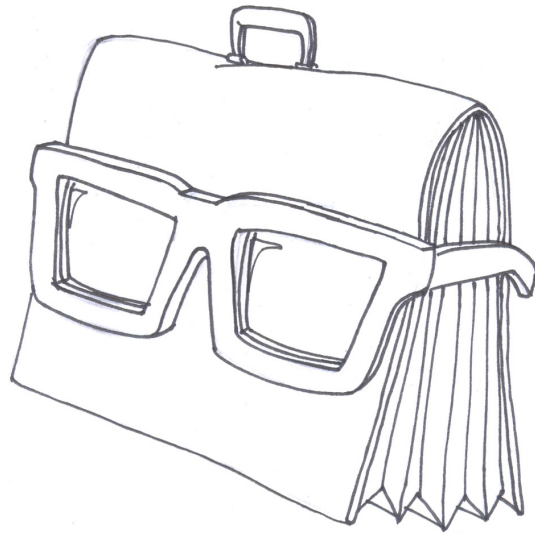# Chapter 12
Case Studies

Do not do anything that anyone else can do readily.

Edwin Herbert Land

In Alan R. Earls and Nasrin Rohani, *Polaroid* (2005), 16.

This chapter describes two case studies which help the researcher to review how some studies are carried out and what use is made of the data. The first study describes how Census data is used to develop a series of online datasets that allow users to interact with the data. The second case study takes readers on a tour to the National Archives of Malta.

A taste for working with Census data
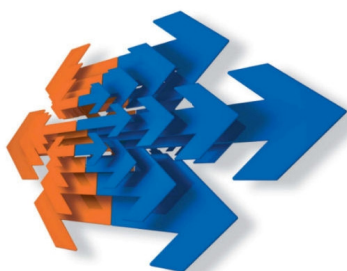
The Census of Population and Housing of the Maltese Islands is carried out every 10 years and entails a major enterprise that is carried out by the National Statistics Office (NSO). Works starts early in the year or the year before the Census where various phases are launched in order to enable a smooth running of the exercise. These phases include: the drafting of a list of enumerators (these are officials who establish contact with the members of the public and collect information from the household members), the identification and mapping of the routes they have to follow and which households they have to interview (over 160 thousand), logistical issues like interviewing of enumerators, monitoring their progress, inputting and double checking the questionnaire replies, chasing those persons who were not at home and a thousand other activities. Not a simple task but managed expertly by the Census Office and its Officers (Source: NSO presentation, Zammit S. & Mizzi R., (16 August 2010).

The Management

The Census is managed by an extensive team of professionals who take up the day-to-day running of the Census and ensure that the project runs smoothly. This management team is composed of the following persons:

- **Census Officer -** Person responsible for the Census and empowered to hold the Census in terms of the Census Act of 1948;
- **Chief Coordinator -** Person who runs the Census Office and is responsible for field operations;
- **Census Officers -** Group of persons carrying out the backend process of the project;
- **District Managers -** Responsible for field operations and the work being carried out by the Supervisors;
- **Supervisors -** Responsible for the guidance and direction of the Enumerators; and
- **Enumerators -** Officials who establish contact with the members of the public and collect information from the household members.

The Pre-Collection Process

Approximately 160K Census questionnaires were mailed to all private dwellings in Malta some weeks prior to Census Day (27 November 2005). Households were encouraged to fill in the questionnaire themselves. Enumerators were requested to assist the other households. The way the enumerators were managed was based on a NUTS5 structure further separated through a streets route mapping exercise

carried out by MEPA, which also delivered a map of the area each enumerator had to visit. There were around a 1000 maps generated along with the documentation listing the streets that can be found within each enumeration area.

In the images below, the first map (Figure 12.1) shows the streets within Attard where each colour represents the area that each enumerator had to visit. The second map (Figure 12.2) depicts the boundary inclusive of the streets within each boundary.
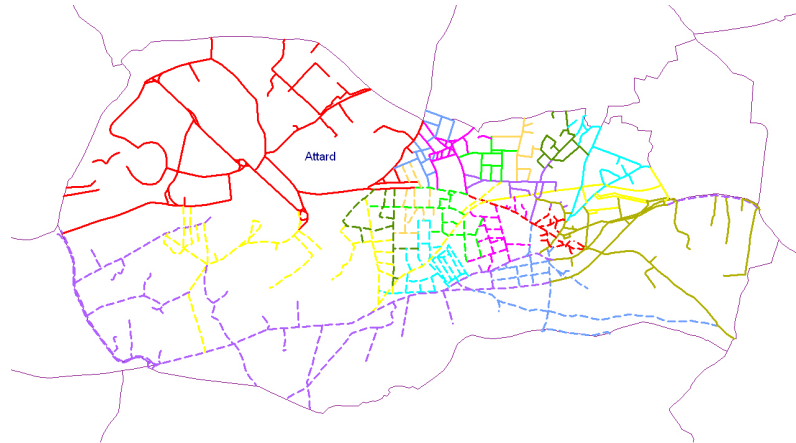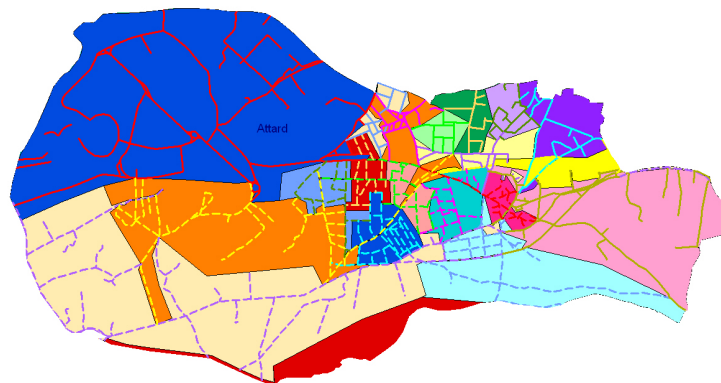
Figure 12.1: Attard Enumeration Areas - Streets

Figure 12.2: Attard Enumeration Areas - Boundaries

Data Collection Process

The collection process was carried out through a system where all households in Malta and Gozo were contacted by the NSO appointed enumerators during a three week period starting 21 November 2005 till the 11th December 2005. This process required the services of 87 supervisors who were appointed to act as a focal point in most localities and 6 district managers who were appointed to assist the supervisors.

Data Processing and Analysing

As the process necessitated that collected questionnaires were delivered to the Census Office on a regular basis, the actual data processing started immediately. The inputting phase lasted 2 months, including the inputting of those questionnaires that were collected after the reference period. The data analysis and production of statistical tables lasted about 12 months.

