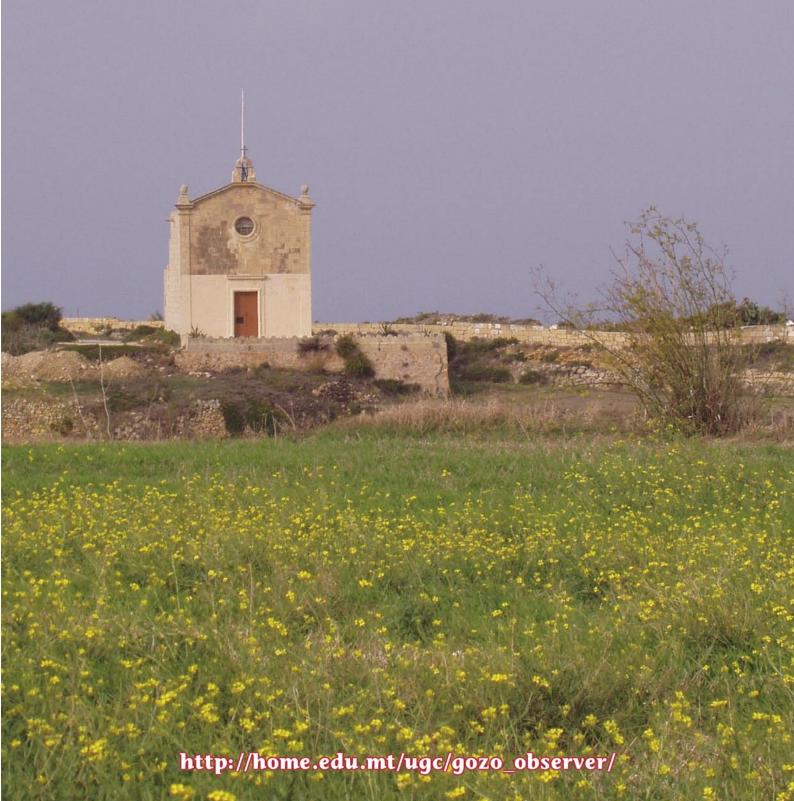


No.15. December 2006



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University of Malta - Gozo Centre, Mgarr Road., Xewkija, VCT111, Gozo Tel: (356) 21564559; Fax: (356) 21564550; e-mail: ugc@um.edu.mt	The <i>Gozo Observer</i> is distributed without charge, upon request, to interested readers.  Front Cover Photo: Courtesy of ICS, Malta.

# **Editorial:**

# Gozo at the cross-roads

Googling the word 'Gozo' reveals several million references. Looking a bit more in depth at the first 80 entries one can see that the vast majority of these refer to holidays on the island, including renting farm houses and other holiday accommodation. Thus, through the eyes of the internet at least, Gozo is predominantly seen as a place where one can go for a holiday, and hopefully enjoy oneself luxuriating in sun and sea.

What does this make of the native population? Are they merely providers for holiday-makers? Is there any life beyond being the providers of hedonistic pursuits of the holiday-makers?

A persistent problem with a life that depends on a seasonal tourist industry, geared primarily for the summer months, is that a void inevitably develops for the rest of the year. It is abundantly clear that activities of most kinds seem to peter out for most of the year, only to mushroom again with the approach of the warm season.

It is perhaps a foreign concept to most Gozitans that there is life beyond the tourist industry. It is pleasing to see several activities that have been organised by enterprising individuals and organisations to sex-up life in Gozo. Among these one could mention musical activities such as the opera season, which, albeit based on pique between rival band societies has nevertheless benefited the musical scene in Gozo. There is also the outstanding series of concerts organised by St George Basilica, a unique annual experience. The greater the pity that these activities have become the reserve of the gliterati and the largely non-Gozo based population. The majority of Gozitans seem to ignore the temptation to enlarge their cultural vista and embrace these musical innovations.

Another gaping void in the cultural life of Gozo is the near-total absence of other intellectual activity that attracts even a minimal support from the Gozitan population. One could mention the occasional lecture, or the odd seminar as evidence that there is some element of intellectual activity. Other experimental approaches have included the reasonably popular 'poetry on Gozo' which seems to attract a group of interested individuals.

But what about other activities? Where are the bookshops where one can browse and hopefully purchase the latest offerings? Where are the meeting places where one can talk about topics other than the channel crossings, golf courses or helicopter services (or lack of them)? Is

anyone responsible for stimulating the grey matter of the average Gozitan?

The University of Malta Gozo Centre should ideally be hub of intellectual life in the island. It is true that in the relatively short time that it has existed, it has provided opportunities for further studies for a number of students who would otherwise have missed out completely on a tertiary education. It has also organised seminars and lectures on various topics. There is also the beginning of a research activity. This activity has already resulted in the first post-graduate student achieving a Ph.D from the university. However, it is certainly possible to go beyond this and encourage further development. There is no reason why Gozo could not become a centre for international meetings. More lecturers could be invited to give lectures to the general public. While this requires an injection of funds which are hard to come by, it is none the less crucial in the development of one aspect of life which is sadly not quite up to scratch.

More important is the effort to convince the actual population that there is more to life than material gains, bigger houses, flats to rent and plasma televisions. Gozitans have to be shown that while hard work is to be recommended, it is not to be all and end all of human existence. Working for a better life is desirable, living merely for work is not the ideal. Many Gozitans seem to have never learned about the finer aspects of life. Their routine consists of work and television. While it is true that more are now enjoying a weekend outing, a meal by the sea-side, very few can be induced to read a book or attend the odd lecture. Such habits do not just spring unbid within a nation: they have to be fostered and helped to develop. In this respect, the university of the third age has made considerable progress, although more can be done to encourage the trend.

In the final analysis, the question remains: what sort of a nation do we hope to develop into? Rich, happy and wise is the ideal. While Gozitans as a rule do not need any help to appreciate the need for the first of these desiderata, and while no recipe seems to work to achieve the second, a little help with the last of these attributes might go a long way to ensuring that Gozo will not become a backwater, a sleepy island for lay-back holiday makers, but will ensure that it will keep at the forefront and participate in the European way of life.

# Piety and Patronage in Late Medieval Gozo

**CHARLES DALLI** 

The substantial literature on popular piety in late medieval Christendom underscores the importance of social and economic factors among the considerable range of forces leading people to express their religious culture in particular forms of behavior. One well-known pattern which emerges repeatedly in the late medieval documents relates to the practice of ecclesiastical patronage by laymen in different communities. This practice is abundantly attested amongst members of Gozitan society in the fifteenth and early sixteenth century, and fortunately may be studied through a unique collection of documents.

#### The Registrum Fundationum

In 1575, Mgr Pietro Dusina recorded in all fifty churches and chapels on Gozo in his apostolic visit, of which thirty-four were located across the island's countryside (Aquilina and Fiorini, 2001). As in Malta, several churches originated from private pious foundations, some of which dated back to more than a hundred years before Dusina's visit.

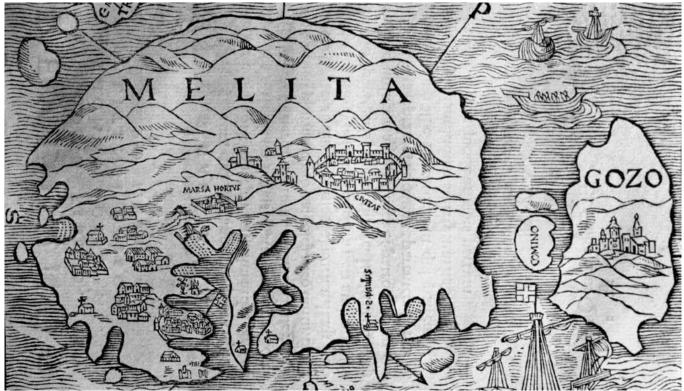
In 1545 Bishop Domenico Cubelles ordered the treasurer of the episcopal curia in Malta, Antonio

Curmi, to form an official register collecting copies of all the deeds which had established benefices, *giuspadronati*, legacies, and all other foundations in Gozo. What the bishop had in mind was evidently to ensure the best administration of the church on that island. His order was duly carried out.

Vicar General Joseph Manduca instructed all notaries to submit copies of the deeds. On 14 October 1545, the Gozitan notaries Lorenzo Apap, Andreotta Mannara, Florio Sanson, and Giovanni Antonio Sanson, presented the vicar general with their own deeds, as well as the acts of the late notaries Pino Saliba, Pietro Mannara, Andrea Beniamin, Giacomo Zabbara, and Guglielmo Sanson.

The transcription and collation of the relevant extracts from those deeds into the *Registrum Fundationum* was carefully accomplished, and the collection of excerpts from wills and codicilis dated from 1432 to 1545 was preserved at the bishop's curia until the present day (Busuttil and Fiorini, 2006).

It was copied by Notary Domenico Portelli in 1633, and used by De Soldanis in 1746 in compiling his



Map of Malta and Gozo published in Jean Quintin d'Autun, Insulae Melitae Descriptio, Lyon 1536

history of Gozo. The excerpts throw precious light on the religious culture and social history of a substantial number of families from later medieval Gozo. The documents include members of the island's upper social class, amongst whom the leading households styled as the island's nobility, but also minor landholders and craftsmen. Interestingly, around a quarter of testators were Gozitan women from different walks of life.

