakery on the island and patronized by many people. Close to the bakery in Race Course Street is the "Duke of Edinburgh Hotel", the oldest established hotel on the island, run by the Portelli family, and although now rather faded in comparison with newer hotels, is still very proud of its Royal Patronage in the past.

Surrounding It-Tokk and the lanes and alleyways leading off it are to be found many drinking bars, small front rooms of houses simply converted and with signs advertising wines and spirits outside. They also advertise the bar's name. Many go back to the time of Victoria and the Empire, e.g. "Diamond Jubilee bar", "England for Ever" bar. Newer names reflect social changes: "Teens Bar", "Maple Leaf Bar", "Bellusa Bar". Typically the bars have stoned tiled floors, long marbles tables with wooden chairs or benches beside

them , a counter and bar at the far end and often a television set in the corner. A variety of drinks may be bought, ranging from tea and coffee served in glass beakers to wine and spirits. Local cheese and chickpea cakes can be bought.

The bars open early - about 6.00 a.m. in Rabat, to cater for farmers and wholesalers at the market. Later in the morning the bars are busy with tourists and expatriates until they close again at midday. The bars re-open at 4.00 p.m. or 5.00 p.m. in the afternoon and remain so until late in the evening. It is during this period that the Gozitan men come and sit and drink and chat after work and It-Tokk comes to life again with the passeggio or nightly parade. There are at least two dozen bars in Rabat, and even the smallest village will have 3 or 4 bars. The Gozitan bars, expatriates apart, are very much a male preserve.

The large number of bars is partly explained by the different loyalties of various sections of the community. The two band clubs (Leone - with its festa on the Assumption, and Stella, whose feast is that of St. George); both have their own bars, the Maltese Labour Party and the Nationalist Party and the Nationalist Party also have special bars where their followers meet.

Tourism

220,000 tourists visited Gozo in 1976. This figure represents an increase of almost 500% over 1965. The most significant type of tourist to Gozo is the day-tripper. In 1977, an estimated 209,900 day-trippers (both Maltese and foreign) visited Gozo. About half the foreign tourists went with tours organized by travel agents and generally accompanied by Maltese guides. They usually visit the Cathedral in the Citadel (Rabat) and some other churches, Ggantija and some other neolithic sites and Calypso's cave, in the morning, have lunch at Rabat or in one of the two seaside villages, Marsalforn and Xlendi, then go on an extended shopping tour to buy Gozo lace, knitted or crochet ware, and return to Malte in the evening.

The organization of the car-and-passenger ferry service is widely acknowledged by Gozitans and Maltese to be lacking in convenience for day-trippers and other users. In this context, factors responsible for reducing the number of potential day-trippers, include lack of late trips by the vessel; the problems in car-queuing and car-booking procedures, the slow, badly organized, often non-existent connecting bus-transport in Malta (to and from Valletta) and in Gozo (to and from Rabat), the uncertain timetable, doubts about crowding and lifeboat capacity, apparent lack of accountability for cancellations and for other

changes made for motives of profit and various others, including high fares for Gozitans. Government or private solutions tried in recent years have been unsatisfactory with the result that tourists, travel agencies, and quasi-independent tour-guides have been avoiding the problems of a Gozo day-tour. Transport difficulties have thus affected the number of daytrippers and the time they spend in Gozo.

Of the foreign tourists who arrive in Malta (usually for an average stay of a couple of weeks) about half visit Gozo. Information about Gozo appears in Government Tourist Office leaflets, guides and some foreign advertisements. "Attractive" factors in Gozo include the following :

- scenery and "rustic" character of the lifestyle, which is basically agricultural;
- religious processions and festas, in recent years deliberately made even more colourful and showy;
- Gozo lacework and woollen garments, made by the patient skill of local women using imported material

Roughly half of the accommodation in hotels and guesthouse in Gozo is occupied by Maltese who stay an average of three days. The other half is taken up by foreigners who stay an average of 13 days.

Although the number of tourists and foreign residents in Gozo is relatively lower than in Malta, their visibility is much higher because of the smaller scale.

Touristical resources

Hotels

In March, 1978, there were 1202 beds available in Gozo, or approximately 1 bed for every Gozitan. The corresponding figure for Malta was 1 bed every 13 Maltese. Moreover, Gozo's share appears to be decreasing, since there is not the same increase in hotel building there has been lately in Malta. The recent closure of the Starboard hotel in Marsalforn is another indication of the increasing imbalance.

A liability of the Gozo tourist trade in relation to the Maltese is due the problem of the ferry service between Malta and Gozo. However better service is not likely to bring about a substantial increase in the number of hotel guests, though it would probably increase the number of day-trippers and the time they spend in Gozo.

In Gozo, 151 of the beds (26%) are partly owned by non-Gozitan capital, which compares favourably with Malta (40%).

Gozo hotels and restaurants have 201 employees, all of whom are Gozitans except 8 (3 Maltese, 3 Italian, 2 British). This amounts to 1.02% of the population.

The organization of a Gozo hotel may be exemplified by the following account of the "Calypso Hotel", Marsalforn. It is owned by the Portelli Brothers, one of the most active business families in Gozo. Its official category in the Tourist Board Classification is 2A. It has 100 bedrooms and 220 beds. Marketing is in the hands of an English P.R. man who came to Gozo as an adviser on marketing and is done by word of

mouth, brochures printed in four languages and some direct advertising in magazines and newspapers. It is mainly directed at the European market, with British tourists still in first place, with the number of Germans greatly increasing, followed by Italians, and is not directed not towards package-tours. Only spill-over benefits were obtained from the advertising by the Government Tourist board, since it did not seek to "sell Gozo" directly, but Malta as a whole. The Hotel was fully booked in the peak seasons (Spring and Autumn, followed by Summer) and half-booked in Winter. The average stay was 10-14 days. The staff (135 increased to 150 at peak times) was entirely Gozitan. The Hotel had 2 nightclubs, lunch service, and a travel agency attached to it.

Tours

An average tour price was £ M3.75 (range £ M3.50 - £ M4.50), of which only £ M1.35 went into Gozitan pockets (for food and bus fare).

Giftshops

There are 50 giftshops in Gozo catering to tourists and about 50 in Malta which sell Gozo handcraft. Each Gozo shop is usually run by two female relatives and employs about 15 women working at home with materials provided by the shop. The Malta shops are supplied every week or so by Gozitan agents, also women. The Boissevain survey indicated that each day-tripper spent an average of £ M2.45 on Gozo made gifts. The home-workers are paid an average of 3 cents an hour. Earnings therefore depend on how much time they can devote to the work. For instance, some produce one long-sleeved cardigan a day and are paid £ M1.25 for it; most are able to knit only two cardigans a week. This provides modest supplementary earnings for more than 1600 Gozitan women, and about half a million Malta pounds each for Gozo and Malta, i.e. about 3% of the 1977 gross tourist expenditure.

Of the estimated £ M1.028.000 spent on Gozo-made gifts, 25% (£ M257,000) represent labour costs, 44% (£ M452,320) the costs of mostly imported raw materials, 31% (£ 318,680) the profit of shopkeepers and other middlemen and women.

Influence of Tourism in Gozo

Environmental Impact of Tourism

On the whole, the villas for foreign residents, the night-clubs, the restaurants and the hotels have not damaged the Gozitan setting as much as in Malta. But there are notable exceptions, such as the qarish "Calypso Hotel" which now dominates the picturesque seaside village of Marsalforn, the square box of the "Eclipse restaurant" thrust in solitary bad taste into a fertile field just outside Rabat on the Mgarr road, the unfinished large hotel overlooking Ramla Bay.

The day-trippers (especially the Maltese) pollute the beaches with rubbish they leave behind them and with considerable noise which disturbs the traditional siesta quietness of Gozo afternoon.

Psychological Effect of Tourism

There is only a small amount of communication between day-trippers and Gozitans apart from the minimum involved in shopping and having lunch at a restaurant. From a survey of 280 day-trippers, mostly foreign, it appears that the average time spent talking to Gozitans was 20 minutes.

There are somewhat more numerous occasions for communication between the tourists who come to Gozo for longer holidays, especially with young Gozitans for whom tourism has provided the first systematic contact with foreigners. Many young Gozitans expressed the feeling that tourism made them realize that the "rustic" qualities of Gozo may be positive values, that foreigners are not semi-gods, that hospitality is often self-rewarding. On the other hand, foreign tourists are compared unfavourably to the unruly Maltese day-trippers who are accused of not appreciating Gozo. It may be also that the Gozitan's self-image has taken a boost in virtue of such comparisons.

Cultural Effects of Tourism

Gozo's ten nightclubs and weekend discos were built supposedly to cater to foreign tourists, but except at the height of summer when up to half of the patrons may be foreign, they are mostly frequented by Bozitans.

The new forms of entertainment have had a negative impact on the traditional forms, such as meeting in the public square for exchange of news and views. The old continue to do so, but they no longer meet the young there. A wedge has been driven between the generations.

The tourist trade has brought about a different time-schedule for the Gozitans engaged in it. Their working day usually starts some time before the arrival of the second ferry at 10.30 in winter and a little earlier in summer. The busiest time is around midday (the hottest in summer, when previously no work was done by anyone). The working day ends at 4 or 5 p.m. (depending on the season) when the last ferry leaves. It also means more intense work on the weekends including Sundays, previously "sacred" for Church and rest.

The attraction to tourists of the colourful religious processions and festas - already the focus of fierce competition between the various parishes - have perhaps added to their importance for the Gozitans themselves.