Publishing

There were 3 analogue publications and a digital publication

- Preliminary Report was published in April 2006

- Volume 1: Population was published in August 2007
- Volume 2: Dwellings was published in October 2007
- CD containing Volume I and 2 as well Interactive Maps pertaining to the tables published in the Volumes.
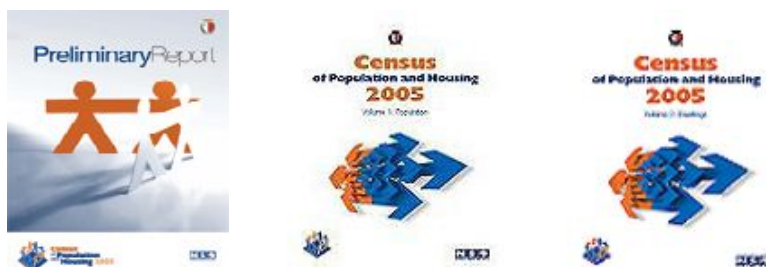
The extract from the Census 2005 website[1] summarises all this work through an overview by the Census Officer.

Census 2005

After a Census Order was issued in 2005, a Census of Population and Housing was undertaken between 21st November and 11th December 2005, with 27th November 2005 being established as Census Day. This was the sixteenth census to be carried out since the first one was undertaken in 1842. On my part, it was the second Census in which I served as Census Officer.

Preliminary findings, detailing the population count on a locality basis by age and sex, were published in April 2006. While that report presented a preliminary population count, this report presents the final count of the population, as on 27th November 2005, together with other socio-demographic results as well as information on our housing stock. A chapter outlining census methodology and a commentary on key census results are also being presented.

This Census presents a snapshot of the socio-demographic profile of our population in the early years of the 21st century. It presents a wide array of statistical reports, including a range of reports with internationally comparable indicators that are important for policy-making and research purposes. We feel confident that the results of this Census will be actively and profitably used for the benefit of our people.

In carrying out this project, particular attention was continuously paid to the quality aspects of our work. The enumeration process was rigorously monitored and evaluated with a view to ensuring coverage and the taking of remedial action whenever problems arose. This was then followed up by an extensive follow-up exercise in order to ensure the exhaustiveness of the enumeration process. This, together with the results of the post-enumeration survey, facilitated the imputation of any missing responses and the coding of a sample of occupation and economic activity codes. Finally, all the results were appropriately validated against other independent data sources in order to ensure their reliability.

A project of this magnitude cannot be carried out successfully without the full co-operation of the general public. Therefore, I would like to express my deep appreciation to all those who co-operated fully with the Census Office during and after the taking of the Census. Lastly, I would also like to express my heart-felt thanks to all the staff at the National Statistics Office and the Census Office for their hard work and dedication in implementing this project successfully.

Alfred Camilleri
Census Officer

25 July 2007

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[1] http://www.nso.gov.mt/site/page.aspx?pageid=351
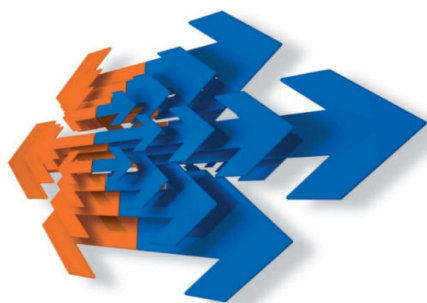
Using the Census for Research

A series of post-census analytical steps that researchers should employ is included below. The target is to map population data for comparison across the different NUTS5 areas.

Step 1: Getting to grips with the terminology

Once all the data has been inputted, the same data is made available at diverse levels of scale which protects information pertaining to individual respondents as it produces data at the various NUTS levels and at a detailed Enumeration Area level. This case study reviews the publication of interactive Census maps for researchers at the diverse NUTS, LAU and the EAS levels. However, once we introduced NUTS and EAS it is best to define them.

NUTS, LAU and EAS

The Nomenclature of Territorial Units, also known as NUTS, was developed by EUROSTAT[2] as far back as the 1970s but become a legal instrument through Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003. The regulation targeted the establishment of a common classification of territorial units for statistics (NUTS). It was aimed at ensuring the classification of territorial units into comparable levels which would allow researchers to compare data on the same level, such that an area in Gozo is compared to a similar area in France or The Netherlands where one would be assured that the base data refers to the same territorial category as based on population thresholds. The table below defines the thresholds for each of the NUTS 1 to 3 levels.

LEVEL	MINIMUM	MAXIMUM
NUTS 1	3 million	7 million
NUTS 2	800 000	3 million
NUTS 3	150 000	800 000

Source: EUROSTAT
http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/principles_characteristics

It is interesting to note that Malta would fall under a NUTS 3 as a state but the categorisations cater for the inclusion of each level for every country, thus Malta has classifications from NUTS 1 to 5.

Recently, levels 4 and 5 were termed as Local Area Units or LAUs and they cater for the smaller administrative units such as small districts and municipalities or local councils.

At this stage, readers are surely scratching their heads in bewilderment. All these terminologies could sound like the jargon we hear on science fiction films. No one will blame readers for feeling they have gone nuts!

In tabular format one can see the categorisation and the number of units in Malta (Table 12.1).

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[2] http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction

Table 12.1: NUTS/LAU Levels

NUTS Level	LAU Level	Designation	Maltese equivalent	Number of Units in Malta
1_2[3]		National (1) Regional (2)	National	1
3		Sub-Regional	Island	2 (Malta) (Gozo)
4	1	District	Districts	6
5	2	Least Administrative Units	Localities (Local Councils)	68 (54 in Malta) (14 in Gozo)

Another spatial layer that is used for research concerns that called the Enumeration Area layer. This level of data splits up the Maltese Islands in over 1,000 areas comprising on average 135-130 households. This level of data is very detailed and helps in the analysis of economic, social and behavioural issues at very detailed levels.

If one had to review these levels in map format (Figure 12.3), one would easily understand which areas the different NUTS levels are comprised of. Each map has the local councils layer overlaid for ease of reference.

Figure 12.3: Map Data Aggregations
(Note: colours represent individual areas under the different categorisations)

NUTS 1_2 – National

NUTS 3 – Islands

Description:
1 main map representing the Maltese Islands as a single unit: cyan colour with the magenta representing local council boundaries.

Description:
2 island-based spatial groupings: namely mainland Malta as one entity and Gozo and Comino as the other entity.