#### **Income of Ecclesiastics**

There were several benefices which were not included in this sixteenth-century collection, including well-known foundations like Sibilla de Aragona's benefice at Wied il-Lunzjata, and the benefice at Ta' Ghodlien, near Ghammar. Additional documents have been adduced which show how the problem of tax distribution between Maltese and Gozitan ecclesiastics was dealt with by Bishop Senatore de Mello, who is best-known for the *Rollo* of 1436 (Busuttil and Fiorini, 2006, Introduction). It has been suggested that, similar to the well-known *Rollo* of Maltese clergymen and their incomes compiled by order of Bishop de Mello, another one should have existed listing Gozitan clergy and their properties.

Bishop de Mello established the Gozitan tax quota at two-elevenths of the total contribution, a formula which was confirmed, not without considerable difficulties, in the sixteenth century. The perplexing issue of the tithes and first fruits of the Gozitan church, which is also briefly discussed, remains unresolved. Information from the transcripts may be partly corroborated with the details listed in early modern collections, such as the 'Giuliana dei Benefici del Gozo' compiled around 1680, and kept at the Franciscan Provincial Archives (OFM). Early modern notarial acts might also partly compensate for the lack of Gozitan documentation.

#### **Medieval Family Names**

The names in the documents read like a roll call of important individuals in late medieval Gozo. The following Gozitan family names recur amongst the founders: Alagona, Albanisi, Amaira, Amoroso, Anastasi, Anfasino, Apap, Augusta, Axac, Bajjada, Ballistrera, Barba, Barberi, Beniamin, Bernardo, Bisconis, Bonnici, Briffa, Brunetta, Bugeja, Cabrera, Cadumi, Calimera, Canchur, Carbuni, Castelletti, Caxaro, Chamire, Ciappara, Ciappisa, Cini, Dalli, Dato, Debbus, Episcopo, Falzon, Fantino, Farrugia,

Federico, Finara, Gaduara, Gambin, Gamichi, Garraffa, Girardo, Gualtarono, Guarrerio, Gurab, Haber, Jurubutino, Kettut, Kinsi, Laurerio, Lucia, Mahnuc, Mannara, Manuele, Marino, Mejlaq, Merchic, Mintuf, Monpalao, Muhtara, Naso, Navarra, Nicolachio, Platamone, Pontremoli, Rapa, Raspullo, Regalu, Regio, Riera, Saliba, Sansone, Santoro, Seguna, Tabone, Tellerixi, Theobaldo, Theuma, Urdub, Vagnolo, Vetero, Xeiba, Xelluki, Zabbara.

Our knowledge of the island's late medieval clergymen and churches depends heavily on these transcripts made in 1545. The information which may be gleaned from them includes the names of more than sixty canons of the Gozitan Church from the period 1435 to 1551.

A distinction was apparently drawn between the priests of the church of the Assumption of the Blessed Virgin, called the *Ecclesia Maior Terre et Insule Gaudisii*, who enjoyed the status of canons and were styled as *donnus*, and other Gozitan clergymen, who were referred to as presbyter. There are also references in these acts to the parish churches of St George, St James, and St Mary Savina.

#### **A Most Important Legacy**

In 1551, the island was devastated and thousands of Gozitans were carried away into captivity. The *Registrum Fundationum*, containing extracts from the deeds of seven Gozitan notaries, constitutes the single most important local collection of primary sources on late medieval Gozo to have survived that catastrophe.

#### References

Aquilina, G. and Fiorini, S. (eds.) (2001) Documentary Sources of Maltese History. Part IV Documents at the Vatican. No.1 Archivio Segreto Vaticano Congregazione Vescovi e Regolari Malta: Visita Apostolica no.51 Mgr Petrus Dusina, 1575, Malta, Malta University Press.

Busuttil, Rev. J. and Fiorini, S. (eds.) (2006) Documentary Sources of Maltese History. Part V Documents in the Curia of the Archbishop of Malta. No.1 The Registrum Fundationum Beneficiorum Insulae Gaudisii 1435-1545, Malta, Malta University Press.

#### **Other Related Literature**

Dalli, C. (2002) Iż-Żmien Nofsani Malti, Malta, PIN.

Dalli, C. (2006) Malta. The Medieval Millennium, Malta, Midsea Books.

Wettinger, G. (1975) *Il-Ġrajja Bikrija tal-Knisja Matriċi t'Għawdex 1435-1551*, Malta, Malta University Press.

Wettinger, G. (1990) "Medieval Gozo", in Cini, C. (ed.), Gozo: The Roots of an Island, Malta, Said International, 48-68.

Charles Dalli teaches Medieval History in the History Department, University of Malta, and is the author of *Malta*. *The Medieval Millennium* (2006)

# Two Late 16th Century Reports on Gozo's Fortifications by Giovanni Rinaldini

# Anconitano

**GODWIN VELLA** 

#### Introduction

Giovanni Rinaldini of Ancona was the first military engineer of note to have seriously examined the defence problems facing Gozo and to produce plans for the island's initial fortification (Samut-Tagliaferro, 1993: 47). He studied the art of fortification under Germanico Sovargnano (Spiteri, 2003) and was working in Rome before coming over to Malta in March 1599. During his stay, Rinaldini carried out two field surveys of Gozo and authored two reports of significant professional value with accompanying plans and designs. Unfortunately, these plans and designs have been lost.

Rinaldini's reports are entitled 'Discorso del Gozzo et sua fortificazione' and 'Della fortificazione del Gozzo – Secondo Discorso' respectively. They are written in a fairly legible script and have a combined length of 30 folios and over 9,000 words. These reports are preserved in the Archives of the Order of Malta at the National Library, Manuscript 6554 (the last section of the said manuscript [ff. 251 – 327] is entitled 'Discorsi sopra le Fortificatione del Gozzo').

Evidently, many scholars in the field of military history have consulted Rinaldini's reports and published substantial sections in a number of authoritative publications, particularly Samut-Tagliaferro's *The Coastal Fortifications of Gozo and Comino*. Still, none of these publications offers a comprehensive resume of the Rinaldini's reports, and this short write-up will, therefore, attempt to give a summary of all pertinent details.

#### Primo Discorso

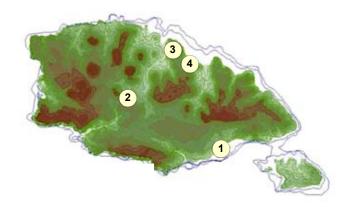
Rinaldini opens his first report by listing the topics to be covered, namely whether Gozo is to be fortified or not, the sites to be fortified, the layout of the proposed fortifications, and the projected expenses.

### Fortifying Gozo

Curiously enough, Rinaldini does not make any direct statements on the compelling need to fortify Gozo, but makes a number of references and comments that betray his strong positive conviction. These include the vital role of Gozo during the Great Siege of 1565 (f. 255), effective control of the Gozo and the Malta channels respectively (f. 257), the island's importance for livestock rearing (ff. 260v; 262v), and the monitoring of vessel movement between the Maltese Islands and Sicily (f. 264v).

#### The Sites to be Fortified

The four most appropriate sites for the construction of a new fortified town are Ras it-Tafal (overlooking Mġarr harbour), the Gran Castello, the Għajn Damma plateau (overlooking Marsalforn Bay), and Il-Pergla plateau, overlooking Ramla Bay (Figure 1).



**Figure 1: Potential Sites -** 1. Ras it-Tafal; 2. Gran Castello; 3. Għajn Damma; 4. Il-Pergla.

#### Ras it-Tafal

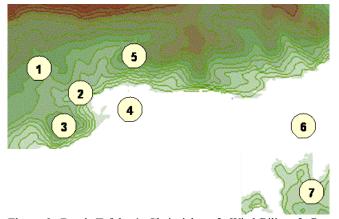
Ras it-Tafal, referred to as *il sito del Mugiarro*, is well located to prevent the enemy from making



Ras it-Tafal is an ideal site for various reasons, such as to preclude any hostile vessels from sailing through the Gozo Channel.

use of the abundant fresh water springs flowing in Wied Biljun, to preclude any hostile vessels from seeking shelter or sail through the Gozo Channel, to send and receive messages from Malta, to facilitate the deployment of relieving forces to Gozo, and to prohibit enemy landings at Mgarr Bay. Besides, the plateau's underlying steep Blue Clay cliffs and narrow foreshore, rule out the setting up of offensive gun platforms by enemy forces, while the site's proximity to the sea eases the transportation of building supplies (Figure 2).

The construction of a fortified town at Ras it-Tafal, however, would not stop the enemy from replenishing fresh water supplies or land at Marsalforn Bay, and is too distant to overpower decisively enemy vessels sailing through the Malta Channel. Likewise, effective signalling can be achieved from greater distances, whereas the required relieving forces can land in any other bay.



**Figure 2: Ras it-Tafal** - 1. Ghajnsielem; 2. Wied Biljun; 3. Ras it-Tafal; 4. Mġarr Harbour; 5. Il-Blata l-Bajda; 6. Gozo Channel; 7. Comino.

Of greater concern is the gently rising Għajnsielem hinterland, which dominates Ras it-Tafal and is too vast to be incorporated within the proposed fortified town. Also, the bedrock is very friable and could be mined without difficulty by the enemy, while the building materials that could be reclaimed from the excavation of the ditch are of inferior quality. A new fortified town at Ras it-Tafal would also be relatively distant from the main agricultural region of the island.

