Urban Design Strategy Report on Tall Buildings in Malta

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Table of Contents

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1.0 Introduction

This project was sponsored and funded by J. William Fulbright Foreign Scholarship Board (FSB) and the Council for International Exchange of Scholars (CIES) and co-sponsored by the Department of State of the U.S. Government. This prestigious award is bestowed on a U.S. expert specialized in a particular field. The Fulbright Grant (Fulbright #2694) was awarded to me for a period of 42 days (May 14-June 25, 2008) in Malta and working with the Malta Environmental and Planning Authority (MEPA) and the School of Architecture of the University of Malta. The overarching purpose of the project was for me to offer expert advice to MEPA planning professionals and provide policy guidance on the siting, use and design of tall buildings in appropriate locations in Malta.

In brief terms, the principal objectives laid down for the project have been to:

- Assess the existing situation related to high-rise construction in Malta;
- Assess the locations earmarked for tall buildings by the 2006 Planning Policy;
- Select specific locations for which a character appraisal is carried out;
- Study the architectural style and construction of tall buildings in Malta;
- Draft an urban design strategy report for the selected locations; and
- Promote and disseminate information about the design strategy and tall buildings to others.

2.0 Basic Requirements of a Tall Building

A dominant physical factor in a city is the tall building. When a tall building is mentioned, it is assumed that everyone means the same thing, but this is not really so. In general, the term “tall building” defines buildings that considerably exceed the average height of existing buildings. Another way is to define it by a minimum number of stories. Both definitions are problematic since “tall” is a relative term. A 10-storey building in a city of two or three storey buildings is tall, but in a city like New York, Chicago or Hong Kong, it will be barely noticed. Thus the Council on Tall Buildings and Urban Habitat (CTBUH) states: “the proper definition of a tall building is not in the number of stories or the height per se, but in whether or not the planning, design, operation, or urban impact is influenced by the quality of tallness”.

Some basic requirements of a tall building are that it looks “tall” and the public must accept its aesthetic quality. Tall buildings must have both visual and environmental impacts. They alter the cityscape, affect neighbourhoods, bring growth and change, as well as create a microclimate around them. They must fit into the community and provide for activities within them. Then they must function once built. The structure must be safe and capable of carrying normal and accidental overloads. The building envelope must protect the internal environment from the elements. Mechanical and electrical systems as well as elevators must be provided. Natural ventilation and humidity control should be ensured to maintain good indoor air quality.

The fire protection system is very important in tall buildings because of their large number of storeys and the psychological fear of people for being trapped during a fire event. Architectural planning must provide for egress and ease of evacuation. Another important requirement is their communication systems that are essential for security and operation of the building.

Tall buildings provide agglomeration reducing urban sprawl and savings in automobile fuel and travel time, and represent progress and prosperity of a city by creating a skyline that the inhabitants can feel proud of and visitors find impressive. While rapid urban growth, high population density, and the scarcity and skyrocketing price of land contribute to explaining in part the current worldwide trend for constructing tall buildings and towards increasing verticality, these are not their only reasons. There are inimitable egos of their promoters and owners to go higher, compete with one another in height and form. Today's new and uniquely formed tall buildings reflect the economic status and power of the owners, of cities and even of countries and of entire regions. A tall building as an urban form can only be successful if it is properly conceived, planned, and designed as well as it is viewed as part of urban development in terms of land use, traffic control and resource management of a city. In other words, how a tall building integrates with the city is the key to its eventual success.

3.0 The Case of Malta

Malta is an island nation in the Mediterranean Sea strategically located between the Middle East and Europe. A construction boom has lately started here particularly in the realm of high-rise buildings. This is surprising because there is neither a notable population increase nor accelerating economic growth. Current Malta's population is around 400,000 with most living in the satellite towns around Valletta, Sliema and Grand Harbour forming a conurbation around the two main harbours. About 90% of the population lives in urban areas constituting 25% of the total area of Malta (excluding Gozo). Other than tourism the country is dependent upon foreign trade, shipbuilding and repair, construction, and manufacturing – especially electronics and textiles. Malta has recently become a member of the European Union and introduced Euro as its currency. What is noticeable of Malta from the air, sea and land is the dominating horizontal scale of the city with little green vegetation in which buildings are densely built – a process that dates back to medieval times. Thus urban density is a definite issue here and the introduction of tall buildings becomes understandable to make the urban life better with or without changing density Tall buildings have definitely an urban character and they promise advantages that the present buildings can no longer offer: more green open spaces, less street noise, better air and light and better views. They have a symbolic value as they represent a proud, invulnerable city and could accomplish an important socio-economic purpose.

The strategy for controlling building heights was the Structure Plan of 1990, reviewed periodically, that named the concept of Floor Area Ratio (FAR), defined as the gross floor area to the site area, as the tool for such control. MEPA's definition of FAR is of course somewhat different from its standard definition in that it determines the maximum allowable gross floor area from the product of the site area and the number of floors allowed on a given site. Thus the two definitions conceptually accomplish similar objectives to control building heights. It has been endorsed as a detailed policy in the Policy and Design Guidance of 2000 (DC 2000). Development Control was implemented this same year by MEPA by introducing the FAR conversion policy. This opened up the flood gate for a large number of building permit applications for tall buildings. The latest version of the document is the DC 2007.

3.1 Justification of Tall Buildings in Malta

Malta Conquering the vertical space for construction can create open spaces and make Malta look like a progressive nation. If Malta wants to be part of the global community, new forms of urbanization and urban architecture are essential.

Two important questions arise: Is construction of tall buildings economically feasible? Do the market forces propel the country in that direction? Obviously, a thorough economic study is necessary to answer these questions. There has been a steady increase in the GDP growth rate. Clearly, because a major part of the island has been preserved to prevent urban sprawl and maintain its rural character, by a government decision of 2006, there is little or no room for horizontal expansion. The combined pressures of high population density (about 6000 per sq. km in built-up urban areas) and widespread automobile use have had a significant impact on the environment. The country has few green areas. It also has rich heritage and cultural sites that cannot be neglected. To make matters worse for large high-rise developments, property ownership is very much fragmented among different owners.

As in any democratic society, there is public opposition to building new high-rises considered as alien intrusions next to low-rise sites and in whatever open spaces are left. Dominance of old ways of thinking and persistence of denial are other obstacles to the implementation of new ideas. There is no mass transit system or efficient public transportation network. All these factors lead to an enormous complexity with regard to high-rise construction in Malta.

A few high-rises are under construction at this writing and a few high-rises have already been built, and a large number of high-rise applications for permit are in the pipeline. All of these proposals are for residential construction even though at least 25% of existing residential units are now vacant. These new developments are speculative by developers who find an opportunity of selling them to buyers quickly at a profit.

This apparently shows strength of the present real estate market. However, it is not known and it remains to be seen whether buyers aspiring for investment can rent them with almost full occupancy rate or hold them for appreciation or else will live in them or make them their second homes. There is no demand at present for office space and no developer interest in tall office buildings.
Whether tall buildings are economically justifiable or not remains to be addressed. But they are certainly justified to create open space, replace dilapidated buildings and regenerate depressed neighborhoods, as well as for beautification of the landscape and creating a modern, progressive urban skyline. This will invariably attract foreign investment and face the challenges created by the forces of globalization.

4.0 The Mission Programme

The programme primarily involved a series of meetings and site visits. The schedule of meetings was intense with a total of 18 (see attached Meeting Notes). The initial meetings were with the Chairman, Director General, Directors, Managers and professional staff of MEPA. Other meetings were with local architects who have designed high-rises, the Chamber of Planners, the Chamber of Architects, NGOs, an economist, a social anthropologist and Dean of Faculty of Architecture and Civil Engineering, University of Malta. These meetings were extremely useful for me to gain insights into the local conditions from different perspectives. The meeting on June 19 was with MEPA Board where I gave a PowerPoint presentation.

The minutes of these meetings were recorded by Joseph Scalpello, who is the Team Manager and has set up the schedule for the programme. The minutes of the meetings are attached with this report.
For site visits I was guided by Mr. Scalpello. The visits were carried out to Tigne and Gzira on May 26, Qawra on May 28 and Pembroke, Paceville and Marsa on June 4. I revisited Paceville and Marsa on June 16 to get a better understanding of these two sites. I was shown these six earmarked locations by MEPA for potential future tall buildings and those that are under construction in these areas.

5.0 Impressions and Observation

Following are my general impressions and observations in broad terms from the various meetings and my own studies on Malta..
1. People of Malta are generally conservative, inward looking and very protective of their heritage, culture and traditions. This is understandable when one reviews the geography and history of Malta. The island is surrounded by the Mediterranean Sea, which creates isolation. Malta was successively attacked, invaded, or occupied by a long list of intruders: the Phoenicians, the Carthaginians, the Romans, the Arabs, the Turks, the French, and the British. The Maltese are deeply attached to their land and their remarkably rich culture, and insulated from and apprehensive of modern-day forces of globalization. Many of them are not open to the idea of constructing new high-rises because they do not like to live or work in them and consider them innovations from outside that they do not need. High-rises are considered intrusive and undesirable since in many settings they will block views of residents in low-rises and change the historic character of the city. They do not want to change their way of life.
2. Both commercial and residential high-rises are not justifiable from a strict economic point of view, because there is no demand in the rental market at present. Some developers are proposing speculative residential projects in locations of their choice to make quick money by selling to others despite the high degree of vacancy rates in existing dwelling units at present. Clearly, speculation implies risk. The buyers, who are both local and foreign, may use the apartment units for living, vacation residences and rental investment or holding them for future appreciation. It is not clear what the outcome will be for these buyers since no such completed high-rise apartment complex has been occupied and tested yet.
3. There is no public transportation network in the form of a mass rapid transport (MRT) or bus rapid transport (BRT) system. Most people drive cars and the principal mode of transportation is automotive. The buses that run in the city are not air-conditioned, are infrequent, and do not cover all areas of Malta. This discourages residents to use bus service.
4. MEPA has accepted the idea of allowing high-rises to be built in Malta and approved permits for a few proposals. The decision was in reaction to the requests and submission of proposals by developers. At present there is no master plan for the urban areas of Malta. Because of a large number of pending applications, MEPA needs to make an objective decision in regard to these proposals.
5. In terms of UN Human Development Index (HDI) based on 2005 data published in 2007, Malta has a value of 0.878 ranking 34th out of 70 high ranking countries of the world. However, no data for the 2008 Environmental Performance Index (EPI) is available for Malta, although this value is available for most countries, raising concern that Malta may be lagging behind in this aspect with respect to many other countries. This concern was confirmed by the NGOs and some others that I met.

5.1 Perceptions and Prejudgments

People of Malta have not yet embraced the introduction of tall buildings in their island nation citing that their city is not similar to many other cities of the world. The negative public response to the suggestion of tall buildings stems from the following main reasons and perceptions:

- Malta should remain as a low-rise city as it always has been.
- Building heights and massing should be controlled to maintain Malta's traditional character.
- Malta's first residential tower "A 3" nearing

completion is generally viewed as a failure because of its location and being out of place (see Figure 1).

- Microclimatic and interference effects caused by wind, overshadowing, heat and sun reflection, etc. are detrimental to the environment and urban living.
- No significant benefit to the community is expected except for regeneration in dilapidated areas.
- Demand for accommodation is not there and is simply developer driven.
- Anticipation that developers will not pay for high quality of construction since they sell properties to others.
- Concern about social and operational problems in residential tall buildings following construction and commissioning.
- Political association with unwarranted corporate globalization.
- Concern that tall buildings are not being designed as environmentally sustainable.

Figure 1: A3 Tower, (top left: Foundation construction, November 2005), (top right: Superstructure construction, November 2006), (bottom: Recent view, March 2008).