Foreign settlers have encouraged a crafts revival. Marie Claridge of "Gozo 20" led Gozitans both to return to traditional old patterns and introduce new styles. Pat Holton of Gharb brought 6 sweedish looms and employs a staff of weavers who make wall-hangings and model clothes of international high standard.



Ggantija Temples : a tourist attraction

URBANISM, URBAN PLANNING AND DEVELOPMENT

Traditional settlements and their evolution

The distribution of villages in space constitutes a major element which conditions many processes of man-environment interactions, especially travel, the exploitation of land, and the marketing of goods.

There has been a long-term process of change in the spatial structure of the island of Gozo. Historically, there appears to have been an almost constant tension between the desire of the political authorities to force the population into one urban centre (the Citadel and its suburb) and the desire of the population to live in villages scattered all over the island. The people's desire has prevailed since the middle of the seventeenth century.

At present built-up areas cover 5.9% of the island. They are mostly in the localities of Rabat (0.83 sq km), Nadur (6.44), Xewkija (4.40), Xaghra (1.81), Zebbug (0.31) and Sannat and Munxar (0.28). The expansion of Rabat, where one-fifth of Gozo's population lives, and of Xewkija and Sannat is such that, if it continues, they will soon conglomerate into one built-up area. It appears

highly desirable that at least a green belt be preserved around each village.

Almost all Gozitans live in the villages (28,539) and not in isolated buildings (only 1762 do so). Apart from historic reasons, there is at present a strong economic reason for doing so linked to the manner in which Government provides public utilities. The house-owner has to pay for all water and electricity connections; moreover, the charges are higher in rate in relation to distance covered. Population density in the villages tends to be about 19,000 persons per sq. mile. There are some 7,000 private dwellings in all. About 70% (as against 26% in Malta) of dwellings are owned by their residents. About 10% of all house holds have more than three persons per room.

The spatial structure of the set of settlements in relation to the physical structure of the landscape is as follows. The existing human settlements are located on different types of site :

- The "Citadel" is built on a hill-ridge over 500 ft. high, which is only a little less than the island's highest point, Gordan Hill (where a lighthouse stands), with a steep buff on its northern site, at the very centre of the island. Rabat (which is sometimes called 'Victoria' in honour of Queen Victoria's Diamond Jubilee) grew as its suburb) the only settlement partly built on a deep outcrop of clay (usually avoided as a building site). The "Citadel" fell into decline, when it remained no longer essential for security; but Rabat functions well as the "capital" of the islands, and the Citadel has been restored as a tourist attraction.

- The first type of village sitting (Zebbug (1683), Xaghra (1683), Nadur (1683) and Qala (1850) is situated on the tops of hills and overlooks flat outcrops of the clay stratum, but the slopes are not too steep. The advantages of such locations are that

crops can be watched from the village; also disaggregated clay and limestone makes fertile soil; the perched aquifer formed by the Upper Coralline Limestone over the impervious clay makes water available; finally mules and donkeys can drag loaded carts up to the village.

- The second type of village sitting, instead of being at the top of the hills, is just a little below (Ghanjsielem (1850), Munxar, Kerzem (1850), Xewkija (1678), Gharb (1679), San Lawrenz (1850), Ghasri, Sannat (1678 and Santa Lucia).

- Three settlements are, on the other hand, located on the coast (Mgarr, Marsalforn and Xlendi). Mgarr is a shipping base, while Marsalforn and Xlendi are summer resorts.

Gozitans, even fishermen, almost invariably prefer to reside inland, where greater shelter is found.

The spatial structure of each of the existing villages is basically similar, with variations usually corresponding to their date of development.

The Centre is invariably the church. Ever larger dome and bell-towers rising higher than any surrounding building were built mostly in the XIXth and XXth centuries. Outside the church, there is always a relatively large square (or open meeting place). It is usually tree-planted and lined with benches. In most cases, the Parish Priest's and the leading villagers' houses, the Police Station, the bus-terminus, the clubs, cafés and shops (if any) are all located around the square. The closer to the square, the higher the status (and the rent) of any building. The square is the social centre, especially for the celebration of the "Festa".

In the first type of village, there is one main street which leads up to and circles round the church (Zebbug, Gharb, Sannat). In the second type, a number

of streets radiate from the square (Nadur, Xaghra, Xewkija); in the third type, the square is not the source of any axial development, generally because contour features do not allow it.

The older villages developed from the XVIIth century onwards until the end of the XIXth century, according to the principles of free, organic growth. The houses, from the cluster around the church, spread along the old country roads, crooked and of uneven width, winding between the properties of different owners in an almost "natural" process.

In 1897, the British Colonial Government enacted legislation giving itself complete control over all building operations in the Maltese islands. Henceforth, bureaucratic regulation (rather than custom and instinct, or participative planning) was to become the overriding 'causal factor' in the determination of the spatial development of the village.

A section of the 1897 established the minimum width of a street at 25 ft. A contribution towards its cost was to be paid by builders along it, unless the width of the street exceeded 60 ft. Three implications followed :

- streets became three times as wide as was previously normal,
- frontage was kept to the minimum to keep the contribution to the Government down to the minimum (this obviously affected the internal planning of the house, as will be explained later);
- Government officials became reluctant to establish open spaces wider than 60 ft., because of Treasury considerations.

In the 1940's, it was ruled that every house on either side of a street in Xewkija was to have a 30 ft. deep front-garden. The space was used, in most cases, as an unsightly vegetable garden. Similar

prescriptions in Nadur also failed, if less spectacularly, to produce a "garden-city". Most privately built housing in Gozo still constitutes ribbon development alongside existing roads, set some distance inwards according to the Public Works Department instructions.

After Independence (1964), Government introduced home-ownership schemes consisting basically of : sale of land at a low ground rent and set conditions imposed on the owner who has to build the house, including a facade designed by the Public Works Department. A certain unity in the development resulted as well as a certain repetitive dullness. The number of persons willing to build their house without Government aid also decreased.

At the same time, Government set up a housing-estate at Tac-Cawla, Rabat. A grid-iron street-pattern was adopted. Among the results, the following have been observed :

The wider streets do not provide protection from sun and wind as the older ones did; the central strips planted with trees, obstructing vision at corners, does not help to prevent traffic accidents; no garages are provided, and hence cars are parked far away from the dwelling-place; the propensity to keep animals (not only cats and dogs, but also sheep and goats) has been regulated against, but animals have been seen led through the living quarters into the back garden; there are no spaces where children can play. Although schools, shops and church are distant by Gozitan standards, there is no efficient transport service; due to relatively low rents, families outside of Rabat were attracted to the estate; for the first time, in Gozo's history, a considerable inter-village population movement occurred.

Since 1925, an Antiquities (Protection) Act has protected several buildings of historic or artistic interest, but not such features as a characteristic old village centre (many of which have been irretrievably damaged).

Traditional and Modern Houses in Gozo

The traditional Gozitan house consists of a courtyard around which the house is built; it usually contains a cisterna in which rainwater flows from the roof, a vine or citrus trees, some rabbit-cages; the entry, across a threshold goes straight into a living-dining room, to which a small kitchen area is attached. There is usually a secluded 'reception' room, usually kept closed, except on festa days, or when a seriously ill (or deceased) member of the family or a women who has given birth. Family photos and souvenirs are displayed with pride, in that room. The bedrooms - one for the parents, one for boys and for girls - are either at the back of the courtyard, or at the top of a flight of stairs built in the courtyard, on the upper floor. There are few apertures on the outside; light is mainly provided from the courtyard; there are usually no internal doors, by bamboo curtains are used to stop air currents, while ventilation.

The external walls are double (90 cm up to 1,20 m, or even 1.50), while internal divisions are single. The material used is always dressed limestone blocks. Floors are tiles, which has a cooling effect. The roof is made of thin globigerina slabs, supported on arches, at first semicircular, and later elliptical. Buttresses are either hidden in the thick walls or left exposed on the outer side of the wall, when the span exceeds 12 ft. Later, timber beams were introduced instead of the arches and later, still iron gyves. Layers of stone chippings and crushed pottery traditionally waterproofed the roofs.

In the XIXth century, larger window and carved stone balconies (occasionally closed wooden ones) only alightly reduced the austerity of the external appearance of the house. A few mouldings and classical decorative elements became the only 'foreign' features to be incorporated into the 'vernacular' structure. Perhaps stone-balustrades on the roof and dolphin-shaped knockers on the doors were added as ornaments and niches with statues of saints and also bull-horns to ward off the evil eye ! On the roof, there is often a pigeonhouse (and pumpkins, or drying tomatoes).

The modern Gozitan house looks different. It usually consists of a hall in front and (depending on the frontage that can be afforded) possibly one or two lateral rooms, with kitchen, dining-room and bathroom at the back, two or three bedrooms on the first floor. The walls are often thin, the roofs low-pitched, the stone worked to look as though it were natural; columns and arches (in imitation of Spanish 'homes in the Sun') are put in for no structural, but merely "decorative" reasons.

The houses rarely harmonize with each other, the disharmony increased by multicoloured facades. The technical staff of the P.W.D. was too small to control development, especially during the building boom that followed Maltese Independence in 1964.

Until the XXth century, the lack of other resources except a slowly evolving traditional stock of skills imposed simplicity and functionality to Gozitan 's habitat.