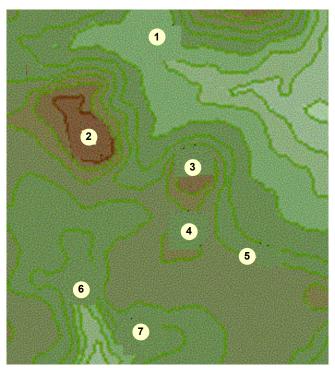
Rinaldini, thus, suggests the construction of a coastal tower armed with four pieces of artillery to prevent the enemy from landing at Mgarr Bay or sail through the Gozo Channel. Such a tower should endure assaults by small parties of besiegers, and no large enemy force would waste its time and energy to defeat it.

#### The Gran Castello

The Gran Castello's only advantages are the availability of the domestic units and the fact that its central location offers a quick retreat from all parts of the island. Its setting, however, is seriously deficient. The underlying friable cliff face can be mined with relative ease in view of the Castello's round shape and lack of flanking outworks. The existing time-consumed defensive walls are not stiffened by terrapliens and are not able to resist enemy bombardment for more than two days, particularly from the Rabat side (Figure 3).



The Gran Castello's central position offers a quick retreat from all parts of Gozo (photo: Nicolene Sagona)



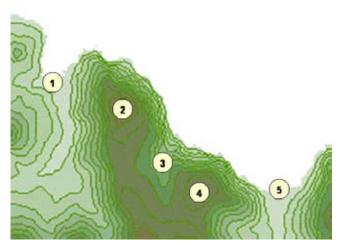
**Figure 3:** The Gran Castello - 1. Wied Sara; 2. Ta' Gelmus Hill; 3. Gran Castello; 4. Rabat; 5. Franciscan convent; 6. Lunzjata; 7. Gran Fontana.

Moreover, the adjacent hill of Ta' Gelmus dominates the Castello and neighbouring Rabat, and is ideal for the location of a rival besieging battery. Should the Castello be reinforced to counteract such a bombardment from Ta' Gelmus the majority of the existing houses would be knocked down to make room for a capacious gun platform, since the existing defensive walls and underlying cliffs are exceedingly high to be screened off by a new line of fortifications. Consequently, the island's population and their

livestock (around 16,000 heads) could no longer be accommodated therein during emergencies. This meant that Rabat was also to be enclosed by a new defensive wall that can in turn be easily neutralized from Ta' Gelmus. Should the Order opt to construct a small fort on Ta' Gelmus, it will be obliged to construct and maintain three new fortifications and not one. Likewise, the resulting expensive and extensive defence network could still be attacked and breached with relative ease along its eastern flank. Rinaldini concludes that the site of the Castello is to be abandoned in view of the many serious faults highlighted.

#### Għajn Damma

Ghain Damma, referred to as il sito di Marsalforno, is a north-facing promontory 300 canne long and 180 canne wide. The greater extent of its perimeter is demarcated by sheer cut Upper Coralline cliffs and underlying steep Blue Clay slopes, while the mesa consists of a well-compacted and solid-rock formation. Ghain Damma is therefore safe from mining and surprise attacks from the sea-facing sides, dominates Marsalforn Bay, commands the prime agricultural region of Marsalforn valley (ideal also for the grouping of livestock during emergencies), controls the entrance of Ramla Bay, is flanked by Il-Pergla valley (referred to as vallata delli giardini), and can be relieved from the sea in the eventuality of a siege (Figure 4).



**Figure 4: Ghajn Damma and II-Pergla** - 1. Marsalforn Bay; 2. Ghajn Damma Plateau; 3. II-Pergla Valley; 4. II-Pergla Plateau; 5. Ramla Bay.

The northern half of the Għajn Damma promontory offers ample space for the construction of a new fortified town to accommodate the entire population of the island and to shelter a substantial portion of the livestock during emergencies. Its south-facing flank needs to be defended by a three-bastioned land front, while the remaining perimeter is to be enclosed by a low and indented parapet wall. In addition, a tower is to be erected on the most elevated part of the resultant enclosure. This can serve as a platform for the church's belfry and establish a direct visual link with the proposed tower at Ras it-Tafal. Should the said communication link fail, another simple tower is to be constructed somewhere in between.

Ghajn Damma is also ideally positioned to monitor vessel movements between the Maltese islands and Sicily, and is reached from Marsalforn valley by a manageable road. Notwithstanding the highlighted good qualities, the bedrock is extremely hard and will prove to be problematic for the construction of the houses and for the excavation of the water cisterns and of the ditch.

#### Il-Pergla

Il-Pergla, referred to as *il sito della Ramla*, has the same footprint, elevation, and qualities of Għajn Damma, except that it dominates Ramla and not Marsalforn Bay. The bedrock, however, is more workable, a consideration of extreme relevance for the initial construction costs and eventual breach repairs during enemy assaults. As to the less commanding position in relation to Marsalforn Bay, it is to be borne in mind that neither of the respective plateaus enjoys complete control of both bays (i.e. Marsalforn and Ramla). In this respect, Rinaldini ends his Primo Discorso by identifying Il-Pergla as the most appropriate site for the construction of Gozo's new fortified town.

# Secondo Discorso

Having exhausted the debate on whether Gozo is to be fortified or not and the sites to be fortified, Rinaldini opens his second report by stating that



Ghajn Damma dominating Marsalforn Bay

he will be focusing on the layout of the proposed fortifications and the projected expenses.

# Proposed layout

Rinaldini reconfirms his earlier conclusion about Ras it-Tafal by repeating that a tower would be fitting and makes reference to an accompanying plan. On the contrary, following a reassessment of Ghajn Damma, it was established that the bedrock is suitable for quarrying, while its consistency is very similar to that of Il-Pergla. Consequently, the site of Ghajn Damma is preferred in view of its narrower land-front. Rinaldini, then, refers to the accompanying plans, and clarifies the measurements adopted (a canna is equal to 10 palmi or 1½ passi, and a passo is equal to 5 piedi) and explains its colour coding. The perpendicular cliffs running along the north-, west-, and east-facing flanks are to be crowned by a shallow 800 canne-long parapet wall, whilst the town's gate is to be positioned along the western half of the south facing land-front, therefore, on the same side of the approaching road from the Marsalforn side.

Had the land-front been more extensive, one could have spaced out more the respective bastions, even if the proposed three-bastioned layout is very effective and can withstand enemy bombardment relatively well. Any relieving forces are to reach Ghajn Damma by sea, climb the north-facing steep Blue Clay slopes, and enter the town through a rock-hewn tunnel at the foot of the Upper Coralline cliff face, which is to remain walled up under normal circumstances.

Although dry, the ditch is safe from mining in view of the extreme hardness of the rock, while its counterscarp is to have a two-passi wide covered-way to facilitate movement around and breach repairs. As to the construction techniques, Rinaldini claims that the local methods are very prone to breaching because of the poor bonding between the outer skin and the backfilling and owing to the excessive use of non-squared boulders in the same backfilling.

The Gran Castello is to be abandoned, as any refortification attempts will prove futile. It is dominated by the hill of Ta' Gelmus and by the

neighbourhood of the Franciscan's convent, 180 and 160 canne distant respectively, and well within the shooting range of the arquebus and the musket. Nonetheless, should the Order persist in retaining the Castello, it can be fortified in four slightly different manners as highlighted in the attached designs.

The main southwest-facing land-front is to feature two bastions and a central ravelin, and the Castello's door is to be concealed from the Ta' Gelmus viewpoint. Besides, two strong shoulders are to be erected in the west and east extremities to shield the same land front and the greater part of the habitations from Ta' Gelmus and from the neighbourhood of the Franciscan friary respectively.

The existing enceinte along the remaining circumference (from the north-west to the south-east) is to be rendered unassailable by shaving off the underlying cliff face and by lowering the soil level at its foot, whereas the debris generated is to be partly employed for the thickening of the same enceinte.

It is to be noted that the resultant fortress will be disproportionately high, thus easily hit and damaged by the enemy. Nonetheless, if the fortifications are made lower the domestic units will become exposed completely and the enemy can opt to defeat the Castello by battering the said houses and force the defenders to surrender.

Besides, as the Order is not in a position to stop the enemy from landing on Gozo and plant a gun platform on Ta' Gelmus, a small fort that can take eight or ten pieces of artillery and 300 soldiers is to be erected on the said hill. Such a fort, however, will still not render the Castello impregnable since its east-facing flank will remain vulnerable.

With regards the claim that the Castello's surrounding terrain is not stable enough to withstand the weight of the proposed fortifications, it is to be stressed that the said terrain is of very good quality, particularly when it comes to breach repairs and related emergency mitigation measures.

Provided that the Order is determined to retain the Castello, the existing walls are to be stiffened by terrapliens, whereas the abandoned houses are to be repaired to accommodate the inhabitants of Rabat. All stone barricades lying within a radius of 200 canne are to be removed and Rabat is to be razed to the ground and levelled. Besides, the recently-repaired Rabat muraglia is to be pulled down.

At this point Rinaldini states once more that Gozo's new fortified town is to be sited at Għajn Damma.

### Projected Expenses

The capital investment required for Għajn Damma is very difficult to quantify in view of the hardness of the rock. However, it should not be unbearably expensive as the span of the proposed bastioned front is only 200-canne-long and the stones reclaimed are to be employed for the construction of the same fortifications. The parapet wall along the remaining circumference can be erected with 1,600 scudi (2 scudi per canna), and another 2,000 scudi are required as sundry expenses. Thus, the total expenditure for Għajn Damma should not exceed 80,000 scudi.