However, for addressing these concerns the following arguments in favor of tall buildings can be put forward.

- Malta's urban development is limited to approximately 25% of the island's land area, resulting in a dense built environment without enough open space; there is a need for intensification of land use to create the desirable openness.
- Malta's architectural history is very old and needs to be revisited in light of contemporary architecture; Malta needs to be a part of the global community.
- Once there is a BRT or MRT system, integration of tall buildings with transportation can result in high efficiency, consolidation of services and a better urban life.
- Negative public response to the "A 3" project is based on pre-judgment and more time is needed to judge its success once the towers are occupied and become operational. Moreover, one tall building project should not be the sole basis for judging other towers under construction or that are poised to be built in the future.
- Tall buildings are space markers and can create citywide landmarks and urban legibility attractive to the city's inhabitants and visitors. They create an urban atmosphere by their dramatic presence and their formation of skylines that break the monotony of flat rooflines of low-rise buildings.
- Tall buildings represent progress and prosperity and a display of business and wealth, thereby presenting a modern city image and enabling business to compete globally by providing a high quality business environment and attracting foreign investment.
- Potential for mixed uses accessible to both public and semi-public at ground and other selected levels can offer a unique experience of versatility within the city.
- Provision of residential environments within the city to meet demands of young people and small families in a collaborative and secure environment.
- Within the commercial market place, economic demands of close interaction can be met by commercial tall buildings where such demands exist.
- The fact that newly built apartment units in high-rises are sold quickly by developers demonstrates the strength of the market despite some other facts to the contrary.

6.0 Criteria for Selecting a Site for High-Rises

A list of criteria to select appropriate sites for tall buildings is presented below. It is not possible to meet all these criteria for a given site. However, the more of these criteria are satisfied, the better will be the outcome.

- Must be visually satisfying from near and from a distance. There is debate whether high-rises should be in contrast or should blend with its surroundings. Positioning of a high-rise should be clearly noticed and need not be explained away. They should neither be hidden nor overexposed in the surrounding landscape. Strong visual impact is needed but the effect should not be exaggerated.
- Fitting the high-rise into the urban plan, i.e. relationship with surroundings and scale. City's built-up area is preferred. Also, outlying city or suburban area where fast development is happening is appropriate.
- Effect of high-rise on the cityscape and the skyline paying attention to silhouettes, coastlines, and heritage sites.
- Relationship to existing or planned building environment with respect to possible environmental and interference effects.
- Position with respect to traffic in the area.

- Fitting in the predominant character of the site in terms of building function or occupancy category.
- Openness of site, children's playgrounds, etc. for residential tall buildings.
- Accessibility to site by all including the disabled.
- Pedestrian linkage and ease of movement.
- Subsoil and water level conditions.
- Potential for cluster formation or enhancement.
- Potential for redevelopment and redesign of crowded areas if existing low-rise buildings can be dismantled to make room for tall buildings and road grid can be improved with fewer intersections.
- Potential for regeneration of a dilapidated area.
- Anything of architectural or historical value should be preserved but misguided sentimental feelings for buildings of little or no historical significance or that are poorly maintained must be totally discouraged.
- A site for new high-rise must not be in a historical core or near it.
- High-rises must offer a character to the newly developed area and offer social and economic benefits to the neighborhood.
- Proximity to city services is essential.

7.0 Site Visits and Identification of Appropriate Locations

As stated before I visited the six specified sites. These are my observations and analysis of these sites.

Tigne: Indicative locations for tall buildings are shown on a site map in Figure 2.

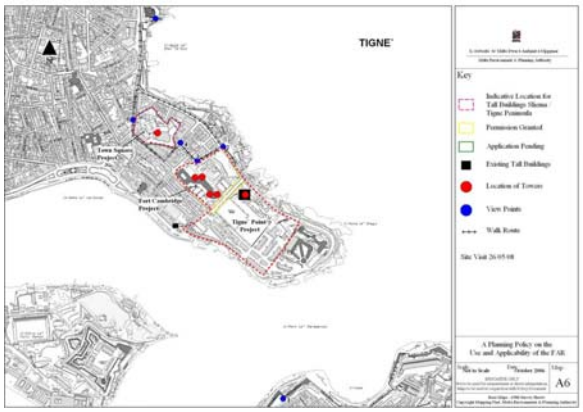


Figure 2: Site map of Tigne

A view of the existing site viewing from Valletta is shown in Figure 3. The new densely built low-rise apartments offer an elegant view from across the water mass. Also visible is the existing multi-story luxury hotel called Fortina. I visited the site to see the location of the proposed residential high-rise towers.

Figure 3: A view of Tigne from Valletta

There is a seafront proposal for a 32-storey tower (Town Square project), permit has been issued for four towers but not built (Fort Cambridge project with one 24storey maximum height now reduced to 16 storeys), and another 24-storey tower has been given permit but not built (as part of the Tigne Point project). All are residential with lower level retail/shopping, etc. and close to tourist areas. A cluster of tall buildings can be allowed here. However, a review of the renderings of the four proposed towers shows that they have been so closely spaced and their massing is such that they depart from having the attribute of tallness and look dense and obstructive from certain angles. The 32-story tower proposal looks out of scale and visually intrusive in the local context when viewed from the Manoel Island. If some more towers are built around it, this concern could be overcome.

Transportation link from nearby area can be extended to the site. Concern in the public domain exists that these new developments will impact negatively on key heritage sites of Valletta and Manoel Island. However, there is separation by a vast mass of water. It may be a good contrast between new and old. Contrast is not always bad and affinity need not be always the norm. It shows the importance of each. Height should be limited to about 24 storeys to address this concern so there is no competition for attention. Increased height is acceptable if a cluster is formed with the tallest tower in the middle or in the background while viewing from Valletta or Manoel Island. The tower proposals could be modified to develop a better massing and skyline. The community may benefit from such developments.

Gzira: Figure 4 shows the indicative locations of tall buildings at this site on a map. A picture of the site, which is predominantly commercial/business in character, is shown in Figure 5.

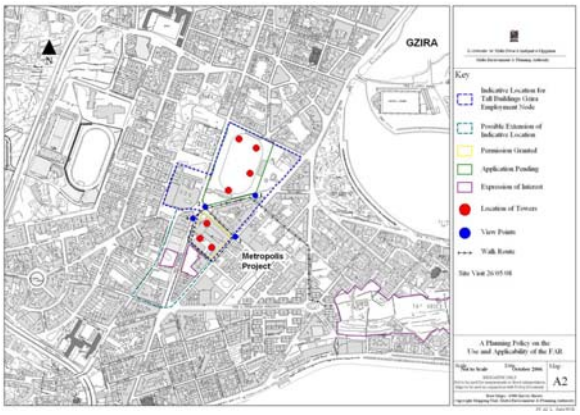


Figure 4: Site map of Gzira

Figure 5: A view of the Gzira neighborhood

Three mixed-use towers called "The Metropolis" have been permitted and excavation has been completed (Figure 6). As reported by the architect of the project, the owner owns surrounding properties and is planning to buy the neighbouring areas and rebuild. Also, the apartment units have already been sold. The building complex is in a congested area but has the potential for regeneration for the socially depressed neighborhoods. There is another proposal by a developer for a tower nearby under consideration by an architect. If built, it will add to the formation of a cluster. The demarcated areas in Figure 4 can be extended with clear, well defined boundaries along street lines since there are some expressions of interest by developers. Better street connection is needed for the Metropolis and other future tall building projects in this area. Pedestrian linkage and movement need to be addressed and improved. Whether regeneration in this area will take place or not remains to be seen.

Figure 6: Excavation for the foundation of the Metropolis Tower.

The existing old stadium site presently not in use can be an appropriate commercial site since the neighourhood has a predominantly commercial character with existing business and commercial activities and is clearly an established financial/business district. However, commercial/office towers will increase traffic volume. The whole area is available for new construction. There are some present proposals for residential construction here. Too many residential towers should not be permitted in this neighborhood.

Qawra: This area is isolated from the city and is not connected by efficient transportation. It is primarily a tourism/leisure area. A site map of the selected area is shown in Figure 7.

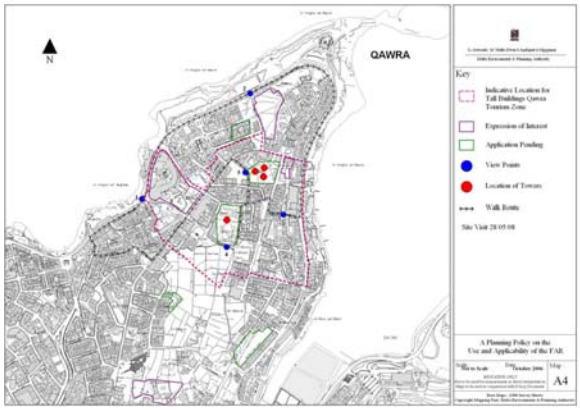


Figure 7: Site map of Qawra

There are three sites with potential for high-rises with one of them outside the approved zone and two pending applications within the approved zone, with two others with expressions of interest. Three other applications are pending on smaller sites outside the earmarked zone and without any real potential. Also, there are two expressions of interest on a site outside this zone. Views of three feasible sites with potential are shown in Figures 8, 9 and 10.

Figure 8: View of a possible tall building site in Qawra

Figure 9: View of a second possible tall building site in Qawra

Figure 10: View of a third possible tall building site in Qawra

Keeping in mind that tourists come here for peace and tranquility at the sea front, high-rises in this low-rise region may apparently look aggressive and disruptive. This can be overcome by appropriate planning and design. While a cluster of high-rises will be good, too many of them close to the shore line may have a negative impact when viewed from the sea, particularly if they are designed the wrong way. The shorter buildings should be in the foreground and the taller ones behind them while viewed from the sea. Also a tall building should not be individually built unless there is a clear urban plan, because it will be visually intrusive and out of scale in the setting of low-rises with a flat roofline. On the other hand, a cluster with moderate height and good aesthetic quality and iconic character provided with ample green open space will enrich the area. New tall buildings must create least obstruction to the view of others living in low-rise apartments nearby. This must be the focal point in design.

The future towers with views to the sea should be multi-use luxury apartments with about 15 to 20% of total floor area as mercantile, commercial, recreational, etc. catering to the needs of the tourists and other residents. Since the main urban areas are far from this site, tourists and other residents need more local shopping, restaurants and recreational facilities. More open spaces with gardens and green landscape around the high-rises creating plazas and parks will be attractive to tourists and residents. All these factors will presumably encourage more tourism activities. Careful architectural design for this area is essential. Connectivity with the city should be improved with better transportation.

Pembroke: This area is located at the edge of the urban area. A site map of this earmarked area is shown in Figure 11. The entire approved zone is available for new construction. However, there is no developer interest at present.

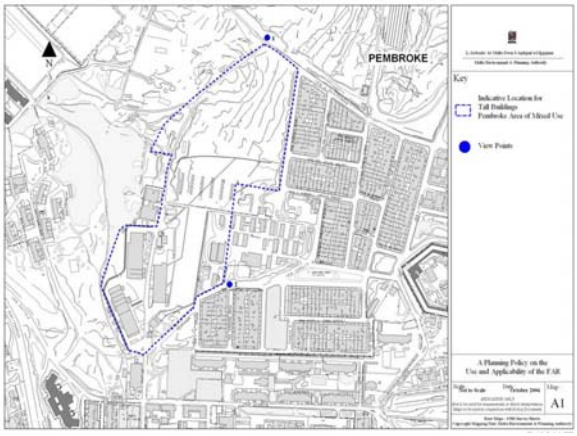


Figure 11: Site map of Pembroke

The northern part of the area is totally vacant (Figures 12 and 13). Since there is no infrastructure of any kind there, it is likely that developers will not show any interest to build here. However, towards the south, where there are some existing old unused military facilities on the site (as shown in Figure 14), a commercial/mercantile cluster is viable. There is a surrounding large residential area to the east and south-east. A green buffer zone with about 10 to 15

meters wide planting of trees and shrubs can be created between the new cluster and the residences. It will be easy to extend the utilities to this area from the neighboring area which may be extended to the north when new developments occur in the future as an expansion of this area. However, transportation is the key factor to make it successful. At present there is no public transportation to this area. Residents go to the main city areas by car. As a result of the new developments local residents and visitors will have ready access to shopping, restaurants, and other similar facilities.