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[3] Note that Malta's NUTS 1 and 2 categories have been designated as the same due to the size of the state. In larger countries, such as Germany, the Landers would be given a NUTS 2 and the Federated State a NUTS 1 category.

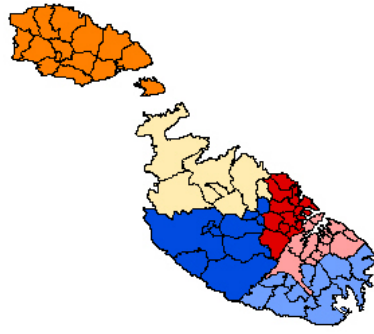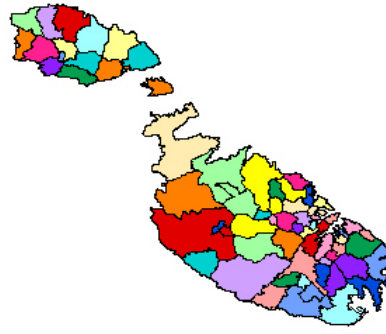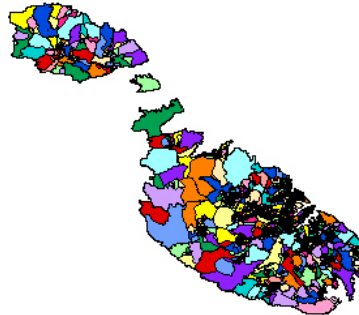NUTS 4 – Districts

Description:
6 Census Districts. No real administrative powers exist at this level.

NUTS 5 – Local Councils

Description:
68 councils serving as the least administrative unit as defined by the NUTS nomenclature. Each area has its own elected administrative council.

Enumeration Areas

Description:
1,157 Census-based enumeration areas based on the boundaries set for each enumerator nominally representing 150 households.

Once the base knowledge on what is required for this case study was gathered, the next step was to source the data required for the generation of a population map for the Maltese Islands with data going back as far as possible at NUTS4 (LAU1) and NUTS5 (LAU2) levels.

Step 2: Sourcing the Data

The table was sourced from the National Statistics Office, which population data was produced as from 1901, a total of 9 Censuses. Note that some localities did not exist prior to 2005 and one needs to take note that the current locality boundaries reflect the latest change that occurred in 1998 when Mtarfa was extracted from the locality of Rabat. For publishing clarity, the 2005 map is used, but one should note that the data referring to earlier Censuses should technically reflect the maps pertaining to the relative period, something which is difficult to employ since the boundary location is not always defined.

Table 12.2 was acquired and converted to spreadsheet and spatial format.

Table 12.2: Overview of total population by locality: Censuses since 1901

	1901	1921	1931	1948	1957	1967	1985	1995	2005
MALTA	**184,742**	**212,258**	**241,621**	**305,991**	**319,620**	**314,216**	**345,418**	**378,132**	**404,962**
Malta	**164,952**	**189,697**	**217,784**	**278,311**	**292,019**	**288,238**	**319,736**	**349,106**	**373,955**
Gozo and Comino	**19,790**	**22,561**	**23,837**	**27,680**	**27,601**	**25,978**	**25,682**	**29,026**	**31,007**
Southern Harbour	**70,244**	**79,001**	**87,811**	**84,206**	**90,705**	**87,879**	**86,843**	**83,234**	**81,047**
Birgu	6,093	5,887	6,573	3,816	4,242	4,017	3,572	3,069	2,701
Bormla	12,148	11,536	12,163	4,822	9,095	9,123	7,731	6,085	5,657
Fgura	-	-	-	-	-	2,737	8,254	11,042	11,258
Floriana	5,687	5,907	6,241	5,074	5,811	4,944	3,327	2,701	2,240
Isla	8,093	7,741	7,683	2,756	5,065	4,749	4,158	3,528	3,074
Kalkara	1,158	1,698	1,899	2,068	2,101	1,945	2,086	2,833	2,882
Luqa	3,670	3,607	4,059	4,318	5,382	5,413	5,585	6,150	6,072
Marsa	-	4,838	7,867	11,560	10,672	9,722	7,953	5,324	5,344
Paola	2,812	5,475	7,297	14,793	11,424	11,794	11,744	9,400	8,822
Santa Luċija	-	-	-	-	-	-	3,208	3,605	3,186
Tarxien	2,065	2,876	3,247	4,607	7,706	7,989	7,016	7,412	7,597
Valletta	22,768	22,392	22,779	18,666	18,202	15,279	9,340	7,262	6,300
Xgħajra	-	-	-	-	-	-	-	685	1,243
Żabbar	5,750	7,044	8,003	11,726	11,005	10,167	12,869	14,138	14,671
Northern Harbour	**42,774**	**52,347**	**63,941**	**101,526**	**104,889**	**102,938**	**113,730**	**118,409**	**119,332**
Birkirkara	8,417	8,565	10,345	16,070	16,987	17,213	20,385	21,281	21,858
Gżira	-	-	-	6,295	8,545	9,575	8,471	7,872	7,090
Ħamrun	10,393	10,434	11,580	17,124	16,895	14,787	13,682	11,195	9,541
Msida	3,826	5,196	6,334	9,690	10,663	11,437	6,219	6,942	7,629
Pembroke	-	-	-	-	-	-	-	2,213	2,935
Pieta'	-	-	-	-	-	-	4,380	4,307	3,846
Qormi	8,187	9,286	10,165	14,396	14,869	15,398	18,256	17,694	16,559
San Ġiljan	1,444	2,594	3,998	9,122	8,285	7,394	10,239	7,352	7,752
San Ġwann	-	-	-	-	-	-	8,179	12,011	12,737
Santa Venera	-	1,910	2,639	4,535	5,246	6,134	7,827	6,183	6,075
Sliema	10,507	14,362	18,880	24,294	23,399	21,000	14,137	12,906	13,242
Swieqi	-	-	-	-	-	-	-	6,721	8,208
Ta' Xbiex	-	-	-	-	-	-	1,955	1,732	1,860
South Eastern	**17,546**	**20,090**	**23,052**	**34,208**	**36,854**	**35,224**	**42,475**	**50,650**	**59,371**
Birżebbuġa	-	1,219	1,724	5,339	5,297	4,876	5,668	7,307	8,564
Għaxaq	1,518	1,629	1,896	2,448	2,830	2,866	3,655	4,126	4,405
Gudja	1,133	1,167	1,283	1,486	1,712	1,729	2,156	2,882	2,923
Kirkop	633	707	805	1,016	1,204	1,225	1,559	1,957	2,185
Marsaskala	-	-	-	-	888	876	1,936	4,770	9,346
Marsaxlokk	446	791	829	1,431	1,469	1,462	2,405	2,857	3,222
Mqabba	1,228	1,282	1,468	1,965	2,088	2,120	2,269	2,613	3,021
Qrendi	1,333	1,526	1,611	2,144	2,155	2,094	2,199	2,344	2,535
Safi	367	459	448	1,040	709	784	1,323	1,731	1,979
Żejtun	7,234	7,701	8,731	11,980	11,665	10,440	11,321	11,379	11,410
Żurrieq	3,654	3,609	4,257	5,359	6,837	6,752	7,984	8,684	9,781