An estimate of the costs to be incurred in connection with the refortification of the Castello is equally intricate. The building stones are to be sourced from three different localities namely San Giuliano (Wied Sara area), Santa Agnese (Gran Fontana area) and the Nunziata (Lunzjata valley). Conversely, the expense to be incurred in connection with the excavation of the ditch can be calculated with relative ease in view of the workability of the terrain. This is estimated to reach a minimum of 12,800 scudi (8 tari x 19,200 canne cube), and possibly escalate to 15,000 scudi when taking into account also the shaving off of cliff face along the northern enceinte.

The erection of the proposed bastioned land front seems to be achievable with 25,000 scudi. Besides, 10,000 scudi are required for the scaffolding, and another 10,000 scudi for the provision of various supplies and related sundry expenses. This means that the Castello can be refortified with 60,000 scudi. As to the fort on Ta' Gelmus, the projected expense depends on the type of artillery to be deployed. Rinaldini ends his second report by stating that the said works could be completed within two years.

#### The Orders Reaction

In brief, Rinaldini advocated that the Order should defend Gozo by constructing a coastal tower at Ras it-Tafal and a new fortified town at Għajn Damma. These were to be linked together visually by means one or two towers. The Gran Castello and underlying Rabat were to be abandoned. The Order, however, decided to retain and re-fortify the Castello (1599 – 1620s), and to construct Garzes tower (1607) at Il-Blata l-Bajda (see Figure 2) and the first Marsalforn tower (1616) at Għajn Damma (Samut-Tagliaferro, 1993:48).

#### References

Samut-Tagliaferro, A. (1993) *The Coastal Fortifications of Gozo and Comino*, Malta, Midsea Publications.

Spiteri, S.C. (2003) "The Role of the Military Engineer in the Organization of the Hospitalier Military Order of St John", Paper presented during the International Conference on Fortifications and sea border. The development of bulwarked fortifications from the Mediterranean to the Atlantic between the 15th and 18th century (Centre d'Informacio Jove de l'Ajuntament d'Eivissa), http://cijae.eivissa.org/catala/congreso/segundodiacat.html

#### Other Related Literature

Agius De Soldanis, GPF. (1999) Gozo Ancient and Modern, Religious and Profane, Malta, Media Centre Publications, pp. 79 and 82.

Godwin Vella, BA (Hons) (Archaeology), MBA is manager, Gozo Museums and Sites, within Heritage Malta

# Climate Change and Small Islands

MARYROSE VELLA

#### **Introduction: The Climate Change Phenomenon**

One of the greatest challenges to sustainable development in the 21st Century is climate change. When we speak of climate change on a global scale, we are referring to changes in the weather patterns of the Earth as a whole. Changes in average weather can be observed as variations in temperature, precipitation and wind patterns over time. Climate change has been taking place since the early days of the Earth's existence – there have been cold periods and warm periods.

Climatic changes are thought to be caused by natural factors such as geophysical activity like volcanic and solar activity; and anthropogenic (human-induced) changes resulting from human influence on the earth's atmospheric chemistry.

The debate as to which of these causes is actually contributing mostly to the recently observed climatic changes is an intense one, with a number of scientists supporting the natural cyclical causes as the main culprit, while others pointing to a correlation between recent increased human activity, that is significantly increased emissions of gases causing the greenhouse effect.

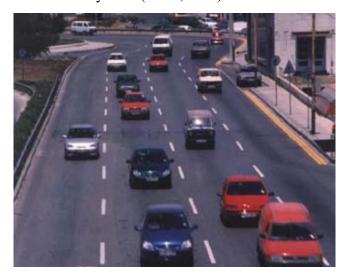
Many climatologists to date have formed international organisations and programmes to study climate across national boundaries. From the

1950s onwards, these expanded into even larger and more elaborately organised global programmes involving thousands of experts. It was scientists who sounded the alarm and drew international attention to the threats posed by global warming. In the 1960s and 1970s, evidence that concentrations of carbon dioxide in the atmosphere were increasing, led climatologists and others to press for action for the first time (Harasawa *et al.*, 2003).

#### The Greenhouse Effect

Many scientists are convinced that climate could change gradually over many tens of thousand of years, but soon found evidence that some changes in the recent past had taken only a few thousand years (Weart, 2006). In the 1960s and 1970s other data and new theories emerged indicating new attitudes about human influences which reduced the time span, in which a change might occur, to hundreds of years, and not thousands. By increasing the amount of heat-trapping gases released through industrial activity, man has enhanced the warming capability of the natural greenhouse effect. It is this human-induced enhanced greenhouse effect that is of most concern for many.

Studies have proved that the average temperature of the Earth's surface has been on the increase during the past 100 years and it is predicted that it will rise by another 2°C by 2100 (IPCC, 2001). These indications



Emissions of gasses from motor vehicles, electricity generators and industrial activities create a greenhouse effect, leading to global warming.

pointed to the possibility of global warming and therefore raised a number of scientific questions. Today, global warming, the greenhouse gas effect and sea-level rise are the highlights of the debates and discussions on climate change worldwide.

## **Impacts on Small Islands**

These issues have led to assessments of the impacts on small islands. The IPCC Third Assessment Report on Impacts, Adaptation and Vulnerability has concluded that many small island states may be the hardest hit victims of the consequences of global warming, although emissions produced by many of the small island states are negligible when compared to those of big countries. The emissions of greenhouse gases is mainly the source of the highly industrialised countries and larger developed countries. At the same time, small island states are likely to experience major difficulties in adapting more than larger territories because of lack of financial, institutional, and technological capacity.

Climate change is of major concern for small island states because these are more sensitive to the impacts due to their small size and vulnerability. Climate is an integral part of the natural resource base of small islands. Marine resources, agriculture, tourism, freshwater availability, energy security and the natural environment are the backbone of the livelihoods of small island states all of which are highly dependent and vulnerable to climate and climate related hazards.

Besides the physical impact, climate change is also a threat to the economy of these small nations. The economic activity of small islands lies mostly on the coast, such as tourism, agriculture, fishing and other activities, and these are being affected badly by coastal erosion and more frequent storms and hurricanes some of which devastate whole islands. Due to their small size, geographical isolation, exposure to natural disasters, ecological uniqueness and fragility, limited resources, poorly developed infrastructure, high population densities, remoteness and peripherality, small islands states are more susceptible to natural hazards and more exposed to the impacts of climate change.

Moreover, small island states are affected adversely by climate change because they have very limited potential to cope with the impacts, to recover and adjust. Low-lying islands are the most affected especially by sea-level rise, so much so that their very existence may be threatened if the sea level rises as predicted. A lot of migration to nearby islands is already taking place in some of the low-lying islands in the Pacific. A single extreme weather event can have devastating implications for a small island. One hurricane is capable of destroying whole communities as in the case of Niue in 2004 (World Meteorological Organisation, 2006).

## Study on Experts' Attitudes towards Climate Change

The present author conducted a survey to study the views regarding climate change and its possible impacts on small islands, held by climatologists and others with related expertise (Vella, 2006).

A number of climatologists, meteorologists, environmental scientists, and scholars with related expertise were consulted. The research was carried out by means of questionnaires.

#### Results of the Survey

There were 70 respondents out of which, 35 were climate experts, 21 were environmental scientists or geographers, 3 were economists and 2 were planning officers. The remaining nine respondents included an agricultural scientist, a research officer, an information officer, a surveyor, 2 were planning officers, a Programme manager, a general manager, and a tourism officer. Thirty of these respondents came from Climate Research Institutes, Meteorological Offices or Climate Observatories, twelve came from Government Departments and twenty from other Environmental Agencies. The remaining seven came from Academic Institutions. Of these, about a third reside in small island states, mostly located in the Caribbean, South Pacific and Indian Ocean regions.

## Major Impacts of Climate Change

Experts were asked whether they agree that the climate is changing. There was consensus among the respondents that climate is definitely or probably changing.

The respondents were requested to identify three impacts of climate change that would affect their





Increased frequency of extreme weather and climate events, such as cyclones, heavy precipitations and storms, are associated with climate change.

country as a whole. According to the experts' views, the greatest impact deriving as a result of climate change was sea-level rise. Changes in precipitation patterns were considered as being the second greatest impact. Temperature change was identified as the third greatest impact.

Other major impacts identified which included more frequent extreme weather events, followed by loss of biodiversity and finally impacts on health. It can be argued that loss of biodiversity and human health are related to the first, second and third impacts identified by the group.

Other impacts mentioned by seven respondents which included – effects in thermohaline circulation, land degradation, salinisation of groundwater and other different impacts.

## Anthropogenic or Natural Causes

Experts were then asked to give their opinion as to whether climate change was attributable mostly to human activities or caused by natural causes. 80 percent of the responses to this question indicated that climate change was mostly attributable to human activities rather than to natural causes.

Experts were asked as to what type of human activities were inducing climate change. As expected, the highest number of respondents identified GHG emissions as being the most important human activity in this regard. The other factors mentioned were deforestation, agricultural processes, change in land use, and waste generation, in that order of importance. Other human activities identified

included population increase, and inefficient use of energy.

The natural factors that can induce climate change in the opinion of respondents included earth activities, such as earthquakes, volcanic eruptions, ocean currents, water vapour, and changes in the rotation of the earth. It was interesting to note that almost 4 percent of the respondents believe that astronomical elements feature as a major cause.