Figure 12: A view of the vacant land in Pembroke

Figure 13: A second view of the vacant land in Pembroke

Figure 14: View of Pembroke site with abandoned military facilities

Figure 15: A second view of Pembroke site with abandoned military facilities

Paceville: This is a densely built area with predominantly tourism and leisure and auxiliary commercial activities. The site map is shown in Figure 16.

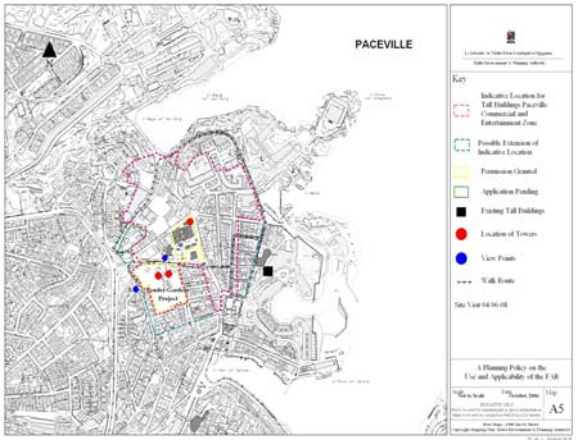


Figure 16: Site map of Paceville

There is an existing Portomaso Tower outside but near the demarcated zone, the only completed tall building to date in Malta (Figure 17). This tower has attractive aesthetic qualities with the attribute of tallness reaching for the sky and acts as a visible landmark. The slenderness gives the tower its elegance and soaring character. It has created a lively environment at the street level with shopping, restaurant, etc. at its base. It has generated a new context. However, there is hardly any open public space around it.

Figure 17: Portomaso Tower

Two Pender Place residential towers and an office tower are now in their initial stage of construction in Paceville (Figure 18). When completed they will form somewhat of a cluster with Portomaso Tower. These buildings seem to be well designed, although the attribute of tallness is diminished in the two residential towers because of their bulkiness in contrast with the Portomaso Tower nearby, which is clearly tall.

Figure 18: Pender Place construction site

Intense tourist activities are prevalent in this area. There is barely any room to build new structures. If more towers are built by replacing old existing buildings within the approved zone, they should be encouraged and allowed. Tax and other incentives should be offered to builders. The present development boundary of this zone, which is zigzag in nature, should be extended to cover more areas in conjunction with creating a new clean boundary along well-defined roads (see the site map in Figure 16).

Marsa: This area is close to the dockyard and has a warehouse segment to its east close to the dockyard (see Figures 19 and 20). The remaining areas are available for construction.

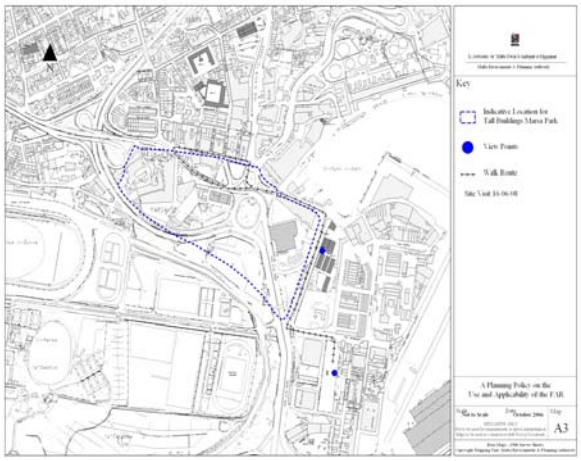


Figure 19: Site map of Marsa

Figure 20: A view of Marsa dockyard

Although this could be a strategic location for tall buildings because of its proximity to the road leading to the airport, there is no developer interest here at present. The area is in a dilapidated condition, but has future potential for regeneration if developed properly. There is no predominant character here and high-rise developments in the form of mixed use neighbourhood are viable. In such mixed building groups, residential high-rises should preferably be in the periphery around a commercial core of high-rises. The nearby dockyard which is in a declining condition is a potential site for urban renewal in the future. Tax increment financing (TIF) may be given consideration in this regard.

8.0 Guidelines and Recommendations

Based on my stay in Malta and investigative study, from May 15 to June 25, 2008, I offer the following recommendations. This list is not in any particular order. The aim is to offer a series of guidelines for MEPA to consider and implement. It is hoped that this list will help MEPA to formulate policies for future tall building construction in Malta.

1. High-rises are symbols of urban character in our time of technological progress, modernity, and economic prosperity. Because of geopolitical reasons in Europe, and Malta being now a country in the European Union, it makes sense to build good quality tall buildings as landmarks and space markers to put Malta on the world map. Such construction will help bring recognition and consequently attract more tourists, financial investment by foreign companies and investors, while reflecting modernity and globalization of Malta.
2. High-rises open up private, semi-private, and public spaces. Enough open space with green landscape should be provided. Wherever possible more open space ratio (OSR), defined as the area of open space to the site area, than the presently required minimum of 25% should be encouraged to provide green vegetation. This will create an enjoyable space for people. FAR for new developments should be flexible and considered case by case, although a baseline value should be used as a benchmark. Niggling regimentation is counterproductive when dealing with tall buildings which are multi-disciplinary complex building enterprises.
3. Malta does not have a strong economic base. Speculative developers are after investment and quick profit. An objective market and feasibility study should be done for each project that includes the life cycle cost. Although developers can sell their apartment units, what kind of occupancy is expected when about 25% vacancy rate exists in present housing units? Speculative investments in real estate can go either way. Malta has a remarkably stable economic growth rate but not an accelerated one to justify a construction boom. Real estate economics is complex and caution is needed since failures of high-rises will affect the economy of Malta, which has no safety valve because of its size and lack of adequate elasticity.
4. There is no efficient public transportation system that is efficient and that covers all areas of Malta. A mass rapid transport (MRT) system or a bus rapid transport (BRT) is key to successful tall buildings. For a city of this size I recommend a BRT which has to be developed with or without tall buildings. But for tall buildings, it is absolutely necessary to have an integrated, sustainable public transport system. The present bus system needs modernization, more bus routes must be created, and better traffic management is desirable. More people will be attracted to BRT, which in turn will reduce traffic congestion, fuel consumption, and pollution. Also, high-rise districts with parking facilities, pedestrian links to the business or commercial centre and important amenities can restore possibilities of communal life. Traffic impact study should be done for a project by an independent professional. Mixed land use should be developed and walkable environments should be created.
5. If existing utility infrastructure is inadequate or in disrepair, it must be upgraded and expanded to meet the needs of future high-rises.
6. Architectural styles of the towers that have been built or are planned seem to depart from the traditional Maltese symbols and designs. Cultural and other traditional symbols should be incorporated in new design.
7. Social and environmental impact of tall buildings must be considered in design thoroughly. An independent social scientist and an environmentalist professional must be consulted early on in the project.
8. Public response and participation are essential because they have to live with these new towers. People resist change and when they live in a lowrise environment, they consider high-rises as intrusive and overpowering. If high-rises are to be built, the public should be educated by explaining the reasons of why these are being built and what the potential benefits to the city and its inhabitants are in terms of economics, services and redevelopment.
9. Ecological concern should be addressed. Alternate

energy should be explored. Insulation should be used for reducing energy consumption in summer months. Sustainability can be encouraged by certification of new high-rises following LEED criteria of the U.S. or BREEAM criteria of the U.K. Despite the slightly increased cost (2% to 5%), a good rating for the building becomes a selling point for the seller. This is an incentive for developers to build sustainable and environment-conscious high-rises. The additional cost is usually recovered from the operational cost of the building. The buyers benefit from this also in terms of reduced energy consumption and other better living conditions. The country also benefits from such an approach. Further, plans for going carbon neutral should be developed.

10. In terms of priority of sites, all six sites have varying degrees of potential. Based on the site selection criteria and developer interest I propose the following ranked order: Qawra, Gzira, Tigne, Paceville, Pembroke and Marsa. While Pembroke offers a large open site at the city's edge for new creative developments with the flexibility of planning, Marsa provides an opportunity for revitalization of the dilapidated neighborhoods. If an urban renewal project for the adjacent degenerating dockyard area can be undertaken in conjunction with this site, the whole area can have great potential to create an entirely new vibrant context. But this will demand a massive dose of economic infusion. Thus between Pembroke and Marsa, each site is significant in its own right. However, present developer interest is an important guiding factor. Sites may be promoted to developers to gain their acceptance. With new developer interests, this ranking may change. In general I prefer to see less than six sites for tall buildings, not more.

11. Planning, development, and design regulations must be formulated and strengthened to control the growth of a city with top quality vertical architecture. However, variances must be allowed. Too stringent regulations on set-backs, FAR, and OSR may create a condition when no permit may be issued for a high-rise with the best possible outcome. Flexibility is therefore imperative. MEPA should be prescriptive but must leave room for flexibility. Needs of the handicapped should be considered in design.

12. My recommendation is to carry out more detailed studies on not only the economic and social factors, but also master planning. MEPA should proceed slowly and take more time. Lack of a master plan results in uncontrolled developments and unpredictable impacts on urban life. A reputed international firm should be retained to develop a master plan for Malta as a whole and for the selected sites for tall buildings individually. Such a firm can employ planning tools such as Geographical Information Systems (GIS) and other digital technologies of visualization to develop such plans. This will immensely benefit MEPA in the long run. Future tall building developments should not be considered without further studies and master planning. Also, post-occupancy evaluation of two or three completed projects should be carried out by monitoring their performance to see if they are successful economically, socially and functionally. Lessons learned from them will be extremely valuable for future high-rise construction.

13. New building design should be of top architectural and engineering quality. For better design quality more must be demanded of architects and developers. Business interests must not be allowed a free hand, nor should architecture for such large projects take its chance. Foreign experts of reputation and experience should be retained in partnership with local architects for all future high-rise projects for sometime. This will encourage technology and knowledge transfer.

14. Fire safety is very important in high-rises. It must be given priority in design. Firemen for greater heights must be trained for fire suppression and evacuation techniques.

15. Structural design must be carefully done. Salt attack on concrete should be considered. Based on the site spectral acceleration values of Ss = 0.286 and S1 = 0.115 for maximum considered earthquake (MCE) for Malta as listed in the "structural load data" specified by the U.S. Department of Defense (Document UFC 3-310-01 of 25 May 2005) and for Site Class B (typically limestone for Malta), the Seismic Design Category is B according to the 2005 International Building Code (IBC-05), which is considered mild. However, each site should be checked by a geotechnical engineer. High-rises on rock do not usually experience resonance and therefore is better than low or mid-rises on rock in seismic zones. However, because of large masses of heavily built concrete buildings caution should be exercised. Quality control measures for the prevailing concrete construction are essential. Regulatory control is needed to ensure quality of construction.

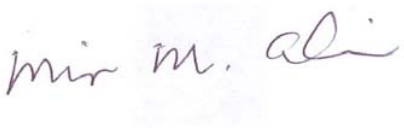
16. High-rise operation and upkeep are challenges in many ways. Technical, organizational and managerial skills are needed for tall buildings that are different from low-rise buildings. These skills may be developed through training. Property management companies with competent personnel should take the responsibility of managing the properties.