	1901	1921	1931	1948	1957	1967	1985	1995	2005
Western	**21,666**	**23,587**	**26,393**	**34,899**	**36,196**	**36,142**	**44,580**	**51,961**	**57,038**
Attard	1,837	2,058	2,354	2,480	2,663	2,570	5,681	9,214	10,405
Balzan	1,096	1,313	1,661	2,637	2,734	3,301	4,781	3,560	3,869
Dingli	807	1,087	1,258	1,869	2,041	1,795	2,047	2,725	3,347
Iklin	-	-	-	-	-	-	-	3,098	3,220
Lija	1,692	1,612	1,795	1,950	2,119	2,143	3,078	2,497	2,797
Mdina	304	816	982	1,384	823	988	421	377	278
Mtarfa	-	-	-	-	-	-	-	-	2,426
Rabat	7,211	7,985	9,050	12,503	12,792	12,243	12,920	12,995	11,473
Siġġiewi	3,265	3,355	3,537	4,583	5,055	4,971	5,864	7,097	7,931
Żebbuġ	5,454	5,361	5,756	7,493	7,969	8,131	9,788	10,398	11,292
Northern	**12,722**	**14,672**	**16,587**	**23,472**	**23,375**	**23,933**	**32,108**	**44,852**	**57,167**
Għargħur	1,377	1,327	1,483	1,690	1,813	1,774	2,321	1,991	2,352
Mellieħa	2,357	2,637	3,198	4,549	4,290	4,279	4,525	6,221	7,676
Mġarr	745	1,271	1,627	2,218	2,167	2,115	2,188	2,672	3,014
Mosta	4,629	4,866	5,251	7,186	7,377	8,334	12,148	16,754	18,735
Naxxar	3,429	2,886	3,249	4,389	4,688	4,643	6,461	9,822	11,978
San Pawl Il-Baħar	185	1,685	1,779	3,440	3,040	2,788	4,465	7,392	13,412
Gozo and Comino	**19,790**	**22,561**	**23,837**	**27,680**	**27,601**	**25,978**	**25,682**	**29,026**	**31,007**
Fontana	-	-	-	-	-	893	836	817	850
Għajnsielem and Comino	1,121	1,250	1,449	1,878	1,860	1,755	1,809	2,176	2,570
Għarb	1,091	1,402	1,398	1,555	1,269	1,117	983	1,030	1,146
Għasri	467	409	467	594	471	374	335	369	418
Kerċem	1,037	1,143	1,212	1,307	1,272	1,251	1,411	1,557	1,665
Munxar	-	-	-	-	-	420	507	780	1,052
Nadur	2,948	3,460	3,354	3,465	4,136	3,694	3,482	3,882	4,192
Qala	1,219	1,340	1,601	1,569	1,616	1,522	1,369	1,492	1,616
Rabat	5,057	5,219	5,531	6,175	6,357	5,462	5,968	6,524	6,395
San Lawrenz	643	528	499	413	428	511	517	552	598
Sannat	1,116	1,228	1,324	1,625	1,656	1,297	1,309	1,604	1,725
Xagħra	2,562	3,262	3,522	4,759	4,056	3,517	3,202	3,669	3,934
Xewkija	1,762	2,314	2,470	3,079	3,281	2,999	2,772	3,128	3,111
Żebbuġ	767	1,006	1,010	1,261	1,199	1,166	1,182	1,446	1,735

Data from various censuses

Notes:
A Gżira shown as a separate locality since 1948.
B New locality of Msieraħ (San Ġwann) constituted from parts of
   Birkirkara and San Ġiljan and shown as separate locality in 1967.
C New locality of Fgura constituted from parts of Paola, Tarxien and
   Żabbar in 1967.
D Marsaskala shown as a separate locality since 1957.
E New locality of Munxar constituted from parts of Sannat and Fontana.
F New locality of Fontana shown as separate locality in 1967.
G Gwardamangia formed part of Ħamrun in 1967.
H Pieta' formed part of Msida in 1967.
I St Luċija formed part of Tarxien and Paola in 1967.
J Ta' Xbiex formed part of Msida and Gżira in 1967.
K Pembroke formed part of San Ġiljan in 1985.
L Swieqi formed part of San Ġiljan in 1985.
M Xgħajra formed part of Żabbar in 1985.
N Iklin formed part of Lija, Birkirkara, Naxxar and San Ġwann in 1985.
O Mtarfa formed part of Rabat (Malta) in 1995.
P The boundaries of some localities were changed between 1995 and
   2005.

Source: National Statistics Office, (2007), Census of Population and Housing: Volume 1 – Population, Valletta, ISBN: 978-9909-73-51-8.

Step 3: Analysing the Data

The table shows that two levels of NUTS/LAU can be used as the data produced is a district (NUTS4 – LAU1) and at locality (NUTS 5 – LAU2) levels. This situation enables the researcher to gather comparable data from other themes at those levels.

In our study we shall carry out simple exercises to analyse which immediate information one can extract from the dataset, such as the district (or locality) with the highest population, those that have seen declines, those that have seen a surge in population and other such queries.

Taking the NUTS 4 data and creating a graph would result in an image as depicted below in Figure 12.4.