#### Reducing Impacts

In the responses as to whether mitigation measures (that is the reduction of emissions of greenhouse gasses) were more important that adaptation measures (that is taking steps to reduce the impacts before, after or as they happen), most of the respondents' thought that mitigation measures were more important than adaptation measures, because they address the root of the problem.

## Climate Change Knowledge and Concern

Most respondents thought that the Environmental NGOs and the scientific community are the most knowledgeable about climate change. The majority of the political leaders, top civil servants, social sciences academics and other NGOs were ranked as being moderately knowledgeable. In general religious leaders and the business community were considered by most experts as not being very knowledgeable in this regard. As regards 'concern', the same results were obtained, having the scientific community and the environmental NGOs as being the most concerned, and the political leaders,

top civil servants, social sciences academics and other NGOs as being moderately concerned. The business community and the religious leaders are not very concerned.

There seems to be strong correlation between 'knowledge' and 'concern' with the most knowledgeable being the most concerned and the moderately or not very knowledgeable as being moderately or not conderned.

## The Role of Governments

In terms of the role of governments, most respondents were of the view that governments should take active measures to mitigate the effects of climate change by imposing reductions to emissions of greenhouse gases, with about two thirds of respondents stating that this should be done, no matter how much it costs. The rest also agreed, provided that this does not unduly harm the economy of the country.

Eighty percent of the respondents were of the opinion that governments should take anticipatory measures to help the population adapt to the possible effects of climate change, notably sea-level rise, even if this harms the economy. The remaining also agreed that governments should take anticipatory measures, as long as it does not unduly hurt the economy of the country.

## Impacts on Small Island States

When asked whether small island states will be impacted by climate change more than larger countries, almost all respondents agreed that small islands will definitely or very probably be more impacted than larger countries, stating that the greatest impact is likely to be sea-level rise, followed by extreme weather events and fresh water problems. Other impacts identified by these experts were change in the eco-system, impacts on the economy, health problems through vector-borne diseases and population dispersion.

When asked to identify which small island states are the most vulnerable to climate change, respondents identified the Maldives followed by Kirabati, Tuvalu and Seychelles. In fact the Maldives have three quarters of the land area less than a metre above sea level and the highest point not rising more than about three metres above sea level. However many other islands located in different regions were also mentioned.

#### **Segmenting the Respondents**

The respondents to the questionnaire were segmented in two, with the first segment representing purely climate experts and the second segment representing other experts. This segmentation was carried out in order to examine whether climatologists differed significantly in their views from the other experts. As noted, half of the respondents were authentic climate experts and the remaining 35 were experts in other related fields. In general the overall findings reported by the whole group were very similar between the two groups. The major differences occurred with regard to the type of major impacts, the type of human activities and the most vulnerable small island states.

With reference to the major impacts, from the deliberations of both groups of respondents together, it emerged that 'sea-level rise' is the major impact with 'changes in precipitation patterns' as the second greatest impact and 'temperature change' as the third greatest impact. When segmented, climate experts claimed that 'changes in precipitation patterns' was the major impact with 'sea-level rise' declared as being the second greatest impact and 'temperature change' as the third greatest impact.

#### **Implications for Gozo**

The findings of the survey have direct implications for Gozo. Like many other small islands, Gozo depends heavily on coastal activities, including tourism, fishing, and entertainment. Although the island is hilly, the beaches, which serve to attract tourists, are low lying and with half a meter of sealevel rise, many of Gozo's beaches will be heavily impaired. A study by Briguglio and Cordina (2003) has shown that climate change will lead to major economic losses in the Maltese Islands.

Gozo may also experience shortage of water at times, a situation which already exists in most Mediterranean Islands, but could possibly be exacerbated as a result of global warming. With an increase in temperature, there may also be the risk of intrusion by foreign species, including some that are risky to health, such as certain types of insects which are currently mostly found in tropical areas.



Sea level rise is likely to have a negative impact on tourism infrastructures and inundate low lying areas including beaches.

The increase in temperature may also give rise to risks related to cardiovascular diseases. There are also risks of more frequent extreme weather events. These are all possibilities, and cannot be predicted with 100 per cent certainty, but scientific studies on climate change are pointing in this direction.

Like many other small islands, the island of Gozo contributes very little to global warming, however the island could be very strongly affected negatively. The residents on the island of Gozo could however do many things to avoid or reduce the negative impacts just mentioned. There are many adaptation procedures that can be put in place in anticipation of sea-level rise, water shortages and extreme weather events (Klein, 2003; Briguglio and Cordina, 2003). In many cases, adaptation measures, such as building infrastructures that withstand strong winds, clearing valleys to avoid floods in case of extreme weather events, preparing for eventual retreat from the beaches, withholding building permits on low lying areas, and putting in place early warning systems, can be mainstreamed in development policies, so that their benefits can be enjoyed, even if climate change predictions do not materialise (Huq and Reid, 2004; and Munasinghe, 2003).

# **Conclusions and Implications**

The survey conducted by the present author showed that there was a high degree of agreement among experts that:

- (a) the climate is changing
- (b) the change is brought about mostly by human activity,
- (c) it will highly impact small island states; and
- (d) sea-level rise is a major negative impact on small islands.

One important conclusion that emerges from the responses to the survey described in this article is that there seems to be a consensus that small island are being and will be more impacted by climate change than larger countries. In small island states most economic activity and settlements are on the coastal area and sea-level rise will obviously have a relative large impact in this area. This of course raises an ethical issue namely that these islands are least contributing to climate change and are probably those that will suffer most from its impacts.

It is worrying to note that respondents thought that in general political leaders were only moderately knowledgeable and concerned about climate change. The reason for this is that, as the respondents to the survey remarked, governments have a major role in adopting and promoting mitigation and adaptation strategies.

According to comments by some of the respondents, it appears that the degree of knowledge and concern are higher in small island states than in larger territories. Some respondents from the Pacific region remarked that in the Pacific Islands, children



Even locations at high altitude may be affected by climate change due to increased frequency of extreme weather events.

and older people are very concerned about this phenomenon and are interested in knowing and doing more to prevent global warming.

Regarding adaptation strategies, some respondents commented that since small island states often do not have adequate resources to build strong infrastructures to protect them from the relatively large impacts of climate change, the adaptation possibilities in these states tend to be more limited when compared to larger states.

In terms of mitigation measures, small island states should adopt strategies to reduce GHG emissions, but, as many respondents remarked, the contribution to global warming by small island states is negligible.

In general the results of the survey shed light on a number of issues which are of importance not just for small island states, but for the global community in general:

- Awareness, knowledge and concern about climate change are essential everywhere, especially where the impacts of climate change are not as obvious as they are in small island states.
- The role of governments in fostering mitigation and adaptation measures is also a global requisite

However, given that the focus of this article is on small island states, it is important to stress that small island states will probably be the worst off as a result of climate change, when compared to other groups of countries. The ethical issue, referred to above, namely that countries who are contributing least to climate change will likely be those that will suffer most, needs to be seriously addressed by the international community, especially when it comes to donor support for developing adaptation measures and mitigation measures to decrease greenhouse gases.

#### References

Briguglio, L. (2000) Implications of Accelerated Sea-level Rise (ASLR) for Malta. Report on the SURVAS Expert Workshop on "European Vulnerability and Adaptation to Impacts of Accelerated Sea-level Rise," Hamburg: 19-21 June.

Briguglio, L. and Cordina, G. (2003) "The Economic Vulnerability and Potential for Adaptation of Islands to Climate Change, with Special Reference to the Maltese Islands." Paper presented at the International Policy Dialogue on Vulnerability and Adaptation to Climate Change: a Common Agenda for Developing Countries, Mexico, Zacatecas, 17-18 June.

Harasawa, H., Takahashi, K. and Matsuoka, Y. (2003) "Potential Impacts on Global Climate Change." In Kainuma, M., Matsuika, Y., and Morita, T. (eds.) Climate Policy Assessment, Tokyo: Springer-Verlag.

Huq, S., Murray, L. and Reid, H. (2004) *Mainstreaming Adaptation* to Climate Change in Least Developed Countries, IDS Institute of Development Studies, Vol. 35 (3): July.

Intergovernmental Panel on Climate Change, IPCC (2001) *Climate Change 2001: Impacts, Adaptations and Vulnerability – Summary for Policy Makers*, USA: Cambridge University Press: (IPCC).

Klein, R.J.T. (2003) "Adaptation to Climate Variability and Change: What is Optimal and Appropriate." In Giupponi, C. and Schechter, M. (eds) *Vulnerability and Adaptation*, UK: Cheltenham, Edward Elgar, pp: 32-50.

Munasinghe, K. (2003) Analysing the Nexus of Sustainable Development and Climate Change: an Overview, OECD.

Vella, M.R. (2006) The Impacts of Climate Change on Small Island States: Experts' Views. Paper written in partial fulfillment of the MA-ISSS Course, Malta: University of Malta.

Weart, S. (2006) "Rapid Climate Change," *The Discovery of Global Warming*, http://www.aip.org/history/climate/rapid.htm#L\_0596 (Accessed on 15 Jan 2006)

World Meteorological Organisation (2006) "Climate and Small Island Developing States," *World Climate News*, No. 28, (26 January 2006): Geneva. http://www.wmo.ch/web/gcos/gcoshome. html, (Accessed on 14/4/2006)

Maryrose Vella is Administrative Officer at the Islands and Small States Institute of the Foundation for International Studies at the University of Malta. She possesses an MA in Islands and Small States Studies.