The access to other resources of foreign origin posed a problem of choice to the contemporary Gozitan for which he was unprepared while the technical services provided by the Government were inadequate to compensate for the popular unfamiliarity with the new materials and building technology.

As a result many serious and sometimes irreversible mistakes have been committed all over Gozo.

Official spatial policy : the Masser plan

The physical structure of the built environment on the island has been changing slowly over the centuries. This process of change, which has undergone an acceleration with the building boom during the last decade or so has not been based on a rational planning and environmental concern.

In 1935, an Aesthetic Buildings Ordinance was enacted to "make provision for ensuring symmetry in building and preserving the immensity of surrounding areas". However little attention has been paid in its application to anything but the type of facade itself. Such things as garish colouring of the facade were not controlled. The Ordinance did not concern itself with overall planning.

In 1962, a "Planning Area Permits Board" was set up. However, its decisions were made subject to appeals to the Minister, who is often subject to political considerations.

Nevertheless, a Planning Survey and Development Plan was approved and published for Gozo (although not for Malta). It is to serve as a 'guide' for the P.A.P.B. It was prepared by Prof. Ian Masser assisted by students from Liverpool University. Masser divided the island into two zones. Zone A includes all the North, East and West. Here an increase of tourist facilities in the coastal resorts, minor road improvements and a panoramic coastal road are recommended. However, most tourist development should take place in Zone B, where infilling to consolidate the urban character of the settlements, small-scale industrial development on the Rabat-Mgarr axis, and a comprehensive development of the Mgarr harbour area were also suggested. The last two suggestions have been carried out. Specific proposals were made about developing Marsalforn and Xlendi for tourists. But Masser's insistence that new buildings should not exceed two storeys, has not been observed. Marsalforn is fast losing its charm. Building has also taken place on fertile ground. Xlendi has fared better. On the whole, there has been less "development" than was planned for Gozo.

III. S O C I E T Y

SOCIAL RESOURCES

Administrative Structures and social organization in Gozo

Administration

Gozo has no local government. The Gozo Civic Council, which had very limited powers and was the only form of local government in the Maltese Islands, was dissolved a few year ago.

The central authority in all administrative matters is now located in Malta. There are branch offices in Gozo dealing with agriculture, water and a few other matters. Among these only the Gozo department of Agriculture issues a separate report, but it is not available to the public. There is also a Government office Malta authorities for Gozo, which has for purpose to channel information to Gozo. As a rule, public statistics do not distinguish Gozo from Malta.

Gozo sends 5 members to the Parliament of the Republic of Malta. The number is approximately proportional to the one-twelfth of the population of the Maltese islands resident in Gozo. Three belong to the Nationalist Party (the present Opposition) and two to the Labour Party in government since 1971.

Gozitans have always had a distinct cultural (as well as occasionally political) identity. A Maltese-Gozitan dictum is "*Bahar jaqsam*" (i.e. "the sea divides").

Family Life

Social aspects of the family

The family is in Gozo one of the most pervasive and powerful structure which help to stimulate and develop the man-environment interactions of the house, the village and the field. But here as elsewhere, structural change is taking place. A striking characteristic of traditional Gozitan family life was the early initiation of the child into the adult world. Gozitan children were not segregated into a world of their own, but from very early on participated at the very core of family life.

They helped care for livestock and the fields and witnessed the struggle between the forces of fertility and sterility. They also witnessed the births and deaths of their relatives and were familiar with the decline of life in old age, but also with the sagacity of the old, especially their grand-parents, with whom the children had a special relationship.

Children were taught by their elders the traditional crafts, and the future housewife had to learn a whole variety of skills, among which lace-making. As for the boys, they had to learn stone-carving, building, and carpentry, farming, fishing and a little hunting.

They joined the family councils, took their part in running the household and learned the value of money very early. The church stayed a key role in this activities.

The Festa used to be the one major occasion for boy-meeting-girl (An older custom was to display a pot of sweetbasil on a window sill as a sign that a marriagable girl lived in the house). This is no longer the case and there are ample opportunities for young people of different sexes to see each other.

Reciprocal duties of help within the family are such that there is no street begging in Gozo. Relatives will not allow it. In general, expressions of "class" belonging are absent.

Although it is an extended family system that operates with regard to mutual help, the dwelling place is restricted to the nuclear family (husband, wife and children), but may include grand-parents or some unmarried brother or sister of husband or wife. However, it is the rule that on marriage, a new household is set up. Until the war, marriages were mostly intra-village (e.g. 80% in Zebbug before 1945), but have become less so since war (50% in Zebbug since 1965). In an intra-village marriage, the new household is set up within the village as close to its core as conditions permit. Otherwise, matrilocality is the rule, in order to ensure mother-in-law support to the married daughter, and the husband is gradually accepted as belonging to the village. However, Maltese husbands find it very hard to be accepted, harder than totally foreign men.

Religious Life

Gozo is ecclesiastically a diocese (headed by a Bishop which forms part of the Metropolitan provinces of Malta). In practice, all Gozitan matters are dealt with by the Bishop of Gozo, while he associates himself with the Archbishop of Malta in all actions and statements affecting both Gozo and Malta. Thus, Gozo has much more ecclesiastical autonomy than civil.

The operative units of the Church are, together with the Bishop's Curia (or central offices), the parishes. In Gozo, there is a long tradition of inter-parish rivalry corresponding to the strong sense of village identity. A major expression of it is in the competition to have a bigger and more richly decorated church building than the neighbouring parish. Another expression is in the celebration of the annual Festa in honour of the village Patron Saint. The Festa is characterized by religious celebrations within the church and by band-marches and procession with the statue of the Patron Saint outside the church, by the illumination and decoration of the streets, by great firework displays, and by the villagers holding open house and displaying their family treasures, making themselves new clothes, and offering drinks all round. Each village is associated with one or other of the two Rabat band-clubs belonging to the two Rabat parishes : the Cathedral and St. George's Basilica.

The parish-priest is still practically considered as the leader of the village, but there is no question about this authority being in function of his "service" to the people. A parish-priest who was deemed not to have stood up adequately for the "privileges" of his village on one occasion, found explosives set to blow up his roof. In general, Gozitans distinguish sharply between the role of the priest and the person filling

that role. While the priesthood as such is usually highly respected, the man is treated like any others. This is perhaps due to the fact that priests in general live with their families as full members of it, most often earning their living by work not strictly ecclesiastical, such as teaching in Government schools, or even as the manager of Gozo's only tomato-canning factory. There is about one priest per 136 inhabitants.

More than the same number of Gozo-born priests serve the Church abroad, especially in areas where there is a high concentration of Gozitan emigrants, but also in Latin America, Asia and Africa. Under the present Bishop, all new priests are expected to serve for a period of at least two years abroad before being engaged in any ministry at Gozo.

There is no doubt that the influence of the Church in Gozo is still massive, but it is equally clearly diminishing. Attendance at church is still very high, but dropouts are becoming more numerous especially among the young. A major factor has been the long drawn out conflict between the Church and the Malta Labour Party, at the beginning of which Gozo was almost wholly on the side of the Church, but at the end of which the division was rather of the ratio 3 : 2.

Social Life

Cafés and Clubs

The café (of which each village has at least one) is the meeting place of men after work and participation in the discussions taking place in the café is the seal of group-belonging. Sometimes there are also cardgames and singing of the traditional *ghana* - rhyming improvisation according to fixed patterns.

In the larger villages such as Nadur, there are now several shops. In the smaller villages such as

Ghasri, Zebbug, Kerzem, Muxarb, the café itself also serves as a "drugstore" type of shop.

For about a hundred years, the most important village social institution has been the band-club. Village bands apparently came to be formed about the middle of last century, partly in imitation of British military bands and partly because of Sicilian influence. Evidently, the bandsmen (since a few years also bands-women) meet to practice at the Club, especially in preparation of the Festa.

Recent years have seen the establishment also of Football Clubs in Nadur, Xewkija, and Sannat, as well of political party clubs, which were the Malta Labour Party's response to the association of the Bandclubs with the Church at the time of the Church-M.L.P. clash in the 50's and 60' s.

Attempts to set up "secular" youth-clubs in Nadur, Xaghra and Gharb were only successful for a short time because they seemed to have assumed an "elitist" character which runs totally counter the thorough social mingling of every one in Gozo. There are some Church-sponsored youth organizations which have facilities, notably the Don Bosco centre in Rabat. But they, too, have declined in the aftermath to the Church-M.L.P. conflict. This has given place now to the Church leaders acquiescence to the measures previously vigorously contested, and clearly created a sense of disillusionment. Most of Gozitan youth is not presently attached to youth-clubs.

Cultural Life

Gozo is predominantly an Oral Culture, even more so than Malta. News spreads faster by word of mouth than through the media. This primacy of the oral mode of the diffusion of information is the result of small size, dense population, frequent movement of people, an intensely felt need for an individual to be in contact with his fellow men.

Newspapers

Gozitans buy about 250 copies of each of the five daily newspapers published in Malta (*Times, Daily News*, in English; *L-Orizzont, Il-Hajja, In- ... Taghna*, in Maltese).

The content of these newspapers dealing with Gozo is usually a weekly page consisting of short paragraphs dealing with festas and artistic events (taken from the respective press-releases by the organizers), crimes and accidents (from the press-releases by the Department of Information) and letters, usually complaints, most often about the ferry service. The Malta papers do not keep resident reporters on Gozo and do not follow up the Gozo stories they publish with on the spot investigations (in general, there is no investigative reporting in Malta).