9.0 Concluding Remarks

In the final analysis, it is up to the political leadership and the people of the country to decide if their future vision is for a modern, progressive and forwardlooking port city in a strategic location or for maintaining their old way of life and culture. Both of these have positive and negative impacts on the country. The choice is theirs to make.

Good architecture and urban design do not necessarily depend on tall buildings and there should not be any illusion that a city can achieve great urban status only by building many tall buildings. As a matter of fact, fewer, but better clusters of tall buildings should be the aim. Tall buildings alter the urban scale and cannot be avoided in our times. The choice for the inhabitants

of Malta is whether to control them or put up with their future growth.
Respectfully submitted,



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U.S.A.
July 28, 2008

List of Illustrations

FULBRIGHT MISSION
SCHEDULE OF MEETINGS
MEETING NOTES

Dr Mir Ali
June 2008

List of Meetings

DATE: Monday 19th May 2008.
Meeting with MEPA Director General Godwin Cassar

Tall buildings in general

Dr Ali explained that there are important issues that need to be addressed when considering whether to have tall buildings or not. Population growth and economic growth are two important factors. Following a decision to have tall buildings, then appropriate locations need to be found, maximum heights need to be established, and issues of aesthetics and access need to be addressed.

Complex issues are involved. History, economics, environment, culture must all be analyzed to answer some of the questions related to tall building development.

It is important to keep in mind the problems which tall buildings could create. For example, can the economy sustain future growth of tall buildings?
Tall buildings are popular now internationally and Dubai and Shanghai are clear examples. There are different scenarios to justify tall buildings. Malta does not fit well into any of these scenarios.

It is important to have a vision to sustain tall building construction, especially for offices. Typically, iconic tall buildings are used by large corporations for commercial purposes. Prestige is an important consideration for tall buildings. Iconic buildings can attract foreign visitors if they become symbols of the country.

There are three basic elements of a tall building – the base, the main structure and the crown. The base needs to be a people magnet with plazas, lively outdoor environments and an active street life. Geometric shapes and façade treatment can make the main structure interesting. The top of the building should be decorative – a crown.

Internally tall buildings can be made interesting by accommodating a range of uses and functions.

Green design and sustainability issues are important to reduce energy consumption. Solar panels and wind turbines can be incorporated as part of the design of the structure. In terms of energy consumption, tall buildings utilize less building envelope compared to low-rise buildings for achieving the same floor area because of their single roofs and hence less energy is lost but then require larger cores for circulation (20-25%). Also, additional energy is needed for pumping up water and for elevators. For tall buildings however there is less power loss in the power grid because of agglomeration.

Objectives of the mission

Dr Cassar commented that the Fulbright mission should seek to validate (or otherwise) the current policy document (MEPA's document). Should the planning system react to the market (reactive planning)

or be more prescriptive (master planning)? More prescriptive approaches would require legal backing for land assembly.

DATE: Tuesday 20th May 2008.
Meeting with MEPA Chairman Andrew Calleja, Director of Planning Chris Borg, Assistant Director Sylvio Farrugia, Assistant Director Frans Mallia

Tall buildings in general

Dr Ali understood that some tall building applications which were awaiting approval need to be assessed in terms of location and aesthetics.

There are complex issues linked with the development of tall buildings but a fundamental question would be "is it the right building type for the country? Do tall buildings reflect its culture?" Dr Ali expressed initial surprise that tall buildings were being actively considered by Malta. He enquired about the Island's economic situation and its GDP growth rate. Other cities (Dubai and Shanghai) built tall buildings to improve their image to attract investment. Is Malta moving on the same lines? Have any economic studies been carried out to support the construction of tall buildings? Although population per sq km in Malta is high, the total population (400,000) is still too low to justify and sustain residential towers.

Speculative tall buildings can result in failure of the project. The cost of failure, apart from the direct impact on the developer, will be that a bad signal will be given and create a ripple effect of negativity. Failed tall building projects in St. Louis in the U.S. and elsewhere particularly for social housing were quoted as examples. The status of the financial backers of these projects is very important. If banks are supporting these projects then it is highly likely that they have assessed the financial viability of the scheme in detail.

Provision of infrastructure is also of major concern for tall building development.

Dr Ali enquired about local expertise in tall building design and construction.

Tall buildings in Malta

Chairman explained that certain areas in Malta have been identified for regeneration and tall buildings can become a catalyst for such regeneration. The Authority was looking for assistance in the possibility of formulating an urban plan for one or two of these areas (perhaps Qawra and Tigne). What are the issues involved in constructing tall buildings in these areas, what should be a suitable FAR, what amounts of open space are required, what are the design considerations? The drafting of these urban plans could possibly flag up weaknesses in the existing draft policy and put forward amendments to it.

Tall buildings in Malta are developer driven and are considered as a route for investment. Occupancy of the apartments is of secondary importance. The residential towers support the upper levels of the property market. They reflect a different approach to residential living from the conventional low-rise terraced apartment blocks. They are in good locations, offer prestige and supporting amenities. Market research would have been done by the developer and the Authority does not question financial feasibility.

Manufacturing industry was going through a restructuring phase and large, older industrial estates are becoming redundant and being converted for office uses. Smart City project will replace one such industrial estate. The economy is shifting towards financial services with tourism always remaining very strong.

The assessment of applications for tall buildings needs to consider technical issues related to their construction – openings, projections, fire safety, cladding, energy efficiency, services, access, long term maintenance.

Current regulations specify a minimum site area of 3,000sqm while the draft policy proposes to increase this to 4,000sqm. A minimum of 25% of the site area is required for open space. Due to fragmented land ownership, such large sites under one owner are rare and comprehensive schemes under different owners are difficult to achieve.

Tall buildings could create icons but concern was expressed regarding competition with landmark churches.

Some developers engage foreign consultants supported by Maltese firms but the approach of a few developers was a cause for concern.

Utility companies did not express any serious reservations when they were consulted on the draft tall buildings policy but interference with telecommunication could be a problem.

Chairman emphasized that any public meetings on the matter should be non-committal.

DATE: Wednesday 21st May 2008.
Meeting with the MEPA Assistant Director of the Environment Louis Vella, Environmental Impact Assessment Team members Josianne Abela Vassallo and Jonathan Henwood

Environment Directorate staff explained the Environmental Impact Assessment (EIA) regulations in Malta. These have been prepared under the European Union (EU) Directive requiring such regulations from each member state. Tall buildings are not mentioned specifically as requiring an EIA but thresholds on gross floor area make them eligible. A threshold of 30,000 m2 of total developable floor space or 10,000 m2 of commercial floor space make them eligible. The regulations have been fine tuned as recently as last year to review criteria and thresholds. Maltese regulations are stricter than the EU Directive due to the small scale of the Maltese Islands.

EIAs are triggered by the developer either through the submission of a development application or else through a formal request for advice. EIAs are only carried out on projects which have been accepted in

principle by the planning directorate. MEPA guides and co-ordinates the EIA process through the issue of terms of reference. Following this initial clearance a project description statement (PDS) is submitted and on its basis a decision is made on whether there are likely significant impacts which will need to be assessed through the EIA. If in the affirmative, TORs are prepared and public consultation is carried out. Developers commission consultants to carry out the EIA in line with the TORs who prepare a draft environmental impact statement (EIS).

Studies on wind, shadow and visual impacts are always required as part of EIAs on tall buildings. Studies on geology, waste management due to excavations, infrastructure and utilities and energy are also required. Visual impact and landscape impacts are the main causes of concern. Transportation is not integrated in the EIA but addressed separately as part of a Traffic Impact Study (TIS). However, the environmental impacts from traffic (air pollution and noise) are assessed in the EIA. Landscaping is considered for external spaces but not for the interiors. Alternatives in design and technology are required but this is rather a weak aspect of the EIA. Orientation is an important aspect of design which needs to be considered together with safety, people management, and structural stability during tremors and sustainability issues. Bio-climatic architecture and ecological design are two themes which should be looked at in tall building schemes.

Public consultation exercises on tall buildings produce mostly negative reactions and comments from the neighbours. Comments relate to wind, shadow, impact on infrastructure, traffic and visual impacts. However, studies on shadow have always come up with an insignificant impact result as it is transient and short lived. Shadowing of private properties is not a consideration.

Indoor environments are not within the remit of the EIA.

Energy is a consideration in EIAs on tall buildings. Total green house gas emissions in Malta have been capped by the EU but tall buildings release significant amounts of GHGs. Development of tall buildings is done at the expense of other sectors as the increase in emissions by tall buildings would have to be compensated by other types of buildings. This makes the installation of energy efficiency measures even more important. Proposals to have a central gas storage system with piped gas to the upper floors have been taken up in two tall building schemes. Shading can also help to reduce heat gain and special types of glass can reduce glare.

Cumulative impacts of multiple towers in one area and the area's carrying capacity are considered in EIAs but this is more appropriately addressed through the Strategic Environmental Impact Assessment (SEA) process. This is also required by EU Directives and assesses the environmental impacts of plans and progammes.

Dr Ali commented that the definition of tall buildings depends on the context and the surroundings. The CTBUH (Council for Tall Buildings in the Urban Habitat) identify tall buildings as buildings which have the quality of tallness expressed as a ratio (aspect ratio) of the width to the height of the building. Aspect ratios of more than 8 or 10 are rare because with these dimensions wind has to be considered as a dynamic force action on the structure and stability and building sway become of major concern. Architects normally consider 10 floors or more as a threshold to identify tall buildings. Dr. Ali emphasized the need for ensuring indoor air quality for tall buildings.

DATE: Wednesday 21st May 2008.
Meeting with the Chamber of Planners represented by Bjorn Bonello (President), Ian Galea, Sandro Bonanno, Chris Attard, Peter Cefai, Marco Attard Portughes

Tall buildings in general

Dr Ali stated that there are two basic justifications for tall buildings – sustained economic growth and/or population boom. The first reason justifies office towers and the second residential towers. Increase in quality of life can also justify luxurious apartments in towers but this will lead to population shifts. What will happen to the areas people move out from?

In terms of urban planning, clusters make sense as they produce a better skyline and save in infrastructure provision as well as reduce per capita carbon footprint and losses in the power grid because they create compactness of the built environment. Transportation is key. Urban design is also important – provision and design of open space, relation ship to the streets. Zoning and land uses also need to be considered. Activities around the open spaces can make it a lively area.

It is important that the economy can sustain such tall buildings. Developers should have made their market research. Social interaction is not important in tall buildings because affluent people do not really seek to socialize with their immediate neighbours. This is more important in low income groups. It is evident that tall buildings for low income groups failed in western societies but they have been successful for the rich. Ghettoes can be created as witnessed in France, the UK and Holland. However, in eastern cultures such as India and China, low income groups still adapt to living in high rises with no serious repercussions on their social well-being.

There are advantages in living in towers – views, a management company to take care of maintenance needs, etc. which frees up time for other activities. Residential towers are ideal for busy people, young couples and retired people but not very suitable for families.

Discussion also focused on what occurred in

other cities such as Singapore and Dubai – the economic context and political visions were critical to their success.

Tall buildings in Malta

The Chamber is of the opinion that the issues generated by tall buildings are an increase in development densities and impacts on the landscape. The Maltese landscape is dominated by landmark churches and tall buildings create a new feature which is alien in the landscape.

Malta can only sustain a limited number of tall buildings. They agree with the concept of a cluster of tall buildings but feel that one area would be enough. The designation of six locations plus the airport in the draft FAR policy is excessive. The idea of having a financial business centre with iconic tall buildings and symbols has its merits and can justify one location.