# Management of Coastal Recreational Resources: Beaches, Yacht Marinas, and Eco-tourism

ANTON MICALLEF

The Euro-Mediterranean Centre on Insular Coastal Dynamics (ICoD) was established within the framework of the Foundation for International Studies, University of Malta in 1988, through an agreement between the government of Malta and the Council of Europe. It forms part of a network of specialized Centres pertaining to the Council of Europe's Open Partial Agreement on Major Natural and Technological Hazards (the EUR-OPA Major Hazards Agreement). Through multi-disciplinary partnerships, ICoD organizes research, training, and educational activities on integrated coastal area management in the Euro-Mediterranean region. The Centre has an office at the University Gozo Centre.

#### **Second International Conference**

In 2004, ICoD gave rise to a series of bi-annual conferences addressing the management of coastal recreational resources (MCRR). Between 25 and 27 October 2006, the Second International Conference on the Management of Coastal Recreational Resources (MCRR2) was organized in Gozo at the Ta' Cenc Hotel, Sannat. The main objective of this novel conference series is to focus on selected aspect of coastal management, namely those related to recreational amenities represented by beaches, yacht marinas, and eco-tourism. The conference brought together researchers as well as practitioners and policy makers to highlight and discuss issues of concern while also show-casing appropriate solutions through the exchange of experiences, best-practice scenarios, and innovative management concepts. In this manner, the conference provided an opportunity to consider issues of concern to both tourism and the environmental sector and to address sustainable management practice in these fields by exploring the dependency of tourism on a well-managed environment and, conversely, the negative impact of insensitive tourism on environmental quality.

The conference was conceived to attract a wide audience including, tourism professionals, researchers in the natural and social sciences, project managers, infrastructure investors, and staff from the private sector and government agencies whose work involves aspects of research into integrated coastal area management practices as well as the development and management of coast-related recreational amenities. The conference series is also of interest to managers of natural resources and environmental agencies; urban and coastal planners; non-governmental organizations (NGOs); environmental economists; and coastal municipalities.



An example of good beach management practice in Spain through the provision of a buffer zone (cycle path, planted area, and promenade) between the beach and vehicular traffic.

With participants ranging from as far afield as Canada, Australia, New Zealand, the USA, and the Euro-Mediterranean region, the papers selected for this conference were diverse but nonetheless focused on specific aspects of coastal recreational resources such as:

- · Safety issues on beaches;
- Human recreational and development impacts on beach and natural coastal environments and learning from past mistakes;
- Viable options of converting hard to soft interventions at the coast;
- The intricate mechanics of beach nourishment and enhancement value to degraded coastal areas:
- Conservation of dune areas for both recreational and ecological purposes;
- Innovative aspects of beach management in carrying capacity issues and quality evaluation;

- Actively promoting a bottom-up approach through integration of user preferences and priorities into the management of coastal amenities;
- Identifying workable alternatives to mass tourism though evaluation of diverse ecotourism initiatives (dive tourism, visiting eco-sites, promotion of Heritage Coasts, promotion of biodiversity, and sites rich in cultural heritage);
- Improved management of yacht marinas;
- Promotion of yachting activities.



Sensitively-planned and professionally-run yacht marinas can enhance already developed coastal areas and provide considerable income to local populations

#### **Pros and Cons of Tourism**

With increasing leisure time and cheaper air travel opportunities, the tourism industry emerges as a mainstay of many coastal communities, contributing a high economic input to both local and national economies. As would be expected, such a thriving and diverse industry cannot operate in isolation without impacting on the social and environmental fabric of visited shorelines. Of particular concern are negative impacts that include, among other, a trend of increasing development along the coast, degradation of the natural coastal environment (e.g. dune systems), increased dependency on largely seasonal and mass tourism, and erosion of the local way of life and values such as the abandonment of traditional employment (e.g. farming) in favour of higher paying (though potentially short-term) employment in the tourist industry.

Fortunately, there is also a positive side to this otherwise grim equation. Some of the positive impacts of tourism may be seen in the increased opportunity to revive traditional crafts and in the production and sale of artisinal goods which are so popular with overseas visitors, increased job opportunities, the increased demand for quality tourism, and the search for innovative ways of enjoying new environments (e.g. through ecotourism) and as an incentive to improve local infrastructure and bathing water quality.

# **An Important Opportunity**

In this context, this bi-annual conference series on the Management of Coastal Recreational Resources provides an important opportunity and forum to discuss the impact of increasing tourism on natural coastal resources and to assess what balance may be struck between our desire to derive an increased benefit from tourism and the necessity of conserving that playground in which such tourism activities takes place (environmental conservation). In other words, we participate in the search for that allimportant 'sustainable development formula'.



Rural areas can provide an ideal setting for eco-tourism

To date, this conference series has received a strong local support from a variety of entities namely, the Ministry for Gozo, the Ministry for Tourism and Culture, the Malta Tourism Authority, APS Bank (Malta), the Gozo Centre of the University of Malta, and ONVOL (Malta) internet service providers. Without such support the conference series would not have been viable and the organizers are grateful for such support. Many thanks are also expressed to the management and staff at the Ta' Cenc hotel who made the latest event a memorable experience of Gozo for the conference participants.

Dr Anton Micallef is Director of the Council of Europe specialised Centre (the Euro-Mediterranean Centre on Insular Coastal Dynamics - ICoD) pertaining to the EUR-OPA Major Hazards Agreement.

# Crime in Gozo: A Spatio-temporal Analysis

SAVIOUR FORMOSA

#### Introduction

Few states can boast of zero crime rates, with the Maltese Islands positing no exception. This said, an urban ecology study of crime in the period 1998-2003 shows that the islands experienced a relatively low rate of offences, which, however, is tending to increase. Gozo, being a doubly insular region, exhibits its own peculiarities, both in its offender residential locations and in its offence targeting opportunities.

#### Offenders by District

A regional perspective based on a NUTS 4 spatial construct of the 7,353 offenders in Maltese prisons from 1950 to 1999 shows that the Northern and Southern Harbour regions account for nearly 75 per cent of all offenders, the other NUTS 4 regions take up the rest of the load, with Gozo as a region registering the least number of offenders.

A deeper spatio-temporal analysis shows that Gozo's offender component fluctuated from the 1950s to the early 1970s with a gradual decrease from the 1970s to the end of the 1990s from 4.3 per cent to 2.3 per cent. Table 1 gives a spatial depiction of the districts in question, clearly outlining the low Gozitan offender component.

District	1950- 59	1960- 69	1970- 79	1980- 89	1990- 99	Total
Gozo and Comino	4.4	3.0	4.3	3.2	2.3	3.5
Northern	5.5	4.5	2.6	4.9	8.9	5.6
Northern Harbour	34.8	28.8	28.3	31.3	29.9	31.3
South Eastern	11.3	12.5	10.8	11.8	6.5	10.3
Southern Harbour	36.8	43.0	49.4	41.6	48.9	43.4
Western	7.3	8.3	4.5	7.3	3.6	6.1

Table 1: Percentage Offenders by Region sorted by 1950-99 data

At the other end of the crime-scenario, an in-depth analysis of crimes reported to the police shows that Gozo experiences a very low rate of crime that exhibit highly particular specializations. In discussing reported crime, one must keep in mind the phenomenon known as the dark figure of crime. At least 50 per cent of crimes are not reported to the police, for a variety of reasons ranging from lack of trust in the police to fear of reprisals from convicted offenders.

A district (at NUTS 5 level) analysis of offence locations in the Maltese islands shows that once again there is a clear distinction between the offences registered in Malta and those in Gozo. Whilst the Northern Harbour district registered the highest number of offences, Gozo registered the least at 4 per cent (Figure 1).

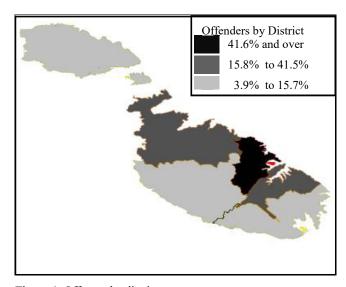


Figure 1: Offences by district

## **Journey to Crime**

One other area of investigation concentrates on the issue of who commits offences in Gozo. Whilst most offences in the Maltese islands are no longer restricted to an offender-known area, owing to access to transport, Gozo's insularity directly impacts it crime scenario. Offenders who live in Gozo normally offend in the same island, which also hosts offences from Maltese offenders.

Further studies carried out by the present author show that the Gozitan towns that are mostly targeted by Gozitan offenders are Nadur, Sannat, and Xaghra, which fall within the lowest range of the journey-to-crime matrix. On the other hand, apart from the local offenders, Zebbug (Marsalforn) and

Rabat experience offences committed by Maltese offenders.

## **Commercial and Recreational Aspects**

Gozo is a relatively small district with only 14 local councils. A local council analysis immediately indicates that there are very few local councils that exhibit crime hotspots throughout their area. In fact the main areas exhibiting offences are highly selective sub-localities. These include the Rabat (Victoria) retail area and the areas designated as recreational and leisure zones. An in-depth analysis shows that there is a relationship between offences occurring in these areas by distance from the same areas.

In brief, crimes rates are high in the retail footprint areas, increase by buffer distance for the first 400m then start declining up to 1000m. The analysis of offence categories by retail vicinity shows that 15 per cent of all crimes occur within the footprint retail area. This analysis indicates that most offences occurring in this initial zone are made up of theft from retail areas, criminal damage and vehicle crime. This trend can be found up to 400m from the retail units, which finding signifies that the offences categories are linked to the retail activity. For example, theft from retail outlets is

naturally high in the immediate footprint area and decreases with distance.