British newspapers are sold mainly to British residents, but also to some Gozitan professional and business men. A few British and Italian popular magazines are also available at Rabat.

A case-study was carried out of the way in which the Maltese newspapers reported an important incident in Gozo : the dismissal by the G.I. factory of 200

of its 450 employees. The newspapers only reported the statements made by political and union leaders. They made no attempt at getting the point of view of the shop-stewards and the workers who were, in fact, as much in conflict with the union and the Government as with the management over the issue. (The union has a statutory alliance with the party in Government). Interviewed Gozitans, although feeling the injustice of the reporting, also expected nothing better, since it was what always happened in such cases.

Radio and Television

Gozo is reached by the Maltese TV and cable-radio programmes, as well as by Italian television stations and by other radio stations, but the many transistor-radios are usually only tuned to the local light-music programmes.

It was only around 1959 that the Malta Cable-Radio system was subscribed to in any numbers from Gozo. Even as late as 1968-1969, the Broadcasting Authority still noted that a fewer proportion of households in Gozo subscribed to it than in Malta. Only in Rabat did 4 out of every 5 households subscribe.

The most popular broadcasts with Gozitans were those originating in Gozo. The principal one was Gozo Magazine, produced almost entirely by Gozitans. However, the Broadcasting Authority was not satisfied with its quality. A Women's programme was also produced by and for Gozitans.

The broadcasts lost their popularity when T.V. was introduced. Two monthly TV programmes were produced in Gozo. They were also judged by the Broadcasting Authority to be of poor quality.

Radio and TV in Malta, at present, show no interest in high-lighting the problems of marginal areas upon which which the Government does not intend to focus attention;

the Telemalta Corporation which runs them is a parastatal body. It would seem that radio and TV serve to accentuate the sense of 'the dividing sea' between Malta and Gozo.

Gozitan Publications

Publications in Gozo consist essentially of "house-type" newsletters : *Il-Hajja f'Ghawdex* ("Life in Gozo"), which is a monthly magazine published by the Bishop's Seminary, is the only one of all-Gozo interest. There are also Parish newsletters, essentially centred on Church activities; bandclub newsletters, which feed on inter-Bandclub rivalry and other newsletters put out by football or other institutions. These publications are due to the needs of circulating written information by the main social agents in Gozo, chiefly the Church. They reinforce the sense of "small-group" identity.

Cinema-Theatre

Rabat has two cinema-theatres associated with the two rival bandclubs. Another is being built in Nadur. The cinemas show the same films as in Malta (almost exclusively Anglo-American, since they have decided to exclude the "erotic-type" cinema from the Continent which is the other staple element of filmshowing in Malta, since 1972). The two theatres - Aurora and Astra - also provide musical shows and light comedy. Recently, they have also put on opera productions with Italian, Maltese and Gozitan singers.

Opera has not been produced in Malta for many years, despite a long tradition of devotion to it by the Maltese elite. In fact, the major part of the audiences for the Gozo productions appears to be made up of Maltese who go over to Gozo for the performance (which also means staying overnight there). The enterprise shown by the Gozitan theatres in this respect has been generally hailed as one of the more positive fruit of the inter-Band Club rivalry.

Telephone

There are 1.388 telephone services and 786 applicants waiting for installation.

Libraries and Bookloans

There is a public library service in Gozo and the following figures have been published in Government reports :

1953	Bookstock	12,952	Bookloans	7,084
1965	"	35,900	"	16,154
1973	"	39,395	"	37,651
1974	"	40,993	"	60,010
1975	"	42,425	"	69,674

The growth of literacy and schooling has created a certain demand for books. The desire to read is clearly growing faster than the stocking of the Public Library with new books.

Perception of the Past

Gozitans are very conscious of a past that seems to stretch back almost indefinitely - and indeed it is grounded more on the oral transmission of legend than historical scholarship. Yet most claims to status (e.g. in inter-parish rivalry) are put forward on the basis of "historical" facts. The Megalithic temples (as the name "Ggantija" itself says) were said to have been the work of titanic ancestors. Tourism has given fresh life to the identification suggested by some Homeric scholars of Ogygia with Gozo, and the cave where Calypso is supposed to have detained Ulysses is now a major tourist spot. Gozitans know of the glowing terms in which Roman writers spoke of their island. They know that they speak a language derived from Arabic, but tend to dissociate themselves from anything Muslim as non-Gozitan. Perhaps nothing provides a more eloquent testimony to the enduring power of an oral culture than this legendarized historical consciousness.

IV. S O C I A L G R O U P S

Perception and attitudes of Gozitan Youth

The sample of young persons interviewed in Gozo was on based the more educated youth population. The information was obtained by means of a form group interview : the respondents wrote their replies silently on pieces of blank paper. They were requested not to speak to one another or to copy their replies from one another. The questions were read out to them, and they wrote their replies rapidly.

Nine separate group interviews were conducted, one for each of the groups shown in the table below :

Groups	Schools/institutions	Ma	Fe	Total
1	Victoria Girls' secondary school	-	38	38
2	Victoria Boys' secondary school	14	-	14
3	Sacred Heart Seminary, Victoria	25	-	25
4	Azzjoni Kattelika (Cath. Action, Victoria)	-	7	7
5	Dar Hanwel Cauchi (in Malta)	4	-	4
6	Don Bosco "Oraterju", Victoria	5	1	6
7	Xaghra Youth Centre	10	3	13
8	Nadur Youth Centre	5	1	6
9	San Lawrenz Youth Centre	1	14	15
Totals		64	64	128

Victoria (the Capital), Nadur and Xaghra are the three largest settlements (large villages or small towns). The remaining settlements are small villages.

- Group 1 (girls) and 2 (boys) were fifth-form secondary school classes, i.e. consisting of pupils in their 10th or "final" year of primary + secondary schooling. They were interviewed during school hours in class.

- Group 3 consisted of 25 out of the 27 Sminarians in years 1-7 of their 7 year course (5 others were abroad). The Seminary is a Church run institution providing a post-secondary course leading to a Diplome in Sacred Theology granted by the Gregorian University of Rome. The majority came from small villages; they all live and study within the Seminary walls and carry out pastoral work during the week-ends and holidays.

- Group 4 was part of the female section of the Catholic Action movement in Victoria. These religiously motivated youth carry out devotional, pastoral and cultural work including various social helping activities. The group was present for a meeting when interviewed them.

- Group 5 consisted of 6 volunteers from the 'Oratorju', a socio-cultural club for male and female youth from all over Gozo, situated in Victoria. The 6 persons in our sample were all from Victoria.

- Groups 7, 8 and 9 are three village youth clubs, all organized by the Church in Gozo. These samples were self-selected to some extent, consisting of volunteers.

Perceptions of the Natural Environment

A couple of questions were asked in an attempt to obtain some information about the perception of the natural environment. Half of the respondents were very familiar with the countryside - they are thus certainly aware of many parts and aspects of the natural environment of the island. The following table shows the 9 groups ranked according to the percentage of members that replies "much" to the questions "How familiar are you with the countryside?" :

Group	%	persons replying :			total persons*
		much	little	not at all	
Nadur Centre	83	5	1	-	6
Hostel Group	75	3	1	-	4
Boy's School	64	9	5	-	14
Seminary	56	14	10	1	25
Xaghra Centre	54	7	6	-	13
Girls' School	53	20	14	4	38
"Oratorju"	50	3	3	-	6
S. Lawrenz	33	5	10	-	15
Cath. Action	14	1	5	1	7
respondents	52	67	55	6	128

In an attempt to assess how the natural environment is normally perceived we asked a fixed-choice question to all groups except group. The 114 persons present made 137 choices, which are shown below.

"Usually I see the natural environment as..."

Fixed-choice alternatives	persons (1st choice)	% of 137 choices
Place of beauty	93	72
Escape from people	7	12
Place for praying	6	7
Source of our food	4	5
Other	3	3
Of no special value	1	1
Danger, disease, dirt	-	0
Total	128	

Most of these persons, then see the environment usually as a place of beauty, while about one in every ten sees it usually as an opportunity to be alone, or alone with God, away from people.

Perceptions of almost everything today are inevitably influenced by packaged knowledge. About half of the 75 persons in groups, 2-8 said that school they had been shown useful television programmes about the environment. These programmes, it may be noted, are not locally produced ones about the Maltese or Gozitan environment; they are programmes in English (sometimes dubbed in Maltese by a commentator) about the rest of the world. On Italian channels, there are also some environmental programmes. To see roughly how much of such "input" there was, we asked two further questions: "How many Television programmes about the environment have you seen during the past few months?" Some said: "many", or "few", while others gave specific numbers: "none": 39 persons (30% of those present); 13 (10%); "many":

32 (25%). The school-going youths have seen significantly more TV programmes on the environment than the older youths who have left secondary school. There are books and school which help the respondents most to "understand" what is the environment. Among the choices of the 75 persons in groups 2-8 who were questioned on the subject in a fixed-choice question, the proportions were : books - 44% of all choices; school - 41%; television - 15%.

In order to test whether the young people believed they understood what they saw in the environment, we asked certain questions, but to economise on time it was decided to restrict them to the 25 persons in the Seminary group 3 as an untypically educated sample. We asked whether they understood : A. why it rains, B. why crops need artificial fertilizer, and C. the usefulness of a rubble wall bordering the fields (a characteristic feature of the Maltese and Gozitan landscape). Only one or two persons said no; and about half or two-thirds were emphatic about the fact that they understood. When asked from which quarries the best building stone was taken all except three agreed that it was from the quarries at Kerzem and Gharb/S. Lawrenz. When asked what is the proportion of arable land in Gozo that is irrigated (an important economic index of Gozitan Agriculture), half of them did not know, and of the rest of the group safe two gave an estimate that was quite incorrect.