Increase in housing supply is not a justification for tall buildings as vacancy rates are high and brown field land within the development zones is still available. However, a recent housing conference brought up a need for residential towers for marketing purposes. The housing market needs something new and residential towers are innovative. The Chamber is of the opinion that most demand for residential towers is driven by speculation. Tall buildings are expensive to maintain and low occupancies increase the costs of long term maintenance. Condominium legislation allows developers to sell off the common parts. Their maintenance and management would be the responsibility of the residents' associations. This already creates problems between residents in small blocks. The more residents in one block the more likely it is that there is disagreement. Questions were raised on the advantages of living in towers, the social problems of residential towers and the utility of open spaces around tall buildings for residents.

DATE: Thursday 22nd May 2008.
Meeting with Architect Bencini designer of the high rise project in Pender Place, Paceville

Objectives of the mission

Dr Ali introduced himself as having a background in teaching and worked also in the industry in design and construction of tall buildings. He is also involved in the CTBUH. He understood his mission in Malta to be related to the need of the island to identify appropriate locations for tall buildings and provide criteria to enable assessment of their design. Other cities are thinking of having tall buildings such as Dublin and Amman and it would be interesting to study the Maltese context.

Dr Ali stated that he would like to learn about the current practices in Malta, the challenges being faced by developers in the construction of tall buildings. He is aware that the issue is controversial with the public

Experience in tall building design

Architect Bencini explained that he has built the Portomaso office tower in Paceville, and is currently constructing three more towers at Pender Place, which is also in Paceville and located close to Portomaso. The Portomaso office tower is on 23 floors and was designed as part of a mixed use scheme for residential, tourism and commercial with a marina and conference centre.

The Pender Place Project

Pender Place is also a mixed use scheme (residential, commercial and business) and includes two residential towers and a separate business (office) tower in reinforced concrete. The construction of the residences will take about three years while the business centre will take longer.

Location

The location of Pender Place is suitable for tall buildings because it is close to Portomaso and towers on this site can contribute to the creation of a cluster. Towers should not be scattered in all parts of the urban zones. Opportunities for more towers exist in Paceville and Qawra and maybe Tigne but this location could create problems because of its proximity to Valletta.

Land Use and Architectural Design

The FAR was used in Pender Place scheme but locally the FAR is not stipulated as a number in regulations. In this case the total allowable floor space for the scheme was set out in a planning brief and provided this total is not exceeded, the developers were allowed to go high.

The business tower is 18 floors high while the residential towers are 22 and 24 floors high. These heights were determined as part of an overall design process and not stipulated in regulations. Different concepts were developed for the massing. The developer had an input in the design but it was mainly negotiated between the architect and MEPA officials. Dr Ali commented that in the US, developers have a huge influence on the design. The local community also had an input in the design as they were concerned with overlooking, overshadowing, wind and air pollution from traffic and construction. Negotiations were carried out with neighbors and changes were made to the design within limits.

The local developer of the Pender Place scheme on the other hand, had a lot of influence on the land uses as he knows his market. The inclusion of the two residential towers evolved due to the decision to have more open space at ground level and then the need to accommodate the required number of dwellings for feasibility. The selling point of these towers is their uniqueness. Developers are still cautious about the market for residential towers and this was one of the reasons for not going higher.

The financial hub within the scheme (approximately 18,000sqm of offices have been

permitted) has started to take off already as part of the office space in the low rise buildings has been sold to a major bank. The office tower had an economic basis for its inclusion in the scheme but it is now creating concerns on its financial feasibility and efficiency due to low rentable floor space. 30% of the floor space on each floor is taken up by the service cores.

Structural Design and Services

British standards are used for the design of the structure but Euro codes are also used. The foundations consist of a platform as it did not make sense to have just footings for the columns when the separation distances between the columns were so small. Reinforcing fin walls had to be introduced for stability. Core tests for rock strength were carried out. Local contractors have the necessary expertise to construct these concrete structures but a consulting engineer was engaged for the design of the towers

Wind studies were carried out and problems discovered at ground level were addressed. This analysis is also important for materials and cladding. Balconies were also tested and results show that comfort levels are acceptable.

The sway of the building is also important and even more when considering its use. Office users can take some movement but residential users are more sensitive. Models were set up to test oscillations and limited to 28Hz for residential (architect was not certain on this figure). These models were tested in Dunstable in the UK. Dr Ali commented that in the US a ratio between the sway and the height is used to ensure adequate performance of tall buildings and dynamic effect is generally considered for aspect ratios of 4 or more, considering the building as flexible.

The service core, located on the perimeter of the structure, provides water supply, gas, and accommodates the air conditioning units. Drains pass through separate shafts in a zig zag manner and use valves to control the flows. Steel plates at each level allow access to the shafts for maintenance. Waste chutes are not included but domestic waste is stored centrally in garbage rooms at the bottom levels. The lifts designed for the residential towers are a first in Malta as the core does not go through the top floor to reach the service area. Only cables pass through the penthouse. Fire safety reports were prepared and additional specifications were included in the buildings to comply with requirements. Insurance companies will require certification. Telecommunications antennae were not included on the residential towers due to concerns on radiation which acts in a sphere of 30m around the source. The office tower will have an antenna but it has not been designed yet.

Sustainability

Energy efficiency was taken into account in the design and insulation was used. Integration of LPG to save on electricity consumption is proposed but problems have arisen with the energy regulator (Malta Resources Authority, MRA). However, there are energy losses from the apartments and the air conditioning system is heavy on electricity consumption.

Management

The management of the common parts and supporting amenities is controlled by local condominium laws. There will be a central condominium association for the whole development and another association for each block. Each owner will pay an annual fee to the association to cover the costs.

DATE: Monday 26th May 2008.

Meeting with Dr Marguerite Camilleri and Noelle Cardona from the MEPA Policy Co ordination Unit in the Director General's office

Dr Camilleri gave a brief introduction of the work of her unit within MEPA's directorates. The unit is involved in strategic planning, state of the environment report, and public participation.

Tall buildings in Malta

Tall buildings appear unpopular to the public because of overcrowding and issues related to increase in residential densities. Dr. Camilleri's concern is focused on landscape impacts. However, she acknowledges that MEPA cannot ignore the demand for tall buildings. She agrees with the thrust of the tall buildings policy to designate zones where tall buildings can be concentrated but expressed doubt on whether this is the image Malta should be portraying to tourists.

Tall building clusters can be dominant and oppressive for people on the ground and comparisons were made between the environments in such clusters and the sense of openness and relief one experiences when leaving them for the periphery of the city. Chicago and New York were mentioned as examples.

Other countries' experience with residential towers should serve as an example for Malta. Low income groups should not be housed in towers. Residential tall buildings are very much dependant on culture. Some cultures in the Far East and the Indian Sub-Continent accept that low income groups can live in towers and residents are quite content there. Other western cultures have rejected this idea and tall buildings were demolished. It was pointed out that the tower schemes failed because of social and economic problems and the recent riots in Paris were quoted as examples. Towers are used in areas with problems of scarce land and severe housing shortages.

The discussion focused on the housing sector in Malta with emphasis on the property market. In Malta, there is certainly an impression of scarcity of land but there is no housing shortage. The capacity of the urban zones to accommodate dwellings has been increasing as height limitations have been increased. This has led to a building boom with an oversupply of dwellings. Although around 2,000 households are formed each year,

permissions for around 10,000 dwellings per year have been issued in the past five years. It was noted that 2008 has seen a sharp drop in dwelling permissions. In Malta there two different demands for housing – demand for housing to live in and demand for housing as an investment (artificial demand). The role of banks and the construction industry in the sector was also discussed.

It was agreed that towers are not ideal for community creation and interaction. Sometimes people feel isolated, detached from the ground and are concerned about security and fire safety. Towers work best for affluent people who are not really concerned with interacting with their neighbours. However, they can still interact in lobbies, foyers, community areas, etc. in the building.

The State of the Environment Report identified impacts on surrounding areas, relationship to open spaces, over shadowing, energy efficiency and visual impacts on historic settings as the main problems with tall buildings.

DATE: Tuesday 27th May 2008.
Meeting with Architect Edwin Mintoff and Architect Piotr Armatys designers of the Metropolis project in Gzira

Tall buildings in general

High rise buildings generate a wide range of issues related to design and construction but there are also social and political implications.

An advantage of tall buildings is that they provide open space at ground level. Tall buildings in clusters look better than when scattered around. It is important that open spaces are given over to the public for commercial and multi-use buildings. Designed in a comprehensive manner, tall buildings can contribute greatly to the skyline. Tall buildings must be seen together. Although the relationship between towers in a business cluster might not be so sensitive - the whole group is more important - it must be kept in mind that residential towers compete for views and it must be ascertained that future towers do not blocks the views of existing towers as this would spell disaster for the existing schemes.

The construction boom

The meeting opened with a discussion on the reasons for the recent construction boom in Malta. A number of reasons were identified – an increase in liquidity, foreigners buying property in Malta, drop in value of stocks. As property prices continue to rise, it remains an attractive investment. As an example, a typical plot in the 1980s cost Lm5, 000 while the same plot today would fetch Lm100, 000 in a good location. Rental market has also expanded and it has become attractive to build to rent. It was acknowledged that a saturation point could be reached soon for the run-of-the-mill housing and prices have stabilized. However, high quality housing in high rise buildings with views and waterfront locations are still appreciating strongly in value.

In the US a rule of thumb would be that if the occupancy rate is lower than between 80 and 90%, the scheme would not be profitable. Would residential tall buildings schemes be risky? Arch Mintoff however mentioned the example of the Metropolis project in Gzira where one of the towers was placed on the market on plan and all apartments were sold in an extremely short time with one third being sold to foreigners. This, however, did not mean that the dwellings would be occupied. Vacant property data needs to be analysed in more detail. Vacant does not mean not owned. Is a second home vacant? The number of properties for sale is much less than properties identified as vacant.

Property ownership works against the construction of tall buildings because you need large sites but ownership is fragmented in Malta. Then where large sites are available under one owner, they are blocked by bureaucracy.

The Metropolis Project

The developers of the Metropolis project are a consortium of Maltese and foreigners and the site is owned by one owner. It has an area of around 7,000sqm and was previously occupied by a showroom and forms a whole city block surrounded by four streets. Owners are aware of the run down appearance and of the undesirable activities in the area and are in a process of acquiring more properties to redevelop the whole neighborhood.
The assessment of the project by MEPA extended over a considerable period of time. It took 5 years to get an agreement in principle and an outline permit to be issued. The Metropolis project was close to being abandoned because of this. Legislation needs to be reviewed to improve the system itself. NGOs do not always realize the public gain from tall buildings but in the case of Metropolis the local community did not generate a single objection. Mistra project (another tall building scheme in the north of the island) was a different case.

Land use

Metropolis is a mixed use scheme with offices and retail at the lower levels and three residential towers around a plaza. Research and surveys were carried out to test the feasibility of the project in the location and they were all positive. Different uses for the towers were also tested and the decision to have residential use is based on market analysis. The prime advantage is the fantastic views offered by high rise and this makes them attractive for residential use. A surprising result from the survey was that even higher age groups were still keen of buying properties in towers.

The mix of uses was determined by the Local Plan (development plan) but traffic studies showed that the location was also critical from a transport point of view. An increase in the business floor space would have created serious traffic problems.

Structural Design and Services

Experts were engaged for structural design. The structure will be totally in reinforced concrete. Steel is too expensive and requires more fire safety measures. Concrete is now the predominant material for the structure. While concrete technology has made huge advances development of steel technology has not made much improvements. Local contractors are fully equipped to deal with these types of construction.

For Metropolis, wind studies were done by Canadian experts. The comfort levels in the balconies were found to be acceptable. Orientation was also used to avoid the predominant wind. A point was raised that construction of other towers in the area now needs to take account of their impact on this site. Currently the tall building zone in Gzira is not planned out and there is little knowledge about what could happen on other sites.

Soil conditions are also important to test. Seismic conditions were also taken into account for Metropolis and integrated in the design.