Figure 12.4: NUTS 4 - Malta
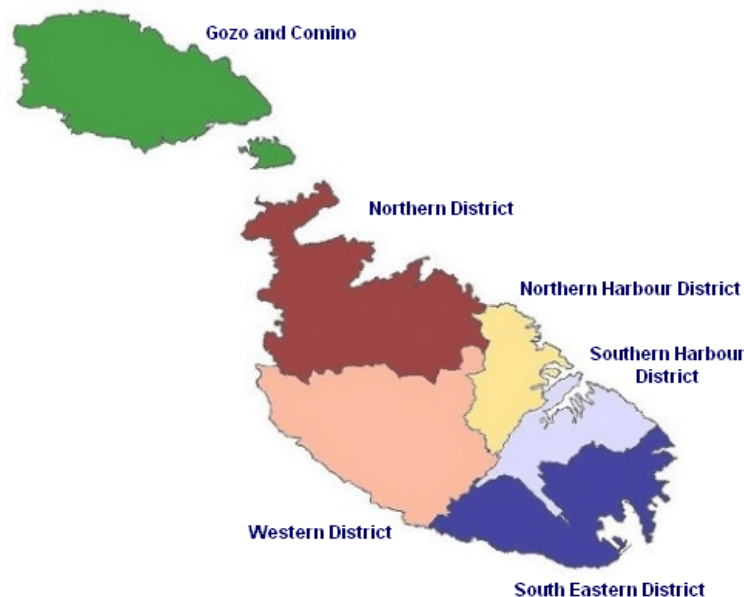
NUTS 4 - LAU1
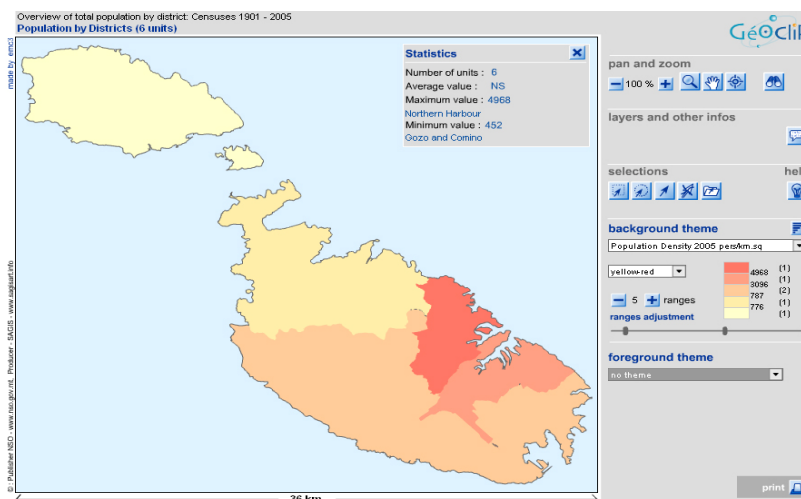**Population 1901 - 2005**
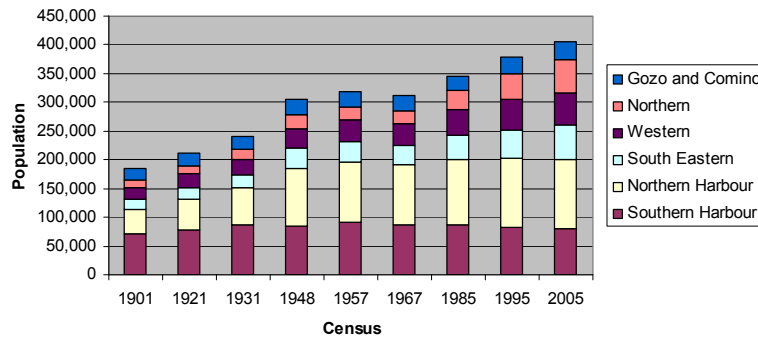
After reading the graph, one can reach a conclusion that the NUTS 4 district which experienced most growth was the Northern Harbour region. Interestingly, the emigration experience of the 1960s shows a dent (decline) which picks up again and increases rapidly after that as shown by Censuses 1985, 1995 and 2005.

Step 4: Visualising the Results

Spatial queries also allow us to carry out such analysis on spatial-related data such as the area which gives us population density, since that is a more realistic variable than absolute numbers.

The following map depicts the output in digital format produced from Census 2005 as part of the publications. The maps have been generated through a GIS product embedded in a multimedia application. The interface contains a left-hand-side menu for document/application launching, a central map area which one can click on to view data and a right-hand-side interactive manipulation system for map and data generation as choropleths (Figure 12.5), and graduated formats. The source for the following figures (12.5-12.12) is http://www.sagisart.info/nso/census2005/

Figure 12.5: Choropleth map depicting population density at NUTS4 – LAU1 in 2005

The next maps show two image employing graduated maps which depict the populations between 1901 (Figure 12.6) and 2005 (Figure 12.7) respectively.

218
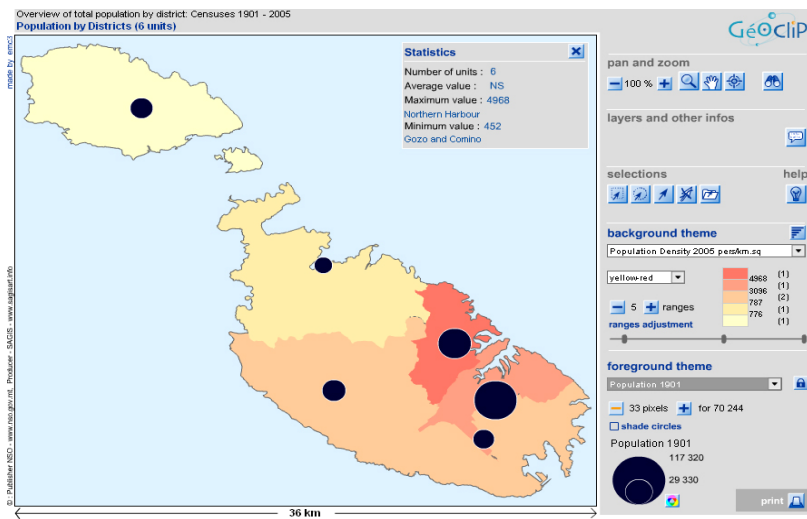
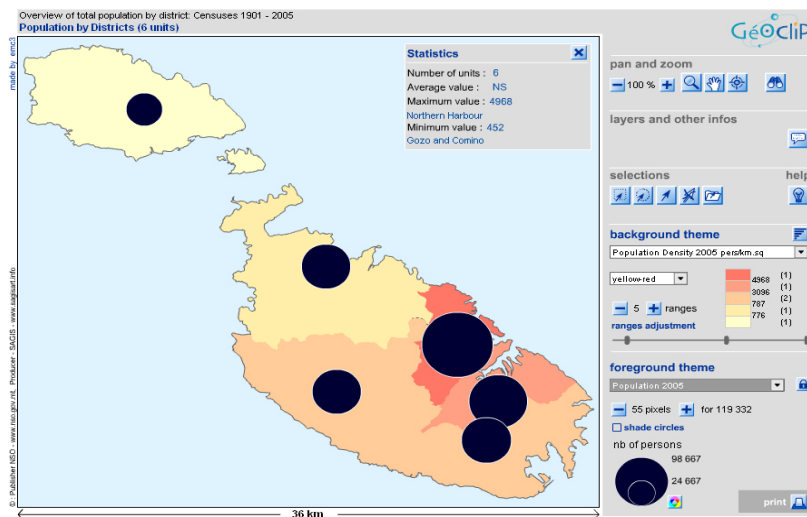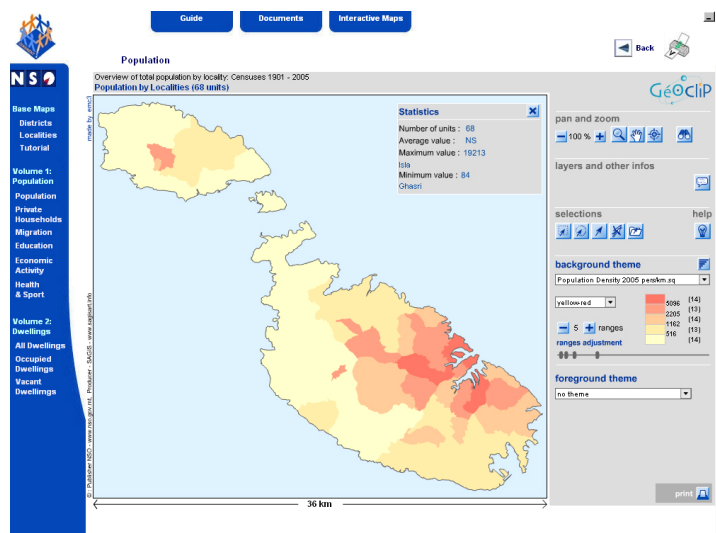**Figure 12.6: Population Graduated map – NUTS4 – LAU1: 1901**