In the case of vehicle crime and criminal damage, which includes damage to vehicles and property, offences increase by distance from the commercial centre within the footprint zones. Though high in the first zone at 19 per cent in both cases, they increase to 30 per cent of all offences for vehicles and 26 per cent for criminal damage at 400 meters. This type of change is understandable since the offences fall within the zones that people tend to park in, principally the immediate roads that intersect with or are on the periphery of the recreational area. With few official and secure car parks near the retail areas, visitors to the area park anywhere in the vicinity, flowing out to the neighbouring streets and main roads. This results in high vehicle crime in these buffer zones, both in term of theft from cars and theft of cars, as well as damages to property in the vicinity. The latter, is also evidenced from the slight increase in dwelling burglaries in the distant buffer zones.

Three-dimensional point density maps of vehicle crimes show that the highest rate of offences in the whole Maltese islands territory occurs in the Local council area of San Giljan specifically the recreational area of Paceville. In Gozo, the highest



In Gozo the highest rates of vehicle crime also occur in the recreational and commercial areas of Rabat

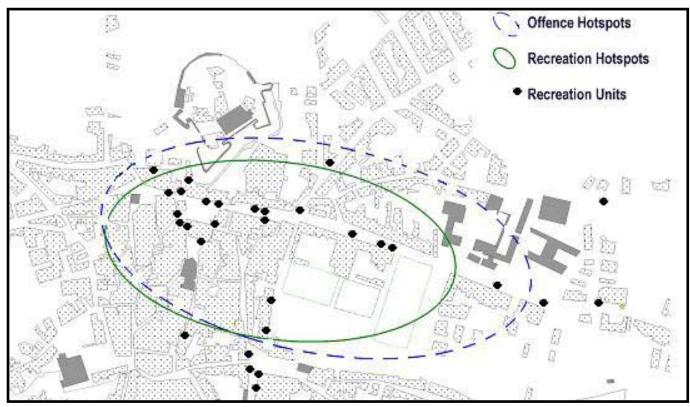


Figure 2: NNH geopol hotspots overlaid over recreational hotspots in Rabat – Gozo (Victoria)

rates of vehicle crime also occur in the recreational and commercial areas of Rabat, Marsalforn, Xlendi and Mgarr, albeit at relatively lower rates when compared to Malta Island. Interestingly one other area related to another type of commercial activity related to parking facilities exhibits itself quite explicitly in Mgarr.

Such annual data is best illustrated through the use of high-end Geographical Information Systems that analyse the changes through raster-stamping methodology. The results of such a study carried out by the present author show that during the two year 2002-03 period, Gozo experienced a decrease in Xlendi. On the other hand, Marsalforn, whilst decreasing in the periphery, experienced an increase in offences in the leisure zones. However, the major increase in offences in Gozo was experienced in Mgarr. Other areas such as Dwejra also experienced a slight increase, a situation related to the presence of parking facilities. In the case of Rabat, a general decrease occurred over the two year period.

With regard to Rabat – Gozo (Victoria), Figure 2 shows that in this locality offences and recreation/commercial hotspots intersect quite closely. The

Victoria recreational hotspot is in fact almost totally within the offence hotspots.

### Conclusion

In conclusion, such studies help to understand the dynamics of the Gozitan crime scenario, build upon the available information and could help inform policy-makers in their attempt to develop, monitor and organize operational and tactical activities to combat crime.

#### **Further Reading:**

Hirschfield, A., and Bowers, K. (eds.) (2001) Mapping and Analysing Crime Data: Lessons from Research and Practice, London, Taylor & Francis.

Saviour Formosa is the Information Resources Manager at Malta Environment and Planning Authority and Part-time lecturer at the University of Malta.

# The Gozo Public Library and its Subsidiaries

**GEORGE BORG** 

#### Introduction

The Gozo Public Libraries network comprises the Gozo Public Library; the Gozo Lending Library; 11 Local Branch Libraries situated at Għasri, Għarb, Għajnsielem, Nadur, Qala, Sannat, San Lawrenz, Kerċem, Xagħra, Xewkija, and Żebbuġ; together with another library at the Gozo General Hospital.

#### History

The origins of the Gozo Public Library dates back to 7 March 1839, when a group of 38 eminent persons, mostly professional persons, a few priests, and laymen, imbued with the love of culture and deploring the lack of reading material in Gozo, resolved to set up a Gabinetto di Lettura, a reading room. Sixteen days later, on 21 March, the Gabinetto di Lettura was renamed Libreria di Società, 'Library of Society'.

In 1852, the founder members decided to share their heritage with the public and pass the collection to the government on the condition that an annual sum of £40 would be allocated for the purchase of books. Governor Sir William Reid, acceded to their wish and the Public Library opened its doors to the general public on Monday, 21 November 1853. On 31 March 1896, the Public Library collection, which then amounted to 3,642 works in 6,693 volumes, was transferred to the new premises on the top floor of the government primary school in Vajringa Street. In 1925, the Gozo Public Library, along with the Malta Public Library, became depository for all locally-printed works. On 16 August 1948, the Gozo Public Library and District Circulating Libraries came under the direction of the librarian of the Royal Malta Library.

Another important development occurred on 10 February 1983 when the Public Library ceased to function as a lending library and its lending collection was transferred to the newly-established Lending Library in St Francis Square, Victoria. Six years later, on 24 November 1989, the National Archives / Gozo Section was opened at the new annex at the Gozo Public Library.



The premises that houses the Gozo Public Library, the National Archives/Gozo Section and Sir Arturo Mercieca Primary School at Vajringa Street Victoria

#### **Functions**

The Gozo Public Library's dual role is to acquire and preserve for posterity the national collection of printed material and to provide academic material for research. The Gozo Lending Library and the Local Branch Libraries, on the other hand, provide educational, informative, and recreational books for home reading.

#### **Book Collection**

The Melitensia collection at the Gozo Public Library consists of a substantial collection of books, either published locally or abroad about the Maltese islands. There is, for instance, a rare copy of the original Insulae Melitae Descriptio by Johannes Quintinus (1536). Moreover, the library is a depository of all government publications, newspapers, and periodicals published locally and dissertations by Gozitan students. The reference collection is enriched annually by the acquisition

of new academic books in all major fields being studied at secondary and tertiary levels, such as commerce, economics, accounts, sociology, psychology, history, philosophy, education, etc.

## Computerization

The implementation of the computerized system has proved fruitful. The launching of E-libraries proved a further step towards the promotion of library facilities. The library's electronic catalogue is accessible at www.libraries-archives.gov.mt One can search an item by author, title, classification number, ISBN, subject, or even by entering a keyword. It provides information on where the wanted item exists, its availability, and whether it is out on loan or on order. Patrons can also renew their books on-line and reserve items that are out on loan. This service is also complemented by a selection of audio-visual cassettes and CD-Roms, which can be viewed at the premises.



The main reading hall at the Gozo Public Library.

## Services offered

The general public has access to Internet through 13 PCs at the Gozo Public Library and 1 PC at the Gozo Lending Library.

Another facility is the inter-library loan system with the University of Malta. Books not in stock at the library are borrowed on behalf of our patrons from the University Library.

A considerable amount of useful and practical information is available for the whole community. This includes information about courses and job opportunities; copies of past examination papers at all levels from primary school to Matsec; and research material for projects. The ultimate goal of our library is to serve its readers. In fact, at the library, a researcher is assured that the documents needed are brought to him for consultation and where he/she can have all the assistance, the advice of the staff and the facilities of photocopying.

# **Publicity and promotion**

People need to be constantly and efficiently informed of the existence of the library's services and resources. Library orientation visits are organized for students. Exhibitions to promote authors' works and to commemorate national events are held on regular basis, whereas the public is kindly asked to suggest new titles to be purchased. Story-telling sessions are held simultaneously on Wednesday afternoons from 4.00 p.m. to 6.00 p.m. at the Gozo Public Library and the Gozo Lending Library to promote reading habits at an early age.

The Gozo Public Library has proved to be an important factor in the educational development of Gozo. This is amply witnessed by the enrichment of its collections, the diversification of its services, and the thousands of esteemed members of the public whose necessity or love of knowledge have led them to make use of the Gozo Public Libraries. Its history and track record are the result of the determination extended by its librarians and staff throughout all these years, to better the services and facilities and to enrich its collections. One cannot but look forward with both confidence and determination towards a future where the library service in Gozo, would continue to render a valuable contribution towards the prosperity and welfare of the whole community.

George Borg is Senior Assistant Librarian in charge, Gozo Public Libraries.

# The University Gozo Centre Library

MIRIAM MUSCAT AND CAROLINE CAMILLERI ROLLS

"A beautiful cloister-like building full of light and good feeling". This is how the building housing the University of Malta Gozo Centre was described by Professor Lino Briguglio, who, besides being its main founder, has been the University Gozo Centre's Director since its establishment in 1992. Indeed, this ambience of light and good feeling is definitely experienced as soon as one enters the threshold of the Centre's small but welcoming library. The imposing dome of the Xewkija Rotunda on the one side and the unobstructed view of the ever-vigilant Citadel and the hills of Xagħra and Zebbug, provide an idyllic background to a place synonymous with quietude and silence.