In summary, it may be said that about half the respondents are very familiar with the countryside of Gozo; but they are especially familiar with the main seaside centres, all close to the natural countryside. The natural environment is seen usually as a place of beauty and, by a few, as a means of escaping from people. Half the respondents report having seen useful TV programmes on the environment at school. About half of the respondents say they have seen several useful TV programmes on the environment, and the younger (school-going) youths tended to report seeing more such programmes.

Feelings and evaluations about the Natural Environment

As we have seen, the main perception involved as regards the natural environment is a perception of beauty. The sense of beauty is at the same time a feeling and an evaluation. With such levels of appreciation of nature, it is not surprising that negative feelings and evaluations are seldom evident. The young persons were even more involved with their feelings, about the natural environment of Gozo than they were about the development of the island. About 15% of the respondents are emotionally more or less alienated from the natural environment. On the other hand, about 57% of the respondents declare special enthusiasm.

A lack of any great interest in the natural environment of the island was declared by 26 persons, or 11% of the 128 persons present in the nine groups. And 7% of the respondents agreed with the statement "I find repulsive the Natural Environment in Gozo".

The close ties with the natural environment are reflected in the replies to questions 1, 2, 3, 4 which were asked to all groups.

The Natural Environment...	No	No reply	Yes	Yes ⁺	Yes ⁺⁺	Tot. 2+3	
				(high int.)			
1 ...I love it	6	3	21	24	74	128	98
2 ...is part of myself	5	14	45	23	41	128	64
3 ... is a thing of wonder	11	18	39	29	31	128	60
4 ... shows me and leads me to the glory of creation	4	12	42	28	42	128	70

The statement : "I love the Natural Environment of Gozo" evoked very enthusiastic reactions; 77% of the persons were emphatic and almost everyone agreeing. Also 85% felt that the natural environment was part of themselves, 50% of those present having such feelings with special intensity. Love for the environment was specially enthusiastic in groups 3, 5 and 6. While the feeling that it is part of oneself was specially emphatic in groups 1, 6 and 7.

To summarize, we might say that intense feelings and evaluations of the natural environment of Gozo exist, very much dominated by a sense of beauty, and that only about one in seven is more or less alienated from it, more than half being quite enthusiastic about it. Most persons loved it and even felt that it was part of themselves; they had feelings of wonder and of the glory of Creation. They evaluate the environment as being beneficial, but only a third considered it sacred. The four main seaside tourist spots are the most attractive, followed by Lunzjata Valley and Ta' Cenc. A wide range of places all over the islands are considered beautiful : the 128 respondents generated 69 such names. These should be carefully protected from constructions, from litter, and from certain forms of exploitation. The beauty of Gozo, felt by all, is not only a central economic resource, in connection with tourism, but it is also a link between man and environment, and a value important in itself.

The fragility of the natural environment is well-known to the young Gozitans. The reactions to the statement "I believe that one has to be very careful otherwise the environment will probably be disturbed and ruined" were as follows : 97% of the 75 persons present agreed; one person disagreed and one did not know. The degradation of the environment was also part of their beliefs : 91% agreed that "the number of birds, fish and animals is slowly decreasing"; 4% disagreed, and 5% did not know. Twenty-nine highly-educated youth were asked an extra question, where we found that 19 of them disagree that "there are hardly any environmental problems" at present. 8 persons were not sure, and 2 persons agreed that there were hardly any problems.

What do the young Gozitans believe about the environment ? An open-ended question was asked to the 75 persons : "Could you, please, mention some opinions or beliefs or ideas that you have about the environment ?". The replies could be grouped for convenience into three categories : A. Environmental problems mentioned; B. Direct pleas for action; C. Appreciation of the Environment. While about a quarter of the respondents did not reply, 19%, 46%, and 35% of the replies were grouped under A, B, C respectively. The replies were as follows :

A. Environmental Problems : buildings in scenic areas are a problem. Green areas are destroyed by building. "Green areas" ('no-building' zoning) are not respected. Environmental damage. Less hunters, especially from Malta. The environment used to be more natural. Nature is not cared for enough by some people. The people do not want to work on the land any more, or to concern themselves with nature, otherwise, there would not even be a need felt for setting up environmental organizations.

B. Direct Pleas for Action (legal, administrative, public, etc.): the people should be taught their Country Code. We should help to make historic objects and places understood. The environment is not appreciated enough. We should appreciate it more. We should educate the people more so that they appreciate the environment and cleanliness.

As far as motivations for action subdued in Natural environment are concerned, more than half of the respondents appear to be seriously willing to help in the protection of the environment, even by joining an organization which would concern itself impartially and competently in environmental protection, development, education and information. As it has been previously said, the perceptions feelings, evaluations and beliefs of young Gozitans show that they are very much involved with a natural environment seen to be beautiful, valuable and under threat.

We Gozitans, should open our eyes more to the natural environment. One should be careful that the environment is not ruined, does not lose its beauty. We should take good care of the environment. More attention and care. The more natural we leave it, the better. It should be turned into a park. Keep the environment as far as possible in the original state. More green areas wanted. We should plant more trees.

Reduce vandalism. More protection of the environment. It must be protected, especially the historic places and the green areas. The environment should be protected by everyone, including fishermen and hunters. More direct commitment to the environment is necessary.

C. Appreciation of the Environment : the environment can be healed. The environment is improving. It is beautiful; let us take care of it. It is natural, simple, beautiful. The environment gives us a more beautiful life. It is an integral part of life in Gozo.

It is calm in comparison to Malta. The environment relaxes man after daily life and work in settlements and factories. Man feels "at home" in the natural environment. It is a place where one can get some fresh air, not available in the city.

In summary, a number of beliefs have emerged. The feelings of concern and appreciation previously mentioned have also arisen. It is clear that the environment plays a substantial role in Gozitan's youth minds, and that the idea of environmental protection is foremost for many of them.

**Attitudes regarding development of Gozo
Perception of the role of youth in the process
and expectation from Society**

Attitudes regarding the general development of the island were investigated by asking certain questions to five groups of mostly male respondents, that is 62 persons :

- Victoria Boy's Secondary School (14), Seminary Students (25), Dar Mons. Cauchi Hostel Group (4), Don Bosco 'Oratorju' (6), Xaghra Youth Centre (13).

The "Development of Gozo" was most commonly (56.3% of the choices) understood as a "natural change for the better in everything", other understandings were "more employment and more money".

When asked about the meaning of the development of Gozo in an open-ended question¹, almost none of the respondents replied with a precise definition. Some said merely "some method to move Gozo forward", or 'something good for Gozo', and so on. However most of them mentioned at least one field or area, like tourism, transport, etc., usually without further explanation. These spontaneously-mentioned domains or 'fields of development' indicate the nature and scope of their perceptions of Gozitan development.

When asked to mention some past or current changes that they saw as part of the development of the island, they revealed a little more information about their perceptions. Among the specific changes named, by far the most popular example given was that of the

1 This was asked not only to examine the youths' understanding development but also to clarify what parts of reality were perceived in connection with this.

new textile factories at Xewkija village. The changes that were each mentioned by several persons were related to: increased commerce (which is partly a result of the new Xewkija jobs); new tourist facilities; road improvements; and the creation of the Craig Hospital at Victoria.

When asked for their perceptions of the effects of the "new jobs" (mainly the Xewkija factories and tourism), the youth mentioned items which could be grouped under Economic Security, New Consumerism, Alienation, New Mentality, New Communication.

In summary, it can be said that the respondents perceived a wide range of diverse phenomena in relation to the concept of "Development of Gozo" as well as to the "impact of new jobs in Gozo". They were not given time in the interview to reply in depth - rather they were forced to reply at a great speed, usually in just a word or sentence. Thus, for any individual we do not know whether he makes distinctions among the things he perceives and names in this connection. However the group or rather groups of respondents taken together were able to mention various similar phenomena in some detail. One can assume that such perceptions are often shared in the frequent interaction that youths have with each other.

There were mixed feelings about the way in which the "planning and administration of Gozo's development" was taking place. When invited to choose one or more main feelings, half declared themselves to be mainly hopeful, encouraged or interested. Only one in every five persons made a second choice. Of the 11 who were hopeful, most of them were from the school-boys' group.

In another attempt to assess what types of positive feelings were present, the statement "Development in Gozo is an interesting adventure" was posed for the young persons' reactions. The majority, 76% of the

59 persons who were present, agreed. It would seem therefore there is a reservoir of positive feelings about the development of Gozo.

However some persons declared themselves to be quite angry at certain things that are taking place in connection with the development of Gozo. While 20 persons (34%) were not angry or were neutral; 37 persons (63%) were angry. The seminarians as a group were significantly angrier than the others.

As subsidiary question, we asked 25 persons in the seminary group to "mention some of the things (if any) which make you angry or which you disagree with". Social or political items mentioned were : political changes, not enough consideration of Gozo by Government, and "we are forgotten in practically all fields (compared to Malta)". In the area of Economics and Employment, items mentioned were problems regarding employment, and lack of facilities and services comparable to Malta. Eleven persons spontaneously referred to the ferry-transport and seven persons the bus-transport service shortcomings. Cultural items mentioned were problems in education, underdevelopment in culture, lack of Christian conscience in public and in private, secularisation, permissivity, and loss of valuable traditions. When asked the same question to three Gozitans working and studying in Malta, they mentioned human injustices, professional injustice, unfair promotions, and the fact that "some jobs are not available".