**Figure 12.7: Population Graduated map – NUTS4 – LAU1: 2005**

The next set of outputs depict the data at NUTS 5 (LAU2) level with Figure 12.8 depicting the data for 2005.

Figure 12.8: Choropleth map depicting population density at NUTS5 – LAU2 in 2005
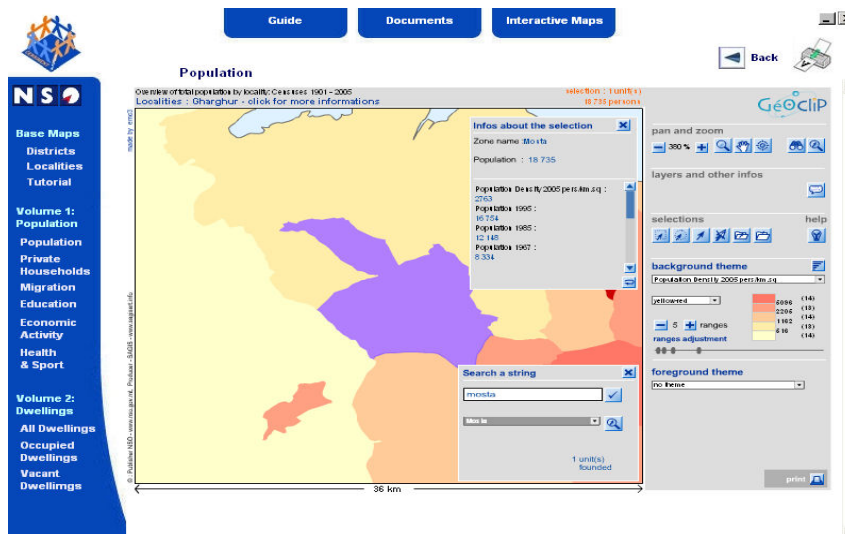
The map has been generated through a GIS product embedded in a multimedia application.

One can search through the data through string searches (Figure 12.9).

Figure 12.9: Search Facility
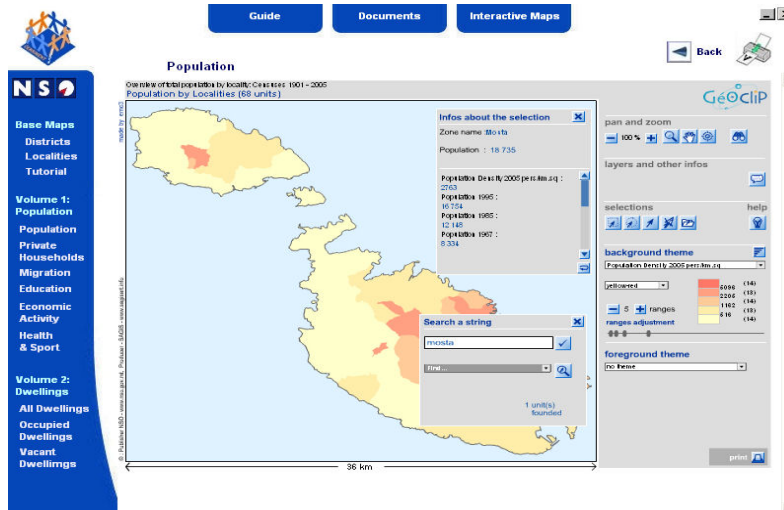
There is also the option to zoom in to the search results (Figure 12.10).

Figure 12.10: Zooming Facility

The next maps show two image employing graduated maps which depict the populations between 1901 (Figure 12.11) and 2005 (Figure 12.12) respectively.

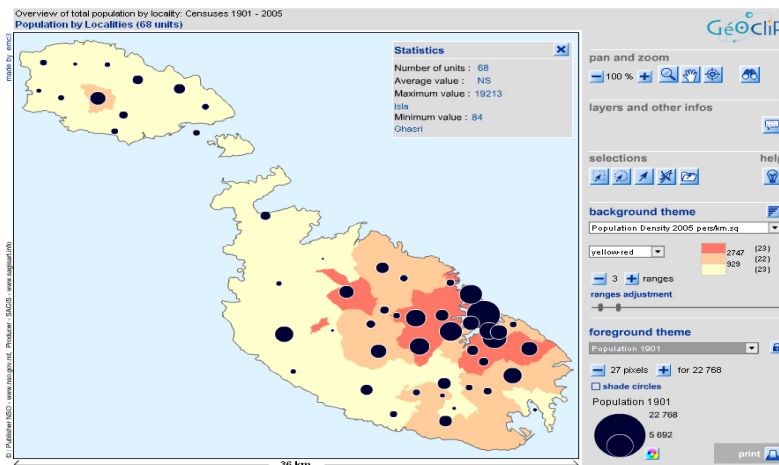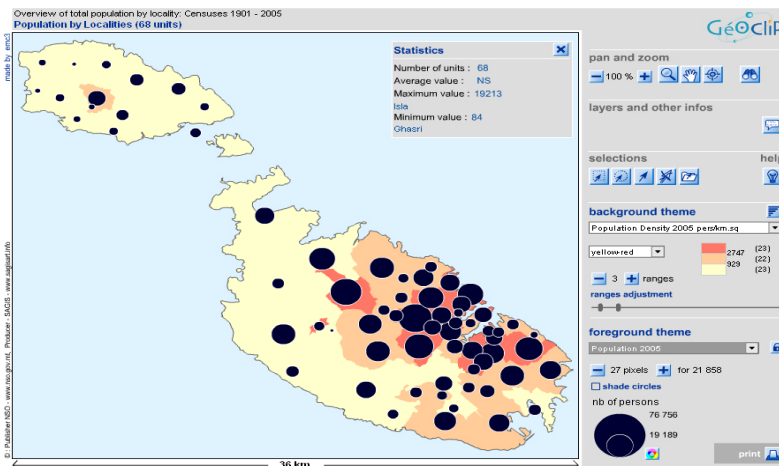**Figure 12.11: Population Graduated map – NUTS 5 – LAU 2: 1901**