In fact the library occupies the room found on the west side corner on the second floor of the building situated on Gozo's main road, mid-way between Mgarr and Victoria. The building itself dates back to the 1840's when it was originally built to serve as an experimental farm. However alterations to the building and the construction of a second floor were later effected in order to convert the place into an isolation hospital, which was officially inaugurated on 21 October 1897. Since the 4 May 1996 the premises have been serving as the 'University of Malta Gozo Centre' and library services within this Centre were initiated about a year later. As observed by one of the first students of the Centre, one of the problems these students had to face was the fact that they had to cross over to Malta in order to borrow books from the University's Main Library. It was therefore imperative that a library should be set up and



albeit not large in space and quantity, this library has been servicing the needs of students enrolled in courses and other lectures held at the Centre for the past ten years.

The Library stock adds up to about 1400 books, subjects of which range from Philosophy, Sociology and Religion to Law, Economics, Accounts and the Classics. About 150 books are reserved in a Reference section but all the others are available for borrowers. There is also a small selection of dissertations on Gozitan issues. It is the intention of the Centre's administration to increase the number of such dissertations. It is also planned to establish a new library section which would include books and other literature relating specifically to Gozo. Lecturers are encouraged to suggest books and titles relevant to their particular subjects in order to enhance the collection of books available to their students. Obviously the cost of such books is considerable and the Gozo Centre mainly relies on the budget allocated annually by the University of Malta for this purpose and also on donations by institutions or individuals who have the interest of this center and its students at heart.

The library also includes an attractive and interesting collection of 250 volumes in the Everyman's Library series, which were donated by the British High Commission. Similar sets had been distributed to 4500 state schools throughout the United Kingdom as part of a project supported by a grant of Stg4 million from the Millenium Commission. Authors in this series include Plato, Marcus Aurelius, Giorgio Vasari, Homer, Virgil, Thomas More, William Shakespeare, Charles Dickens, Thomas Hardy, John Steinbeck, Robert Louis Stevenson, Jane Austen, the Bronte Sisters, Fyodor Dostoevsky, Leo Tolstoy, Vladimir Nabakov and other noted classical and modern authors. This collection also boasts copies of the New and Old Testament, The Koran and The Confessions of St Augustine making the subject selection range from the profound to the mundane.

It goes without saying that the most demanded books are those relating to the subjects currently being taught and followed at the Gozo Centre. These include Economics, Accounts, Statistics, Management, Commerce, History, History of Arts and Environmental Studies. However demand for books relating to subjects such as The European Union, Computer Studies and Tourism is also on the increase. The present premises are however constrained by limited space and plans are underway for them to be extended. This, besides providing more shelf space would also enable the library to enhance its services with regards to students' needs.



The library mainly serves the needs of students following courses at the University Gozo Centre.

Undoubtedly the Library services at the University of Malta Gozo Centre have considerably changed during the past ten years. Moreover the recent reorganisation of the Library in general has been favourably noted and appreciated by all those making use of its services. This augurs well for the continuous and future growth of this vital section of this Centre.

Miriam Muscat and Caroline Camilleri Rolls are the librarians of the University Gozo Centre Library.

# The Board of the University Gozo Centre

LINO BRIGUGLIO

With the formal approval of the Statute of the University Gozo Centre by University Senate on 3 February, 1993 and its subsequent approval by Council on 17 February of the same year, athe Board of the University Gozo Centre was formally established. The main function of the Board is administer the Centre and to determine its policy with regard to the attainment of its aims.



The premises of the University Gozo Centre is a 19th century building, and therefore requires ongoing attention.

The first meeting of the Board of the Gozo Centre was held at Tal-Qroqq, on 13 April, 1993. From then on the Board met regularly to carry out its functions. Items that appear frequently on the agenda of the Board are "New Courses to be offered at the Centre"; "Students' requests", "Extra curricular activities" and "Upkeep and maintenance of the premises". This array on agenda items shows that the Board not only takes decisions on academic matters but also on matters relating to the premises, which was built during the 19th Century and therefore requires ongoing attention.



A lecture at the University Gozo Centre in session.

The Board is chaired by the Rector of the University of Malta, currently Professor Juanito Camilleri, and its members include representatives of the University Council and University Senate and a number of co-opted scholars. University Gozo Centre students are also represented on the Board. The Board also has a representative of the Ministry for Gozo, and this helps to maintain the excellent relations that the Centre has with the Ministry.



Social activities are held regularly at the Centre.

Lino Briguglio is the Director of the University Gozo Centre.

# Some Extra-curricular Activities at the University Gozo Centre (July - December 2006)

JOSEPH CALLEJA

#### **The Summer Activity**

In July the Associazione Culturale Politecnico Teatro, an Italian theatrical group, performed 'The Arbitrants' by Menander in the central courtyard of the University Gozo Centre.

Menander wrote over a hundred plays and is thought to have imitated Euripides. Unlike the classical writers who wrote mythical plots or political commentary, Menander chose daily life as topics for his plays. The play deals with a conflict between a married couple who mistrusted each other and who consulted an arbitrator in this regard. The play ended with a reconciliation of the couple realising that their mistrust was unfounded.

The play written about 300 BC, was attended by a large audience and there was overall appreciation of the professional performance by the actors. Mr Mario Prosperi who directed the play was impressed by the University Gozo Centre's internal courtyard and said that it is an ideal venue for performances of this nature. The event was held on Friday 11 August and was organised by the Culture Organising Committee (Ministry for Gozo) in collaboration with the University of Malta - Gozo Centre and the Sicilian Regional Government.



A scene from the comedy 'The Arbitrants'.

#### **Graduation of University Gozo Centre Students**

Fourteen students who completed the course leading to the Masters in Islands and Small States Studies were conferred with their degrees at the Old University Building in Valletta on 28 November.

Among the students were ten who completed the course at the University Gozo Centre. The students are Angelo Camilleri, Caroline Camilleri Rolls, Joseph Cutajar, Adriana Gatt Terribile, Maria Gauci, Marlene Grima, Carmen Saliba, Maryrose Vella, and Carmen Vella. Mario Borg received the award in absentia.

The course consisted of a major area of study and a minor area of study plus the writing of a dissertation and is spread over two years. The areas of studies included Environmental Studies, Economics and International Relations, all with special reference to small states.



The graduates together with Professor Lino Briguglio, Director of the Islands and Small States Institute.

Three other students were awarded a Diploma in Information Technology after they have completed a two year course at the University Gozo Centre. The course was offered by the Board of Studies of IT of the University of Malta through the video-conferencting system.

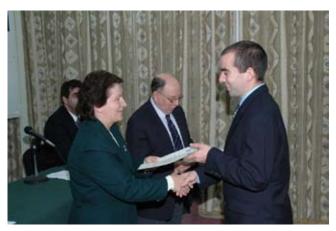
#### **Award of Certificates**

On 1 December the Hon. Giovanna Debono, distributed certificates to 39 candidates who had followed courses that were offered by the Ministry for Gozo at the University Gozo Centre between December 2005 and June 2006. The courses formed part of a project part-financed by the European Union under the Structural Funds Program for Malta 2004-2006 European Social Fund. The courses related to Agriculture, Business Studies, E-commerce and IT and Environmental Planning and Management.



The panel and the students who were eligible for the certificates

In her speech Minister Debono stated that she was very satisfied to see this first group of students completing such courses.



The Hon. Giovanna Debono awards a certificate to a participant who successfully completed a course in E-commerce and IT.

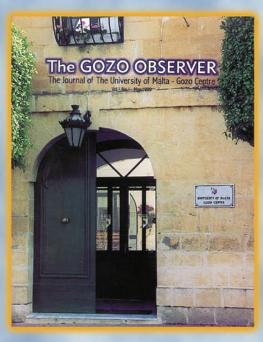
#### **Publications**

edition of the Gozo Observer was The 14th published in June. It contained a number of interesting articles, including an article by Godwin Vella analysing the man-land relations in Gozo during the Temple Period. Caroline Camilleri Rolls wrote about the economic aspect of Ramla Bay while Nadia Farrugia and Stephanie Vella, discussed 'The Gozo Workshop on Economic Resilience in Small States' held at the University Gozo Centre between 10 and 12 April. The history of broadcasting in Gozo was analysed by Dr Kevin Aguilina. The extra-curricular activities held at the Gozo Centre between January and June 2006 were described by the present author, while a short feature highlighted the work of the young Gozitan artist Nicolene Sagona.



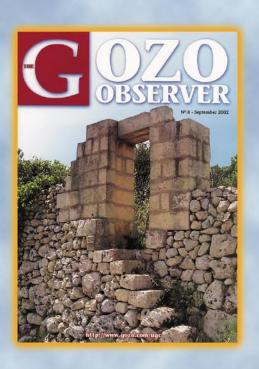
Free copies of the Gozo Observer and more information can be obtained from the University Gozo Centre, Mgarr Road, Xewkija, Gozo Tel: 21564559; Fax 21564550 email: ugc@um.edu.mt.

Joseph Calleja is Administrative Officer at the University Gozo Centre.



The Gozo Observer is published twice a year by the University of Malta Gozo Centre. It contains articles relating to all aspects of life in Gozo, including culture, education, business, arts and literature. Those wishing to submit articles for inclusion in the Gozo Observer should contact the Editor of the magazine (contact details below)





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The Editor,
Gozo Observer,
University
Gozo Centre,
Mgarr Road, Xewkija
Gozo,
Tel: +356 21564559, Fax:
+356 21564550;
e-mail: ugc@um.edu.mt.