The five groups were asked whether they were "worried about the moral and social confusion brought about by the changes that have taken place in Gozo", 12 (20% of the 59 persons present) had no such feelings; while 34 (60%) declared such feelings, including 27 (46% of those present) whose worry was specially intense.

When asked whether in Gozo "progress and development is taking place", or "the reverse is happening", the overall response was 40% in favour of, and 60% are of the opposite view.

Expectations

"How would you like to see Gozo develop in the future?", to this question, the desires expressed by the respondents, grouped under the same categories, were the following :

- psychological : more public open-mindedness; formation of character towards peace; development of sincerity; and a Catholic conscience.
- socio-political : unity; more social stability; "Love and justice as a serious scarcity exists"; and "we must see man as a human being, not as 'belonging to a party or not'".
- Economical and employment : work in Gozo for Gozitans ("not transfer of Maltese workers to Gozo !"); more opportunities for work; more diversity of opportunities; more employment; less (political) discrimination in employment; more factories; technology; awareness of the work-milieu and place of work; and a developed agriculture.
- Communications : better means of public transport; more commerce in transport.
- Culture and Education : a modern lifestyle without sacrificing Gozitan characteristics; a "more open" culture; a Christian family; a good and moral cultural education: more co-operation among the Gozitans; more public participation. Better standard in educational institutions at all levels; more opportunities for studies; a University in Gozo; progress in science. More activities for youth; progress in sports; more night-life.
- Gozo's External Links : that the Government takes notice of Gozitans, "we are forgotten". More tourist villages.
- Environmental : better care, etc., of historical places; more awareness of the environment; an end to vandalism.

In summary, it may be said that in respect to the development of Gozo, out of every ten respondents,

about two appeared more or less alienated emotionally, the four others had a moderate degree of involvement, and four others felt very involved emotionally. Most persons identified themselves with the development of Gozo and are quite interested in it, but they feel dissatisfied, angry and frustrated about many aspects of it, notably employment, transport and cultural change. Many were very worried about moral and social impact of various changes, and seriously considered that many of the values of the past were being lost in the process.

Their expectations are notably more employment opportunities, better education, and a more open, moral and co-operative culture.

The respondents' opinions (statement of beliefs) were also sought about the dependence of development on the environment; about the effects of new jobs; the decisionmakers of Gozo, and about the implications of present trends for the future.

To the question : "Does the development of Gozo depend on the natural environment ?", the reply was 35 (59% of the 59 present) "yes", 4 "somewhat"; 5 and 8 said "not much", and "no", respectively. However, when in the next question, they were asked how development depended on the environment, there was a very poor response. 11 replies showed that the question had been misunderstood. 7 persons mentioned tourism, 2 of them saying "tourists want the environment". 2 persons mentioned agriculture, mentioning the export of agricultural products. 2 other persons said that development "must fit the natural environment".

Most persons (42 or 71% of those present) believe that recently-created jobs in industry and tourism have had a great impact on society. As a central feature and symbol of the recent economic development of Gozo has been the new factory jobs, and the new employment in tourist facilities, it was interesting to discover what beliefs there were about them.

To the question : "Have recently-created jobs had a great impact on society?", the replies were as follows : "yes", 42 persons (71% of the 59 present); "some impact", 5 (8%); "no", 6 (10%); "don't know", 6 (10%). They were then asked to mention some of the effects of the new job. Their replies indicated that there was more money and less employment; more alienation between the new wage-earners and others, and between unemployment and others; a more sophisticated open and mature society; and more social interaction.

Where do the young people think lies the control over the development of Gozo ? Several questions were aimed at clarifying their beliefs on this. "Does whatever happens in Malta affect development in Gozo ?", about 44% of the respondents thought so. "Does whatever happens abroad affect development in Gozo?", about 47% thought so. About 9 of these persons in each case made some reservations (15%). About 36% in each case said "no".

To the question : "Is there a group of people in Gozo who are the key to every change of development in Gozo because they have the real power ?", most of the respondents 46 or 78% of the 59 persons present believed so. Six others believed the contrary. Of the respondents who agreed with the above statement, most of them, i.e. 39 or 85% of the 46, believed that such persons were "a small clique" rather than a big group. All, except two of these respondents, were referring to politicians; the other two referring to industrialists and capitalists. The seminarians also believed that the development of Gozo is mostly controlled by non-Gozitans (out of 25, 17 agreed, 4 did not know, and 4 disagreed).

Beliefs about the implications of present trends for the future were varied but doom was a favourite prophecy. In reply to the question : "What will happen to Gozo if the present trends continue?", the 59 respondents came out with the following forecasts :

- Positive forecasts : We shall move ahead, e.g. in agriculture. We will achieve a maturity at least equal to that of Malta. We shall move slowly ahead. But in the present there is room for improvement.

- Negative forecasts : The green areas will disappear. Nature is going to be destroyed. People will emigrate. There will be more departure of young people. There will be economic crisis and unemployment.

There will be (public) indifference, discord, and decadence in values and traditions. The people will revolt ferociously against the Government. We shall become like other peripheral countries.

To summarize, it may be said that the predominant beliefs about the development of Gozo are that recent jobs have had a great impact, not all beneficial, on society and culture; that the development of Gozo depends almost entirely on a small group of politicians, and that unless something is done to change present trends in the economic, social and cultural fields, the future holds only decadence and underdevelopment.

The replies to certain questions concerning the young persons' perceptions of the role of youth in the development of Gozo, their motivations to participate in this development and their expectations from society will now be examined.

Perceptions of the role of Youth in the development of Gozo

The replies to the question : "What do the majority of young Gozitans think about their own role in the development of their island?", may be grouped under four headings :

- a- Gozitan youths have negative opinion of their own role (10). They think that their role is a joke ('banalita'); ...useless; ... as if it were nothing.

They feel left out. Their role is not appreciated. They think that their role is almost static; they think they don't have (or, are not given) an opportunity to do anything. They don't have much of a part. They think this is not part of their duty. Some feel they have a place, others not. They are not heard.

b- Gozitan youths have positive opinion of their own role (24) : they think that if they help the island will improve; they consider Gozo part of themselves and wish to improve it or develop it; they think they can help Gozo develop; they feel they have a role; they think there is a need for their role. They think their role is improving (2), improving, but slowly. They think their role should be larger (6); ..should be increased (3). Gozo being their home, any positive changes are beneficial to them (2).

c- Respondents have negatively evaluated Gozitan youth (19) : they ought to take more interest in development; they don't take much interest (3); they are somewhat indifferent; the majority are indifferent; they do not care. Many are not aware (of these issues); they don't do much thinking (3); they don't think anything. Youth lack sense, and so there is need for a more sensible education. Some keep back, out of shyness; they wait for advice. They are not willing to play their role (2). Some enjoy helping, some not.

d- Respondents positively evaluated Gozitan youth (13). They feel the land of their birth takes prominence over other things, and that they have to contribute towards its development in the direction of wealth and happiness. They are interested to help Gozo move ahead (2). They feel that their island is first and above everything. They think they ought to participate; they think they should play their part because they are the leaders of tomorrow; they think that each has to contribute his share. They are willing to help but lack the means.

If the above comments seem a bit general and uninformative, the reason may be the one given in one semi-narian's reply : "I cannot say (what the youth think) since no events are taking place to indicate youth opinions". It may seem a bit paradoxical that while

the number of comments under b) exceeds a), that under d) does not exceed b). We have a situation where many respondents have a poor image of "Gozitan youth". It could be that the former respondents (who insist that the Gozitan youth do have a positive appreciation of their own role) are really referring not to "Gozitan youth" but only to themselves, as individuals or groups, as being appreciative. The general opinion the respondents have about 'the social dynamism of Gozitan youth' could then be rather negative.

In confirmation of this suggestion, an opinion about the non-social outlook of many Gozitan youths emerged from reactions by the respondents to this statement : "There are many young people whom one cannot expect to give a useful contribution to society". The replies were, among 123 persons in all groups : "no" : 17%; passive or neutral replies: 22%; "yes" : 58%. Of the 72 persons who replied affirmatively, 18 (15% of the total) were emphatic. The pattern of responses was similar in all 9 groups.

We asked the seminary students whether they knew of any young people who, either through organisations, or on their own initiative, are working directly for the development of Gozo. All but one of the 25 persons replied "yes". They said that some young persons they knew were doing the following tasks : helping to improve conditions of Gozitan students and workers in Malta (2). Organizing work-groups; doing journalism; care, cleaning and restoration of monuments and sites (11) ...

Motivations to participate in the developpement of Gozo

"Young people ought to take up a considerable role in the development of Gozo - this is their duty" : not a single one out of the 123 persons disagreed with this statement; only 8 persons were uncertain or passive. Out of the 115 affirmative replies (93%),

22 were emphatic and 52 were very emphatic. All the schoolboys and about two-thirds of the school-girls were emphatic, showing probably intense feeling of duty.

"Young people do not have much time for social action" : out of 123 persons, 40 (33%) disagreed, 55 (45%) agreed, and 28 (23%) were unsure. It seems then that a substantial number of young people, although they may feel the duty to play an active role, feel they do not have the time.