The architectural design was of prime importance in this case and the maximization of views was paramount. The structure was then designed to accommodate these requirements. This is why the service core was placed on the perimeter of the structure which created problems of eccentricity. Shear walls were needed for stability.

Mechanical engineers were engaged to design the lifts. Having three towers did not have an impact on the % floor space taken up by the core as one higher tower would have required a larger lift core. Technology for lifts has improved.

Fire experts were engaged and fire safety measures were integrated in the design of the scheme.

Sustainability

Energy efficiency was taken into account and insulation was integrated in the precast concrete panels. However, renewable energy generation technology was not integrated due to costs and good performance of the building, in terms of energy consumption.

Management

The management of the common parts will remain the responsibility of the developer as he will occupy the office floors in the building and therefore still have an interest to maintain standards.

DATE: Wednesday 28th May 2008.
Meeting with Architect Colin Zammit designer of the A3 Residential project in Paola

Tall buildings in Malta

The Maltese context needs to be considered in relation to location of tall buildings. The overall settlement patterns and urban morphology are not quite suited for high rise (old village cores with winding streets in the centre dominated by the church, dense 20th century development around it and more modern buildings on the periphery but still low rise and densely developed) but certain newer areas on the coast such as Bugibba and Marsacala could be suitable for residential towers of maybe up to 15 floors or so. Business and commercial towers need to be close to the harbour as that's where the main business hubs are but there could be problems related to heritage impact because of the historic areas of Valletta and Cottonera. The North West of Malta and Gozo have sensitive landscapes and should be avoided. Sliema is already too dense and highly congested. Statutory height limitations already go up to 8 floors with an additional penthouse and for certain sites this could even lead to 10/11 storey buildings although the blocks would not appear tall as they are developed in a terrace on narrow and deep plots. Architect Zammit noted an increase in demand for office space and tall buildings could be an opportunity to provide quality office space to meet this demand.

The A3 Project

The meeting focused on the history of this project which is now nearing completion. The A3 towers are the first residential towers to be completed on the Island. The site of this project is located on the fringes of Paola in the central part of the island. It is around 3,000sqm in area and occupies a city block, surrounded by four streets. It includes 73 residential units in three residential towers which vary in height from 10 to 16 floors above a podium for retail uses and cafeteria around a plaza. The towers enjoy views of the public cemetery (which is densely landscaped), a golf course and the Grand Harbour.

The original concept of the scheme was for traditional 3 storey terraced development but MEPA officers encouraged the developer to make use of the FAR to achieve tall buildings. The developer took the idea on board and concept drawings were developed. The preliminary drawings were well received by MEPA and the project took off from there. A Traffic Impact Statement (TIS) was carried out to study the impacts of the project on the road network and also the internal arrangement for vehicular access, parking etc. Traffic improvements were required a sum of money was paid towards these works. Although the permission took 3 years to obtain, the final outcome has been very satisfactory for the architect and the developer. Construction started in 2005 and the structure was completed in 10 months. The finishes are taking longer to complete.

Architectural Design

The FAR policy requires a minimum of 25% of the site area as open space but this project includes more than this. A smaller built footprint enabled the buildings to go higher but also achieved a more pleasant and larger open space at ground level. Part of the plaza is dedicated to the exclusive use of residents while the other part is for outside seating areas in conjunction with the commercial uses.

The layout of the towers is based on two semi detached apartments at each level with basically the same floor plan and floor space.

The orientation of the towers was dictated by the need to maximize views of the golf course and the Grand Harbour. The architectural design was motivated by the objective to break up the traditional cube normally associated with towers. The roofline was also an important consideration and the shape of the roof, and even the sides, was inspired by the maritime context and resembles sails.

Structural Design and Services

The structure is a concrete frame with a service core in the middle. This facilitated the structural design and made the tower more stable. The building has a raft foundation. The size of the footings of the columns was large and their close proximity led to the decision to have one raft. Architect Zammit was responsible for the structural design but the workings were checked by a structural engineer. Wind impact was considered but given the solidity of the structure and the relative modest height the issue did not give cause for concern. The BS code was used for structural design with an adaptation to the Euro code.

The proximity of the site to the sea created a problem due to sea water penetration at excavation stage. The effect of salinity on the concrete structure was taken into account but in this particular location, the more serious issue was chemical attack from traffic pollution due to the proximity to a very busy junction.

The material generated from excavations were recycled and used as bedding for tiles in the apartments. The low strength of the material prohibited its use in the concrete.

If the economic climate changes, it may be possible to convert the structure for office use but this would be very difficult to achieve and is probably not worthwhile. The service requirements for an office block are quite different and would need to be integrated from the beginning to facilitate conversion. In the case of this project the dwellings have been sold and as there is only one lift for each tower, the whole tower would need to be converted.

Sustainability

PVs were planned to be integrated in the design for the roof canopy but the costs were prohibitive for the client. One had to keep in mind that had they been installed, the PVs would only have generated enough power to light up the common areas and the use of the lifts. Orientation was considered in relation to passive energy saving measures.

Management

Local condominium laws regulate the management of common parts is apartment blocks. They will apply for these towers too. The maintenance of the plaza will be the responsibility of the shop owners.

DATE: Friday 30th May 2008.

Meeting with Chamber of Architects (Kamra tal-Periti) represented by Architect Tony Fenech Vella, Architect Alberto Miceli Farrugia, Architect Jacques Borg Barthet.

The Maltese perit

The Chamber members explained the role of the “perit” in the local context. In Malta, university students graduate in architecture and civil engineering. The course includes elements of structural engineering, urban design and planning together with architectural design. The perit is a jack of all trades but many students specialize in a particular field through further studies. This situation has a significant bearing on the availability of local expertise on the design and construction of tall buildings.

Tall buildings in Malta

The Chamber has prepared a position paper on the built environment and a copy was presented to Dr Ali. The island is small, densely built with significant cultural heritage. Political direction for the future and the social context are very important to guide the design of these mega projects. How do we want Malta to look like in the future? The political and economic direction must be there and the strategic advantages of tall buildings must also be there. The current policy on tall buildings simply reacts to the frenzy of demand for tall buildings which has happened over the past 5 to 8 years. But does it reflect what the country seeks to achieve?

It was emphasized that although it is worthwhile to look towards other cities, formulas that work abroad may not apply to Malta. Even a basic element such as what constitutes a tall building must be very specific to Malta. Tall in Malta would be between 15 to 35 floors. Super tall buildings would be inappropriate.

The FAR in Malta is not expressed as a number but is calculated for each site. It is very much dependent on the site area and the allowable building height limitation. Therefore, tall building schemes do not increase the currently prescribed limit of gross floor area and are not linked to increasing development densities. However, it was acknowledged that in terms of number of dwelling units, tall buildings had the potential to accommodate a higher number than conventional schemes.

The tall building boom was attributed to the “fad” or “craze” syndrome. The success of the Portomaso mega project started the trend of building luxury apartments (although in this case not in towers but in high buildings) on waterfront locations. Developers quickly picked on this success and other very large projects soon followed. Dwellings are being sold but a good number of them are being sold for re-selling. In reality, around 50% only are sold to permanent residents. The rental market has grown but is still weak. It is characterized by either very cheap but shabby apartments

or else very expensive and beyond what most people in Malta can afford.

The social issues related to tall buildings need to be taken into account. The dense built environment of Malta is not necessarily a bad thing. People want privacy but they also want to interact. Communities in Malta are closely knit and tall buildings do not reflect this social context. The residents in tall buildings would have a lot of privacy but would lack interaction. Large lobbies and common areas where people can meet and perhaps even have space for functions within the building itself can address this problem.

The appropriate location of tall buildings is essential to reap their benefits. They may provide open space but for this open space to be of any benefit to the community it must be part of a network of open spaces and easy accessibility. Towers on the periphery of urban areas do not contribute much in this respect. The fragmented land ownership patterns do not facilitate the construction of tall buildings and a situation may arise where tall buildings end up being located where large sites owned by single owners exist, but with not enough regard to all the other factors.

An expert visitor's opinion

Need for tall buildings

The question of "why should Malta have tall buildings?" needs to be asked. The image of the country for the future is key in seeking to answer the question "why should Malta have tall buildings?" Does the country want to retain the prevailing environment or forge ahead and face change? What is the modern world doing? Does Malta want to look like country X or country Y? This is a matter of choice for the individual country and depends on culture and values and political direction. Dr Ali accepted that there are people who believe that there should be no tall buildings at all and that a height of six storeys would be enough.

In other cities, tall buildings are driven by strong economic growth or else by the need to house large population increases. In Malta, economic growth (GDP) is around 3.5% and population is stable at around 400,000. Can the economy and/or the population sustain its tall buildings? Dr Ali understood that in Malta most tall building schemes would be speculative. As dwellings were still being sold, the developers would have covered their costs and made a profit but what will the new owners do? At some point tenants need to be found and who will fill these apartments? Perhaps it would be better to allow a few tall buildings to go ahead and then reconsider the situation based on their performance.

Chicago built tall buildings starting in the 1880s to rejuvenate the downtown after the Great Fire of 1871. Then New York followed. Tall buildings can be built to satisfy personal egos. The Petronas Towers at Kuala Lampur (Malaysia) were built for this reason. Burj Dubai is also being built for the same reason. Tall buildings are symbols of human aspirations, drive and ambitions. An issue of concern for Dubai is the rapid rate at which all these projects are being built.

Social impacts

Dr Ali agreed that tall buildings are likely to have an impact on the surrounding community. A study of the social impacts of tall buildings is essential. Residential towers provide a different type of community to the present one housed within the dense built environment. Residential tall buildings provide views, privacy and amenity but interaction is low. Some people may choose to live that way but communities can still be formed in tall buildings as residents associations need to be formed and space can be provided within the tall building to facilitate interaction.

Advantages of tall buildings

Advantages of tall buildings are several – address housing problems, reduce overall energy consumption, reduce the need to travel, save on infrastructure, reduce street noise level and improve the skyline. In Malta, they can serve as catalysts for regeneration and provide open space in the dense urban areas which lack breathing spaces. The concept of regeneration is applied world wide. The principle is also applied for social brown field areas i.e., areas suffering from social deprivation problems.

Location

Tall buildings should be located close to transportation hubs, especially public transportation to reduce the need to travel by car. Current bus system does not support tall buildings and it needs to be modernized and other means of transportation (underground) need to be considered.

Architectural design

Architectural design is fundamental for success. Quality in design can be improved by having local architects work with other international architects for such projects. Similar to the issue of how many tall buildings can the country sustain, the height of tall buildings needs to be approached cautiously. One should not go for super tall buildings at once but start off with 15 storeys and then consider 35 and perhaps 45 storeys. The FAR is used in many cities and varies even within the same district. As the FAR is a ratio, it is expressed as a number but in Malta a different approach is taken. It can be used as a tool to detract tall buildings in certain areas but a lot depends on the political context – whether the mayor likes the project or not. Flexibility is ingrained in the system and if the council considers that there are proven and tangible community benefits, deviations from the norm are allowed.

Structural design

Structural design also needs to be given more attention locally. Salt contamination of the concrete structure can create problems in the future. Concrete is

an unforgiving material and quality control during construction is essential. Malta is also close to a seismic zone and structural design needs to take this into account although this may not be of major concern for Malta.

DATE: Monday 2nd June 2008.
Meeting with heritage NGOs Din l-Art Helwa and Fondazzjoni Patrimonju Malti represented by Petra Binachi (DLH), Maria Grazia Cassar (DLH), George Camilleri (DLH), Martin Manduca (FPM)

The two NGOs are involved in heritage conservation and are concerned with both the natural and the built environments. NGOs' contributions are vital for the protection of the environment.