Figure 12.12: Population Graduated map – NUTS 5 – LAU 2: 2005

This case study gave an overview of the process one can employ in order to source data such as the Census 2005 case and to depict the analytical outputs in either chart of spatial format. The technology used to develop the mapped output required knowledge of GIS and of spatial tools which serve as add-ons to the base software. The result is relatively easy to use and allows users who have no knowledge of mapping to actually create their own maps and to save that data for their particular reports.

In an Archive

The following section will give a brief summary of a PhD research (Scicluna, 2004) conducted between 1998 – 2004 utilising the archives of the Malta prison. This research analysed data between 1850 and 1851. Access is not always easy, and in this case, due to the sensitive data that might be stored in the archive access was problematic. The national archives were worried about giving permission to the researcher to consult the prison ledgers because they were afraid that there was some information that could not be published or that should not be made available to the general public. Consequently, they asked to researcher to ask the prison authorities for their permission.

Even here the authorities were not at ease granting permission, mainly because they were not sure what was in the archives. At the end it was the permanent secretary for Home Affairs who granted permission with the condition that names and information could not be used in a way that would identify or incriminate people. Therefore, the researcher could only identify individuals who were previously mentioned in public documents.

When the idea of conducting a research utilizing the public archive was conceived, the researched had assumed that the prison archive was well organised. This was not so and the first thing was the actual organisation of the archive before any research work could start. Although this was hard work it enabled the researcher to really know what was kept in the archive. It is not usual that researchers are allowed to organize archives as this is usually done by people working in the archive itself. Undoubtedly, the researcher was known as a trust-worthy person since the archive authorities are very protective of their documents. Naturally, they expect no papers to be damaged or found missing. Maintaining an archive is indeed a very sensitive job.

It is important that the researcher knows that the records that are being analysed are the real records and not some imitation. In this case, the passage of the prison records could easily be traced. They had been kept in a room in prison until 1982, when the then Director of Prisons, Mr Ronald Theuma, asked a prisoner to organise them. This prisoner was neither a librarian nor an archivist therefore he did his best and categorised the material by subject. After two prison riots in 1992, all the ledgers were packed quickly in boxes and sent to Fort St. Elmo for storage. Storage here was not ideal. They were kept in two closed rooms, elevated from the floor by wooden planks, but humidity in the rooms was very high. The rooms overlooked the Grand Harbour in Valletta resulting in a combination of humidity and sea spray that could damage and corrupt the ledgers.

DePew (1991:45) points to the hazards of storing documents in high humidity or areas exposed to the sun. For most of their existence, these documents have been kept in these conditions. High humidity is to be found in both the prison and Fort St. Elmo. Sauna-like temperatures and high humidity cause chemical reactions in the paper that quicken deterioration. Due to the type of material used and the conditions under which they were kept, some ledgers proved illegible. After six years of inadequate storage, on the 15th April 1998 they were finally transferred to the National Archives of Malta (NAM), still packed in boxes.

Storage in the NAM was better. The material was raised on iron planks and dehumidifiers were in use, but staff shortages meant that the records were being conserved but not processed. The researcher first saw the prison archival material in this state. The researcher decided to wait for six months in order to enable the finalization of the NAM categorisation of the records. This did not take place and in December 1999, the researcher took the decision to open the boxes and sort the documentation. This was an unexpected and unwarranted additional research task. It was complex, time consuming and laborious – and for the first time 'hard labour' took on a new meaning!

The volume of archival material was staggering. A sizable room was packed with 303 large boxes (Figure 12.13). The names of the ledgers alone amounted to 58 A-4 pages. With a span of almost 150 years ledgers tended to be of various shapes and sizes. The easiest were the admission ledgers. These had kept the same size and almost the same shape. They are big ledgers (A3 size or bigger) and thick, therefore heavy. There are 214 such ledgers. The ledgers were haphazardly placed, and there was no continuity concerning relevant year(s), categories of information and even ledger titles.

Figure 12.13: Prison Archives in Boxes

Under the direction of the officer in charge of the NAM the researcher started the process of sorting the archive. The first process was to divide the ledgers into various types of categories. Once this was done, a process, which took more than a hundred hours with the help from employees of the archive and some friends, the researcher could embark on the second phase. This involved organising each category according to the way it was produced, including tagging the ledgers with their date of origin and placing them in the appropriate order (Figure 12.14). A parallel process involved the recording of ledgers on separate sheets of paper, so that at the end of the process one had all the information ordered.

After a year, working an average of 15 to 20 hours per week, the researcher could actually begin data collection. The total absence of archival classification at the start of the project was a major research problematic. Each prison ledger is given a code, always beginning with CCP (Corradino Civil Prison) followed by a slash and a number representing the category of the ledger it is referring to, and then another number referring to the ledger itself. For example the 1850 admission register would be referred to as CCP/01/01. As not all the categories have been numbered in certain cases the researcher would not be able to give the number given by the archive of a certain document. In these cases the name and the year of the ledger would be given.

Figure 12.14: The Sorted Archive

The documents being analysed were the prison documents as movement from one site to the other was always carefully monitored. For more than a century, they had piled up in prison and when they were moved, they were moved to safety. Therefore, they were surely authentic. They were also credible in that it was possible to compare some rough or draft ledgers with the final version, and see corrections appropriately made. Another example includes an admissions ledger where pages had been bound incorrectly; giving the misleading impression that offenders had been imprisoned before having been convicted. These documents were also representative of the era as the information found in the ledgers was substantiated in other documents found in the archives from the same era. The documents were also meaningful in that what was written made sense. Therefore the researcher could conclude that these documents were authentic, credible, representative and meaningful.