Expectations from society

Do the respondents and other young people expect more from their schooling, or perhaps more from politicians ? Is the lack of proper schooling or the discouraging behaviour of politicians (as some had suggested) involved, in the unwillingness of most youth to take an active role in development of Gozo ?

To the specific question : "Did school help to learn to take part directly in the development of Gozo?", the responses were very appreciative of schooling. The overall replies among 123 persons were : affirmative : 94 (76%); negative : 27 (22%); don't know (2) (2%). Among the affirmative replies were 13 who said "yes, a lot".

If schooling was, or was often felt to be, adequate preparation, could the lack of participation by youth in development activities be due, as some had suggested, to the discouraging behaviour of politicians ?

The question was : "As a youth, what do you expect of a politician regarding the development of Gozo?". The replies by the 123 persons in all groups to this open-ended question were the following :

- Leadership and Action :

Better leadership (5); that he takes on responsibilities and commitments for issues; that he helps (9); that he finds problems and fixes them (or, have them fixed) (7). That he sees what needs to be done, and then does it (2); that he takes action, e.g. road repair and other necessities.

- Supports Gozitan Development :

That he takes more care of Gozo. That he ensures that Gozo is getting on well and has all conveniences and services (2); that he interests himself in that which affects Gozitans; that he takes genuine interest in Gozo (7); that he promotes development ("Gozo is forgotten") (11); that he protects Gozo incessantly on all occasions (2). That he continues to carry out good and beneficial projects. That he promotes an ever-improving country (2). That there be progress for the benefit of everyone (2). That he promotes the development of the culture of Gozo (3).

- Gets jobs :

That he creates employment (3); promotes private enterprise; helps the search for jobs; encourages handicrafts (artisanat).

- Supports Environment :

That he gives no building permits for green areas (i.e. that he sees none are given). That he gives new opinions regarding (the problems of) agriculture and housing. That he works with great enthusiasm to ensure that the beauty of our environment remains unscarred. That he appeals for environmental protection.

- Helps Youth :

That he respects and takes care of youth (4). That he gives us an opportunity to declare our opinions regarding our needs. That he encourages youth to help in development and help us take part (4).

What would make the youth participate more in the development of Gozo ? The questions asked were the following :

- a) "What do you think needs to be done so that Gozitan youth will be in a better position to participate in the development of Gozo?"
- b) "Does the participation of youth depend on any factors ? Which ones ?"

We may consider first the replies to the latter question about causal factors or obstacles : the replies to this question were, among 123 persons : 59%, "yes"; 22%, "don't know; 13%, no reply; 5%, misunderstood question. Only one person said "no". The comments given here, to explain "which factors" are predominantly concerned with the attitudes of adults towards the youth. The preoccupation with the attitudes of adults towards them is possibly a reflection of current and past paternalism towards the youth. The replies given as regards the factors on which the participation of youth in development depend were the following :

a) Attitudes of adults towards youth (33); It depends on the activity of the leaders adults (5). Parents must take more interest in the youth (2). Incentives given to youth; confidence in youth and their actions (2). Acceptance of their opinions. Youth must be given a chance. Organizations and other interaction among youth (16). The finding of similarly-minded friends. Agreement, consensus. Unity among themselves. Organizing. Meetings. A visible objective or a social need which focus the participation

The replies to the question asking what should be done so that the youth in Gozo would be "in a better position to participate" was the following: Attitudes of adults towards youths (19). Assistance to youth (9). Direct help (4); better education (3). More employment with firms (6). Attitudes of youth must change (16). More self-informing about the outside world abroad and reflection on Gozo's role and youth's role.

The rest of the comments concerned new organizations and organizational activities (40). Many asked for more organizations, especially cultural ones, saying that the more cultural organizations there are, the more activities there will be. The new organizations were wanted in order to promote meetings and discussions on various issues, sports and similar activities; unanimity and unity; the rights of youths; the animation of youths for doing development work; to protect the environment.

In summary, the respondents very strongly felt that young persons ought to play a considerable role in the development of Gozo. More than half feel that youth do have a part to play. Except for the school-girls a fair proportion in any youth group also believe that young people have the necessary time. Some Gozitan youth are in fact seen to be involved in labour-relations work, in pressure for better inter-island transport, in addressing the problems of Gozitan students and workers in Malta, and in various social or cultural activities.

The respondents, many of them more educated than most other Gozitan youth, did not however seem to have very high opinions about "Gozo youth's" competence and willingness to participate. The respondents themselves mostly declared a high motivation; most of them are apparently prepared to devote time and energy to help directly the development of their island. More than half say they have already contributed in some small way, where necessary, although there is some discouragement. Both the development of Gozo and the natural environment were seen by most persons, often emphatically, as being part of themselves. Emotional involvement with both topics was present. On the natural environment well over half seemed to be willing to join an organization.

About two thirds felt some urge to improve the negative impact that man has on the environment, particularly with regard to cleanliness and vandalism. But practically nobody had written to a news-

paper or spoken to an official about such problems, even though these are among the main forms of civic participation in Malta and Gozo. Regarding the impact of tourism, quite a large proportion again were willing to join an organization, but nobody seemed to know what kind of organization would do any good.

Among the replies to questions concerning obstacles to active youth participation, the one most often mentioned was the fear that one's career would be damaged by partisan reprisals if one took part in public life. Others were "apathy", fear of ridicule, and lack of knowledge, as to how to go about being of service to Gozo. Finally the lack of knowledge concerning decisionmaking in society : politics, civil service, industry and commerce, was also considered as an obstacle.

Perception of Tourism and of the outside world

Tourism is an increasingly popular method of bringing about the economic development of the island, and, as means of fostering cultural change. Most foreign tourists who come to Gozo's stay for a few days; others are day-trippers who go back to sleep in Malta in the evenings. When Gozitans say 'turisti' they mean these foreign tourists. Then there are the Maltese day-trippers, often in organized busloads. There are also about a hundred and fifty foreign residents who are settled in Gozo.

Foreign Tourists

The questions concerning Tourism were adressed to 62 persons. Young persons are generally favourable to foreign tourism in Gozo : it gives them a chance to meet young holidaymakers from other countries; also tourism may help to consolidate a positive self-image among most Gozitans. The question was asked to respondents whether tourism had "any influence on the way in which you look at the island ?".

About two-thirds of the group replied affirmatively; of these 6 persons (10%) said "somewhat"; 27 (44%) said "yes"; 9 (15%) said "yes" emphatically. Only 8 persons (13%) said "no". When asked to explain, less than half of those who had replied affirmatively were able to give an example of what they meant :

- I appreciate nature more; (I re-evaluated appreciatively) customs, folklore, and traditional values. I have more interest in historic places. I look differently at things, e.g. historic places, old churches, etc. I am more proud of the island. Many Gozitans have made progress because of tourists. I have new ideas because they describe their own countries; their example influences us,...

These few replies tend to suggest that tourism is helping young Gozitans to have an improved perception about their environment. Here we shall mention the results of two questions about contact with tourists. Many young Gozitans meet tourists (even among the seminarians). When asked, 14 (or 23% of the 62 persons) said they had not made any friends with tourists; 13 said they had made friends with 'a few'; 12 said 'with many'; 11 others said they had made friends among tourists; if we bear in mind the great psychological importance of friends for persons in this age-range, we may assume that the young Gozitans' attitudes towards the impact of tourists is strongly influenced by these experienced relationships with them. "Tourism" or "Tourists" is a frequent topic of conversation among young Gozitans : 61% speak about tourism with their companions, and a further 21% also do so, to a lesser extent. Only 13% do not. We asked the 25 persons in the Seminary group to explain what they discussed. Seven of them mentioned the tourists' behaviour and effect on the local people, including morality. Others discussed the development of the island through tourism.

In order to see how many persons were keeping aloof from the tourists, we asked for reactions to the statement : "Tourists are so superficial that they do not have any impact on me". The replies were : 30 (48% of the 62 present); "no"; 21 (34%); "don't know/neutral/no reply"; 6 (10%) "yes"; 5 (8%) "yes"

(with emphasis). It appears that only a small number or respondents was keeping aloof from tourists. Most of the young Gozitans, then, are involved emotionally and mentally in an appreciative way with foreign tourists. The situation is quite different in relation to Maltese day-trippers.

Having heard on previous visits a frequent complaint about the impact of Maltese day-trippers from Malta on the levels of noise and litter, a statement about this was proposed to the young Gozitans : "(Maltese) people who come from Malta to visit Gozo make a lot of noise and leave a lot of garbage behind them". As soon as this statement was read out, there was a pandemonium of hoots of agreement in almost every group, the only question to receive such a reaction. Feelings ran high on this point, though not without an element of humour. All but 4 persons agreed, i.e. 95% agreement among 126 persons in 9 different group interviews. Thus, while the results on this particular question may not be quite accurate, they are certainly impressive. Moreover 108 out of the 122 persons who agreed did so emphatically.

Another question was asked : "Is the pressure of the Maltese greatly felt?" It was asked only to the 25 persons in group and elicited the following reply: 16 persons (64%) said : "no"; 2 persons did not reply; Of those who thought that the impact of the Maltese was greatly felt, 6 explained : "their behaviour"; 4 persons mentioned "noise, silly affectations, and nauseating pretensions"; 2 persons mentioned "their pride and feeling of superiority", and others said "especially in summer", and "it's going from bad to worse".

It is clear that salient feelings of irritation exist about the many visiting Maltese who do not observe the local standards of quietness and neatness. The effect is particularly felt in summer, on the sandy or rocky beaches.