Tall buildings in Malta

Tall buildings have an adverse visual impact on urban areas and if built on a large scale or are inappropriately located can even harm the natural landscape. Tall buildings dramatically alter the traditional skyline of low lying buildings dominated by the church. In certain areas, high buildings may be a good idea but the NGOs only saw potential in very small areas in Malta. They certainly saw no scope for tall buildings in the north west of Malta or in Gozo as they would adversely affect the natural landscapes of these parts. Locations and scale are crucial to mitigate against visual impact.

Going higher could be justified to prevent urban sprawl but in Malta both tall buildings and urban sprawl are happening as a result of the FAR policy and the extension of the development zone in 2006. Tall buildings should only be allowed provided they do not harm other areas of value. Just because other cities have built tall buildings does not mean that Malta should follow them. Each city is different. Dubai cannot be compared to Malta as it practically started from scratch while Malta is already densely developed and rich in heritage. Malta attracts tourists because of its traditional skyline and "village" atmosphere. People who come here try to escape from the "high-rise" environment in their countries.

The NGOs questioned the argument that wealth depends on high rise or that wealth should automatically lead to high rise. Wealth can still be expressed through other means.

The NGOs also queried whether residential tall buildings suit the Maltese lifestyle. Social issues need to be taken into account.

Another issue specific for tall buildings is what happens when their life span has expired. While low rise buildings can easily be demolished and redeveloped, tall structures may not be so easy to replace as the low-rise.

The NGOs' approach towards planning policy for tall buildings and the application of the FAR policy differed. DLH favoured a policy which identified specific areas where tall buildings can be allowed while the FPM preferred a general policy with criteria but which will be applied on a case by case basis. DLH thought that the six areas identified by the tall buildings policy were too many.

An expert visitor's opinion

Dr Ali agreed that tall buildings create issues of heritage impacts. He mentioned the Swiss Re building in London as an example. This development had significant adverse reactions from heritage groups but it eventually went through because the politicians decided that, in balance, it was a good thing to have. Now it has become an icon of London. Decision rests on politicians and the society, even in Malta. Where should Malta go in the future? The decision on tall buildings must fit a vision. This was also true for tourism. Although Dubai is dominated by high rise, tourism is flourishing as it is attracting the type of people who want to be where everything is happening.

An advantage of tall buildings in Malta is that they could provide the same number of dwelling units that could be provided in low rise, therefore not making the over supply problem worse, but then occupy less land, leaving space at ground level allowing for light and air and for community use.

Tall buildings in Malta could be an effective tool to stimulate regeneration of run down areas but they have to be supported by a good public transport system otherwise they can create serious traffic congestion in their locations, hence increasing emissions from cars, stress and lowering productivity.

DATE: Monday 2nd June 2008.
Meeting with economist Dr Gordon Cordina

Dr Ali requested further information from Dr Cordina regarding land prices, forecasted economic growth rates and the economic sustainability of tall buildings in Malta.

Land prices

Dr Cordina answered that the price of land per sqm in Malta is high when compared to other EU Mediterranean countries such as Spain, Sicily and Greece. Historically, land prices have continued to rise steadily and unless something drastic happened in the economic climate, they would continue to rise in the future. Price increases are not fuelled by demand but by speculation. The main economic problem with this situation is that money is being channeled into non-productive activities. The price increases have also created problems of housing affordability for local people. Dr Cordina agreed that there is an excess supply of dwellings but he questioned the drawing of this conclusion solely on the number of vacant properties. Many vacant properties would not actually be on the market but are second homes or kept as security.

Economic growth rates

Malta needs a growth rate of around 4% – 5% per annum over a long term period of 25 years to catch

up with EU standards of GDP per capita. Currently, Malta is at 74% of the EU average. Malta has opportunities for economic growth in financial services and the pharmaceutical sectors. Smart City (employment led (ICT and tourism) scheme by Tecom and Sama Dubai) will also provide good job opportunities.

Sustainability of tall buildings

The current construction boom is not related to demand. Dr Cordina made a direct link between the boom and the planning laws and regulations. If land is available, and the conditions are right for development, it will be built.

The sustainability of this situation is questionable unless there is a substantial increase in sale of property to foreigners. Besides other restrictions, sale to foreigners is heavily influenced by the tax regime. British property buyers stopped coming to Malta when the tax was increased from 15% to 17%. A tax reduction will see the excess housing units in Malta being snatched up by foreigners almost overnight. The other side of the coin is that foreigners are blamed for house price increases even though this is not necessarily true. House prices continued to rise even when sale of property to foreigners declined. This makes a policy which actively seeks to attract foreign buyers unpalatable for politicians. The success of the Portomaso scheme was the result of the designation of the project site as a Special Development Area where restrictions on sale and resale or renting by foreigners to foreigners are relaxed.

Returns from real estate are not that high when considering the efforts involved in putting together a real estate project. Investment in stocks and shares in eastern European countries would give a better yield. Dr Cordina stated that feasibility and market research is normally carried out for the tall building schemes. They were definitely done for Metropolis project and for a high rise scheme in Qawra. Both schemes were found to be financially viable for the developers as units are sold off quickly and a profit is made in a relatively short time. A comparison between different uses for the towers was also made and residential was by far the most profitable. Life cycle cost analysis (i.e., studying the financial feasibility over the life of the building) is not done. Dr Cordina commented that this was not really a concern for the developer who sells the property to others but a concern for the economy as a whole.

Dr Cordina linked the development of tall building with Malta's image. He questioned whether the images associated with tall buildings are the right ones for Malta to sell to foreigners. He agreed with the symbolism of tall buildings perhaps located on reclaimed land off the eastern coast of Malta to mark such a flagship project but otherwise he was not convinced that they have a role in providing accommodation for Maltese. Should Malta perhaps seek to sell the image of an ecologically/ environmentally friendly island?

Sustainability of tall building schemes depended on the property bubble. Will the property bubble burst? Dr Cordina concluded that it was crucial not to continue to feed the property bubble. A policy which promotes tall buildings might lead to this.

DATE: Tuesday 3rd June 2008.

Meeting with social anthropologist Dr Mark Anthony Falzon

Dr Falzon introduced himself as a full time lecturer at the University of Malta having done research on social segregation in Mumbai and other far eastern cities.

Symbolism in tall buildings

The local debate on tall buildings centres on the age old struggle between tradition and modernity. The opinions of people on tall buildings would vary from place to place. Sliema/ St.Julians are the hip places with luxurious apartments, top quality shopping and active leisure and entertainment. They have already experienced the replacement of the traditional two storey building with the 8/10 storey blocks and so living in higher buildings is accepted as a part of life. Prestige attracts people to live in high rise.

In the outer towns and villages, such as Mqabba, traditional values are much stronger. The skyline with low lying buildings dominated by the church is a physical symbol of these traditional values. Height is only accepted for churches and all other buildings must be lower as a reverence to God. High rise buildings compete with these monuments to religion and are therefore rejected by the local people.

There is a semantic overlap between the meanings of the word "church" – the church as an institution, the church as the hierarchy (pope downwards) and the church as the building. Although many argue about the influence of the church in today's societies, people still have a lot of pride in their local church and they are extremely well kept and maintained.

The argument that high rises are a symbol of economic well being is questionable in Malta. While in the US developers are seen as personification of success, determination and hard work, in Malta the developers (kuntratturi) evoke feelings of maverick behaviour. Big contractors are seen as people who can manipulate the machinery of the state to get away with everything. This is even more so for high buildings. The people's impression is that a strict building heights policy is applied by MEPA. So when a higher building goes up, then this implies that this policy has been infringed upon to accommodate certain developers.

Social implications of high densities

The Maltese have always lived close together. In Valletta and Cottonera, in older times, they crowded together to be close to jobs whereas in the outer towns and villages they crowded for security as the coast and countryside suffered from attacks by pirates. Today, the context has changed but the high densities remain. Overcrowding in Malta may not be such a problem on a

social level. Larger houses compensated for the lack of open space outside. The effects of the reduction of dwelling sizes must be seen in this context. There was disagreement on the effects of traffic (as a result of high densities). Dr Falzon maintained that the people did not acknowledge that there was a traffic problem and travel times are very low.

Value of property for society

The discussion touched upon the issue of excess supply of housing units. In Malta dwellings are not necessarily built to accommodate people. Dr Falzon compared the value of housing (and property) to Maltese families to the value of gold to families in India. Gold is bought, acquired and hoarded by families in India in their culture when they know that they will never sell it. It is something to leave the children. In earlier times, gold did have some value here, but property always had, and still has, a disproportionate value than its real economic worth. In some cases, families would buy a second or third property when they would actually be making a loss. Economic theories do not work in such a scenario.

Social definition of aesthetics

The social definition of aesthetics in architecture is much dependent on the context of the buildings. People judge buildings from the exterior and compare them to what's around them and to what they value in the urban environment. The A3 towers have generated an adverse reaction from the public because they are in the wrong location. Paola is not associated with high rise and the towers have now become a symbol of bad planning.

An expert visitor's opinion

Dr Ali was of the opinion that the local urban environment with row housing on many floors created issues of traffic congestion and excessive noise. People and children did not have access to open space as there are no breathing spaces. High rise buildings provide relaxing views from the inside, reduce noise, and provide open space at ground level for community use.

Dr Ali clarified that by 'community' he meant the residents of the apartments in the tower. He accepted that residents would not like to have outsiders using their open space as they would feel threatened. If there were commercial uses at the lower levels, then residents would have to accept that other people would use the open space.

DATE: Wednesday 4th June 2008.

Meeting with NGO Flimkien ghal-Ambjent Ahjar (FAA) represented by Ms Astrid Vella, Perit Ray Vassallo and Ms Manduca

The name of the organisation translates into "Together for a better environment". FAA is a non political pressure group concerned about the threat to Malta's heritage and environmental well-being caused by over-development.

The objection of FAA to tall buildings is based on three main points – there is no need for them, the infrastructure to accommodate them is not available, and the Maltese culture is not receptive to them. London was quoted as a city where issues of population densities, availability of public transport and infrastructure are considered before towers are given the go-ahead. New York, despite being an international city with numerous high rises, still has areas where height of buildings is strictly controlled. In Malta, high buildings can be considered everywhere and a specific site was pinpointed (The Palms, St.Julians) which is right next to an Urban Conservation Area and where higher buildings surely should not be allowed.

No need for tall buildings

In 2004 there were 53,000 vacant dwellings in Malta. Since then development permissions have continued to be issued at a fast rate and FAA estimates that this number today is close to 70,000. Therefore there is no need for tall buildings to provide more housing.

Malta's attraction to foreign firms does not depend only on providing quality premises and quality housing for their executives but also on a high quality general environment. The excessive development is leading to environmental degradation which is affecting Malta's capabilities of attracting foreign firms and also negatively affecting the tourism industry. Malta has its Mediterranean charm and this is what tourists would like to see. Towers are everywhere but traditional fishing boats, Mdina and Valletta and the landscape are only found here.

MIDI (the consortium developing the Tigne peninsula) is already facing problems of cash flow as it is finding difficulties to sell the residential units. Take-up of dwellings in Malta by foreigners is very low and estimated at around 500 units per year. The Maltese population on the other hand cannot sustain such large numbers of housing units.

The message that FAA would like to get across is to stop building more dwellings thereby increasing the problems of environmental degradation. Development should be directed towards restoration and reuse of existing buildings rather new construction. Real estate development was also diverting investment from other productive economic activities.

FAA agrees with regeneration but only on a very small scale. Regeneration of the right locations even with tall buildings could be beneficial. The Metropolis project in Gzira was mentioned as a good example and FAA did not object to this proposal during the public consultation process on this project. However, during this meeting they did comment on the height of the towers in relation to the strategic viewing corridors defined in the development plan for the area (North Harbours Local Plan). The Metropolis project and the towers on the Tigne peninsula (Tigne, Fort Cambridge and Town Square) infringe the viewing corridors.