Safe storage is always a priority. When the ledgers were kept in prison, they were housed in a central area with limited access. Once they were moved a list was drawn up of the individual ledgers. When the researcher opened the boxes, all the ledgers were checked against this index. They all matched. The documents were clearly authentic but storage was not always ideal. Safety was threatened by prison riots in 1992. There was some fire damage. The records were removed to Fort St. Elmo, Valletta, but high humidity led to physical deterioration, although they could still be readily consulted. There are very few gaps in the sequence of journals. Most ledgers survived and there is internal

consistency in entries from one journal to another. This confirms representativeness (Scott, 1990:106), but there are some puzzling anomalies. For example the prison regulations of 1850 refer to the chaplain's journal but no record of this was found prior to 1887. This means either that in the first 37 years no material was produced or that if it did it was lost or destroyed.

Not all the documents contained important data. Some documents were produced to meet simple organisational needs (Scott, 1990:11) and others were so heavily predicated or taken-for-granted assumptions about every day routines that they tend to be banal (Scott 1990:123). An example of the latter includes 'Nothing to report' entries in the superintendent's journal. Conversely, other entries report daily routine in painstaking detail. Human idiosyncrasies add to data richness (which supports authenticity), although not necessarily ease of interpretation.

The admission ledgers offered near uniform data collected over 100 years. There were omissions, the most frequent being about school attendance. For data analysis purpose, certain data categories were collapsed for example length of imprisonment into 30-day periods (because most prisoners were sentenced to short terms) and age into five-year bands. Analysis by type of crime was problematic because over one hundred offences were recorded. Only the most common offences were used for the analysis of data. The decision to collapse categories was dictated mostly by analysis and data presentation problems.

The Maltese Islands were divided into six regions (in line with the division of the Maltese islands used in the 1985 census) for the purpose of analysing prisoners by area of residence. There was also a provision for prisoners coming from a military or naval base, a commercial ship and persons coming from abroad. Some place names in Malta and Gozo have either undergone a change or have disappeared. Some examples are Macabiba which is today's Mqabba, Garbo and Caccia two villages in Gozo that do not exist anymore. Spelling of Maltese words varied considerably, therefore deciphering the hand written script was sometimes problematic.

In the 19th century recidivism by receipt of prison sentence was recorded on each occasion until the tenth prison term, when the term 'several' is routinely used. From 1931 onwards a distinction was made between first-time and second-time offenders, whilst all others were classed as 'several'. The professions of inmates were classified as professional (including merchants), skilled (such as bakers and farmers), semi-skilled (such as servants and bus drivers), unskilled (such as hawkers and street sweepers), housewives, unemployed, beggars and school children. Some job names, such as carter (someone who constructed or repaired carts) are no longer in use.

The prison archive was indeed very rich in information. However other information was to be found at NAM, which continued to give the global picture of what was happening in the prisons during the period under study. The office of the chief secretary of state was the administrative office of the Civil Government. All departmental, consular, ecclesiastical and individual correspondences were channelled through it. This was the fulcrum where all orders from the central government to the various departments originated. A central filing system kept records of these letters. This office originated with the first government on 5th October 1813 and continued to function until October 1921 when the mandate of the self-government gave responsibility for administrative papers to the Maltese government. Destruction of documents was common, as with the destruction of letters in 1870 to make room for later records; and others were lost through ignorance, accidents or bad storage (Scott, 1990:25).

The dispatches from and to the secretary of state cover a period from 1800 to 1901. These registers are copies of the correspondence between the governors and the secretary of state or the civil commissioner. Therefore they give a good idea of the problems being faced by the prison authorities. Copied documents pose problems as they could have been mistranscribed or some entries left out (Scott, 1990:102). The researcher tried to solve this problem by seeing various copies of the same documents where possible and assessing that the instructions received made logical sense when compared with the knowledge gained. Some misprints were identified in this manner, for example: the entry in the admission register gave a two year old boy, imprisoned for theft. This was surely a misprint. Probably a distracted clerk wrote 2 instead of 22.

Other document consulted at NAM were, the lieutenant government office files, which cover a period between 1835 and 1847. They document the administrative work of the lieutenant government's office. These files are the most substantial having an average of twelve ledgers of about 150 letters each for each year. Most of these files do not have indexes, therefore when looking for correspondence about the Corradino prison one had to laboriously leaf through all the files.

The blue book, a collection of yearly reports written by Maltese institutions (e.g. health, education, prison and so on) was also found to be useful. It covers a period from 1800 to 1939. After this period the annual departmental reports perform the same function. The blue book was of particular importance as it contained a collection of information on the prison and about the year's activity, giving the researcher the information needed for the construction of the initial framework for the analysis of the year. Annual or quarterly reports were produced by the Board of Visitors to be submitted to the lieutenant government office, and by the inspector of prisons, the superintendent/director of prisons, by the chaplain and by the chief medical officer to be submitted to the Board of Visitors.

In any archive there are numerous ledgers, some are important for research others are routine documents that do not give much information. The researcher has to decide which ledgers are the most important and what to analyse. Looking at every bit of paper will prove impossible, laborious and not very fruitful. Searching within an archive is like conducting an investigation. You will never know what you will find, some days will be laborious and unfruitful in other days you will strike a pot of gold. Be prepared to work hard and spend hours going through ledgers but at the end the results are worth it.

Conclusion

The two case studies presented here depict drastically different modes of data collection, contrasting a real-life collective exercise such as the Census with the solitary collection in an Archive alongside 100 year-old documentation.

Both had the ultimate aim of carrying out research within the rules and structures that such studies should be undertaken and both reached their targets. Also both fall under strict data protection rules which must be observed such as the protection of the individual household and the protection of the individual incarcerated person.

The data gathering process is a laborious task as seen above and barriers can come up at any moment, however with a determined approach the targets will be reached.

Questions (refer to Appendix for the answers)

1. How frequently is the Census of Population and Housing of the Maltese Islands carried out?

2. Who conducts this laborious survey (the Census of Population and Housing of the Maltese Islands)?

3. List the six main steps done by the Malta National Statistics Office before the actual census starts.

4. Who are the people (mention just their roles/official nomenclature) that comprise the Malta Census Management Team?

5. List the four main steps a researcher would take when using the Census for research.

6. Briefly describe the main problems, an archival researcher might encounter.