Over half of the 62 respondents believed that

"tourist-related jobs offer modern and good conditions of work". A quarter of the total number however were undecided, and 8 (13%) disagreed. Thus a substantial number, though not all, appear to approve of the tourist industry's contribution to Gozitan employment.

"Malta is exploiting Gozo through tourist enterprises" feel 41 or 66% of the respondents. The negative connotation of the word "exploit" was employed in the question deliberately so that the reply would be an evaluation of the Malta-Gozo relationship in this respect. However 20 persons (32%) admitted that they did not know. About two-thirds of these respondents, then, disapprove of the Maltese participation in the Gozitan tourist industry, probably in the areas of : travel agency branches, taxis from Malta, tourists returning to Malta hotels to sleep, tourist guides from Malta, etc.

The majority of tourists "have a positive effect" say the members of groups 3 and 5, showing a favourable overall evaluation. Only one in six of the 25 seminarians feel that "there is no need for us to mix with tourists":

- "I feel it is important for me to mix with young tourists and be friend them". "My encounters with tourists has brought a positive change for myself".

The reactions by groups 2, 3, 4, 5, 7 to these two statements are shown below :

	No	Neutral	yes	yes ⁺	yes ⁺⁺	total
A. self-improvement from meetings with tourists	6	8	26	11	11	62
B. important for me to mix with young tourists	6	22	19	7	8	62

Most persons (77%) thought that meetings with foreign tourists have had a beneficial impact on them. A high proportion, about a third, were undecided whether it was "important" for them to mix with young foreign tourists, but 55% thought it was.

Beliefs about the Impact of Tourism

Tourists themselves, according to the seminary students, do the following things when they come to Gozo : they enjoy themselves (4); they relax (3); sunbathe (3); go to the beach. They tour; they visit; they look for typically Gozitan places...

"Which are those aspects of life in Gozo (e.g. economy, agriculture,...) which feel the impact of tourism?". The replies were as follows : Economy (mentioned by 42 persons); Gozo's finances; More jobs (3); commerce; hotels; souvenir shops; handicraft : knitting, lacework. Agriculture (10). Social change (2); modernisation; way of living; culture (3); morality (5). Natural environment (2); historic heritage protection (2). Water shortage. When asked to explain the nature of the impact of tourism on one or more of the above aspects of Gozitan life, many gave a short and usually appreciative opinion showing the believed impact. The replies were as follows :

- Economic impacts : good effects; the tourist leaves a lot of money (2); there is an inflow of money and profits (3); a stimulation of the economy occurs; there are profits gained by the hotels and at other enterprises; this represents more money for the Maltese nation; (which) economically takes Gozo forward and promotes better standards of living (17); more jobs (2). Also the market can sell more greenery to tourists.

- Cultural, Moral impacts : "tourism represents contact with foreign countries, for which we can learn. It has brought about a milieu of work and maturity. Gozo became livelier. However a value change is involved regarding dress, behaviour, permissivity, degrading moral standards (4).

Specific questions about the believed economic impact were asked. Most respondents, 47 (or 76% of the 62) believed that tourism provides many new jobs for Gozitans; only 5 disagreed. "Did tourism have a great impact on the wish to emigrate?" 42% said "yes", 40% said "no", and 18% were uncertain.

The 25 Seminarians were almost all of the opinion that tourists spend "lots of money" in Gozo. "Tourism is thought to revive Gozo out of the economic problems". According to 42 (68% of the 62 respondents), about 19 of whom were emphatic in their agreement with this statement. But one-fourth (24%) said they did not feel this way at all.

That tourism had a great impact on the price of food was not strongly believed in any of those group, except the seminarians. The overall response for the 59 persons was : 39% agree; 32% disagree; 27% undecided. However many did believe that tourism had significantly encouraged Gozitans to start expecting more comforts and services; 56% agree; 15% disagree; 27% undecided. Craft and handicraft activities have been stimulated, according to most of respondents.

Are tourists having an effect on the natural environment ? This question was asked to all 126 persons : 14 (11%) said "no"; 13 (10%) were unsure; and 106 (84%) said "yes". Many (73 persons or 58% of the total) were emphatic in saying "yes". When asked how, the respondents gave the following explanations : They visit historic places (and keep them clean) (3); they take an interest in it and appreciate it (3). They set us an example by using dustbins. They love nature (e. g. the English) better

than we do. They help us appreciate our heritage. Tourists mix with locals; a change in the latter's culture occurs, and this has consequences for the environment. Their appreciation of the environment leads the authorities to take an interest in it. They help us appreciate our heritage. They bring in their own culture and destroy our environment (Note: this comment was probably referring to the general sociocultural environment, not the natural environment). The environment is being used for commercial purposes. They show us how to build.

Some of the above comments are of high quality but these are so few coming from among 126 persons, that one must conclude that the respondents, although they say that tourists have an impact on the natural environment, do not really understand how. The 25 seminarians were asked whether tourism (not necessarily tourists) had a great impact on the natural environment, and 20% of them said "yes". When this same group was asked whether bird hunting was affected, 21 of them said "no". However, 21 of them admitted that tourism had influenced greatly the way in which they themselves perceive the environment.

What about the social and cultural impact of tourism? All of the 25 seminarians except 4 thought that tourism had an effect on Gozitan culture in general. 59 persons were asked whether tourism had a great impact on sexual behaviour. 78% (46) said that it had; only 10% said "no", and only 10% were undecided. Has tourism affected the relationship between young Gozitan males and young Gozitan females? There was an equally strong affirmative response: 76% said it had, and only 7% said "no"; 14% were undecided. Some comments were made in explanation: "they have started to mix together more, as the tourists do"....

Do tourists smuggle drugs into Gozo? To this open-choice question, the replies of the 62 respondents were: 29%: "yes"; 3%, "a few do"; 3%, "perhaps"; 8%: "don't think so"; 18%, "no"; 29% "don't know"; 10%, no reply. Do young Gozitans (or

adults) sell marihuana to tourists ? The replies were 45% : "yes"; 2%, "could be"; 3% : "don't think so"; 6% : "no"; 35% : "don't know"; 8% : no reply. Does tourism have a great impact on the drug scene ? Of 50 respondents, 46% said "yes"; 20% did not know; and 34% said "no".

Did tourism have a great impact on the generation gap ? Of 59 respondents, 27% said "yes"; 34% did not know; and 39% said "no".

Did tourism have a great impact on the level of education ? The 35 persons interrogated, 54% said "yes", 34% were uncertain, and 11% said "no".

"Does tourism have an effect upon morality?" Of the 62 persons present, only 6% were undecided; 26% replied "yes"; and another 48% replied "yes" emphatically; thus the total affirmative response was 74%. The negative replies were 19%, including 3% emphatic ones. "Does tourism have a great effect upon the spiritual life of the local people ?". Of the 62 present, only 8% were undecided; 19% replied "yes", and another 34% replied "yes" emphatically; thus the total affirmative response was 53%. The negative replies were 37% including 8% emphatic ones.

Foreign residents are, in many ways, a different kind of phenomenon than tourists. To see whether they have had a cultural impact in relation to the environment, it was asked whether they "have helped Gozitans to appreciate the natural environment in Gozo". In all the 9 groups to which this question was asked, there was a fairly high affirmative response. The overall response among the 126 persons was as follows : "no"! 8%; "no", 9%; uncertain, 14%; "yes", 47%; "yes" !, 22%. The total affirmative replies were thus 69%, and the negatives were 17%. Some of the affirmative replies were accompanied by explanations : through their interest and appreciation (3); assistance in maintaining gardens;

through their involvement in restoration work; through their buildings, a traditional style of architecture; through their new ideas; through their sense of values; through their encouragement and behaviour they stimulated progress.

We may summarize attitudes of respondents about tourism and its impact as follows. Almost half the respondents' perceptions and appreciation of Gozo especially the natural environment and the historic heritage improved and developed by the presence of tourism and by foreign tourists. Most youth probably often meet tourists especially in summer, and three fourth of the respondents had made friends with foreign tourists, and had discussed tourism with their friends. It could be that a small fraction, out of every eight youths or so, might be keeping aloof from tourists for some reason, and would like to see less of them around. Most respondents were apparently quite irritated with Maltese day-trippers causing disturbance and litter everywhere, particularly on the beaches. The impact of these Maltese was probably greatly felt by the Gozitans.

Tourism was approved as a new job-creating industry, but it was thought by some that Malta is exploiting Gozo unfairly through tourism-related enterprises impinging on Gozitan tourism. And some of the buildings that house the hotels and restaurants are not well approved of.

For at least a third of the respondents feels that it is important for them to mix with young foreign tourists, and a larger proportion feel they have personally improved from meetings with tourists.

The impact of tourism is seen on jobs, on the economy, agriculture, on handicrafts, on morality, and on the way of living. Many see tourism as a kind of unique economic saviour of the island. The price of food may have been affected, according to over a third of respondents. Many believed that Gozitans had started expecting more comforts. Over half were emphatic that tourists were having

an effect on the environment but they do not really understand how. Most persons thought that tourism had affected sexual morality and behaviour, and also the relations between local boys and local girls. Tourism has a great impact on the drug scene, with Gozitans selling marihuana to tourists, according to respondents' opinions. Tourism also has an impact on the spiritual life of local people, on the idea that Gozitans have of foreigners.

Foreign residents have had, it seems, a beneficial impact on Gozitans' appreciation of nature, and on cultural activities.