Smart City is also a good location for regeneration as it replaced a dilapidated industrial area and is completely new. Most serious impacts emerge from the redevelopment of existing built up areas.

Malta needed to look at all these major projects in a holistic manner and make them subject to a strategic environmental assessment (SEA) under the EU Directive. The FAR policy which leads to tall buildings should also be subject to an SEA.

Infrastructure

The most severe problems associated with tall building development are the traffic impacts. Portomaso, Pender Place, and Tigne will all increase traffic generation and aggravate an already acute problem of congestion and air pollution. Malta's air has a high content of particulate matter, especially PM10s which come from traffic.

It is not simply a question of accommodating the same amount of development in a tall building or in a low rise. Most of these major projects are replacing low intensity uses with massive increases in dwelling numbers and commercial development. The issue relates to overdevelopment. The small Tigne peninsula alone is planned to accommodate 1,800 new units. How is it possible that this creates no traffic problems?

The public transport infrastructure so essential to support such large development schemes simply is not there. Public transport is dominated by cartels and owners make pressure on politicians to retain the status quo. The public transport network is restricted and the weakest part of the system is that there is no connectivity between settlements but all routes go to Valletta. A five minute journey by car from Swieqi to Birkirkara could easily take an hour by bus because of this. Therefore it is no wonder that most people buy cars as soon as they reach driving age even though Malta probably has the highest taxation rates on cars. They are essential for mobility.

Maltese culture

Malta cannot be compared with Dubai or Hong Kong. These cities have a different history and context and needed to address different problems. Tall buildings need to be assessed within the Maltese context. The Maltese are not used to common living. Local condominium laws are weak and are creating acute problems for residents even in small blocks. Charges are excessive, residents do not agree on how the common parts should be managed, and some would then refuse to pay leading to litigation in court. As soon as payments go down, maintenance and amenities cannot be afforded and the services are terminated. The advantages of tall buildings (security, privacy, amenities, etc) then become problems.

FAA questioned the safety of open balconies in tall buildings. Strong winds are already affecting existing 8/10 storey buildings let alone higher residential towers. If these balconies cannot be used, people will end up in a confined space with no access to outside air. Maltese communities are tightly knit while tall buildings are based on privacy and isolation. This is a fundamental contradiction and will lead to social problems even for affluent people. Studies abroad have also made a link between mental health and high rise living.

The provision of open spaces at ground level is very positive as urban areas suffered from lack of public gardens and child play areas. This was worse for teenagers and reference was made to the new skate part in the middle of a congested roundabout in Msida which is packed with youths although it is one of the most dangerous places for a recreational area. However, FAA questioned the current practices in providing open spaces with tall buildings as they were mostly paved plazas for commercial use or else gated spaces for the exclusive use of residents. What is the public gain in this?

FAA made a distinction between tradition and nostalgia. It accepted that society needed to change but change needs to be for the better and not for its own sake.

DATE: Thursday 16th June 2008.
Meeting with Robert Galea from the Transport Planning Unit (TPU) of MEPA

Dr Ali explained that in other cities, tall buildings are successful because of existing public transport systems. When there are concentrations of development in particular areas, they need to be served by public transport. There is a world trend to reduce car-use and use alternative means such as walking or cycling. Other mass transport systems include underground trains, trams and metros. Overhead rail are also possible but they create problems of noise, obstructions and shadowing. In large metropolitan areas, everybody uses the public transport systems without distinctions between economic statuses.

Local transportation is dominated by cars. Malta is suited for a BRT (bus rapid transport). Underground may not be feasible because of expensive excavation in rock and lack of critical mass of population. Areas for high-rises need public transport hubs in the vicinity.

Robert Galea stated that historically there have been a multitude of Government Departments involved in transport planning and development and there were problems of co-ordination. Since the setting up of one authority (the ADT) in 2003 problems of coordination have been reduced.

The main problem with the local bus system is that it is radially centered on Valletta with few connecting routes between towns. There are some direct routes connecting major tourist areas but they operate on tourist peak times.

The set-up of the bus system is also a problem because each bus is owned by different owners and when trying to introduce change, the authority has dealt with a multitude of owners with different interests and priorities. In general, change is resisted by the bus owners.

Government provides subsidies for the running costs of bus system to keep the fares low but payment structures are complicated. A process to upgrade the fleet has started but some owners are also resisting this change.

The budget of the ADT is restricted and public transport is competing for funds with the needs of other transport sectors, such as roads. There is a long term project for road upgrading going up to 2017 funded through the TEN-T (Trans European Networks – Transport) programme of the EU. There is a possibility of obtaining EU funds for public transport and such funds were obtained for the CVA (controlled vehicular access) system for Valletta.

Traffic management has been rather lacking and efforts are being made by the ADT to introduce such measures. In this field, Local Councils have an important role. A UTC (urban traffic control) system is planned to link all traffic light systems in Malta.

Currently there are about 280,000 registered vehicles in Malta with a 2% p.a. growth rate. Safety checks (VRTs) are carried out annually on cars older than five years.

Major projects are required to submit a traffic study. This study identifies the current situation in terms of traffic flows, forecasts the traffic generated by the project and superimposes them on the existing roads to identify problems. Discussions with the traffic consultants are held by TPU staff to review and amend the study where necessary, especially its conclusions. Robert Galea explained that transport is only one issue under consideration in the assessment of a project and a balance with other issues is often made. He acknowledged that sometimes projects are approved even if transport problems remain unresolved.

Traffic studies do not normally include provision of public transport in their assessment as they take the worst case scenario where all trips are made by car. Green transport plans are sometimes required separately.

MEPA development plans (Local Plans) have identified strategic bus corridors to improve the current bus routes and allow buses to have a smoother trip.

Air quality studies related to transport are also being co-coordinated with ADT.

There is also a joint committee between MEPA and ADT where transport issues emerging from development applications are discussed.

Presentations: Strategy Group
DATE: Friday 23rd May 2008

The main issues are generated by the number of applications for tall buildings which have been received and there is concern on the location, siting and design.

A basic question is economic. Is the economy suited for tall buildings? It is questionable whether the scale of the Maltese economy can sustain such buildings.

Having accepted that tall buildings will be constructed, location is very important. This is particularly true for business centres. Residential towers are located close to business centres to minimize travel.

Another issue is population density. Going upwards solves the problems of urban sprawl. Compare to underground transportation systems. Singapore and Hong Kong are models.

Image of the city can be changed by tall buildings. They give a perception of wealth and success.

By themselves, tall buildings consume a lot of energy but when you compare them to other low rise buildings they are more efficient.

It appears that there is potential for two clusters in Malta but it is still too early to make a recommendation.

Dr Ali should carry out a brief comparison between the six zones identified in the FAR policy and concentrate more on broad guidelines for Qawra.

DATE: Friday 13th June 2008

Dr Ali briefed the Group on the conclusions and recommendations on the issue of tall buildings.

Tall buildings should be visible, safe and well designed (visual and functional). Primary justification for tall buildings has to be economic.

High population densities in urban areas and lack of open space can justify tall buildings. Old buildings may have character but do not function well. Tall buildings provide modern living standards and provide open space. They can also regenerate areas.

FAR is used flexibly in other cities. 25% open space ratio in current policy may be too low and a proportion should be green. Better to have taller buildings with more open space. The taller the building gets the more should be the open space ratio. Public concerns have also been identified.

Tall buildings need to be integrated with mass transport systems. Tall buildings are land marks. They put the island on the world map of business.

Tigne is distant from Valletta, physically separated by water. Rule of thumb is that if a tall building of up to 24 stories is more than 500m away from a viewing point the impact is much reduced. Tigne creates contrast. This can be debatable. Public transport can be extended to reach the area.

The Metropolis project is a good idea for regeneration of Gzira but there is concern about the future of this project. Gzira may be more suited for commercial development. A cluster can be formed with other sites. Transportation may be a problem.

Qawra is away from the main “city” and disconnected. It is a tourist area but of rather low quality. It lacks facilities. Tall buildings here may create problems with neighbours because of proximity to other buildings. Residential uses with hotels are suitable here. A cluster can also be created.

Pembroke is not likely to attract developers because of lack of infrastructure. Should infrastructure be provided, Pembroke is suitable for a commercial

centre complementing the surrounding residential areas. Paceville is ideally located but congested. Portomaso and Pender Place will create a cluster and more tall buildings will help even if the sites may be outside the zone. Zone boundary is rather unsatisfactory.

Marsa has potential for the future but needs to be linked with the renewal of the overall area. Residential and commercial uses are possible.

Criteria for site selection – good design is fundamental, potential for clustering, potential for redevelopment and regeneration, not too close to historical areas, close to services, impact on skyline, environmental effects, traffic impacts, fitting with the surrounding uses, play spaces in residential towers, accessibility especially by pedestrians, subsoil conditions, water penetration in foundations.

Prioritisation of six sites –
Qawra,
Gzira,
Tigne,
Paceville
Pembroke and Marsa

There should be less than six sites rather than more. There should be larger clusters on fewer sites rather than more sites with smaller clusters. A thorough study is required.

Presentations: MEPA Board
DATE: Thursday 19th June 2008

Dr Ali gave a detailed PowerPoint presentation to Board members focusing first on the requirements of a tall building, the justification for tall buildings, the relationship of tall buildings with cities, design considerations, case studies from Chicago, Jakarta, Dubai, Seoul, and then discussing the Maltese case including some general observations, criteria for site selection and an evaluation of the six appropriate locations for tall buildings proposed in the 2006 FAR policy document.

The MEPA Board members raised the following concerns following the presentation:

(i) the impact of tall buildings on historic areas and old buildings; protection of historic areas should take precedence;
(ii) the extra costs on families to reside in tall buildings make them unsuitable for low income groups;

(iii) tall buildings are an important tool in regeneration, especially at Marsa, but master planning is essential;
(iv) the future of tall buildings can be uncertain in the current socio-economic climate;
(v) although a number of tall buildings have been permitted, can their need be justified in Malta?
(vi) With a high home ownership rate, rental market is weak and therefore there is little scope for residential tall buildings to serve as an investment for build to rent.

Dr Ali responded to these amidst a general discussion of the Board members. He stated that he would send a final report of his findings and recommendations upon his return to the U.S. as a follow-up to the preliminary report that he already sent to MEPA Chairman, which was distributed to Board members prior to the meeting.

Presentations: MEPA Staff
DATE: Friday 20th June 2008

Dr Ali gave a brief background of his career and past work. Then he presented to the Director General of MEPA a book titled “The Skyscraper and the City: Design, Technology, and Innovation” co-authored by him as a gift to the MEPA Library. Dr Ali’s PowerPoint presentation after this to MEPA staff reflected the one given to the MEPA Board with some additional perspectives.

The MEPA staff raised the following issues:

(i) the impact of tall buildings on an economy based heavily on tourism attracted by images of historic buildings, beaches and landscape;
(ii) sustainability of tall buildings in the local climate;

(iii) aesthetic quality of the existing tall buildings at Portomaso, Fortina, A3;
(iv) integration of tall buildings in the local culture.

Dr Ali responded to these concerns.

Monday 23rd June 2008
Meeting with Prof Alex Torpiano, Dean of the Faculty of Architecture and Civil Engineering and Perit Franco Montesin from the Department of Civil Engineering

Dr Ali had a broad discussion on the organization of the Faculty, the programmes it offered and its role in research and links with industry and private practice.

Tall buildings were also discussed in relation to availability and use of building codes, the design of tall structures in concrete and the importance of workmanship.

Perit Montesin gave a tour of the Faculty of Architecture and Civil Engineering and its laboratories, studio, class rooms and other facilities.